

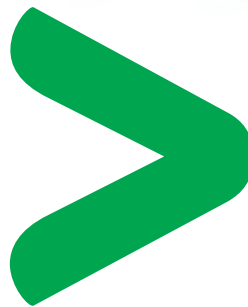
Final Distribution

Acti 9 초소형 배선용 차단기(MCB)

0.5A~125A

Catalogue
2013

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GENERAL

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> Acti 9

슈나이더 일렉트릭의 5세대 MCB인 Acti 9의 혁신적인 기능들은 매우 안전하고, 간단하며, 효율적인 설치를 가능케 합니다.

Acti 9의 혁신적인 기능.

Acti 9은 최고의 효율성을 제공합니다. 설치 공간과 작업 시간을 줄여 여러분의 비즈니스를 더욱 경쟁력있게 만듭니다. 배전반 및 분전반을 위한 최적의 솔루션을 제공함은 물론이며, 제어 및 통신기능을 추가함으로써, 고지대나 산 등 사람의 손길이 닿기 어려운 태양광 및 풍력 발전 분야에도 적합합니다.

VisiTrip™



차단기 고장여부의 신속한 확인 가능

Acti 9 Smartlink



통신을 통한 모니터링 및 제어 기능 확장 가능

VisiSafe™



조작 레버는 항상 차단기 접점의 실제 상태를 표시

EverPlug™



스크류가 필요 없는 QuickVigi Module

Front Face Class 2



차단기 내부와 전면 조작부 사이에 이중 절연 보장

Reflex™ iC60



효율적인 회로 보호 및 부하 제어를 위한 올인원 솔루션

주요 특성

초소형차단기 (MCB)

iC60 N, H, L, LMA

정격차단용량(A) Icu at 400V - IEC60898	6000, 10000, 15000
정격차단용량(kA) Icu at 415V - IEC60947	10, 15, 20, 25, 50, 70, 100
극수	1P, 1P+N, 2P, 3P, 4P
정격전류(A) In	0,5 to 63
트립곡선	B, C, D
규격	IEC/EN 60947-2, 60898-1



누전차단기 (RCBO)

Vigi iC60

iDPN Vigi

타입	AC, A, SI	AC, A, SI
극수	2P, 3P, 4P	1P + N
정격전류(A)	25, 40, 63	4 to 40
규격	IEC/EN 61009-1	IEC/EN 61009-1
감도전류 (mA)	10, 30, 100, 300, 300 [S], 500, 500 [S], 1000 [S]	10, 30, 100, 300
Quick Vigi	up to 40A	



누전차단기 (RCCB)

iID

타입	Asi, A, AC, B
극수	2P, 4P
정격전류(A)	16 to 125
규격	IEC/EN 61008-1
감도전류 (mA)	10, 30, 100, 300, 300 [S], 500, 500 [S]



서지보호기 (SPD)

iPF, iPRD

극수	1P, 1P+N, 2P, 3P, 3P+N, 4P
최대 방전 전류(kA) I _{max}	8, 20, 40, 65, 120
규격	IEC 61643-1, IEC 61643-11
IP보호등급	IP20/IP40



올인원솔루션 (MCB + 전자접촉기 + 릴레이)

Reflex iC60N, iC60H

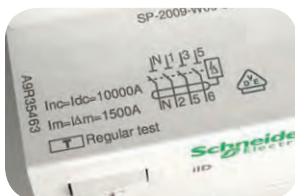
차단기 특성곡선	B, C, D
극수	2P, 3P, 4P
정격전류(A)	10, 16, 25, 40
규격	IEC 60947-2
전기적 수명	30 000 cycles (AC1) 6,000 cycles (AC5 a/b) 50 000 cycles (AC21)



iID, iC60, Vigi iC60, Reflex iC60, 스위치(단로기)

A9 R 15 2 63							
	분류	형명코드	내부코드	극수	형명코드	정격전류 (A)	형명코드
Acti 9 (A9)	iID	R	73 iC60N B curve	0	0	0	00
	Vigi iC60	V	74 iC60N C curve	1P	1	0.5	70
	iC60	F	75 iC60N D curve	2P	2	0.75	71
	iK60	K	83 iC60H B curve	3P	3	1	01
	Auxiliaries and accessories	A	84 iC60H C curve	4P	4	1.6	72
	Switches	S	85 iC60H D curve	1N	5	2	02
	Reflex iC60	C	93 iC60L B curve	1P+N	6	2.5	73
			94 iC60L C curve	3P+N	7	3	03
			95 iC60L K curve			4	04
			34 iDPN Vigi C curve 30mA AC			6	06
			44 iDPNa Vigi C curve 300mA AC			6.3	76
			70 Acti 9 Remote Control (ARA, RCA)			8	08
						10	10
						12.5	82
						13	13
						16	16
						20	20
						25	25
						32	32
						40	40
						50	50
						63	63
						80	80
						100	91
						125	92

형명체계의 변화



기존 Multi 9과는 다른 형명체계로 손쉬운 주문이 가능합니다.

A9XXX225 = 2P, 25A

- 차단기는 다음 기능이 가능 하다:
 - 전기회로상의 고장 (단락, 과부하, 절연 파괴) 으로 인한 화재 방지
 - 간접적인 접촉에 의한 전기적 쇼크로부터 인명 보호
- 차단기의 선정은, 연속적인 운전의 조건을 만족 하면서 절대적인 보호 기능을 제공하기 위해, 최적화 되어야 한다.
- 차단기가 제어 목적을 위해서 사용될 때, 잦은 빈도의 개폐 조작이 필요한 곳에는 별도의 제어 목적을 위한 제품 (스위치, 접촉기, 임펄스 릴레이)을 사용할 수 있다.

회로 보호 목적의 차단기 선정

아래의 내용을 고려 하여야 한다:

- 차단 용량
- 정격 전압
- 정격 전류 (또는 계산 또는 계획된 전류값)
- 케이블의 종류와 굵기
- 주위 온도 (Derating 고려 하기 위해)
- 부하 종류, 극수, 트립 곡선

차단용량 선정

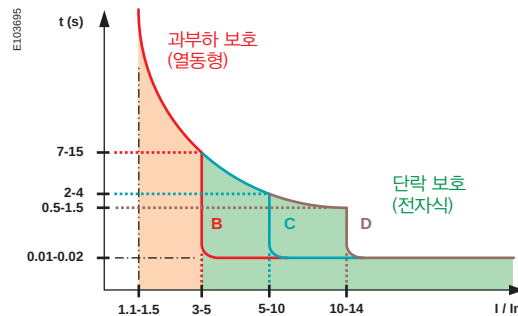
- 차단용량은 예상되는 단락전류(I_{sc}) 보다 같거나 커야 한다. 단락 전류는 전선의 길이와 굵기 그리고 변압기 용량에 의해 결정된다.
- 그러나 상단에 한류 (Current Limiting) 기능을 가진 차단기와 함께 사용될 경우, 단락 전류의 크기는 줄어들 수 있다. (이를 Cascading 이라고 부르며, 상세 정보는 본사 영업 및 마케팅 담당자에게 문의하세요.)

정격 전류 선정

- 정격 전류 (I_n)는 무엇보다 아래의 전기 제품 및 설비를 보호하는 수준으로 결정 되어야 한다.
- 전선의 종류 및 굵기 고려
- 일반적으로 동상 전류 보다 커야 한다.
- 상부의 차단기의 용량은 하단의 여러개의 차단기 전류의 합과 같거나 작아야 한다.

트립 곡선 선정

- 아래 내용들을 고려하여 신중하게 고려 해야 한다.
- Power On시 돌입 전류
- 과부하 전류 (크기, 시간)



트립 곡선별 특성

Curves	EN 60898	IEC 60947-2
B	정격전류의 3 ~ 5배	정격전류의 3.2 ~ 4.8배
C	정격전류의 5 ~ 10배	정격전류의 7 ~ 10배
D or K	-	정격전류의 10 ~ 14배
MA (모터 보호용)	-	정격전류의 12배 이상
Z	-	정격전류의 2.4 ~ 3.6배

- 불필요한 트립을 막기 위하여, 보다 덜 민감한 트립 곡선 제품으로 바꿔야 함. (예: B 커브 적용시 잦은 불필요한 트립 발생시, C커브로 변경 검토 요망)



Protection of electrical connections against magnetic short circuits and thermal overloads



Protection of loads against overloads



Protection of control devices



Protection for people against indirect contacts in IT and TN earthing systems

연속적인 운전

■ 불필요한 트립은 아래 요인들에 의해 발생한다:

- 돌입 전류
- 과부하 전류 및 간혹 3상회로의 중성선에 흐르는 고조파 전류 영향⁽¹⁾

해결책

■ 덜 민감한 트립 곡선을 지닌 차단기로 선정한다.

(예: B커브를 C커브로, C커브를 D커브로 변경)⁽²⁾

■ 회로당 부하 수를 줄인다.

■ 제어 회로의 순차적인 동작 (제어하고자 하는 제품을 timer 등을 사용하여 지연 동작 시킨다)

■ 차단기 용량을 늘린다.

■ 차단기의 Discrimination 자료를 참조하여 선정한다. (별도 문의바람)

Discrimination의 개념은 여러개의 차단기가 설치된 회로에서, 회로상의 어느 부분에서 트립 원인이 발생하더라도 고장 원인 지점의 Upstream에 위치한 차단기의 용량내의 고장이라면 이 차단기만 동작 해야 함.

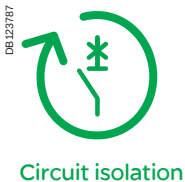
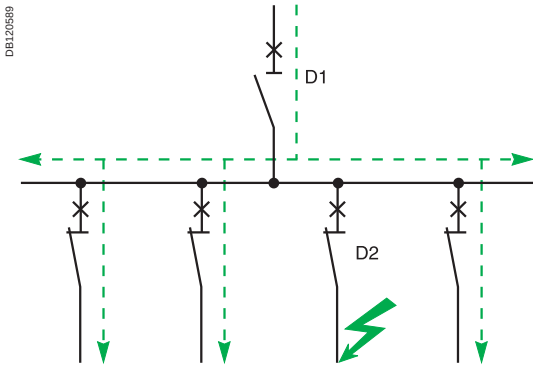
Total discrimination

모든 사고 전류 (과부하~단락전류)에서 Discrimination이 적용 되는 경우

Partial discrimination

모든 사고 전류에서 Discrimination을 만족하지는 않지만 Discrimination 한계 이하의 고장 전류에서는 Discrimination 조건을 만족하는 경우 (Discrimination 한계 이상의 전류에서는 Upstream 과 Downstream 차단기 모두 동작을 한다)

- (1) 발라스터를 내장한 방전 램프에 3상전원을 공급하는 경우, 다량의 제3 고조파가 발생하게 된다. 중성선의 케이블을 과열로 부터 보호 하기 위해 보다 굵은 선을 사용해야 한다. 그러나 중성선으로 흐르는 전류가 각 상에 흐르는 전류보다 큰 관계로 이로 인한 원치않는 트립이 발생할 수 있다.
- (2) TN, IT 접지에서 매우 긴 전선이 사용된 경우, 지락으로 인한 인명 사고를 방지 하기 위해 누전차단기의 사용이 필요하다.



Disconnection (구분, 분리)

Disconnect의 목적은 유지보수나 수리를 위해 작업자가 전기 설비에 필요한 조치를 할때 작업 구간과 다른 구간을 구분 또는 분리 시켜서 작업자의 안전을 보장하기 위함

■ 차단기는 Neutral 포함 모든상의 전원을 Disconnect 시켜야 함

■ 산업용 환경에서의 차단기는 Off 상태를 자물쇠 등의 장치를 통해 Lock을 시켜 원치 않는 차단기의 복귀를 막을 수 있어야 한다.

■ 구분, 분리 기능을 확실히 보장하기 위해 기준 (Standard)를 만족해야 한다. (예외: PEN 도체인 경우 절대 Cut-off 되서는 안된다)

모터 보호

모터를 여러 가지 이유 (오랜시간의 과부하, 회전자 구속, 결상)로 인해 야기되는 과열로부터 보호해야 한다.

■ 과부하 상태의 인지는 과부하 계전기가 감당을 한다.

■ 단락사고의 경우는 과부하 보호 기능이 없는 모터보호용차단기 (MA type)이 감당을 한다.



Selection guide

Circuit breakers

Type			iC60N	iC60H	iC60L			
								
분류			IEC/EN 60947-2, 60898-1		IEC/EN 60947-2, 60898-1			
극수			1P, 1P+N	2, 3, 4P	1P	2, 3, 4P		
부착형 누전차단기 Vigi 모듈 유무			■	■	■			
보조접점 및 트립코일 유무			■	■	■			
전기적특성								
트립곡선			B, C, D		B, C, D	B, C, K, Z		
정격전류 (A)	In		0.5 to 63 (1 to 63 in DC)		0.5 to 63 (1 to 63 in DC)	0.5 to 63 (1 to 63 in DC)		
정격전압 (V)	Ue	AC (50/60 Hz)	240/415, 440		240/415, 440	240/415, 440		
		DC	250		250	250		
최소동작전압 (V)	Ue	AC (50/60 Hz)	12		12	12		
		DC	12		12	12		
정격절연전압 (V AC)	Ui		500		500	500		
정격임펄스전압 (kV)	Uimp		6		6	6		
정격차단용량								
AC – 정격차단용량			Ue (50/60 Hz)	Ph / N	Ph / Ph (Ph / N)	Ph	Ph / Ph (Ph / N)	
IEC 60947-2 (kA)	Icu	12...60 V	50 (0.5 to 4 A) 36 (6 to 63 A)	–	70 (0.5 to 4 A) 42 (6 to 63 A)	–	100 (0.5 to 4 A) 70 (6 to 63 A)	100 (0.5 to 4 A) 80 (6 to 63 A)
		12...133 V	–	50 (0.5 to 4 A) 36 (6 to 63 A)	–	70 (0.5 to 4 A) 42 (6 to 63 A)	–	–
		100...133 V	50 (0.5 to 4 A) 20 (6 to 63 A)	–	70 (0.5 to 4 A) 30 (6 to 63 A)	–	100 (0.5 to 4 A) 50 (6 to 25 A) 36 (32/40 A) 30 (50/63 A)	100 (0.5 to 4 A) 70 (6 to 63 A)
		220...240 V	50 (0.5 to 4 A) 10 (6 to 63 A)	50 (0.5 to 4 A) 20 (6 to 63 A)	70 (0.5 to 4 A) 15 (6 to 63 A)	70 (0.5 to 4 A) 30 (6 to 63 A)	100 (0.5 to 4 A) 25 (6 to 25 A) 20 (32/40 A) 15 (50/63 A)	100 (0.5 to 4 A) 50 (6 to 25 A) 36 (32/40 A) 30 (50/63 A)
		380...415 V	–	50 (0.5 to 4 A) 10 (6 to 63 A)	–	70 (0.5 to 4 A) 15 (6 to 63 A)	–	100 (0.5 to 4 A) 25 (6 to 25 A) 20 (32/40 A) 15 (50/63 A)
		440 V	–	25 (0.5 to 4 A) 6 (6 to 63 A)	–	50 (0.5 to 4 A) 10 (6 to 63 A)	–	70 (0.5 to 4 A) 20 (6 to 25 A) 15 (32/40 A) 10 (50/63 A)
	Ics		100 % of Icu (0.5 to 4 A) 75 % of Icu (6 to 63 A)		100 % of Icu (0.5 to 4 A) 50 % of Icu (6 to 63 A)		100 % of Icu (0.5 to 4 A) 50 % of Icu (6 to 63 A)	
IEC/EN 60898 (A)	Icn	240/415 V - 230/400 V	6000	6000	10000	10000	15000	15000
DC – 정격차단용량			Ue	DC				
IEC 60947-2 (kA)	Icu	12...48 V (1P)	15	–	20	–	25	–
		72 V (1P)	6	–	10	–	15	–
		100...133 V (2P)	–	6	–	10	–	15
		100...133 V (3P)	–	15	–	20	–	25
		220...250 V (4P)	–	6	–	10	–	15
	Ics		100 % of Icu		100 % of Icu		100 % of Icu	
기타 특성								
절연보장 (IEC/EN 60947-2)			■		■	■	■	
동작보존온도			-35°C ~ 70°C		-35°C ~ 70°C	-35°C ~ 70°C		
트립인디케이터			Visi-trip window		Visi-trip window	Visi-trip window		
조작레버의 정확한 구동			■		■	■		
빠른 투입특성			■		■	■		
IP보호등급	IP	Device only	IP20		IP20	IP20		
		Device in modular enclosure	IP40 Insulation class II		IP40 Insulation class II	IP40 Insulation class II		

Selection guide (cont.)

Circuit breakers						
Type			C120N		C120H	
						
분류			IEC/EN 60898-1		IEC/EN 60898-1	
극수			1P	2, 3, 4P	1P	2, 3, 4P
부착형 누전차단기 Vigi 모듈 유무			■		■	
보조접점 및 트립코일 유무			■		■	
전기적특성						
트립곡선			B, C		B, C	
정격전류 (A)	In		63, 80, 100, 125		10 to 125	
정격전압 (V)	Ue max	AC (50/60 Hz)	240/415, 440		240/415, 440	
		DC	125 per pole		125 per pole	
최소동작전압 (V)	Ue min	AC (50/60 Hz)	12		12	
		DC	12		12	
정격절연전압(V AC)	Ui		500		500	
정격임펄스전압(kV)	Uimp		6		6	
정격차단용량						
AC – 정격차단용량		Ue (50/60 Hz)	Ph	Ph / Ph (Ph / N)	Ph	Ph / Ph (Ph / N)
IEC 60947-2 (kA)	Icu	110...130 V	–	–	–	–
		130 V	20	–	30	–
		220...240 V	10	20	15	30
		380...415 V	3	10	4.5	15
		440 V	–	6	–	10
		500 V	–	–	–	–
	Ics	75 % of Icu		50 % of Icu		
IEC/EN 60898 (A)	Icn	230/400 V	10000	10000	15000	15000
DC – 정격차단용량		Ue DC				
IEC 60947-2 (kA)	Icu	60 V (1P)	10	–	15	–
		125 V (1P)	10	–	15	–
		250 V (2P)	–	10	–	15
		500 V (4P)	–	–	–	–
	Ics	100 % of Icu		100 % of Icu		
기타 특성						
절연보장 (IEC/EN 60947-2)			■		■	
동작보증온도			-30°C ~ 60°C		-30°C ~ 60°C	
트립인디케이터			–		–	
조작레버의 정확한 구동			■		■	
빠른 투입특성			■		■	
IP보호등급	IP	Device only	IP20		IP20	
		Device in modular enclosure	IP40		IP40	

NG125N			NG125H			NG125L		
								
IEC/EN 60947-2			IEC/EN 60947-2			IEC/EN 60947-2		
1P	2, 3, 4P		1P	2, 3, 4P		1P	2, 3, 4P	
■			■			■		
■			■			■		
B, C, D			C			B, C, D		
10 to 125			10 to 80			10 to 80		
240/415, 500			240/415, 500			240/415, 500		
125 per pole			125 per pole			125 per pole		
12			12			12		
12			12			12		
690			690			690		
8			8			8		
Ph	Ph / Ph (Ph / N)		Ph	Ph / Ph (Ph / N)		Ph	Ph / Ph (Ph / N)	
50	—		70	—		100	—	
—	—		—	—		—	—	
25	50		36	70		50	100	
6	25		9	36		12.5	50	
—	20		—	30		—	40	
—	10		—	12		—	15	
75 % of Icu			75 % of Icu			75 % of Icu		
—	—		—	—		—	—	
25	—		36	—		50	—	
25	—		36	—		50	—	
—	25		—	36		—	50	
—	25		—	36		—	50	
100 % of Icu			100 % of Icu			100 % of Icu		
■			■			■		
-10°C ~ 60°C			-10°C ~ 60°C			-10°C ~ 60°C		
■ On / Off / Trip 세 종류 포지션			■ On / Off / Trip 세 종류 포지션			■ On / Off / Trip 세 종류 포지션		
■ 트립인디케이터 내장			■ 트립인디케이터 내장			■ 트립인디케이터 내장		
■			■			■		
■			■			■		
IP20			IP20			IP20		
IP40			IP40			IP40		

iC60N 초소형 배선용 차단기 (B,C,D 트립 곡선)

DB116619



Country approval pictograms



IEC/EN 60947-2

IEC/EN 60898-1

- iC60N은 IEC60947-2 / IEC60898-1 을 동시에 만족하므로 다양한 산업현장 및 주거, 상업공간에 적용이 가능합니다. 주요 특징은 다음과 같습니다.
- 과부하와 단락사고로부터 회로를 안전하게 보호
- Off 혹은 트립상태에서 주 접점 사이의 거리를 확보하여 통전을 막고, 절연을 보장
- 차단기 전면의 트립인디케이터를 통해 차단기 고장여부의 신속한 확인 가능

Alternating current (AC) 50/60 Hz

정격차단용량 Icu (IEC/EN 60947-2)						서비스 차단용량 (Ics)
		Voltage (Ue)				
Ph/Ph (2P, 3P, 4P)		12 to 133 V	220 to 240 V	380 to 415 V	440 V	
Ph/N (1P, 1P+N)		12 to 60 V	100 to 133 V	220 to 240 V	-	
Rating (In)	0.5 to 4 A	50 kA	50 kA	50 kA	25 kA	100 % of Icu
	6 to 63 A	36 kA	20 kA	10 kA	6 kA	75 % of Icu
정격차단용량 Icn (IEC/EN 60898-1)						
		Voltage (Ue)				
Ph/Ph		400 V				
Ph/N		230 V				
Rating (In)	0.5 to 63 A	6000 A				

Direct current (DC)

정격차단용량 Icu (IEC/EN 60947-2)						서비스 차단용량 (Ics)
	Voltage (Ue)					
Between +/-	12 to 48 V		72 V	100 to 133 V		220 to 250 V
Number of poles	1P		2P (in series)	3P (in series)	4P (in series)	
Rating (In) 1 to 63 A	15 kA	6 kA	6 kA	15 kA	6 kA	100 % of Icu

주문코드

iC60N circuit breaker

Type	1P			1P+N		
Rating (In)	Curve			Curve		
	B	C	D	B	C	D
0.5 A	A9F73170	A9F74170	A9F75170	A9F73670	A9F74670	A9F75670
1 A	A9F73101	A9F74101	A9F75101	A9F73601	A9F74601	A9F75601
2 A	A9F73102	A9F74102	A9F75102	A9F73602	A9F74602	A9F75602
3 A	A9F73103	A9F74103	A9F75103	A9F73603	A9F74603	A9F75603
4 A	A9F73104	A9F74104	A9F75104	A9F73604	A9F74604	A9F75604
6 A	A9F73106	A9F74106	A9F75106	A9F73606	A9F74606	A9F75606
10 A	A9F73110	A9F74110	A9F75110	A9F73610	A9F74610	A9F75610
13 A	A9F73113	A9F74113	A9F75113	A9F73613	A9F74613	A9F75613
16 A	A9F73116	A9F74116	A9F75116	A9F73616	A9F74616	A9F75616
20 A	A9F73120	A9F74120	A9F75120	A9F73620	A9F74620	A9F75620
25 A	A9F73125	A9F74125	A9F75125	A9F73625	A9F74625	A9F75625
32 A	A9F73132	A9F74132	A9F75132	A9F73632	A9F74632	A9F75632
40 A	A9F73140	A9F74140	A9F75140	A9F73640	A9F74640	A9F75640
50 A	A9F73150	A9F74150	A9F75150	A9F73650	A9F74650	A9F75650
63 A	A9F73163	A9F74163	A9F75163	A9F73663	A9F74663	A9F75663
Width in 9-mm modules	2			4		

iC60N 초소형 배선용 차단기 (B,C,D 트립 곡선)

PB10434-40



기타 특징

- 차단기 내부와 전면 조작부 사이에 이중절연을 통한 분전반 수준의 절연등급 2 구현 및 정격임펄스 전압(Uimp) 6kV 를 구현함으로써 어떤 가혹한 환경에서도 안전함을 보장
- MCB 또는 분전반 내에 통신을 통한 계측 및 모니터링과 제어기능을 구현
- 빠른 투입특성으로 통전시 아크발생 최소화

2P			3P			4P		
Curve			Curve			Curve		
B	C	D	B	C	D	B	C	D
A9F73270	A9F74270	A9F75270	A9F73370	A9F74370	A9F75370	A9F73470	A9F74470	A9F75470
A9F73201	A9F74201	A9F75201	A9F73301	A9F74301	A9F75301	A9F73401	A9F74401	A9F75401
A9F73202	A9F74202	A9F75202	A9F73302	A9F74302	A9F75302	A9F73402	A9F74402	A9F75402
A9F73203	A9F74203	A9F75203	A9F73303	A9F74303	A9F75303	A9F73403	A9F74403	A9F75403
A9F73204	A9F74204	A9F75204	A9F73304	A9F74304	A9F75304	A9F73404	A9F74404	A9F75404
A9F73206	A9F74206	A9F75206	A9F73306	A9F74306	A9F75306	A9F73406	A9F74406	A9F75406
A9F73210	A9F74210	A9F75210	A9F73310	A9F74310	A9F75310	A9F73410	A9F74410	A9F75410
A9F73213	A9F74213	A9F75213	A9F73313	A9F74313	A9F75313	A9F73413	A9F74413	A9F75413
A9F73216	A9F74216	A9F75216	A9F73316	A9F74316	A9F75316	A9F73416	A9F74416	A9F75416
A9F73220	A9F74220	A9F75220	A9F73320	A9F74320	A9F75320	A9F73420	A9F74420	A9F75420
A9F73225	A9F74225	A9F75225	A9F73325	A9F74325	A9F75325	A9F73425	A9F74425	A9F75425
A9F73232	A9F74232	A9F75232	A9F73332	A9F74332	A9F75332	A9F73432	A9F74432	A9F75432
A9F73240	A9F74240	A9F75240	A9F73340	A9F74340	A9F75340	A9F73440	A9F74440	A9F75440
A9F73250	A9F74250	A9F75250	A9F73350	A9F74350	A9F75350	A9F73450	A9F74450	A9F75450
A9F73263	A9F74263	A9F75263	A9F73363	A9F74363	A9F75363	A9F73463	A9F74463	A9F75463
4			6			8		

iC60H 초소형 배선용 차단기 (B,C,D 트립 곡선)

DB116619



Country approval pictograms

PB 104441-40



PB 104451-40



IEC/EN 60947-2

IEC/EN 60898-1

- iC60H은 IEC60947-2 / IEC60898-1 을 동시에 만족하므로 다양한 산업현장 및 주거, 상업공간에 적용이 가능합니다. 주요 특징은 다음과 같습니다.
- 과부하와 단락사고로부터 회로를 안전하게 보호
- Off 혹은 트립상태에서 주 접점 사이의 거리를 확보하여 통전을 막고, 절연을 보장
- 차단기 전면의 트립인디케이터를 통해 차단기 고장여부의 신속한 확인 가능

Alternating current (AC) 50/60 Hz

정격차단용량 Icu (IEC/EN 60947-2)

	Voltage (Ue)					서비스 차단용량 (Ics)
	12 to 133 V	220 to 240 V	380 to 415 V	440 V		
Ph/Ph (2P, 3P, 4P)	12 to 60 V	100 to 133 V	220 to 240 V	-		
Ph/N (1P, 1P+N)	12 to 60 V	100 to 133 V	220 to 240 V	-		
Rating (In)	0.5 to 4 A	70 kA	70 kA	70 kA	50 kA	100 % of Icu
	6 to 40 A	42 kA	30 kA	15 kA	10 kA	50 % of Icu
	50/63 A	42 kA	-	15 kA	10 kA	50 % of Icu

정격차단용량 Icn (IEC/EN 60898-1)

	Voltage (Ue)	
	400 V	230 V
Ph/Ph	400 V	
Ph/N	230 V	
Rating (In)	0.5 to 63 A	10000 A

Direct current (DC)

정격차단용량 Icu (IEC/EN 60947-2)

	Voltage (Ue)					차단용량 (Ics)
Between +/-	12 to 48 V	72 V	100 to 133 V		220 to 250 V	
Number of poles	1P		2P (in series)	3P (in series)	4P (in series)	
Rating (In) 1 to 63 A	20 kA	10 kA	10 kA	20 kA	10 kA	100 % of Icu

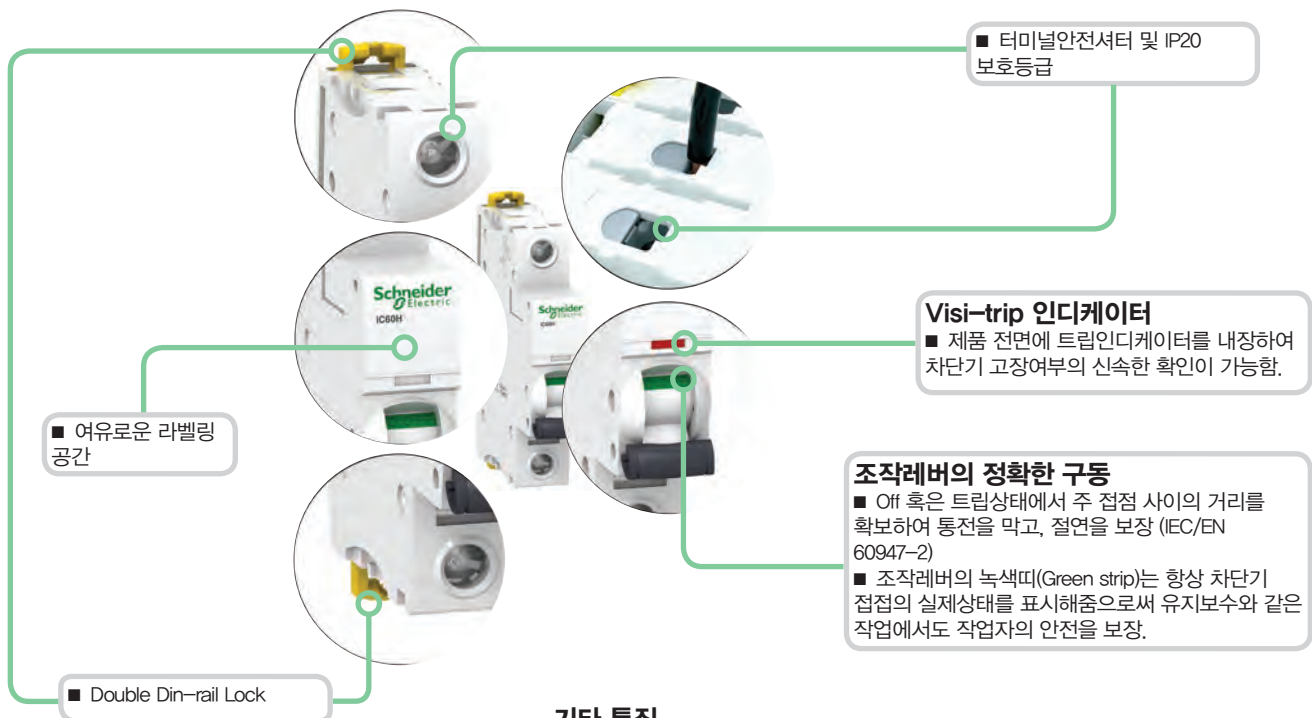
주문코드

iC60H circuit breaker

Type	1P			1P+N		
Rating (In)	Curve			Curve		
	B	C	D	B	C	D
0.5 A	A9F83170	A9F84170	A9F85170	A9F83670	A9F84670	A9F85670
1 A	A9F83101	A9F84101	A9F85101	A9F83601	A9F84601	A9F85601
2 A	A9F83102	A9F84102	A9F85102	A9F83602	A9F84602	A9F85602
3 A	A9F83103	A9F84103	A9F85103	A9F83603	A9F84603	A9F85603
4 A	A9F83104	A9F84104	A9F85104	A9F83604	A9F84604	A9F85604
6 A	A9F83106	A9F84106	A9F85106	A9F83606	A9F84606	A9F85606
10 A	A9F83110	A9F84110	A9F85110	A9F83610	A9F84610	A9F85610
13 A	A9F83113	A9F84113	A9F85113	A9F83613	A9F84613	A9F85613
16 A	A9F83116	A9F84116	A9F85116	A9F83616	A9F84616	A9F85616
20 A	A9F83120	A9F84120	A9F85120	A9F83620	A9F84620	A9F85620
25 A	A9F83125	A9F84125	A9F85125	A9F83625	A9F84625	A9F85625
32 A	A9F83132	A9F84132	A9F85132	A9F83632	A9F84632	A9F85632
40 A	A9F83140	A9F84140	A9F85140	A9F83640	A9F84640	A9F85640
50 A	A9F83150	A9F84150	A9F85150	A9F83650	A9F84650	A9F85650
63 A	A9F83163	A9F84163	A9F85163	A9F83663	A9F84663	A9F85663
Width in 9-mm modules	2			4		

iC60H 초소형 배선용 차단기 (B,C,D 트립 곡선)

PB10435-40

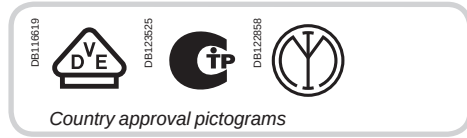


기타 특징

- 차단기 내부와 전면 조작부 사이에 이중절연을 통한 분전반 수준의 절연등급 2 구현 및 정격임펄스 전압(Uimp) 6kV 를 구현함으로써 어떤 가혹한 환경에서도 안전함을 보장
- MCB 또는 분전반 내에 통신을 통한 계측 및 모니터링과 제어기능을 구현
- 빠른 투입특성으로 통전시 아크발생 최소화

2P			3P			4P		
Curve			Curve			Curve		
B	C	D	B	C	D	B	C	D
A9F83270	A9F84270	A9F85270	A9F83370	A9F84370	A9F85370	A9F83470	A9F84470	A9F85470
A9F83201	A9F84201	A9F85201	A9F83301	A9F84301	A9F85301	A9F83401	A9F84401	A9F85401
A9F83202	A9F84202	A9F85202	A9F83302	A9F84302	A9F85302	A9F83402	A9F84402	A9F85402
A9F83203	A9F84203	A9F85203	A9F83303	A9F84303	A9F85303	A9F83403	A9F84403	A9F85403
A9F83204	A9F84204	A9F85204	A9F83304	A9F84304	A9F85304	A9F83404	A9F84404	A9F85404
A9F83206	A9F84206	A9F85206	A9F83306	A9F84306	A9F85306	A9F83406	A9F84406	A9F85406
A9F83210	A9F84210	A9F85210	A9F83310	A9F84310	A9F85310	A9F83410	A9F84410	A9F85410
A9F83213	A9F84213	A9F85213	A9F83313	A9F84313	A9F85313	A9F83413	A9F84413	A9F85413
A9F83216	A9F84216	A9F85216	A9F83316	A9F84316	A9F85316	A9F83416	A9F84416	A9F85416
A9F83220	A9F84220	A9F85220	A9F83320	A9F84320	A9F85320	A9F83420	A9F84420	A9F85420
A9F83225	A9F84225	A9F85225	A9F83325	A9F84325	A9F85325	A9F83425	A9F84425	A9F85425
A9F83232	A9F84232	A9F85232	A9F83332	A9F84332	A9F85332	A9F83432	A9F84432	A9F85432
A9F83240	A9F84240	A9F85240	A9F83340	A9F84340	A9F85340	A9F83440	A9F84440	A9F85440
A9F83250	A9F84250	A9F85250	A9F83350	A9F84350	A9F85350	A9F83450	A9F84450	A9F85450
A9F83263	A9F84263	A9F85263	A9F83363	A9F84363	A9F85363	A9F83463	A9F84463	A9F85463
4			6			8		

iC60L 초소형 배선용 차단기 (B, C, K, Z 트립곡선)



IEC/EN 60947-2

IEC/EN 60898-1 up to 40 A

- iC60H는 IEC60947-2 / IEC60898-1 을 동시에 만족하므로 다양한 산업현장 및 주거, 상업공간에 적용이 가능합니다. 주요 특징은 다음과 같습니다.
- 과부하와 단락사고로부터 회로를 안전하게 보호
- Off 혹은 트립상태에서 주 접점 사이의 거리를 확보하여 통전을 막고, 절연을 보장
- 차단기 전면의 트립인디케이터를 통해 차단기 고장여부의 신속한 확인 가능

Alternating current (AC) 50/60 Hz

정격차단용량 Icu (IEC/EN 60947-2)					서비스 차단용량 (Ics)	
	Voltage (Ue)					
	Ph/Ph (2P, 3P, 4P)	12 to 133 V	220 to 240 V	380 to 415 V	440 V	
	Ph/N (1P)	12 to 60 V	100 to 133 V	220 to 240 V	-	
Rating (In)	0.5 to 4 A	100 kA	100 kA	100 kA	70 kA	100 % of Icu
	6 to 25 A	70 kA	-	25 kA	20 kA	50 % of Icu ⁽¹⁾
	32 / 40 A	70 kA	-	20 kA	15 kA	50 % of Icu
	50 / 63 A	70 kA	-	15 kA	10 kA	50 % of Icu

정격차단용량 Icn (IEC/EN 60898-1)

Voltage (Ue)	
Ph/Ph	400 V
Ph/N	230 V
Rating (In)	0.5 to 40 A 15000 A

Direct current (DC)

정격차단용량 Icu (IEC/EN 60947-2)						서비스 차단용량 (Ics)
Between +/-	Voltage (Ue)					
	12 to 48 V		100 to 144 V		220 to 250 V	
Number of poles	1P		2P (in series)	3P (in series)	4P (in series)	
Rating (In) 1 to 63 A	25 kA	15 kA	15 kA	25 kA	15 kA	100 % of Icu

주문코드

iC60L circuit breaker

Type		1P				2P			
									
Rating (In)	Quality label ⁽²⁾	Curve				Curve			
		B	C	K	Z	B	C	K	Z
0.5 A		A9F93170	A9F94170	A9F95170	A9F92170	A9F93270	A9F94270	A9F95270	A9F92270
1 A		A9F93101	A9F94101	A9F95101	A9F92101	A9F93201	A9F94201	A9F95201	A9F92201
1.6 A		-	-	A9F95172	A9F92172	-	-	A9F95272	A9F92272
2 A		A9F93102	A9F94102	A9F95102	A9F92102	A9F93202	A9F94202	A9F95202	A9F92202
3 A		A9F93103	A9F94103	A9F95103	A9F92103	A9F93203	A9F94203	A9F95203	A9F92203
4 A		A9F93104	A9F94104	A9F95104	A9F92104	A9F93204	A9F94204	A9F95204	A9F92204
6 A		A9F93106	A9F94106	A9F95106	A9F92106	A9F93206	A9F94206	A9F95206	A9F92206
10 A		A9F93110	A9F94110	A9F95110	A9F92110	A9F93210	A9F94210	A9F95210	A9F92210
16 A		A9F93116	A9F94116	A9F95116	A9F92116	A9F93216	A9F94216	A9F95216	A9F92216
20 A		A9F93120	A9F94120	A9F95120	A9F92120	A9F93220	A9F94220	A9F95220	A9F92220
25 A		A9F93125	A9F94125	A9F95125	A9F92125	A9F93225	A9F94225	A9F95225	A9F92225
32 A		A9F93132	A9F94132	A9F95132	A9F92132	A9F93232	A9F94232	A9F95232	A9F92232
40 A		A9F93140	A9F94140	A9F95140	A9F92140	A9F93240	A9F94240	A9F95240	A9F92240
50 A		A9F93150	A9F94150	A9F95150 ⁽³⁾	A9F92150	A9F93250	A9F94250	A9F95250	A9F92250
63 A		A9F93163	A9F94163	A9F95163 ⁽³⁾	A9F92163	A9F93263	A9F94263	A9F95263	A9F92263
Width in 9-mm modules		2				4			

(1) 100 % of Icu for ratings 6 to 25 A under Ue 100 to 133 V AC Ph/Ph and Ue 12 to 60 V AC Ph/N.
(2) Information to be provided by the country.
(3) Without approval.

iC60L 초소형 배선용 차단기 (B, C, K, Z 트립곡선)

P8104436-40



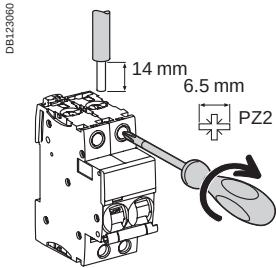
기타 특징

- 차단기 내부와 전면 조작부 사이에 이중절연을 통한 분전반 수준의 절연등급 2 구현 및 정격임펄스 전압(Uimp) 6kV 를 구현함으로써 어떤 가혹한 환경에서도 안전함을 보장
- MCB 또는 분전반 내에 통선을 통한 계측 및 모니터링과 제어기능을 구현
- 빠른 투입특성으로 통전시 아크발생 최소화

3P				4P			
Curve				Curve			
B	C	K	Z	B	C	K	Z
A9F93370	A9F94370	A9F95370	A9F92370	A9F93470	A9F94470	A9F95470	A9F92470
A9F93301	A9F94301	A9F95301	A9F92301	A9F93401	A9F94401	A9F95401	A9F92401
-	-	A9F95372	A9F92372	-	-	A9F95472	A9F92472
A9F93302	A9F94302	A9F95302	A9F92302	A9F93402	A9F94402	A9F95402	A9F92402
A9F93303	A9F94303	A9F95303	A9F92303	A9F93403	A9F94403	A9F95403	A9F92403
A9F93304	A9F94304	A9F95304	A9F92304	A9F93404	A9F94404	A9F95404	A9F92404
A9F93306	A9F94306	A9F95306	A9F92306	A9F93406	A9F94406	A9F95406	A9F92406
A9F93310	A9F94310	A9F95310	A9F92310	A9F93410	A9F94410	A9F95410	A9F92410
A9F93316	A9F94316	A9F95316	A9F92316	A9F93416	A9F94416	A9F95416	A9F92416
A9F93320	A9F94320	A9F95320	A9F92320	A9F93420	A9F94420	A9F95420	A9F92420
A9F93325	A9F94325	A9F95325	A9F92325	A9F93425	A9F94425	A9F95425	A9F92425
A9F93332	A9F94332	A9F95332	A9F92332	A9F93432	A9F94432	A9F95432	A9F92432
A9F93340	A9F94340	A9F95340	A9F92340	A9F93440	A9F94440	A9F95440	A9F92440
A9F93350	A9F94350	A9F95350	A9F92350	A9F93450	A9F94450	A9F95450	A9F92450
A9F93363	A9F94363	A9F95363	A9F92363	A9F93463	A9F94463	A9F95463	A9F92463
4				6			

iC60N / H 초소형 배선용 차단기 (B,C,D 트립 곡선)

연결 단자



		Without accessory		With accessories			
Rating	Tightening torque	Copper cables		50 mm ²	Screw-on connection for ring terminal	Multi-cables terminal	
		Rigid	Flexible or ferrule	Al terminal		Rigid cables	Flexible cables
		DB122945 	DB122946 	DB122935 	DB118789 	DB118787 	
0.5 to 25 A	2 N.m	1 to 25 mm ²	1 to 16 mm ²	-	Ø 5 mm	-	-
32 to 63 A	3.5 N.m	1 to 35 mm ²	1 to 25 mm ²	50 mm ²		3 x 16 mm ²	3 x 10 mm ²

기술 자료

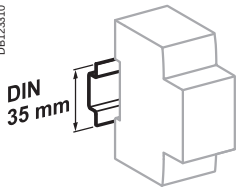
주요 특성

IEC/EN 60947-2

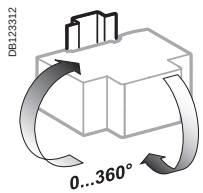
정격절연전압(Ui)	500 V AC
오염 등급	3
정격임펄스전압 (Uimp)	6 kV
열동형 트립	기준온도 50 °C 주위 온도에 따른 보정 (168페이지 참조하세요.)
전자식 트립	B 트립 곡선 4 In ± 20 % C 트립 곡선 8 In ± 20 % D 트립 곡선 12 In ± 20 %
사용범주	A

기타 특성

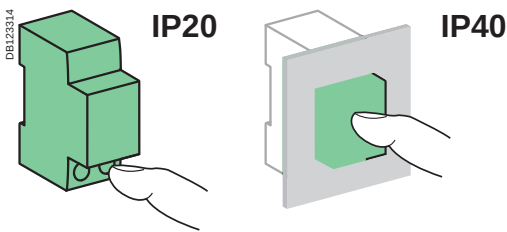
IP 보호등급 (IEC 60529)	Device only IP20 Device in modular enclosure IP40 Insulation classe II
전기적 수명(O-C)	10,000 cycles
기계적 수명(O-C)	20,000 cycles
동작보증온도	-35°C to +70°C
보관온도	-40°C to +85°C
극한의 기후에서 사용(IEC60068-1)	Treatment 2 (relative humidity 95 % to 55°C)



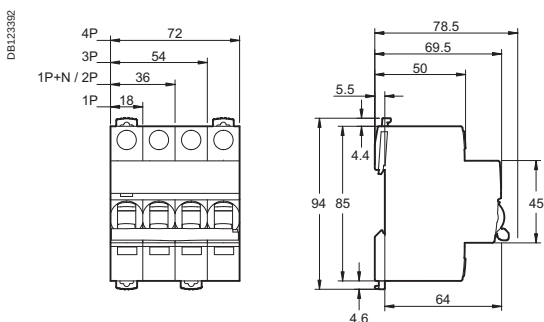
Clip on DIN rail 35 mm.



Indifferent position of installation.



외형치수 (mm)

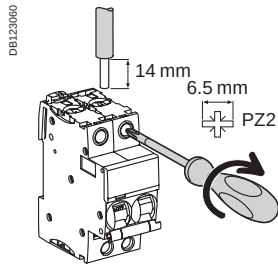


무게 (g)

Circuit-breaker	
Type	iC60N / H
1P	125
2P	250
3P	375
4P	500

iC60L 초소형 배선용 차단기 (B,C,K,Z 트립 곡선)

Connection



		Without accessory		With accessories			
Rating	Tightening torque	Copper cables		50 mm ²	Screw-on connection for ring terminal	Multi-cables terminal	
		Rigid	Flexible or ferrule	Al terminal		Rigid cables	Flexible cables
		 DB122945	 DB122946	 DB122935	 DB118789	 DB118787	
0.5 to 25 A	2 N.m	1 to 25 mm ²	1 to 16 mm ²	-	Ø 5 mm	-	-
32 to 63 A	3.5 N.m	1 to 35 mm ²	1 to 25 mm ²	50 mm ²		3 x 16 mm ²	3 x 10 mm ²

기술 자료

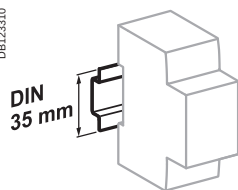
주요 특성

IEC/EN 60947-2

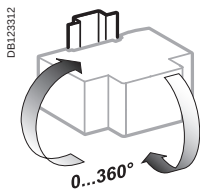
정격절연전압(Ui)	500 V AC
오염 등급	3
정격임펄스전압 (Uimp)	6 kV
열동형 트립	기준온도 50 °C 주위 온도에 따른 보정 (168페이지 참조하세요.)
전자식 트립	B 트립 곡선 4 In ± 20 % C 트립 곡선 8 In ± 20 % K 트립 곡선 12 In ± 20 % Z 트립 곡선 3 In ± 20 %
사용범주	A

기타 특성

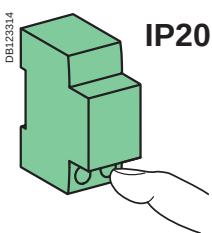
IP 보호등급 (IEC 60529)	Device only IP20 Device in modular enclosure IP40 Insulation classe II
전기적 수명(O-C)	10,000 cycles
기계적 수명(O-C)	20,000 cycles
동작보존온도	-35°C to +70°C
보관온도	-40°C to +85°C
극한의 기후에서 사용(IEC60068-1)	Treatment 2 (relative humidity 95 % to 55°C)



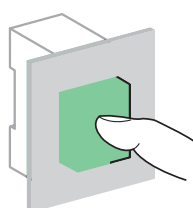
Clip on DIN rail 35 mm.



Indifferent position of installation.



IP20



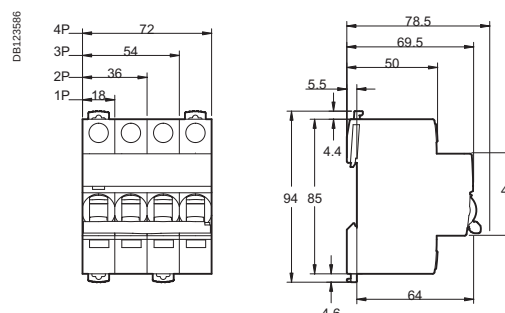
IP40

무게 (g)

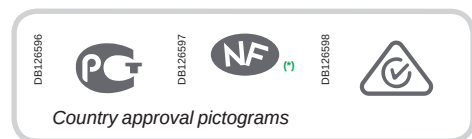
Circuit-breaker

Type	iC60L
1P	125
2P	250
3P	375
4P	500

외형치수 (mm)



C120N 초소형 배선용 차단기 (B,C,D 트립 곡선)



IEC/EN 60898-1, CEI 60947-2

C120N circuit breakers are multistandard circuit breakers that combine the following functions:

- Circuit protection against short-circuit currents,
- Circuit protection against overload currents,
- Suitability for isolation in the industrial sector to IEC/EN 60947-2,
- Fault tripping and indication by adding auxiliaries.

Alternating current (AC) 50/60 Hz

Breaking capacity (Icu) to IEC/EN 60947-2					Service breaking capacity (Ics)
Type	Voltage (V)				
1P	130 V	220 to 240 V	380 to 415 V	440 V	75 % Icu
Rating (In) 63 to 125 A	20 kA	10 kA	3 kA ⁽¹⁾	-	
2P/3P/4P	130 V	220 to 240 V	380 to 415 V	440 V	75 % Icu
63 to 125 A	-	20 kA	10 kA	6 kA	

Breaking capacity (Icu) to CEI/EN 60898-1

Type	Voltage (V)	Service breaking capacity (Ics)
1P, 2P, 3P, 4P	230 to 400 V	
Rating (In) 63 to 125 A	10000 A	75 % Icu

(1) One-pole breaking capacity in IT isolated neutral system (double fault).

Direct current (DC)

Breaking capacity (Icu) to IEC/EN 60947-2				Service breaking capacity (Ics)
Type	Voltage (V)			
1P	24/48 V	125 V	250 V	100 % Icu
Rating (In) 63 to 125 A	10 kA	10 kA	-	
2P (in series)	24/48 V	125 V	250 V	100 % Icu
63 to 125 A		-	10 kA	

Catalogue numbers

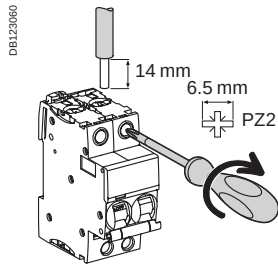
C120N circuit breaker

Type	1P			2P		
Auxiliaries	Remote indication and tripping			Remote indication and tripping		
Vigi C120	Vigi C120 add-on residual current device			Vigi C120 add-on residual current device,		
Rating (In)	Curve			Curve		
	B	C	D	B	C	D
63 A	A9N18340	A9N18356	A9N18378	A9N18344	A9N18360	A9N18382
80 A	A9N18341	A9N18357	A9N18379	A9N18345	A9N18361	A9N18383
100 A	A9N18342	A9N18358	A9N18380	A9N18346	A9N18362	A9N18384
125 A	A9N18343	A9N18359	A9N18381	A9N18347	A9N18363	A9N18385
Width in 9-mm modules	3			6		
Type	3P			4P		
Rating (In)	Curve			Curve		
	B	C	D	B	C	D
63 A	A9N18348	A9N18364	A9N18386	A9N18352	A9N18371	A9N18390
80 A	A9N18349	A9N18365	A9N18387	A9N18353	A9N18372	A9N18391
100 A	A9N18350	A9N18367	A9N18388	A9N18354	A9N18374	A9N18392
125 A	A9N18351	A9N18369	A9N18389	A9N18355	A9N18376	A9N18393
Width in 9-mm modules	9			12		

(*) NF B and C curves only.

C120N 초소형 배선용 차단기 (B,C,D 트립 곡선)

Connection



		Without accessory		With accessories			
Rating	Tightening torque	Copper cables		50 mm ²	Screw-on connection for ring terminal	Multi-cables terminal	
		Rigid	Flexible or ferrule	Al terminal		Rigid cables	Flexible cables
		DB122945 	DB122946 	DB122935  Al	DB118789 	DB118787 	
63 to 125A	3.5 N.m	1 to 50 mm ²	1.5 to 35 mm ²	16 to 50 mm ²	Ø 5mm	3 x 16 mm ²	3 x 10mm ²

기술 자료

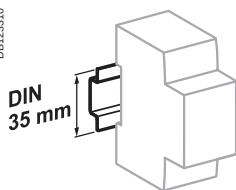
주요 특성

IEC/EN 60947-2

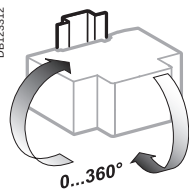
정격절연전압(Ui)	500 V AC
오염 등급	3
정격임펄스전압 (Uimp)	6 kV
열동형 트립	기준온도 주위 온도에 따른 보정 (168페이지 참조하세요.)
전자식 트립	B 트립 곡선 C 트립 곡선 D 트립 곡선
사용범주	A

기타 특성

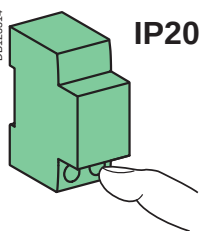
IP 보호등급 (IEC 60529)	Device only Device in modular enclosure	IP20 IP40 Insulation classe II
전기적 수명(O-C)		10,000 (63A) 5,000 (80~125A)
기계적 수명(O-C)		20,000 cycles
동작보존온도		-35°C to +70°C
보관온도		-40°C to +85°C
극한의 기후에서 사용(IEC60068-1)		Treatment 2 (relative humidity 95 % to 55°C)



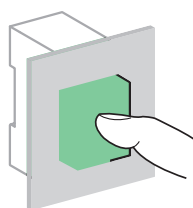
Clip on DIN rail 35 mm.



Indifferent position of installation.



IP20



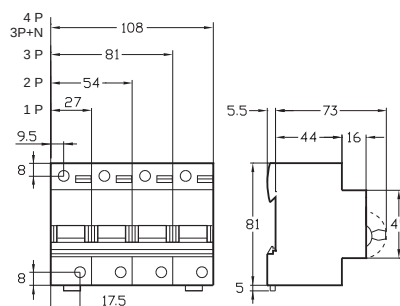
IP40

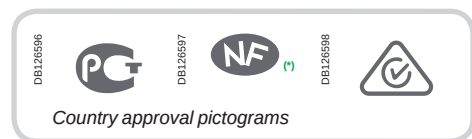
무게 (g)

Circuit-breaker

Type	C120N
1P	205
2P	410
3P	615
4P	820

외형치수 (mm)





IEC/EN 60898-1, CEI 60947-2

C120H circuit breakers are multistandard circuit breakers that combine the following functions:

- circuit protection against short-circuit currents
- circuit protection against overload currents
- suitability for isolation in the industrial sector to IEC/EN 60947-2
- fault tripping and indication by adding auxiliaries.

Alternating current (AC) 50/60 Hz

Breaking capacity (Icu) to IEC/EN 60947-2					Service breaking capacity (Ics)
Type	Voltage (V)				
1P	130 V	220 to 240 V	380 to 415 V	440 V	
Rating (In) 10 to 125 A	30 kA	15 kA	4,5 kA ⁽¹⁾	-	50 % Icu
2P, 3P, 4P	130 V	220 to 240 V	380 to 415 V	440 V	
10 to 125 A	-	30 kA	15 kA	10 kA	50 % Icu

Breaking capacity (Icu) to CEI/EN 60898-1

Type	Voltage (V)		
1P, 2P, 3P, 4P	230 to 400 V		
Rating (In) 10 to 125 A	15000 A		50 % Icu

⁽¹⁾ One-pole breaking capacity in IT isolated neutral system (double fault).

Direct current (DC)

Breaking capacity (Icu) to IEC/EN 60947-2				Service breaking capacity (Ics)
Type	Voltage (V)			
1P	24/48 V	125 V	250 V	
Rating (In) 10 to 125 A	15 kA	15 kA	-	100 % Icu
2P (in series)	24/48 V	125 V	250 V	
10 to 125 A	-	-	15 kA	100 % Icu

Catalogue numbers

C120H circuit breaker

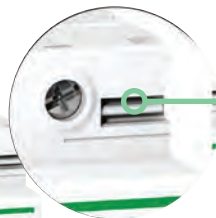
Type	1P	2P
Auxiliaries	Remote indication and tripping	Remote indication and tripping
Vigi C120	Vigi C120 add-on residual current device	Vigi C120 add-on residual current device
Rating (In)	Curve	Curve
	B C D	B C D
10 A	A9N18394 A9N18438 A9N18482	A9N18405 A9N18449 A9N18493
16 A	A9N18395 A9N18439 A9N18483	A9N18406 A9N18450 A9N18494
20 A	A9N18396 A9N18440 A9N18484	A9N18407 A9N18451 A9N18495
25 A	A9N18397 A9N18441 A9N18485	A9N18408 A9N18452 A9N18496
32 A	A9N18398 A9N18442 A9N18486	A9N18409 A9N18453 A9N18497
40 A	A9N18399 A9N18443 A9N18487	A9N18410 A9N18454 A9N18498
50 A	A9N18400 A9N18444 A9N18488	A9N18411 A9N18455 A9N18499
63 A	A9N18401 A9N18445 A9N18489	A9N18412 A9N18456 A9N18500
80 A	A9N18402 A9N18446 A9N18490	A9N18413 A9N18457 A9N18501
100 A	A9N18403 A9N18447 A9N18491	A9N18414 A9N18458 A9N18502
125 A	A9N18404 A9N18448 A9N18492	A9N18415 A9N18459 A9N18503
Width in 9 mm modules	3	6

^(*) NF B and C curves only.

C120H 초소형 배선용 차단기 (B,C,D 트립 곡선)

PB107916-40

■ Terminals insulated to IP20



■ Location for 4 clip-on terminal markers



Positive contact indication

- Suitability for isolation in the industrial sector to IEC/EN 60947-2.
- The presence of the green strip guarantees that the contacts open physically and allows work to be carried out safely on the downstream circuit.

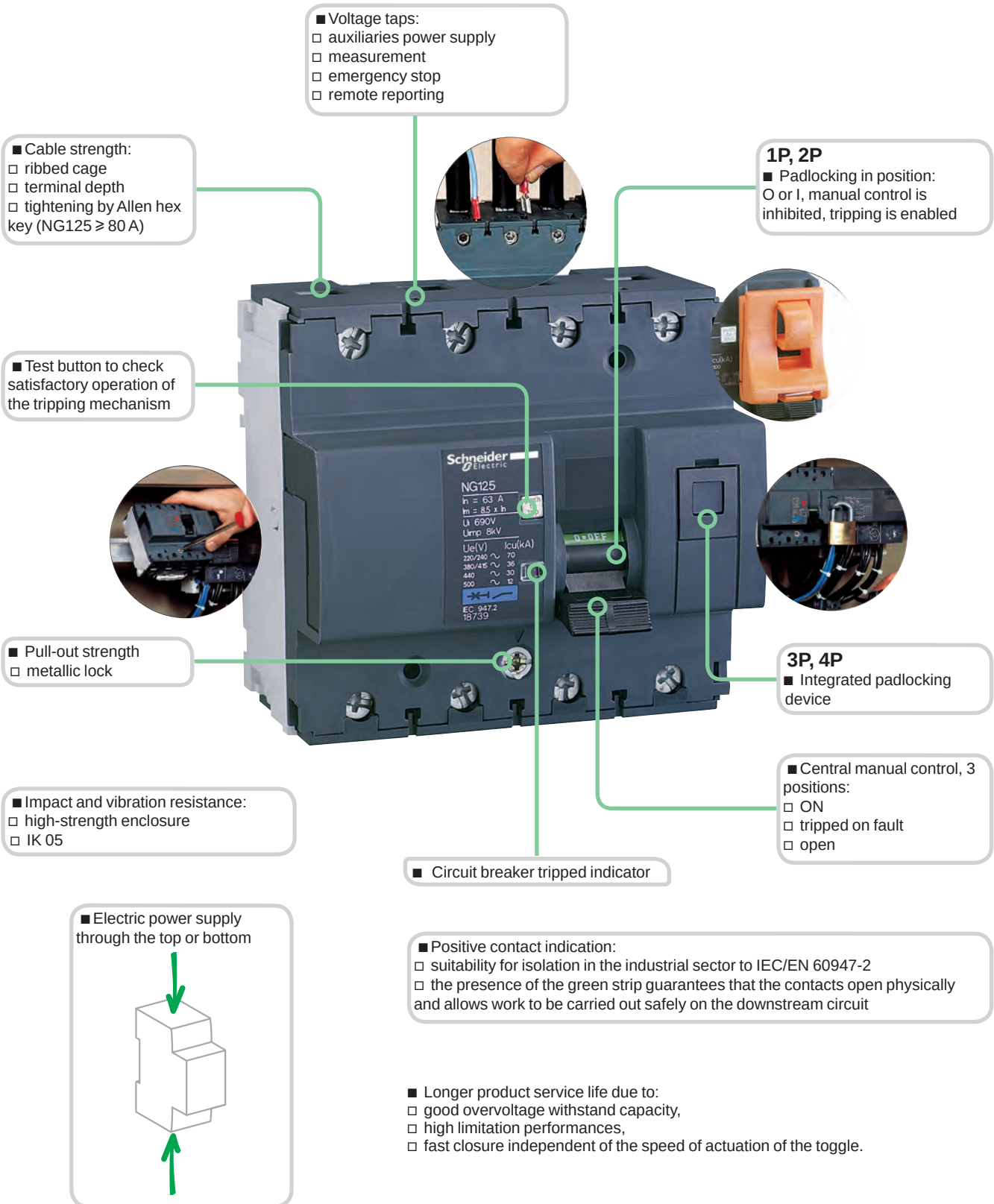
- Longer product service life thanks to:
 - good overvoltage withstand capacity: products designed to provide a high industrial performance level (degree of pollution, rated impulse withstand voltage and insulation voltage).
 - high limitation performances (see limitation curves).
 - fast closure independent of toggle operating speed.
- Remote indication of the open/closed/tripped state by auxiliary contacts (optional).
- Power supply from above or below.

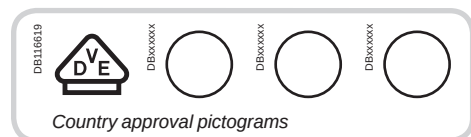
3P				4P			
Remote indication and tripping				Remote indication and tripping			
Vigi C120 add-on residual current device				Vigi C120 add-on residual current device			
Curve				Curve			
B	C	D		B	C	D	
A9N18416	A9N18460	A9N18504		A9N18427	A9N18471	A9N18515	
A9N18417	A9N18461	A9N18505		A9N18428	A9N18472	A9N18516	
A9N18418	A9N18462	A9N18506		A9N18429	A9N18473	A9N18517	
A9N18419	A9N18463	A9N18507		A9N18430	A9N18474	A9N18518	
A9N18420	A9N18464	A9N18508		A9N18431	A9N18475	A9N18519	
A9N18421	A9N18465	A9N18509		A9N18432	A9N18476	A9N18520	
A9N18422	A9N18466	A9N18510		A9N18433	A9N18477	A9N18521	
A9N18423	A9N18467	A9N18511		A9N18434	A9N18478	A9N18522	
A9N18424	A9N18468	A9N18512		A9N18435	A9N18479	A9N18523	
A9N18425	A9N18469	A9N18513		A9N18436	A9N18480	A9N18524	
A9N18426	A9N18470	A9N18514		A9N18437	A9N18481	A9N18525	
9				12			

NG125 배선용 차단기 (B,C,D 트립 곡선)

0549JPN_SE-90

08123493





IEC/EN 60947-2

■ NG125N circuit breakers are circuit breakers which combine the following functions:

- circuit protection against short-circuit currents,
- circuit protection against overload currents,
- suitability for isolation in the industrial sector to IEC/EN 60947-2,
- tripping upon fault is indicated by a red mechanical state indicator light on the front face of the circuit breaker.



NG125N 1P



NG125N 2P



NG125N 3P



NG125N 4P

Alternating current (AC) 50/60 Hz

Breaking capacity (Icu) to IEC/EN 60947-2		Voltage (Ue)						Service breaking capacity (Ics)
Ph/Ph (2P, 3P, 3P+N, 4P)		-	220 to 240 V	-	380 to 415 V	440 V	500 V	
Ph/N (1P)		110 to 130 V	220 to 240 V	-	380 to 415 V	-	-	
Rating (In)	10 to 125 A	50 kA	25 kA	50 kA	6 kA ⁽²⁾	25 kA	20 kA	10 kA
								75 % of Icu

Direct current (DC)

Breaking capacity (Icu) to IEC/EN 60947-2		Voltage (Ue)				Service breaking capacity (Ics)
Ph/Ph (2P, 3P, 3P+N, 4P)		-	-	250 V	500 V	
Ph/N (1P)		60 V	125 V	-	-	
Number of poles		1P	1P	2P	4P	
Rating (In)	10 to 125 A	25 kA	25 kA	25 kA	25 kA	100 % of Icu

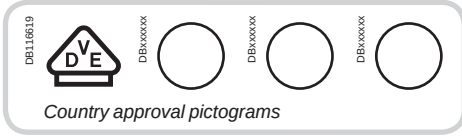
Catalogue numbers

NG125N circuit breaker										
Type	1P	2P	3P			3P+N	4P			
Auxiliaries		Remote indication and tripping– Vigi NG125 add-on residual current device								
Rating (In)	Quality label ⁽¹⁾	Curve	Curve	Curve			Curve	Curve		
		C	C	B	C	D	C	B	C	D
10 A		18610	18621	-	18632	-	-	-	18649	-
16 A		18611	18622	-	18633	-	-	-	18650	-
20 A		18612	18623	-	18634	-	-	-	18651	-
25 A		18613	18624	-	18635	-	-	-	18652	-
32 A		18614	18625	-	18636	-	-	-	18653	-
40 A		18615	18626	-	18637	-	-	-	18654	-
50 A		18616	18627	-	18638	-	-	-	18655	-
63 A		18617	18628	-	18639	-	-	-	18656	-
80 A	-	-	-	18663	18641	18669	18646	18666	18657	18672
100 A	-	-	-	18664	18643	18670	18647	18667	18659	18673
125 A	-	-	-	18665	18645	18671	18648	18668	18661	18674
Width in 9 mm modules		3	6	9			12	12		

(1) Information to be supplied by the country concerned.

(2) Breaking capacity under 1 pole in IT isolated neutral system (case of a double fault).

NG125H 배선용 차단기 (C트립 곡선)



IEC/EN 60947-2

■ NG125H circuit breakers are circuit breakers which combine the following functions:

- circuit protection against short circuit currents,
- circuit protection against overload currents,
- suitability for isolation in the industrial sector to IEC/EN 60947-2,
- tripping upon fault is indicated by a red mechanical state indicator light on the front face of the circuit breaker.



NG125H 1P



NG125H 2P



NG125H 3P



NG125H 4P

Alternating current (AC) 50/60 Hz

Breaking capacity (Icu) to IEC/EN 60947-2

Ph/Ph (2P, 3P, 4P)	Voltage (Ue)					Service breaking capacity (Ics)
	-	-	220 to 240 V	-	380 to 415 V	
Ph/N (1P)	110 to 130 V	220 to 240 V	-	380 to 415 V	-	-
Rating (In)	10 to 80 A	70 kA	36 kA	70 kA	6 kA ⁽²⁾	36 kA

Direct current (DC)

Breaking capacity (Icu) to IEC/EN 60947-2

Ph/Ph (2P, 3P, 3P+N, 4P)	Voltage (Ue)				Service breaking capacity (Ics)
	-	-	250 V	500 V	
Ph/N (1P)	60 V	125 V	-	-	-
Number of poles	1P	1P	2P	4P	-
Rating (In)	10 to 80 A	36 kA	36 kA	36 kA	100 % of Icu

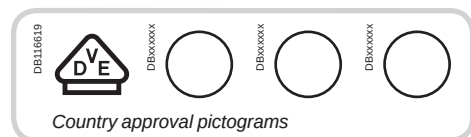
Catalogue numbers

NG125H circuit breaker

Type	1P	2P	3P	4P
Auxiliaries	Remote indication and tripping – Vigi NG125 add-on residual current device			
Rating (In)	Quality label (1)	Curve C	Curve C	Curve C
10 A		18705	18714	18723
16 A		18706	18715	18724
20 A		18707	18716	18725
25 A		18708	18717	18726
32 A		18709	18718	18727
40 A		18710	18719	18728
50 A		18711	18720	18729
63 A		18712	18721	18730
80 A		18713	18722	18731
Width in 9 mm modules	3	6	9	12

(1) Information to be supplied by the country concerned.

(2) Breaking capacity under 1 pole in IT isolated neutral system (case of a double fault).



IEC/EN 60947-2

■ NG125L circuit breakers are circuit breakers which combine the following functions:

- circuit protection against short-circuit currents;
- circuit protection against overload currents;
- suitability for isolation in the industrial sector to IEC/EN 60947-2;
- tripping upon fault is indicated by a red mechanical state indicator light on the front face of the circuit breaker.



NG125L 1P



NG125L 2P



NG125L 3P



NG125L 4P

Alternating current (AC) 50/60 Hz

Breaking capacity (Icu) to IEC/EN 60947-2

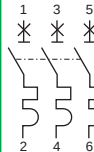
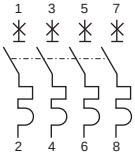
	Voltage (Ue)							Service breaking capacity (Ics)
	Ph/Ph (2P, 3P, 4P)	-	220 to 240 V	-	380 to 415 V	440 V	500 V	
Ph/N (1P)	110 to 130 V	220 to 240 V	-	380 to 415 V	-	-	-	
Rating (In)	10 to 80 A	100 kA	50 kA	100 kA	6 kA ⁽²⁾	50 kA	40 kA	15 kA
								75 % of Icu

Direct current (DC)

Breaking capacity (Icu) to IEC/EN 60947-2

	Voltage (Ue)				Service breaking capacity (Ics)
	Ph/Ph (2P, 3P, 3P+N, 4P)	-	250 V	500 V	
Ph/N (1P)	60 V	125 V	-	-	
Number of poles	1P	1P	2P	4P	
Rating (In)	10 to 80 A	50 kA	50 kA	50 kA	100 % of Icu

Catalogue numbers

NG125L circuit breaker													
Type		1P			2P			3P			4P		
													
Auxiliaries		Remote indication and tripping – Vigi NG125 add-on residual current device											
Rating (In)	Quality label ⁽¹⁾	Curve			Curve			Curve			Curve		
		B	C	D	B	C	D	B	C	D	B	C	D
10 A		18741	18777	18830	18750	18788	18839	18759	18799	18848	18768	18821	18857
16 A		18742	18778	18831	18751	18789	18840	18760	18800	18849	18769	18822	18858
20 A		18743	18779	18832	18752	18790	18841	18761	18801	18850	18770	18823	18859
25 A		18744	18780	18833	18753	18791	18842	18762	18802	18851	18771	18824	18860
32 A		18745	18781	18834	18754	18792	18843	18763	18803	18852	18772	18825	18861
40 A		18746	18782	18835	18755	18793	18844	18764	18804	18853	18773	18826	18862
50 A		18747	18783	18836	18756	18794	18845	18765	18805	18854	18774	18827	18863
63 A		18748	18784	18837	18757	18795	18846	18766	18806	18855	18775	18828	18864
80 A		18749	18785	18838	18758	18796	18847	18767	18807	18856	18776	18829	18865
Width in 9 mm modules		3			6			9			12		

(1) Information to be supplied by the country concerned.

(2) Breaking capacity under 1 pole in IT isolated neutral system (case of a double fault).



C60 UL 489



C60 UL 489 480Y/277 V ~



C60 UL 1077



C60 UL 489A

Multi 9 products for equipments having to satisfy with standards UL / CSA and IEC

The Multi 9 modular offer is a system protection including:

- miniature circuit breakers (MCB)
- supplementary protectors
- electrical auxiliaries
- accessories.

The Multi 9 system is ideal for use by OEMs to provide protection of their complete products or specific circuits within the equipment.

Thanks to this offer, OEMs in the entire world can offer equipment that is conform to the primary world standards:

- UL 489, UL 1077, UL 489A
- CSA C22.2 No. 5-02, CSA C22.2 No. 235-04
- IEC 60947-2
- GB 14048-2.

Main applications fields

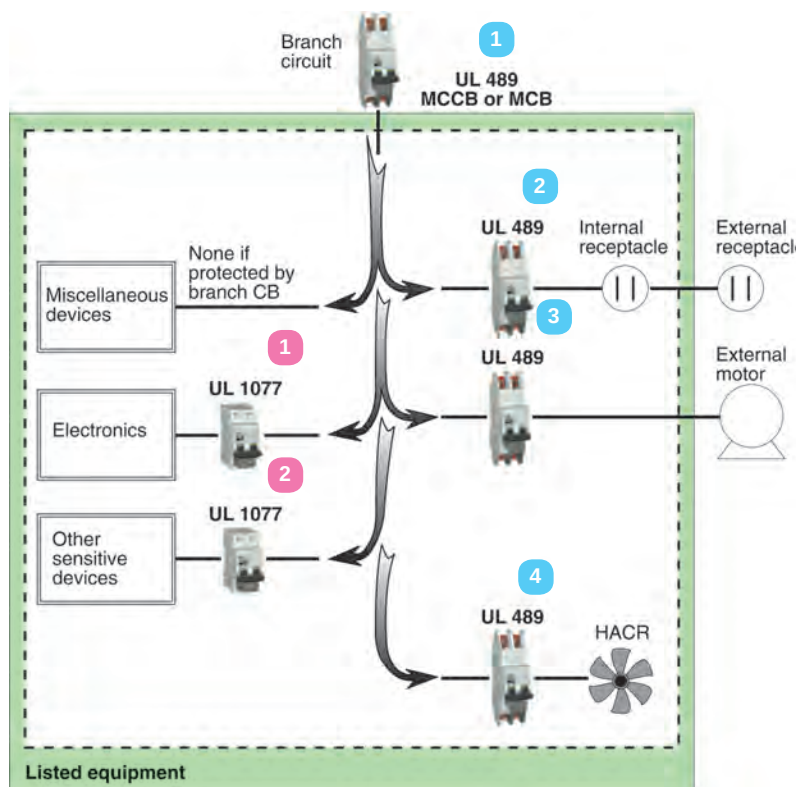
- Semi-conductor machines.
- Communication equipment.
- Computers.
- Medical equipment.
- Transformers.
- Industrial controls and automation.
- Packaging equipment.
- Food processing.

Multi 9 products C60 and provide OEMs with:

- Ease of installation with DIN rail mounting (35 mm).
- Panel space savings thanks to their small and compact size: width per pole is only 0.71 in (18 mm) up to 63 A.
- Multiple possibilities of connecting for UL 489 circuit breakers (up/down):
 - ☐ box lug/box lug
 - ☐ ring tongue terminal/ring tongue terminal (RTT/RTT)
 - ☐ box lug/ring tongue terminal.
- Ring tongue terminal connections kit for UL 1077 supplementary protectors.
- Multi 9 products (circuit breakers and supplementary protectors) are current limiting, providing faster separation of the component from the fault, reducing system damage.
- Suitable products with overcurrent protection meeting specific uses:
 - B, C, D time-current curves for:
 - ☐ sensitive equipment (computers, electronic devices...): B curve
 - ☐ all application types: C curve
 - ☐ high inrush currents (motors, transformers...): D curve.
- A range of electrical auxiliaries such as:
 - ☐ alarm switch (SD)
 - ☐ auxiliary switch (OF)
 - ☐ shunt trip (MX + OF)
 - ☐ under-voltage release (MN).
- Wide choice of ampere ratings, suitable for low-power circuits:

Type	Standards			
	UL 489 CSA C22.2 No. 5-02	UL 489A	UL 1077 CSA C22.2 No. 235-04	IEC 60947-2 GB 14048-2
C60	■	■	■	■

Example of applicable UL 489 Circuit Breakers and UL 1077 Supplementary Protectors



UL 1077

Applications permitting supplementary protectors

UL 1077 1

Supplements or provides additional protection for sensitive components inside the equipment.

UL 1077 2

Used to protect critical or sensitive internal circuitry such as:

- computers and microprocessors
- telecommunication equipment
- electronic controllers
- power supplies
- transformers
- small motors
- many other types of equipment.

UL 489

Applications requiring branch circuit protection

UL 489 1

Protects entire OEM equipment. This necessary required UL 489 device may be provided integral to the assembly or by a remote overcurrent protective device.

UL 489 2

Required to protect convenience receptacle circuits (internal or external).

UL 489 3

Required to protect an external load circuit leaving the equipment.

UL 489 4

HACR/HVAC (Heating, Air Conditioning, and Refrigeration) equipment.

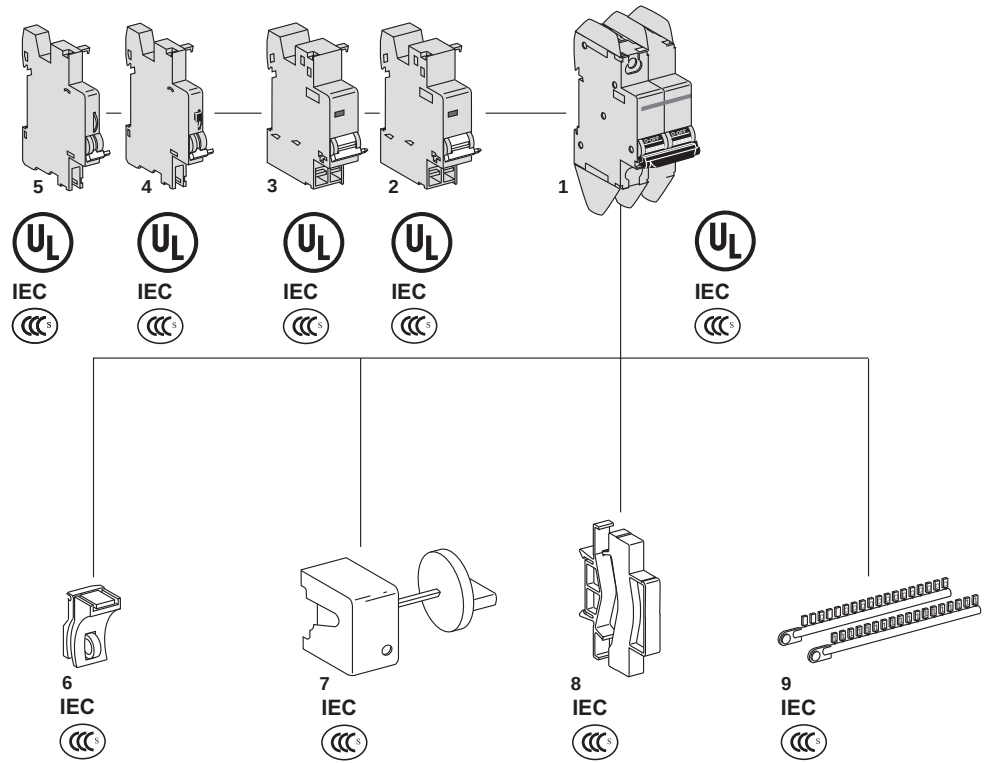
C60UL 약세서리 개관

UL489 / CSA C22.2 No.5-02



Overview

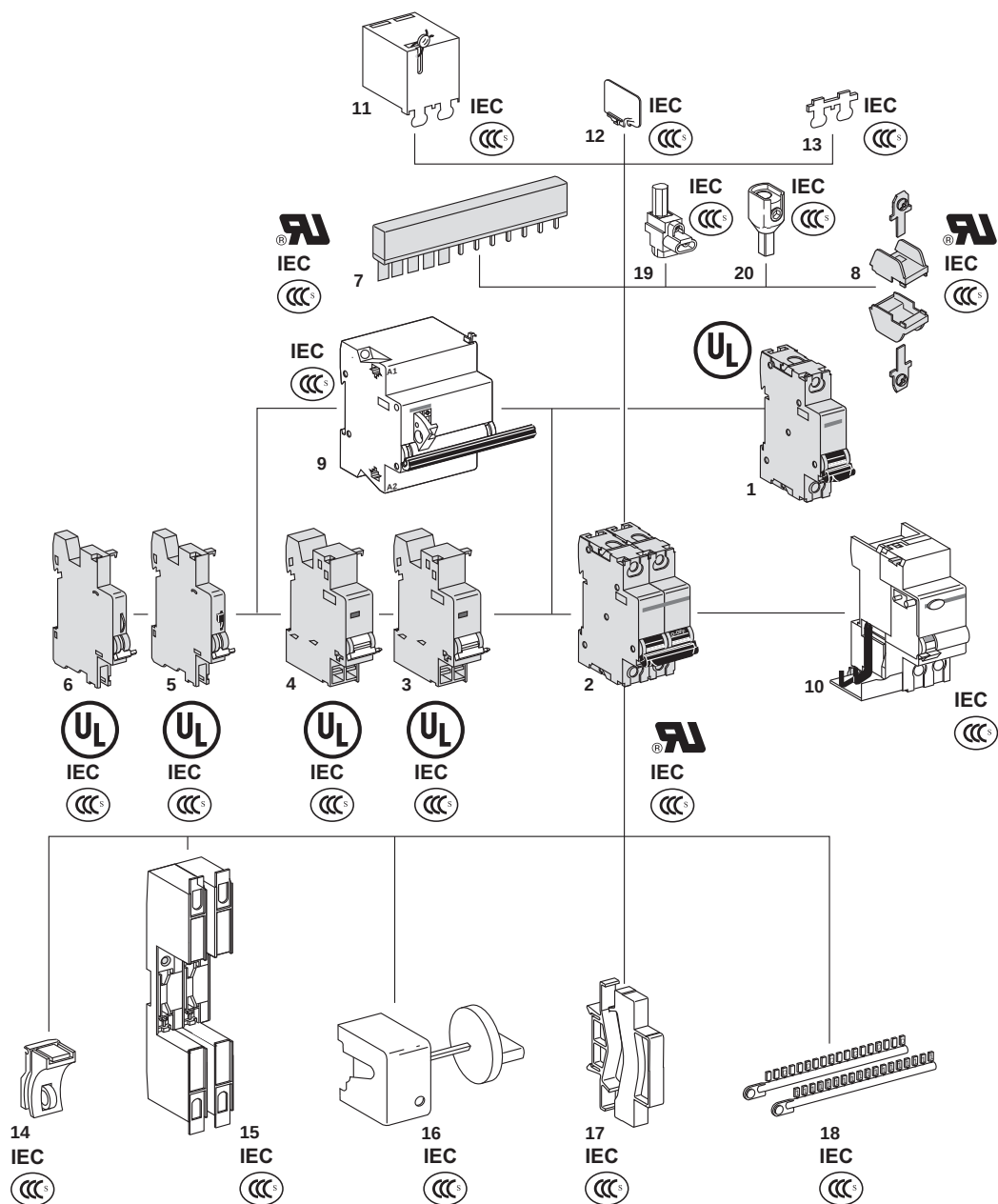
1. Circuit breaker C60 UL 489
2. Undervoltage release (MN)
3. Shunt trip (MX + OF)
4. Auxiliary switch (OF)
5. Alarm switch (SD)
6. Padlock attachment
(for OFF position only)
7. Rotary handle
8. Spacer
9. Identification system





Overview

1. Circuit breaker C60 UL 489A
2. C60 UL 1077 supplementary protectors
3. Undervoltage release (MN)
4. Shunt trip (MX + OF)
5. Auxiliary switch (OF)
6. Alarm switch (SD)
7. Comb busbar
8. Ring tongue terminal connections kit (UL 1077)
9. Motor operator C60
10. C60 Vigi module
11. Terminal cover
12. Interphase barrier
13. Terminal screw shield
14. Padlock attachment (for C60 OFF position)
15. Plug-in base
16. Rotary handle
17. Spacer
18. Identification system
19. Insulated distribution terminal
20. Terminal 50 mm² Cu/Al



Caution

It is not possible to associate the motor operator (9) and/or the Vigi module (10) on the circuit breaker, if the connection kit (8) is used with the circuit breaker

Circuit breakers for branch circuit protection



C60 UL차단기

Main functions of C60 UL 489 circuit breaker:

■ protection of circuits against:

- short circuit currents
- overload currents

- control
- isolation

Various applications:

- semi-conductors
- electronic machinery
- control panel
- metal working
- telecommunication
- food, beverage
- packaging
- crane
- conveyors
- pumps and compressors
- HACR (Heating, Air conditioning, Refrigeration), HVAC
- engine generators.

Compliance with standards products

- UL 489 circuit breakers File #E215117.
- CSA C22.2 No. 5-02 circuit breakers File #179014.
- IEC 60947-2, VDE 0660.

Standard features

- CE Marked.
- Power circuit:
voltage rating: 120 up to 240 V ~, 480Y / 277 V ~, 60 V --- and 125 V ---
□ ampere interrupting ratings:

Rating (A) 77°F/ 25°C	Number of poles 0.71 in. (0,71 in.)	Voltage	Interrupting rating (kA rms)	
			AIR UL 489/CSA	Icu IEC 60947-2
0.5 to 20	1P	277 V ~	10	10
	2P/3P	480Y/277 V ~	10	10
0.5 to 35	1P	120 V ~	10	-
		240 V ~	5	10
	2P/3P	240 V ~	10	20
		415 V ~	-	10
		440 V ~	-	6
		60 V ---	10 ⁽¹⁾	10 ⁽¹⁾
40 to 63	1P	125 V ---	10 ⁽¹⁾	10 ⁽¹⁾
		60 V ---	10 ⁽¹⁾	10 ⁽¹⁾

⁽¹⁾ C curve only available

- fast closing: allows increased withstand to the high inrush currents of some loads
- fault current limiting
- trip-free mechanism: contacts cannot be held in the ON position when the circuit breaker is tripped automatically
- isolation with positive break indication-Green strip on the circuit breaker operating handle indicates that all poles open
- number of operating cycles (O-C):
 - electrical: 10000
 - mechanical: 20000.
- Environment:
 - tropicalization: treatment 2 (relative humidity: 95 % at 131 °F/55 °C)
 - degree of protection as per IEC 60529:
 - on front panel: IP40 / IPXXB
 - box lug connection: IP20 / IPXXB
 - ring tongue terminal connection: IP10 / IPXXA
 - temperature:
 - operation: -22 to 158 °F (-30 to 70 °C)
 - storage: -40 to 176 °F (-40 to 80 °C).
- Weight (oz./g):

Type	1P	2P	3P
C60	3.88/110	7.75/220	11.64/330

Connection

The C60 UL 489 is available in 3 different types of connection:

- box lug/box lug
- ring tongue terminal/ring tongue terminal (RTT/RTT)
- box lug/ring tongue terminal.

PB10098182_35



Box lug/box lug
240 V ~

PB102035_42



Box lug/box lug
480Y / 277 V ~

PB100981_2_45



RTT/RTT
240 V ~

PB102035_42



RTT/RTT
480Y / 277 V ~

PB100981_2_35



Box lug/RTT
240 V ~

Connection characteristics

- Box lug for copper cables UL 486A File #E216919:
 - 0.5 to 25 A: (#14-#4 AWG) 2.5 to 25 mm² cables, torque 22 lb.in.
 - 30 to 63 A: (#14-#2 AWG) 2.5 to 35 mm² cables, torque 31 lb.in.
- Box lug C60 UL 480Y / 277 V ~ for copper cables UL 486A, File #E216919 :
 - 0.5 to 10 A: 1 to 1.5 mm² (#18-#16 AWG), 1 or 2 cables, torque (7 lb.in.)
 - 15 to 25 A: 2.5 to 6 mm² (#14-#10 AWG), 1 or 2 cables, torque (14 lb.in.).
- Ring terminal:
 - use single UL listed or CSA certified and insulated ring only
 - screw diameter 0.2 in (5 mm) torque 18 lb.in.



Box lug 240 V ~



Box lug 480Y / 277 V ~



Ring terminal 240 V ~



Ring terminal 480Y / 277 V ~

Time-current curves

C curve-Overcurrent protection for all application types:

- ratings: 0.5 to 63 A set at 77°F (25°C)
- tripping threshold:
 - alternative current: between 7 and 10 I_n (ratings 0.5 to 35 A)
 - direct current: between 7 and 14 I_n (ratings 0.5 to 63 A).

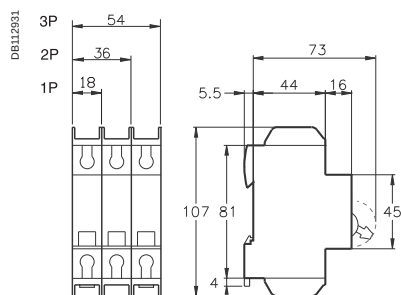
D curve-Overcurrent protection for loads with high inrush currents (motors, transformers etc.):

- ratings: 0.5 to 35 A set at 77°F (25°C)
- tripping threshold: The magnetic releases operates between 10 and 14 times ampere rating.

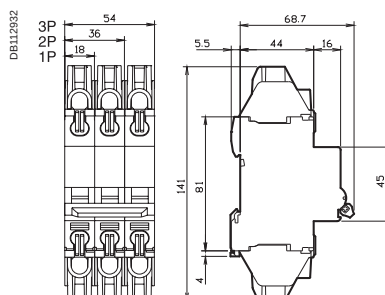
Adaptable electrical auxiliaries

- Remote tripping:
 - shunt trip (MX + OF)
 - undervoltage release (MN).
- Remote indication:
 - auxiliary switch (OF)
 - alarm switch (SD).

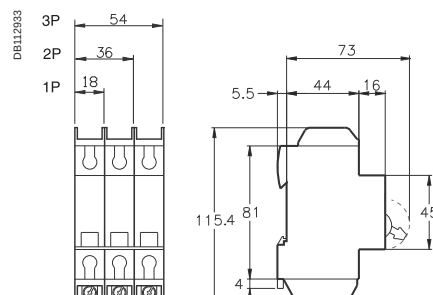
Dimensions



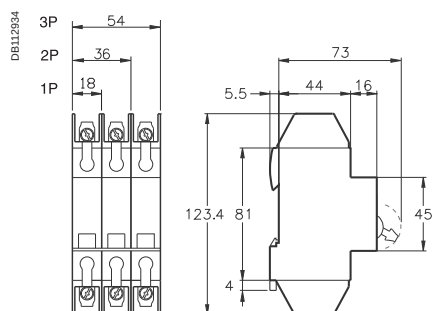
Box lug / box lug 240 V ~



Box lug / box lug 480Y / 277 V ~
RTT/RTT 480Y / 277 V ~



Box lug / RTT 240 V ~



RTT / RTT 240 V ~

Box lug/box lug connection (upstream/downstream)

PB100981_2-35



E27969
1
2



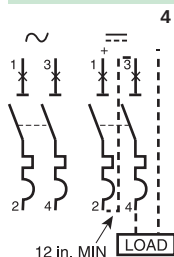
Type	Width in modules 0.354 in. (9 mm)	Rating (A)	Cat. no. curve	curve
1P				
	2	0.5	60100	60117
		1	60101	60118
		1.5	60102	60119
		2	60103	60120
		3	60104	60121
		4	60105	60122
		5	60106	60123
		6	60107	60124
		7	60108	60125
		8	60109	60126
		10	60110	60127
		13	60111	60128
		15	60112	60129
		20	60113	60130
		25	60114	60131
		30	60115	60132
		35	60116	60133

2P

PB100982_2-35



DB112935
1 3
2 4



C curve

E27970
1 3
2 4



D curve

3P

PB100984_2-35



E27971
1 3 5
2 4 6



	6	1	60168	60184
		1.5	60169	60185
		2	60170	60186
		3	60171	60187
		4	60172	60188
		5	60173	60189
		6	60174	60190
		7	60175	60191
		8	60176	60192
		10	60177	60193
		13	60178	60194
		15	60179	60195
		20	60180	60196
		25	60181	60197
		30	60182	60198
		35	60183	60199

	Utilization in alternative current and direct current.
	Utilization in alternative current only.

Box lug/box lug connection (upstream/downstream)

PB102035-3S



E27969

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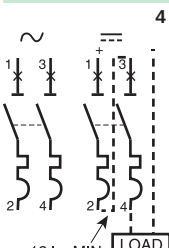
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Type	Width in modules 0.354 in. (9 mm)	Rating (A)	Cat. no. curve	curve
1P			C	D
1	2	0.5	MGN61300	MGN61333
1		1	MGN61301	MGN61334
2		2	MGN61302	MGN61335
3		3	MGN61303	MGN61336
4		4	MGN61304	MGN61337
5		5	MGN61305	MGN61338
6		6	MGN61306	MGN61339
8		8	MGN61307	MGN61340
10		10	MGN61308	MGN61341
15		15	MGN61309	MGN61342
20		20	MGN61310	MGN61343
2P				
1 3	4	0.5	MGN61311	MGN61344
1		1	MGN61312	MGN61345
2		2	MGN61313	MGN61346
3		3	MGN61314	MGN61347
4		4	MGN61315	MGN61348
5		5	MGN61316	MGN61349
6		6	MGN61317	MGN61350
8		8	MGN61318	MGN61351
10		10	MGN61319	MGN61352
15		15	MGN61320	MGN61353
20		20	MGN61321	MGN61354
3P				
1 3 5	6	0.5	MGN61322	MGN61355
1		1	MGN61323	MGN61356
2		2	MGN61324	MGN61357
3		3	MGN61325	MGN61358
4		4	MGN61326	MGN61359
5		5	MGN61327	MGN61360
6		6	MGN61328	MGN61361
8		8	MGN61329	MGN61362
10		10	MGN61330	MGN61363
15		15	MGN61331	MGN61364
20		20	MGN61332	MGN61365

Utilization in alternative current only.

Ring tongue/ring tongue terminal connection (upstream/downstream)

Type	Width in modules 0.354 in. (9 mm)	Rating (A)	Cat. no. curve	curve		
			C	D		
1P						
	2	0.5	60200	60217		
		1	60201	60218		
		1.5	60202	60219		
		2	60203	60220		
		3	60204	60221		
		4	60205	60222		
		5	60206	60223		
		6	60207	60224		
		7	60208	60225		
		8	60209	60226		
		10	60210	60227		
		13	60211	60228		
		15	60212	60229		
		20	60213	60230		
		25	60214	60231		
		30	60215	60232		
		35	60216	60233		
2P						
	4	0.5	60234	60251		
		1	60235	60252		
		1.5	60236	60253		
		2	60237	60254		
		3	60238	60255		
		4	60239	60256		
		5	60240	60257		
		6	60241	60258		
		7	60242	60259		
		8	60243	60260		
		10	60244	60261		
		13	60245	60262		
		15	60246	60263		
		20	60247	60264		
		25	60248	60265		
		30	60249	60266		
		35	60250	60267		
C curve						
	4	1	60245	60262		
		1.5	60246	60263		
		2	60247	60264		
		2.5	60248	60265		
		3	60249	60266		
		3.5	60250	60267		
		D curve				
		3P				
			6	1	60268	60284
				1.5	60269	60285
				2	60270	60286
				3	60271	60287
				4	60272	60288
				5	60273	60289
				6	60274	60290
				7	60275	60291
				8	60276	60292
10	60277			60293		
13	60278			60294		
15	60279			60295		
20	60280			60296		
25	60281			60297		
30	60282			60298		
35	60283			60299		

Utilization in alternative current and direct current.
Utilization in alternative current only.

Ring tongue/ring tongue terminal connection (upstream/downstream)

Type	Width in modules 0.354 in. (9 mm)	Rating (A)	Cat. no. curve	curve
			C	D
1P				
	2	0.5	MGN61366	MGN61399
		1	MGN61367	MGN61400
		2	MGN61368	MGN61401
		3	MGN61369	MGN61402
		4	MGN61370	MGN61403
		5	MGN61371	MGN61404
		6	MGN61372	MGN61405
		8	MGN61373	MGN61406
		10	MGN61374	MGN61407
		15	MGN61375	MGN61408
		20	MGN61376	MGN61409
2P				
	4	0.5	MGN61377	MGN61410
		1	MGN61378	MGN61411
		2	MGN61379	MGN61412
		3	MGN61380	MGN61413
		4	MGN61381	MGN61414
		5	MGN61382	MGN61415
		6	MGN61383	MGN61416
		8	MGN61384	MGN61417
		10	MGN61385	MGN61418
		15	MGN61386	MGN61419
		20	MGN61387	MGN61420
3P				
	6	0.5	MGN61388	MGN61421
		1	MGN61389	MGN61422
		2	MGN61390	MGN61423
		3	MGN61391	MGN61424
		4	MGN61392	MGN61425
		5	MGN61393	MGN61426
		6	MGN61394	MGN61427
		8	MGN61395	MGN61428
		10	MGN61396	MGN61429
		15	MGN61397	MGN61430
		20	MGN61398	MGN61431



Utilization in alternative current only.

PB102035-35



PB102036-35



PB102037-35





The circuit breakers combine the following functions:

- protection of circuits against short-circuit currents,
- protection of circuits against overload currents,
- control,
- isolation,
- protection of persons against indirect contact in the TN and IT earthing systems.

Compliance with standards products

- UL 1077 Supplementary Protectors File #E90509.
- CSA C22.2 No. 235-04 Supplementary Protectors File #179014.
- IEC 60947-2.

Standard features

- CE Marked.
- Power circuit:
 - voltage rating: 480Y / 277 V ~
 - ampere interrupting ratings:

Rating (A) 77 °F/25 °C	Number of poles 0.71 in. (18 mm)	Voltage	Interrupting rating (kA rms)	
			AIR UL 1077/CSA	Icu IEC 60947-2
0.5 to 63	1P	240 V ~	10	10
	2P/3P/4P	240 V ~	10	20
	1P	277 V ~	5	-
		415 V ~	-	3
	2P/3P/4P	415 V ~	-	10
		440 V ~	-	6
		480Y/277 V ~	5	-
0.5 to 63	1P	60 V ---	-	10
B, C curve	1P	65 V ---	10	-
	2P	125 V ---	10	10

- fast closing: allows increased withstand to the high inrush currents of some loads
- fault current limiting
- trip-free mechanism: contacts cannot be held in the ON position when the supplementary protector is tripped automatically
- isolation with positive break indication-Green strip on the supplementary protector operating handle indicates that all poles open
- number of operating cycles (O-C): 20,000.
- Environment:
 - tropicalization: treatment 2 (relative humidity: 95% at 131°F/55°C)
 - degree of protection as per IEC 60529: IP40 / IPXXB
 - temperature:
 - operation: -22 to 158 °F (-30 to 70 °C)
 - storage: -40 to 176 °F (-40 to 80 °C).
- Weight (oz./g):

Type	1P	2P	3P	4P
C60	3.88/110	7.75/220	11.64/330	15.52/440

Connection for copper cables UL 486A File #E216919

- 0.5 to 25 A: (#14-#4 AWG) 2.5 to 25 mm² cables, torque 22 lb.in.
- 30 to 63 A: (#14-#2 AWG) 2.5 to 35 mm² cables, torque 31 lb.in.





Ring tongue terminal connections kit (option)

- 2 ring tongue terminals with screws (0.2 in/5 mm dia).
- 2 connector shrouds.



Time-current curves

B curve-Overcurrent protection for sensitive equipment (computers, electronic devices etc.):

- ratings: 1 to 63 A set at 77°F (25°C)
- tripping threshold: The magnetic release operates between 3.2 and 4.8 times ampere rating.

C curve-Overcurrent protection for all application types:

- ratings: 0.5 to 63 A set at 77°F (25°C)
- tripping threshold: The magnetic releases operates between 7 and 10 times ampere rating.

D curve-Overcurrent protection for loads with high inrush currents (motors, transformers etc.):

- ratings: 0.5 to 63 A set at 77°F (25°C)
- tripping threshold: The magnetic releases operates between 10 and 14 times ampere rating.

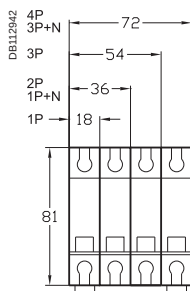
Adaptable electrical auxiliaries

- Remote tripping:
 - shunt trip (MX + OF)
 - undervoltage release (MN).
- Remote indication:
 - auxiliary switch (OF)
 - alarm switch (SD).

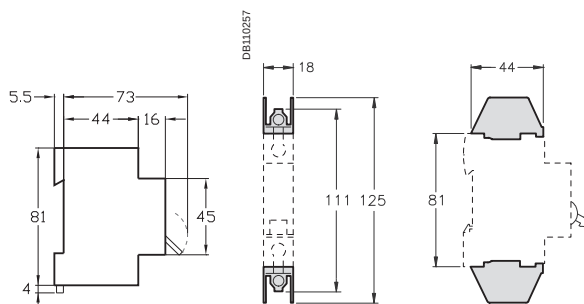
Ground-fault protection

- For UL Listed products, see GFP : [File 90168](#).
- For IEC rated products, see Vigi C60 : [File 90116](#).

Dimensions

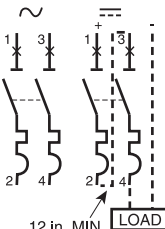


C60 UL 1077



Ring tongue terminal kit



Type	Width in modules 0.354 in. (9 mm)	Rating (A)	Cat. No. Curve	Curve	Curve
B					
C					
D					
1P					
EZ7969 	2	0.5	-	17411	17421
	1	1	24110	24425	24500
	1.2	1.2	17402	17412	17422
	1.5	1.5	17403	17413	17423
	2	2	24111	24426	24501
	3	3	24112	24427	24502
	4	4	24113	24428	24503
	5	5	17404	17414	17424
	6	6	24114	24430	24504
	7	7	17405	17415	17425
	8	8	24115	24431	24505
	10	10	24116	24432	24506
	13	13	24117	24433	24507
	15	15	17406	17416	17426
	16	16	24118	24434	24508
	20	20	24119	24435	24509
	25	25	24120	24436	24510
	30	30	17407	17417	17427
	32	32	24121	24437	24511
	35	35	17408	17418	17428
40	40	24122	24438	24512	
50	50	24123	24439	24513	
60	60	17409	17419	17429	
63	63	24124	24440	24514	
2P					
DB112935 	4	0.5	-	17441	17451
	1	1	24125	24442	24516
	1.2	1.2	17432	17442	17452
	1.5	1.5	17433	17443	17453
	2	2	24126	24443	24517
	3	3	24127	24444	24518
	4	4	24128	24445	24519
	5	5	17434	17444	17454
	6	6	24129	24447	24520
	7	7	17435	17445	17455
	8	8	24130	24448	24521
	10	10	24131	24449	24522
	13	13	24132	24450	24523
	15	15	17436	17446	17456
	16	16	24133	24451	24524
	20	20	24134	24452	24525
	25	25	24135	24453	24526
	30	30	17437	17447	17457
	32	32	24136	24454	24527
	35	35	17438	17448	17458
EZ7970 	40	40	24137	24455	24528
	50	50	24138	24456	24529
	60	60	17439	17449	17459
	63	63	24139	24457	24530

Utilization in alternative current and direct current.
Utilization in alternative current only.

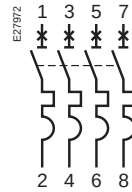


PB100979_2-35



Type	Width in modules 0.354 in. (9 mm)	Rating (A)	Cat. No. Curve B	Curve C	Curve D
3P					
	6	1	24140	24459	24532
		1.5	-	-	17470
		2	24141	24460	24533
		3	24142	24461	24534
		4	24143	24462	24535
		6	24144	24464	24536
		8	24145	24465	24537
		10	24146	24466	24538
		13	24147	24467	24539
		15	17461	17466	17471
		16	24148	24468	24540
		20	24149	24469	24541
		25	24150	24470	24542
		30	17462	17467	17472
		32	24151	24471	24543
		35	17463	17468	17473
		40	24152	24472	24544
		50	24153	24473	24545
		60	17464	17469	17474
		63	24154	24474	24546

PB100980_2-35



	8	1	24155	24476	24548
		2	24156	24477	24549
		3	24157	24478	24550
		4	24158	24479	24551
		6	24159	24481	24552
		8	24160	24482	24553
		10	24161	24483	24554
		13	24162	24484	24555
		16	24163	24485	24556
		20	24164	24486	24557
		25	24165	24487	24558
		32	24166	24488	24559
		40	24167	24489	24560
		50	24168	24490	24561
		63	24169	24491	24562

☐ Utilization in alternative current only.

05567N



Ring tongue terminal connections kit (option)

Type	Cat. no.
2 RTT + 2 connector shrouds (upstream/downstream)	17400



Country approval pictograms



CE

IEC 60947-2

C60N-DC는 철도차량, UPS, 전산센터등 DC 회로 전용 차단기입니다.
정격 전류 : 63A 이하, 10kA/250V DC (2P 제품 기준)
정격 전압 : 125V DC/1P, 250V/DC 2P

주문코드

C60N-DC		
Operating voltage (Ue)	24...125V DC	24...250V DC
Rated voltage (Un)	125V DC	250V DC
Number of poles	1P	2P
Curve	C	C
Number of modules of 9 mm	2	4
Diagrams	Supply from above or below, observing the polarity	Supply from above or below
Standards	IEC 60947-2	
Breaking capacity	10kA / 125V DC	10kA / 250V DC
Rating (A)*		
1	MGN22300	MGN22320
2	MGN22301	MGN22321
3	MGN22302	MGN22322
4	MGN22303	MGN22323
6	MGN22304	MGN22324
10	MGN22305	MGN22325
16	MGN22306	MGN22326
20	MGN22307	MGN22327
25	MGN22308	MGN22328
32	MGN22309	MGN22329
40	MGN22310	MGN22330
50	MGN22311	MGN22331
63	MGN22312	MGN22332

Main characteristics	
Rated service breaking capacity (Ics)	75 % of the ultimate breaking capacity (Icu)
Power loss	(178페이지 참조하세요.)
Magnetic tripping (Ii)	8.5 In (± 20 %) (compatible with curve C)
Rated impulse withstand voltage (Uimp) under frame	5kV
Endurance (O-C)	
Electrical	1,500 cycles 6,000 cycles where the circuit is resistive
Mechanical	20,000 cycles
Additional characteristics	
Pollution degree	3
Utilization category	A (no delay in accordance with IEC/EN 60947-2 standards)
Tropicalization (IEC 60068-2 and GB 14048.2)	Relative humidity: 95 % at 55°C / 131°F
Operating temperature	-25°C to 70°C / -13°F to 158°F
Storage temperature	-40°C to 85°C / -40°F to 185°F

DB105730



DB123431



A016325

Country approval pictograms



P8107193-34.eps



P8107193-34.eps



IEC/EN 60947-2, GB 14048.2, UL1077

The C60H-DC supplementary protectors are used in direct current circuits (Industrial control and automations, transport, renewable energy...). They combine the following functions of circuit protection against short-circuit and overload currents, control and isolation.

주문코드

C60H-DC				
Operating voltage (Ue)	12...250 V DC		12...500 V DC	
Rated voltage (Un)	250 V DC		500 V DC	
Number of poles	1P		2P	
Curve	C		C	
Number of modules of 9 mm	2		4	
Diagrams				
Standards	UL1077	IEC 60947-2 EN 60947-2 GB 14048.2	UL1077	IEC 60947-2 EN 60947-2 GB 14048.2
Breaking capacity	5 kA / 250 V DC	20 kA / 110 V DC 10 kA / 220 V DC 6 kA / 250 V DC	5 kA / 500 V DC	20 kA / 220 V DC 10 kA / 440 V DC 6 kA / 500 V DC
Rating (A)*	UL 1077, IEC 60947-2, EN 60947-2, GB 14048.2			
0.5	A9N61500		A9N61520	
1	A9N61501		A9N61521	
2	A9N61502		A9N61522	
3	A9N61503		A9N61523	
4	A9N61504		A9N61524	
5	A9N61505		A9N61525	
6	A9N61506		A9N61526	
10	A9N61508		A9N61528	
13	A9N61509		A9N61529	
15	A9N61510		A9N61530	
16	A9N61511		A9N61531	
20	A9N61512		A9N61532	
25	A9N61513		A9N61533	
30	A9N61514		A9N61534	
32	A9N61515		A9N61535	
40	A9N61517		A9N61537	
50	A9N61518		A9N61538	
63	A9N61519		A9N61539	

Main characteristics	
Rated service breaking capacity (Ics)	75 % of the ultimate breaking capacity (Icu) (178페이지 참조하세요.)
Power loss	
Magnetic tripping (Ii)	8.5 In (± 20 %) (compatible with curve C)
Rated impulse withstand voltage (Uimp) under frame	6 kV
Insulation voltage (Ui)	500 V DC
Endurance (O-C)	
Electrical	3,000 cycles (where L/R=2 ms) 6,000 cycles where the circuit is resistive
Mechanical	20,000 cycles
Additional characteristics	
Pollution degree	3
Utilization category	A (no delay in accordance with IEC/EN 60947-2 standards)
Tropicalization (IEC 60068-2 and GB 14048.2)	Relative humidity: 95 % at 55°C / 131°F
Operating temperature	-25°C to 70°C / -13°F to 158°F
Storage temperature	-40°C to 85°C / -40°F to 185°F

Poles connected in series

Network selection			
Type	Earthed		Isolated from earth
Source	Earthed polarity + or –		Isolated polarities
Protected polarities	1 (1P isolation)		2
Diagrams (and type of faults)	DB11861 Example : negative polarity to the earth	DB11862	DB11863

Selection of supplementary protector and pole connection			
24 V ≤ Un ≤ 250 V			
Upstream connection	Single-pole Only if L+ polarity is earthed DB116735	Two-pole DB116735	Two-pole DB116735
Downstream connection	DB116752	DB116738	DB116738
250 V < Un ≤ 500 V			
Upstream connection	Two-pole DB116736	Two-pole DB116735	Two-pole DB116735
Downstream connection	DB116737	DB116738	DB116738

Fault analysis (low earth connection resistance)			
Fault A	- Isc maximum at U - Only protected polarity concerned - All the poles of the protected polarity must have a breaking capacity ≥ Isc max. at U	- Isc maximum at U/2 - Only positive polarity concerned - All the positive polarity poles must have a breaking capacity ≥ Isc max. at U/2	- Not relevant - The fault must be indicated by a permanent insulation monitor (PIM) and cleared (IEC/EN 60364)
Fault B	- Isc maximum at U - If one polarity (in this case positive) is protected: all the poles of this polarity must have a breaking capacity ≥ Isc max. at U - If two polarities are protected, to ensure isolation: all the protections of the two polarities must have a breaking capacity ≥ Isc max. at U	- Isc maximum at U - The 2 polarities are concerned - All the poles of the two polarities must have a breaking capacity ≥ Isc max. at U	- Isc maximum at U - The 2 polarities are concerned - All the poles of the two polarities must have a breaking capacity ≥ Isc max. at U
Fault C		- As for fault A - All the negative polarity poles must have a breaking capacity ≥ Isc max. at U/2	As for fault A with the same requirements

PB109403-50



PB109405-50



A9N61661

DB404840



The C60PV-DC is a DC circuit breaker dedicated to multi string photovoltaic installations.

This circuit breaker is designed to protect the cables located between each string of photovoltaic modules and the photovoltaic inverter against overloads and short circuits (see application diagram).

Combined with a switch (of the C60NA-DC type, for example), the C60PV-DC will be installed in a string PV protection enclosure at the end of each string of photovoltaic modules.

It can be locked (by a padlocking device) in OFF position as a safety measure for removal of the PV inverter.

Since a fault current can flow in the reverse direction to the operating current, the C60PV-DC can detect and protect against any bidirectional current.

To ensure the safety of the installation, it is necessary, depending on the various types of application, to combine the C60PV-DC with:

- a residual current device at the AC end,
- a fault passage detector (insulation monitoring device) at the DC end
- an earth protection circuit breaker at the DC end (see Practical Advice CA908035).

In all cases, fast action on site will be required to clear the fault (protection not ensured in the event of a double fault).

C60PV-DC is not polarity sensitive: (+) and (-) wires can be reversed without any risk.

The C60PV-DC is delivered with three inter-pole barriers to provide increased isolation distance between two adjacent connectors.

IEC / EN 60947-2

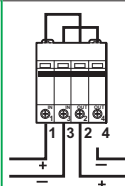


Main characteristics

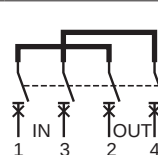
Operating voltage (Ue)	800 V DC
Rated insulation voltage (Ui)	1,000 V DC
Breaking capacity (Icu)	1.5 kA
Impulse voltage (Uimp)	6 kV
Electrical connection	By the bottom for In and Out
Number of poles	2P
Number of modules of 9 mm	8

Diagrams

DB122506



DB122703



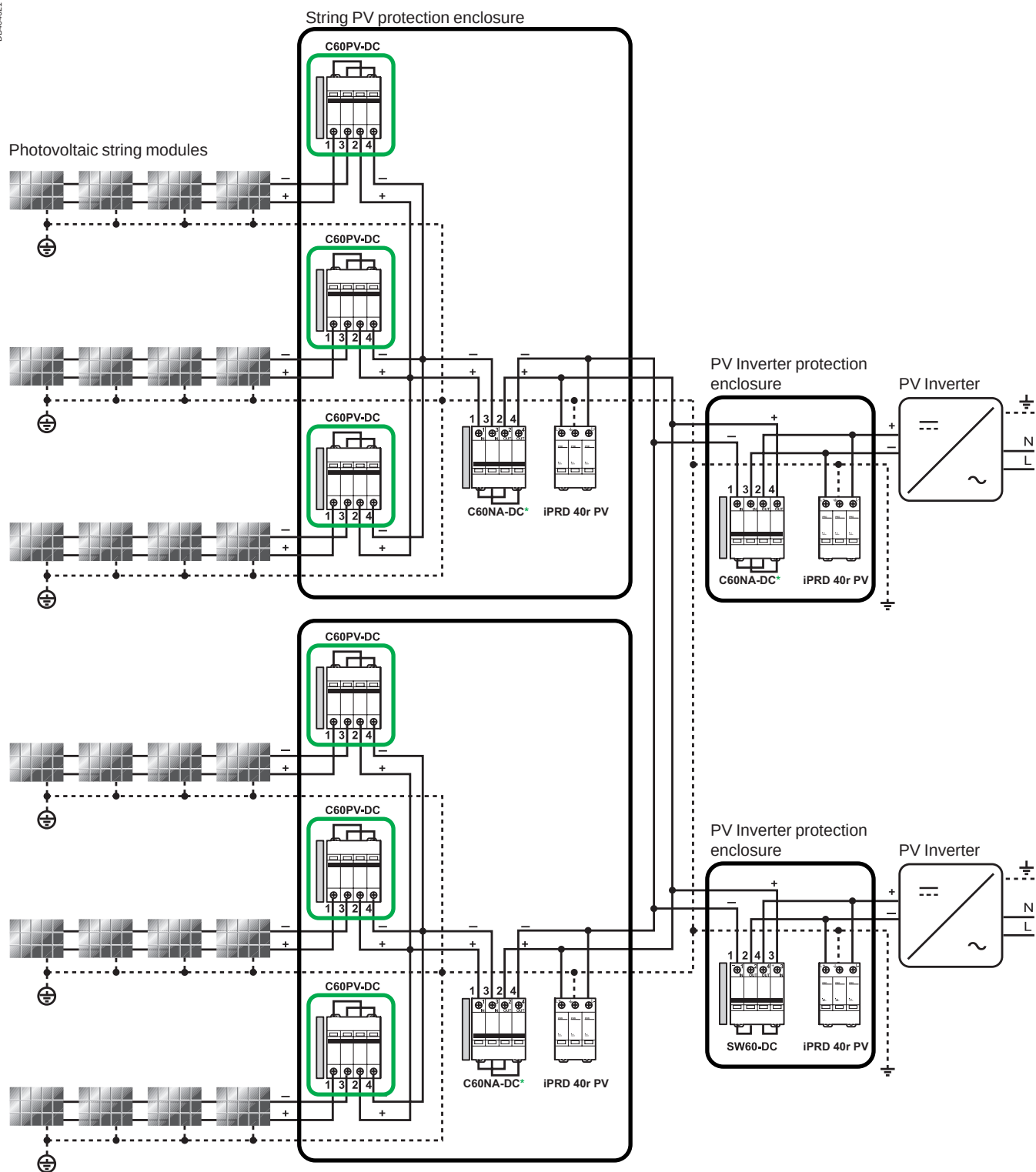
Standards

IEC 60947-2
EN 60947-2

Rating (A)	Catalogue numbers
1	A9N61653
2	A9N61654
3	A9N61655
5	A9N61656
8	A9N61657
10	A9N61650
13	A9N61658
15	A9N61659
16	A9N61651
20	A9N61652
25	A9N61660
Auxiliaries	See modules CA907008 and CA907013

Application diagram

DB404921



MN, MX, MNx, MN $\square$, MX+OF,
OF, SD, OF+SD/OF

*C60NA-DC:
20 A/1000 V DC or
32 A/800 V DC or
50 A/700 V DC

Technical data

- Position contact indication - suitability for isolation according to IEC/EN 60947-2 standard.
- The presence of the green strip guarantees physical opening of the contacts and allows operations to be performed on the downstream circuit in complete safety.
- Increased product service life thanks to fast closing independent of the speed of actuation of the toggle.
- Pre-wired product: Input / Output on the same side.

Main characteristics

Rated service breaking capacity (Ics)		100 % of the Icu
Endurance (O-C)	Electrical	1,500 cycles (where L/R=2 ms)
	Mechanical	20,000 cycles
Mechanical		20,000 cycles
Degree of pollution		2
Category		A (no delay in accordance with IEC / EN 60947-2 standards)
Tropicalisation		Relative humidity: 95 % at 55°C in accordance with IEC 60068-2 and GB 14048.2 standards
Temperature	Operating	-25°C to 70 °C
	Storage	-40°C to 85°C

Additional characteristics

Rating (A)	Voltage drop (mV)	Impedance (mΩ)	Power loss (W)
1	9200	9200	9.2
2	5104	2552	10.2
3	2980	993.3	8.9
5	2000	400	10
8	1384	173	11.1
10	680	68	6.8
13	572	44	7.4
15	600	40	9
16	648	40.5	10.4
20	588	29.4	11.8
25	488	19.5	12.2

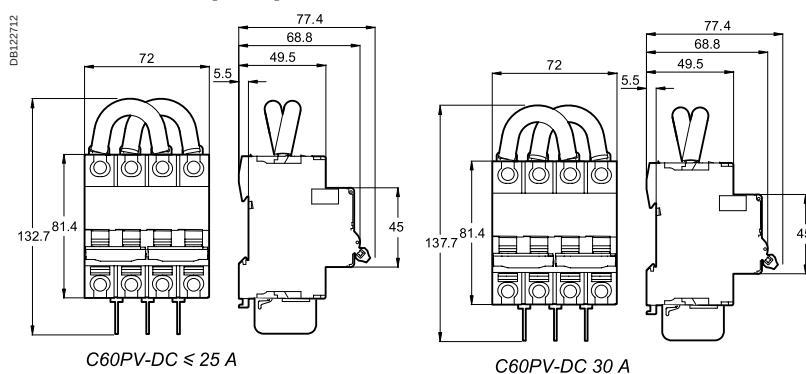
Derating table (A)

C60PV-DC	Ambient temperature (°C)																					
Rating	-30	-25	-20	-15	-10	-5	0	+5	+10	+15	+20	+25	+30	+35	+40	+45	+50	+55	+60	+65	+70	
1 A	1.18	1.17	1.15	1.14	1.12	1.1	1.09	1.07	1.05	1.04	1.02	1	0.98	0.96	0.94	0.92	0.9	0.88	0.86	0.84	0.82	
2 A	2.54	2.5	2.45	2.41	2.36	2.31	2.26	2.21	2.16	2.11	2.06	2	1.94	1.88	1.82	1.76	1.7	1.63	1.56	1.48	1.41	
3 A	3.78	3.71	3.65	3.58	3.51	3.45	3.38	3.3	3.23	3.16	3.08	3	2.92	2.84	2.75	2.66	2.57	2.48	2.38	2.27	2.17	
5 A	6	5.92	5.83	5.74	5.66	5.57	5.48	5.39	5.29	5.2	5.1	5	4.9	4.8	4.69	4.58	4.47	4.36	4.24	4.12	4	
8 A	9.64	9.5	9.36	9.22	9.08	8.93	8.78	8.63	8.48	8.32	8.16	8	7.83	7.67	7.49	7.31	7.13	6.95	6.76	6.56	6.36	
10 A	12.6	12.4	12.2	11.9	11.7	11.5	11.2	11	11.8	10.5	10.3	10	9.7	9.4	9.2	9.9	8.6	8.2	7.9	7.6	7.2	
13 A	15.5	15.3	15.1	14.8	14.6	14.4	14.2	14	13.7	13.5	13.2	13	12.7	12.5	12.2	12	11.7	11.4	11.1	10.8	10.5	
15 A	18.6	18.3	18	17.7	17.4	17.1	16.7	16.4	16.1	16.7	15.4	15	14.6	14.3	13.9	13.5	13.0	12.6	12.2	11.7	11.2	
16 A	19.4	19.1	18.9	18.6	18.3	18.0	17.6	17.3	17.0	16.7	16.3	16	15.7	15.3	14.9	14.6	14.2	13.8	13.4	13.0	12.5	
20 A	24.1	23.7	23.4	23.0	22.7	22.3	21.9	21.6	21.2	20.8	20.4	20	19.6	19.2	18.7	18.3	17.9	17.4	16.9	16.4	15.9	
25 A	30.4	29.9	29.5	29.0	28.5	28.1	27.6	27.1	26.6	26.1	25.5	25	24.5	23.9	23.3	22.7	22.1	21.5	20.9	20.2	19.6	

Weight (g)

Circuit breaker	
Type	C60PV-DC
	545

Dimensions (mm)



C60PV-DC ≤ 25 A

C60PV-DC 30 A

PB109406-50



The SW60-DC is a direct current switch-disconnector dedicated to disconnection of the string of photovoltaic modules and the PV inverter.

It is designed to isolate the inverter from the rest of the photovoltaic installation for maintenance operations in complete safety.

Combined with a circuit breaker (of the C60PV-DC type, for example) and a switch (of the C60NA-DC type, for example), the SW60-DC will be installed in the string PV protection enclosure close to the PV inverter (see application diagram).

It can be locked (by a padlocking device) in OFF position to ensure safety when removing the PV inverter.

SW60-DC is polarity sensitive: (+) and (-) has to be respected for connection.

The SW60-DC is delivered with three inter-pole barrier to provide increased isolation distance between two adjacent connectors.

IEC / EN 60947-3



DB404842



General technical data	
Operating voltage (Ue)	1000 V DC
Rated insulation voltage (Ui)	1000 V DC
Rated operational current (Ie)	50 A
Impulse voltage (Uimp)	6 kV
Permissible rated short-time withstand current (Icw)	600 A
Rated short-circuit closing current (Icm)	1 kA
Electrical connection	By the top for In and Out
Number of poles	2P
Number of modules of 9 mm	8
Diagrams	
Standards	IEC 60947-3, EN 60947-3
Catalogue number	A9N61699

Technical data

- Position contact indication - suitability for isolation according to IEC/EN 60947-3 standard.
- The presence of the green strip guarantees physical opening of the contacts and allows operations to be performed on the downstream circuit in complete safety.
- Increased product service life thanks to fast closing independent of the speed of actuation of the toggle.
- Pre-wired product: Input / Output on the same side.

Main characteristics

Endurance (O-C)	Electrical	1,500 cycles
	Mechanical	20,000 cycles
Degree of pollution		2
Category		DC21A
Tropicalisation		Relative humidity: 95 % at 55°C in accordance with IEC 60068-2 and GB 14048.2 standards
Temperature	Operating	-25°C to 70°C
	Storage	-40°C to 85°C
	Rating adjustment	40°C

Additional characteristics

Rating (A)	Voltage drop (mV)	Impedance (mΩ)	Power loss (W)
50 A	251	5.02	12.54

Derating table (A)

SW60PV-DC	Ambient temperature (°C)											
Rating	+5	+10	+15	+20	+25	+30	+35	+40	+45	+50	+60	+70
50 A	63	61	60	58	56	54	52	50	48	46	41	35

PE1094044-50



The C60NA-DC is a direct current switch-disconnector dedicated to disconnection of the string of photovoltaic modules and the PV inverter.

It is designed to isolate the string of photovoltaic modules and the inverter from the rest of the photovoltaic installation for maintenance operations in complete safety.

Combined with a circuit breaker (of the C60PV-DC type, for example), the C60NA-DC will be installed in a string PV protection enclosure close to the strings of photovoltaic modules. It can also be installed near the PV inverter.

It can be locked (by a padlocking device) in OFF position to ensure safety during maintenance operations. Since a fault current can flow in the reverse direction to the normal operating current, the C60NA-DC can switch a multi-directional current.

C60NA-DC is not polarity sensitive: (+) and (-) wires can be inversed without any risk.

The C60NA-DC is delivered with three inter-pole barrier to provide increased isolation distance between two adjacent connectors.

IEC / EN 60947-3



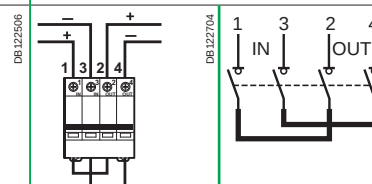
DB404841



Main characteristics

Operating voltage (Ue)	20 A: 1000 V CC
	32 A: 800 V CC
	50 A: 700 V CC
Rated insulation voltage (Ui)	1,000 V DC
Rated operational current (Ie)	50 A
Impulse voltage (Uimp)	6 kV
Permissible rated short-time withstand current (Icw)	600 A
Rated short-circuit closing current (Icm)	1 kA
Electrical connection	By the top for In and Out
Number of poles	2P
Number of modules of 9 mm	8

Diagrams



Standards	IEC 60947-3, EN 60947-3
Catalogue number	A9N61690
Auxiliaries	See modules CA907008 and CA907013

Technical data

- Position contact indication - suitability for isolation according to IEC/EN 60947-3 standard.
- The presence of the green strip guarantees physical opening of the contacts and allows operations to be performed on the downstream circuit in complete safety.
- Increased product service life thanks to fast closing independent of the speed of actuation of the toggle.
- Pre-wired product: Input / Output on the same side.

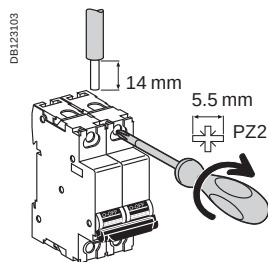
Main characteristics

Endurance (O-C)	Electrical	1,500 cycles
	Mechanical	20,000 cycles
Degree of pollution		2
Category		DC21B
Tropicalisation		Relative humidity: 95 % at 55°C in accordance with IEC 60068-2 and GB 14048.2 standards
Temperature	Operating	-25°C to 70 °C
	Storage	-40°C to 85°C

Derating table (A)

C60NA-DC	Ambient temperature (°C)											
Rating	+5	+10	+15	+20	+25	+30	+35	+40	+45	+50	+60	+70
50 A	63	61	60	58	56	54	52	50	48	46	41	35

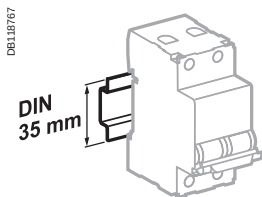
Connection



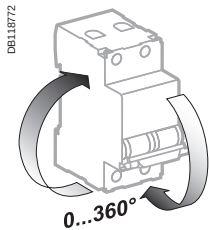
Rating	Tightening torque	Copper cables	
		Rigid	Flexible or with ferrule
	DB122945		DB122946 
0.5 to 25 A	2 N.m	1 to 25 mm ²	1 to 25 mm ²

Technical data

According to IEC/EN 60947-2		
Insulation voltage (Ui)		500 V AC
Pollution degree		3
Rated impulse withstand voltage (Uimp)		6 kV
Thermal tripping	Nominal temperature for operation	50 °C
	According to ambient temperature	See page 149~151
Magnetic tripping (Ii)	C curve	8.5 In ± 20 %
	According to current frequency	50/60 Hz
Utilization category		A
Compliance with		IACS part E10
Other characteristics		
Degree of protection	Device in modular enclosure	IP40
Endurance (O-F)	Electrical	10,000 cycles
	Mechanical	20,000 cycles
Service temperature		-30°C to +70°C
Storage temperature		-40°C to +80°C
Connection		Upstream or downstream



Clip on DIN rail 35 mm.



Indifferent position of installation.

Weight (g)

Circuit-breaker	
Type	Marine C60
1P	120
2P	240
3P	360
4P	480

DB123102



PB100224_SE-30



C60N 1P

PB100226_SE-30



C60N 2P

PB100232_SE-30



C60N 3P

PB100233_SE-30



C60N 4P

IEC/EN 60947-2

Marine approvals

- Schneider Electric is committing to have all products Marine type approved by IACS (International Association of Classification Societies):
 - ABS, BV, DNV, GL, KRS, LRS, RINA, RMRoS and meet international standards requirements that are compulsory for the worldwide merchant marine market,
 - other classification bodies: please consult us.

- C60N circuit breakers are circuit breakers which combine the following functions:
 - circuit protection against short-circuit currents,
 - circuit protection against overload currents,
 - breaking and industrial disconnection as per standards IEC/EN 60947-2.
- The presence of the green strip guarantees physical opening of the contacts and allows operations to be performed on the downstream circuit in complete safety.

- Increased product service life thanks:
 - overvoltage resistance,
 - high performance limitation,
 - to fast closing independent of the speed of actuation of the toggle.
- Upstream or downstream connection.

Positive contact indication

- Suitability for isolation in accordance with the IEC/EN 60947-2 standard.

Alternating current (AC) 50/60 Hz

Ultimate breaking capacity (Icu) as per IEC/EN 60947-2					Service breaking capacity (Ics)	
	Voltage (Ue)					
Ph/Ph (2P, 3P, 4P)	240 V	415 V	-	440 V		
Ph/N (1P)	-	240 V	415 V	-		
Rating (In)	1 to 63 A	20 kA	10 kA	3 kA	6 kA	75 % of Icu
i _{tr}	1.2 x 12 In					

Catalogue numbers

Marine C60N circuit breaker

Type	1P		2P		3P		4P	
Rating (In)	Curve		Curve		Curve		Curve	
	C	D	C	D	C	D	C	D
1 A	MGN60862	MGN60506	MGN60875	MGN60518	MGN60888	MGN60530	MGN60901	MGN60543
2 A	MGN60863	MGN60507	MGN60876	MGN60519	MGN60889	MGN60531	MGN60902	MGN60544
3 A	MGN60864	MGN60508	MGN60877	MGN60520	MGN60890	MGN60532	MGN60903	MGN60545
4 A	MGN60865	MGN60589	MGN60878	MGN60590	MGN60891	MGN60533	MGN60904	MGN60546
6 A	MGN60866	MGN60509	MGN60879	MGN60521	MGN60892	MGN60534	MGN60905	MGN60547
10 A	MGN60867	MGN60510	MGN60880	MGN60522	MGN60893	MGN60535	MGN60906	MGN60548
16 A	MGN60868	MGN60511	MGN60881	MGN60523	MGN60894	MGN60536	MGN60907	MGN60549
20 A	MGN60869	MGN60512	MGN60882	MGN60524	MGN60895	MGN60537	MGN60908	MGN60550
25 A	MGN60870	MGN60513	MGN60883	MGN60525	MGN60896	MGN60538	MGN60909	MGN60551
32 A	MGN60871	MGN60514	MGN60884	MGN60526	MGN60897	MGN60539	MGN60910	MGN60552
40 A	MGN60872	MGN60515	MGN60885	MGN60527	MGN60898	MGN60540	MGN60911	MGN60553
50 A	MGN60873	-	MGN60886	-	MGN60899	-	MGN60912	-
63 A	MGN60874	-	MGN60887	-	MGN60900	-	MGN60913	-
Width in 9-mm modules	2		4		6		8	

DB123102



IEC/EN 60947-2

Marine approvals

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 - other classification bodies: please consult us.



C60H 1P



C60H 2P



C60H 3P



C60H 4P

- C60H circuit breakers are circuit breakers which combine the following functions:
 - circuit protection against short-circuit currents,
 - circuit protection against overload currents,
 - breaking and industrial disconnection as per standards IEC/EN 60947-2.
- The presence of the green strip guarantees physical opening of the contacts and allows operations to be performed on the downstream circuit in complete safety.

- Increased product service life thanks:
 - overvoltage resistance,
 - high performance limitation,
 - to fast closing independent of the speed of actuation of the toggle.

- Upstream or downstream connection.

Positive contact indication

- Suitability for isolation in accordance with the IEC/EN 60947-2 standard.

Alternating current (AC) 50/60 Hz

Ultimate breaking capacity (Icu) as per IEC/EN 60947-2					Service breaking capacity (Ics)
	Voltage (Ue)				
Ph/Ph (2P, 3P, 4P)	240 V	415 V	-	440 V	
Ph/N (1P)	-	240 V	415 V	-	
Rating (In)	1 to 40 A	30 kA	15 kA	4 kA	50 % of Icu
i _{tr}	1.2 x 12 In				

Catalogue numbers

Marine C60H circuit breaker

Type	1P		2P		3P		4P	
Rating (In)	Curve		Curve		Curve		Curve	
	C	D	C	D	C	D	C	D
1 A	MGN60608	MGN25080	MGN60621	MGN25108	MGN60634	MGN25124	MGN60647	MGN25138
2 A	MGN60609	MGN25081	MGN60622	MGN25111	MGN60635	MGN25125	MGN60648	MGN25139
3 A	MGN60610	MGN25082	MGN60623	MGN25112	MGN60636	MGN25126	MGN60649	MGN25140
4 A	MGN60611	MGN25083	MGN60624	MGN25113	MGN60637	MGN25127	MGN60650	MGN25141
6 A	MGN60612	MGN25084	MGN60625	MGN25114	MGN60638	MGN25128	MGN60651	MGN25142
10 A	MGN60613	MGN25085	MGN60626	MGN25115	MGN60639	MGN25129	MGN60652	MGN25143
16 A	MGN60614	MGN25086	MGN60627	MGN25117	MGN60640	MGN25131	MGN60653	MGN25145
20 A	MGN60615	MGN25087	MGN60628	MGN25118	MGN60641	MGN25132	MGN60654	MGN25146
25 A	MGN60616	MGN25088	MGN60629	MGN25119	MGN60642	MGN25133	MGN60655	MGN25147
32 A	MGN60617	MGN25089	MGN60630	MGN25120	MGN60643	MGN25134	MGN60656	MGN25148
40 A	MGN60618	MGN25090	MGN60631	MGN25121	MGN60644	MGN25135	MGN60657	MGN25149
Width in 9-mm modules	2		4		6		8	



C60L 1P



C60L 2P



C60L 3P



C60L 4P

IEC/EN 60947-2

Marine approvals

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 - ABS, BV, DNV, GL, KRS, LRS, RINA, RMRoS and meet international standards requirements that are compulsory for the worldwide merchant marine market,
 - other classification bodies: please consult us.

- C60L circuit breakers are circuit breakers which combine the following functions:
 - circuit protection against short-circuit currents,
 - circuit protection against overload currents,
 - breaking and industrial disconnection as per standards IEC/EN 60947-2.
- The presence of the green strip guarantees physical opening of the contacts and allows operations to be performed on the downstream circuit in complete safety.

- Increased product service life thanks:
 - overvoltage resistance,
 - high performance limitation,
 - to fast closing independent of the speed of actuation of the toggle.
- Upstream or downstream connection.

Positive contact indication

- Suitability for isolation in accordance with the IEC/EN 60947-2 standard.

Alternating current (AC) 50/60 Hz

Ultimate breaking capacity (Icu) as per IEC/EN 60947-2					Service breaking capacity (Ics)
	Voltage (Ue)				
Ph/Ph (2P, 3P, 4P)	240 V	415 V	-	440 V	
Ph/N (1P)	-	240 V	415 V	-	
Rating (In) 0.5 to 25 A	50 kA	25 kA	6 kA	20 kA	50 % of Icu
i_{tr}	1.2 x 12 In				

Catalogue numbers

Marine C60L circuit breaker				
Type	1P	2P	3P	4P
Rating (In)	Curve C	Curve C	Curve C	Curve C
0.5 A	25406	25407	25408	25409
1 A	25392	25418	25431	25444
2 A	25393	25419	25432	25445
3 A	25394	25420	25433	25446
4 A	25395	25421	25434	25447
6 A	25396	25422	25435	25448
10 A	25397	25423	25436	25449
16 A	25398	25424	25437	25450
20 A	25399	25425	25438	25451
25 A	25310	25426	25439	25452
Width in 9-mm modules	2	4	6	8

D01 퓨즈 캐리어 D02 퓨즈 스위치



Country approval pictograms

IEC/EN 60947-1, IEC/EN 60947-3, IEC 60269-1,
IEC 60269-3,
VDE 0660-100, VDE 0660-107

- The plug-in fuse switches disconnectors D01 and the switches disconnectors fuse D02 provide protection against overloads and short circuits.
- They are used for service sector and industrial applications.
- Depending on the versions, they should be provided with D01 or D02 type cartridges.

Accessories

- The D02 gauges allow you to limit the rating of the fuses, depending on the model used, from 20 A to 50 A.

Catalogue numbers

Fuse disconnectors switches

Type	1P	1P+N	D02	2P	3P	D02	3P+N	D02
								
	2	2 N	2 N	2 4	2 4 6	2 4 6	2 4 6 N	2 4 6 N

D01 fuse switches disconnectors

Rating (In)					
10 A	-	MGN01610	-	-	MGN01710
13 A	-	MGN01613	-	-	MGN01713
16 A	-	MGN01616	-	MGN01316	MGN01716

D02 switches disconnectors fuse

Rating (In)					
63 A	MGN02163	MGN02663	MGN02263	MGN02363	MGN02763
Width in 9 mm modules	2	4	4	6	8

Accessories for D02 switches disconnectors fuse

Type	Rating	Colour	
Fuse gauge	20 A	Blue	MGN09120
	25 A	Yellow	MGN09125
	32-35-40 A	Black	MGN09135
	50 A	White	MGN09150

D02 : Gauges

- These allow fitting of fuses from 20 A to 50 A

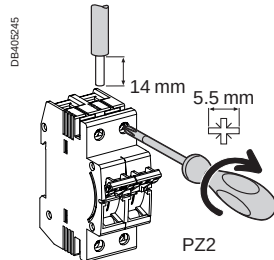
Connection

- Upstream/downstream by tunnel terminals
- For D01: by 18 mm forked comb busbar

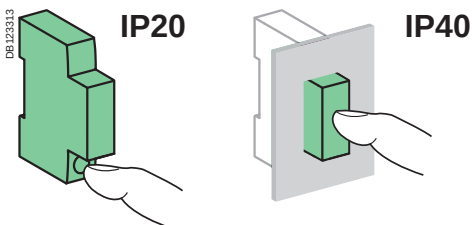
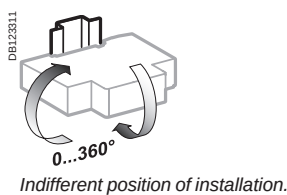
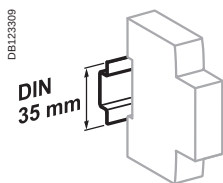
Blown-fuse indicator

D01 퓨즈 캐리어 D02 퓨즈 스위치

Connection



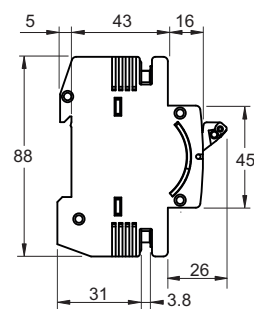
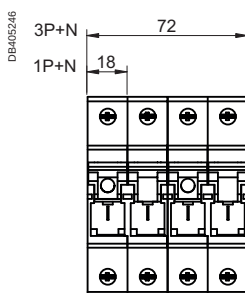
Type	Tightening torque	Copper cables	
		Rigid	Flexible or with ferrule
D01	2 N.m	1.5 to 25 mm ²	1.5 to 16 mm ²
D02	3 N.m	1.5 to 35 mm ²	1.5 to 25 mm ²



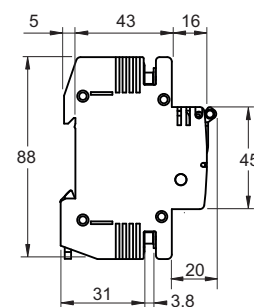
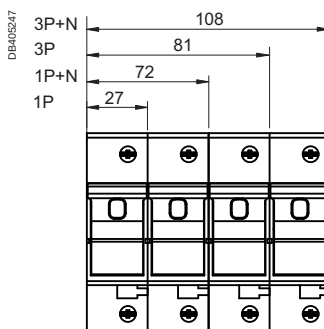
Technical data

Main characteristics		D01	D02
Operating voltage (Ue)		230/400 V AC	230/400 V AC 110 V DC (2P)
Operating frequency (Hz)		45-62 Hz	45-62 Hz
Service breaking capacity (Isc)	AC	50 kA	50 kA
	DC	-	8 kA
Rated insulation voltage (Ui)		400 V	400 V
Rated impulse withstand voltage (Ui)		6000 V	6000 V
Utilization category (IEC 60947-3)	400 V AC	AC-22A	AC-22A (63 A) AC-23A (35 A)
	110 V DC (2P)	-	DC-22B (63 A)
	48 V DC (1P)	-	DC-22A (63 A)
Endurance (O-C)	Electrical	1500 cycles	1500 cycles
	Mechanical	10,000 cycles	8500 cycles
Additional characteristics			
Degree of protection	Device only	IP20	
	Device in modular enclosure	IP40	
Operating temperature		-5°C to +40°C	
Storage temperature		-25°C to +55°C	

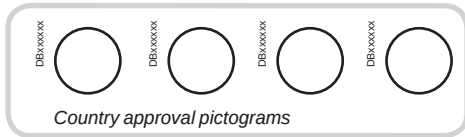
Dimensions (mm)



D01 fuse switches disconnectors



D02 switches disconnectors fuse

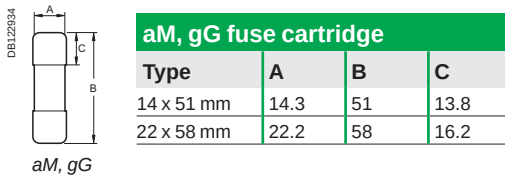
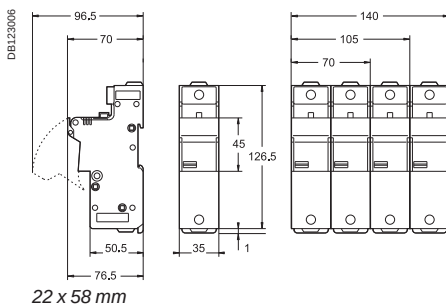
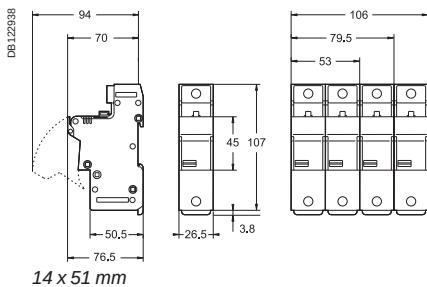


MGN15707



MGN15712

Dimensions (mm)



IEC EN 60947-3

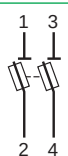
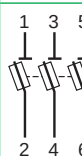
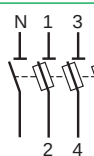
- SBI fuse holders provide overload and short-circuit protection.
 - They are used for industrial applications requiring a high breaking capacity.
 - They perform the isolation function and must not be used as switches.
 - They are equipped with an indicator light indicating blowing of the fuse cartridge: to be equipped with aM or gG (gL-gl) type fuse cartridge without striker.
- The general purpose fuse (gG fuse) provides overload and short-circuit protection. The fuse for motor application (**aM fuse**) only provides short-circuit protection. It is used for protection of loads with a high peak current (motors, transformer primaries, etc.).

Technical data

Main characteristics		
Insulation voltage (Ui)	690 V	
Utilization category	AC20B isolation by switching the drawer, must not be operated under load	
Additional characteristics		
Degree of protection	Device only	
	Device in modular enclosure	
Operating temperature	-20°C to +60°C	
Storage temperature	-40°C to +80°C	
Cartridge blowing signalling	By indicator light ON (neon)	
Maximum permissible characteristics of the fuse cartridges:		
Fuse cartridge type	Ith	Pmax*
14 x 51 mm	aM	50 A
	gG	50 A
22 x 58 mm	aM	125 A
	gG	100 A

*P_{max}: maximum dissipated power per fuse cartridge.

Catalogue numbers

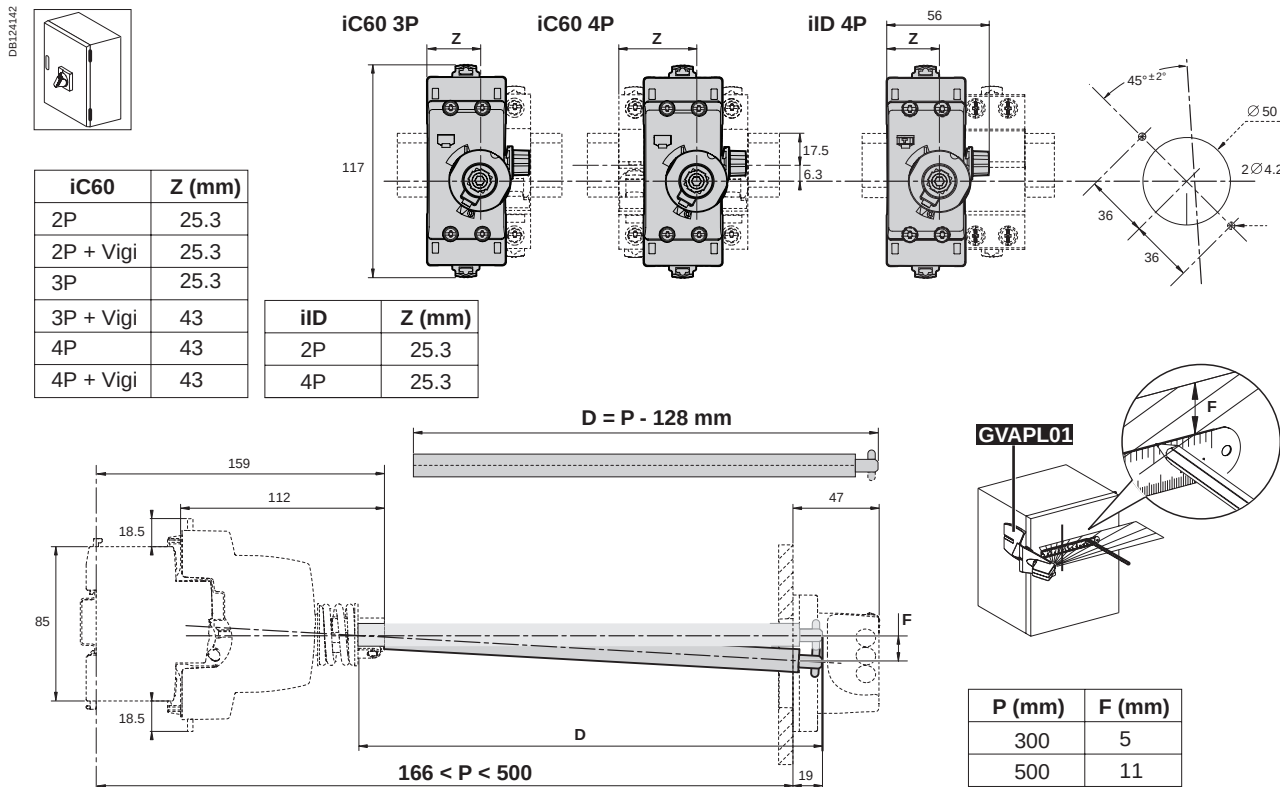
Fuse cartridge						SBI fuse holder						
Type						Network type						
	Rating	Voltage rating (Ue)	Short-circuit current (Isc)									
			aM	gG	aM	gG	N	1P	1P+N ⁽¹⁾	2P	3P	3P+N ⁽¹⁾
												
14 x 51 mm	10 A	690 V CA	120 kA	120 kA	DF2EA10	DF2EN10	MGN15708	MGN15707	MGN15709	MGN15710	MGN15711	MGN15712
	12 A	690 V CA	120 kA	-	DF2EA12	-						
	16 A	690 V CA	120 kA	120 kA	DF2EA16	DF2EN16						
	20 A	690 V CA	120 kA	120 kA	DF2EA20	DF2EN20						
	25 A	690 V CA	120 kA	120 kA	DF2EA25	DF2EN25						
	32 A	500 V CA	120 kA	120 kA	DF2EA32	DF2EN32						
	40 A	500 V CA	120 kA	120 kA	DF2EA40	DF2EN40						
22 x 58 mm	50 A	400 V CA	120 kA	120 kA	DF2EA50	DF2EN50	MGN15714	MGN15713	MGN15715	MGN15716	MGN15717	MGN15718
	32 A	690 V CA	80 kA	80 kA	DF2FA32	DF2FN32						
	40 A	690 V CA	80 kA	80 kA	DF2FA40	DF2FN40						
	50 A	690 V CA	80 kA	80 kA	DF2FA50	DF2FN50						
	63 A	690 V CA	80 kA	80 kA	DF2FA63	DF2FN63						
	80 A	690 V CA	80 kA	80 kA	DF2FA80	DF2FN80						
	100 A	400 V CA	120 kA	120 kA	DF2FA100	DF2FN100						
125 A	400 V CA	120 kA	-	DF2FA125	-							
							Operating frequency: 50/60 Hz					

Operating frequency: 50/60 Hz

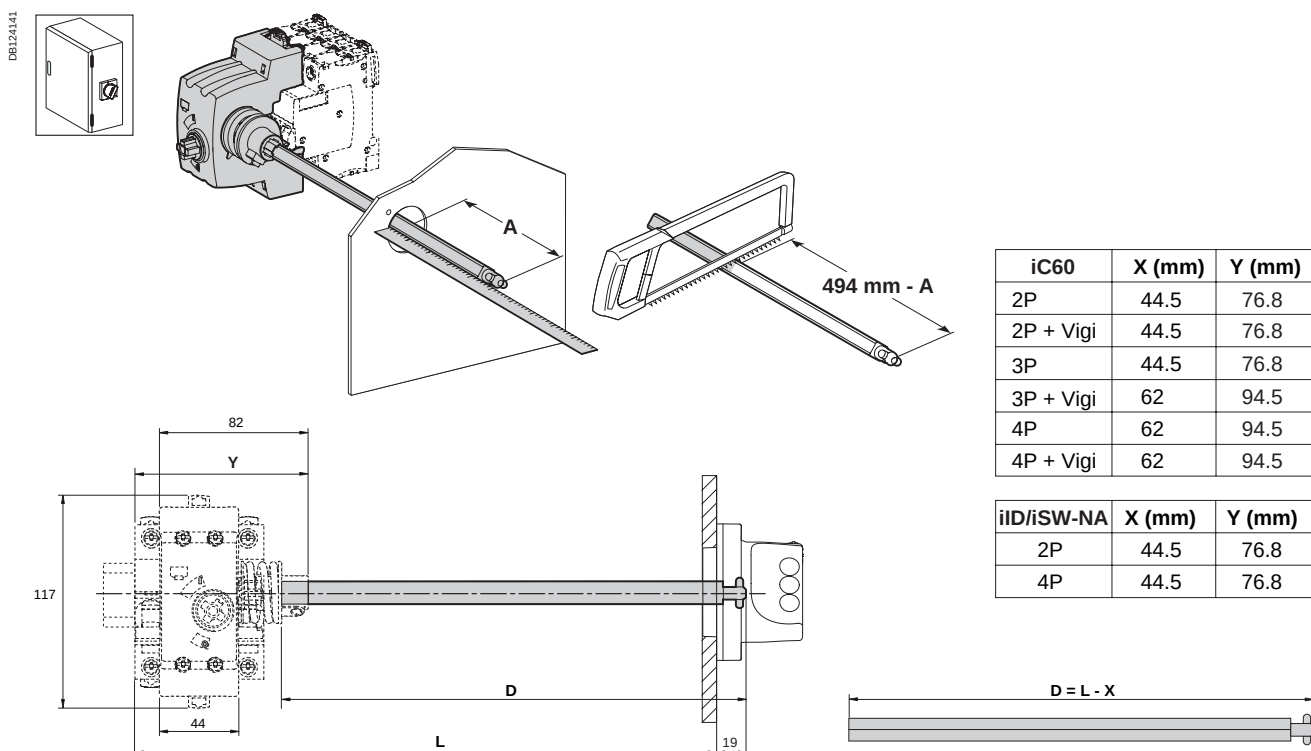
(1) The neutral pole comes equipped with a locked tube.

Rotary handle installation

Dimensions (mm)



Rotary handle: front mounted control



Rotary handle: side mounted control

감도 전류 선정

누전 차단기의 감도 전류의 선정은 누전차단기가 수행해야 할 기능에 따라 결정된다.

- 직접 접촉에 의한 전기적 쇼크로부터 인명 보호
- 간접 접촉에 의한 전기적 쇼크로부터 인명 보호
- 누설 전류에 의한 화재로부터 보호

아래 테이블은 다음과 같은 내용을 상기 시켜 준다

- 다양한 위험으로부터 보호되어야 하는 회로 (강제 또는 추천)
- 다양한 경우마다 사용되어야 하는 누전차단기의 종류, 감도전류, 설치되어야 하는 위치

Type of protection	강제 사항	슈나이더 추천 사항	감도 전류		
	국제 규격 IEC 60364		30 mA (*)	100~300mA (접지 방식별 상이)	300mA(또는 500mA)
직접적인 접촉으로 직접적인 접촉으로 인한 전기적 쇼크로부터 보호					
DB123167 	전원 공급 대상 ■ 콘센트(최대 20A) ■ 목욕탕, 샤워부스, 연못 혹은 수영장 주변의 전기제품 ■ 목욕탕, 샤워부스, 연못 혹은 수영장 근처 전기제품 ■ 휴대용 전기 제품 (최대32A) ■ 전시장 조명 ■ 옥외용 조명	■ 직접 접촉에 의한 전기적 쇼크로부터 인명 보호	분전반에 설치 ■ 1개 라인 보호용 RCD ■ 다수 라인 보호용 RCCB		
간접적인 접촉으로 직접적인 접촉으로 인한 전기적 쇼크로부터 보호					
DB123168 	아래의 경우를 제외한 모든 배전 라인 ■ Class II 절연 ■ SELV (Safety Extra Low Voltage)가 필요한 Class III 이상 국가별 법에 의해 수정 가능	-		분전반에 설치 ■ 메인 피더에 RCCB 또는 유사 제품 대형 분전반 또는 배전반 ■ 1개 라인 보호용 RCD ■ 다수 라인 보호용 RCD 또는 차단기 ■ 메인 피더에 RCCB 또는 차단기	
누설 전류로 인한 화재로부터 보호					
DB123169 	■ 위험이 많은 물건 □ 폭발 (BE3) □ 화재 (BE2) ■ 농업 및 원예용 빌딩 ■ 전시장 및 쇼룸 설비 ■ 임시 야외 레크레이션 설비 이상 국가별 법에 의해 수정 가능	■ 해체된 건물 또는 전기 설비 ■ 습기 많은 지역: 농업용 빌딩, 공공 수영장 ■ 화학적 물질이 있는곳		분전반에 설치 ■ 메인 피더에 RCCB 설치 대형 분전반 또는 배전반 ■ 누전 발생 위험이 높은 지역을 보호할 RCD ■ 다수 라인 보호용 RCD 또는 차단기 ■ 메인 피더용 RCCB	

(*) The 10 mA sensitivity is useful for certain very specific applications, where there is a risk that someone could sustain a non-dangerous current (10 to 30 mA) without being able to get free. Example: healthcare equipment for hospital beds. Generally, devices with this very high sensitivity are liable to cause frequent tripping, due to the natural leakage currents of the installation.

전파간섭(Interference, 왜란)에 강한 제품

슈나이더 일렉트릭 제품은 모든 종류의 전파 간섭의 영향을 극복하기 위한 기술을 제공 합니다.

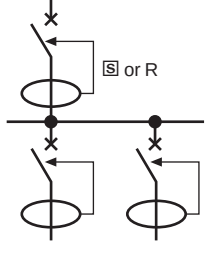
운전 조건		예	종류			
			AC 	A 	SI 	B 
부하						
	일반적인 경우	■ 일반 목적의 콘센트 ■ 백열등 ■ 가정용 기기: 전자렌지, 식기세척기, 옷건조기 ■ 전기 히터, 온수 가열기	■	■	■	■
	정류기를 포함한 단상 					

(1) SIE 타입의 경우 C120, NG125 차단기사용

Discrimination (선택 차단)

100mA 또는 이상의 감도전류를 가진 RCD는 S 타입 (Selective) 과 D 타입 (Delay)이 있다. 이런 선택으로 인하여 Downstream에서 지락사고 발생시, 차단이 되어 할 차단기만 동작을 하게 된다. 아래 테이블 (녹색 부분)에서 선택차단에 대한 정보를 확인 하세요.

DB123476

Sensitivity (mA) - Downstream		Sensitivity (mA) - Upstream													
		Instantaneous						Selective S					Delayed R		
		30	100	300	500	1000	3000	100	300	500	1000	3000	1000	3000	
	Instantaneous	30	-	-	-	-	-								
		100	-	-	-	-	-	-							
		300	-	-	-	-	-	-	-	-	-				
		500	-	-	-	-	-	-	-	-	-	-	-		
		1000	-	-	-	-	-	-	-	-	-	-	-	-	
		3000	-	-	-	-	-	-	-	-	-	-	-	-	
	Selective S	100	-	-	-	-	-	-	-	-	-	-	-		
		300	-	-	-	-	-	-	-	-	-	-	-	-	
		500	-	-	-	-	-	-	-	-	-	-	-	-	
		1000	-	-	-	-	-	-	-	-	-	-	-	-	
		3000	-	-	-	-	-	-	-	-	-	-	-	-	
		Delayed R	1000	-	-	-	-	-	-	-	-	-	-	-	-
3000	-		-	-	-	-	-	-	-	-	-	-	-	-	

Selection guide

Type		iID	RCCB-ID 125 A	RCCB-ID type B
				
관련 규격		IEC/EN 61008	IEC/EN 61008-1 and VDE 0664	IEC/EN 61008 and VDE 0664
극수	1P+N	—	—	—
	2P	■	■	—
	3P	—	—	—
	4P	■	■	■
타입	AC	■	■	—
	A	■	■	—
	SI	■	■	—
	B	—	—	■
정격전압(V)	Ue	230/400	230/400	230/400
정격임펄스전압(kV)	Uimp	6	4	4
정격절연전압(V AC)	Ui	500	400	400
정격 전류 (A)	In	16 to 100	125	25 to 125
주파수 (Hz)		50	50	50
정격차단용량 (A)	Icn	—	10000	—
트립곡선		—	—	—
감도전류 (mA)	(IDn) 10	■	—	—
	30	■	■	■
	100	■	■	—
	300	■	■	■
	500	■	■	■
	1000	—	—	—
	3000	—	—	—
	300 □	■	■	■
	500 □	■	—	—
	1000 □	—	—	—
	3000 □	—	—	—
전기적 특성				
트립곡선	B	—	—	—
	C	—	—	—
	D	—	—	—
	L	—	—	—
	K	—	—	—
	MA	—	—	—

Inc: rated conditional short-circuit current

Value of the alternating component of the prospective current that a residual current circuit breaker protected by an appropriate short-circuit protective device (SCPD) mounted in series can withstand in specified conditions of use.

Idc: rated residual short-circuit current

Value of the alternating component of the prospective residual current that a residual current circuit breaker protected by an appropriate short-circuit protective device (SCPD) mounted in series can withstand in specified conditions of use.

Im: rated making and breaking capacity

Value of the alternating component of the prospective current that a residual current circuit breaker is capable of establishing or interrupting in specified conditions of use.

Idm: rated making and breaking capacity

Value of the alternating component of the prospective residual current that a residual current circuit breaker is capable of establishing and withstanding during its opening time and interrupting in specified conditions of use and behaviour.

SCPD

Short-circuit protective device (a fuse in the case of our markings): this is the max. fuse that can be used to resist the value $I_{nc} = I_{dc}$.

Schneider
Electric

Vigi iC60

(iC60 부착형 누전차단기 모듈)

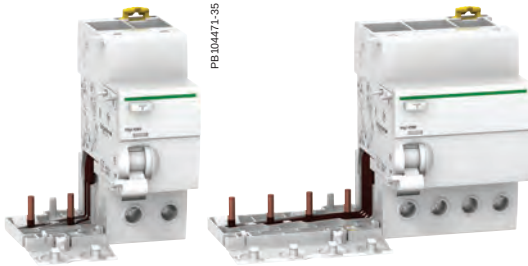
AC type



Country approval pictograms

IEC/EN 61009-1

PB104466-35

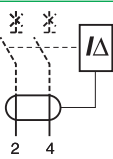
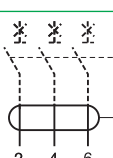
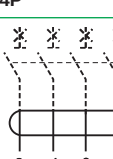


PB104471-35

- 누전 차단기의 감도 전류의 선정은 누전차단기가 수행해야 할 기능에 따라 결정된다.
- 직접 접촉에 의한 전기적 쇼크로부터 인명 보호 ($\leq 30\text{mA}$)
- 간접 접촉에 의한 전기적 쇼크로부터 인명 보호 ($\geq 100\text{mA}$)
- 누설 전류에 의한 화재로부터 보호 (300mA or 500mA)

주문코드

Vigi iC60 add-on residual current devices

Type		AC 								Width in 9 mm modules	
Product		Vigi iC60									
2P		Sensitivity	10 mA	30 mA	100 mA	300 mA	500 mA	300 mA 	1000 mA 		
	Rating	25 A	A9V10225	A9V11225 A9V01225*	A9V12225	A9V14225 A9V04225*	A9V16225	-	-	3	
		63 A	-	A9V11263 A9V01263*	A9V12263	A9V14263 A9V04263*	A9V16263	A9V15263	A9V19263	4	
3P		Sensitivity	10 mA	30 mA	100 mA	300 mA	500 mA	300 mA 	1000 mA 		
	Rating	25 A	-	A9V11325	-	A9V14325	A9V16325	-	-	6	
		63 A	-	A9V11363	-	A9V14363	A9V16363	A9V15363	A9V19363	7	
4P		Sensitivity	10 mA	30 mA	100 mA	300 mA	500 mA	300 mA 	1000 mA 		
	Rating	25 A	-	A9V11425	A9V12425	A9V14425	A9V16425	-	-	6	
		63 A	-	A9V11463	A9V12463	A9V14463	A9V16463	A9V15463	A9V19463	7	
Voltage rating (Ue)			230 - 240 V, 400 - 415 V Except * 130 V								
Operating frequency			50/60 Hz								

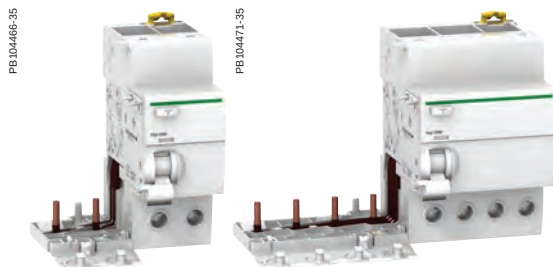
Vigi iC60

(iC60 부착형 누전차단기 모듈)

A type

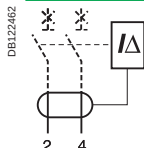
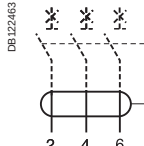
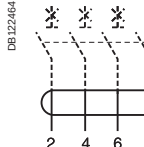


IEC/EN 61009-1



- 누전 차단기의 감도 전류의 선정은 누전차단기가 수행해야 할 기능에 따라 결정된다.
- 직접 접촉에 의한 전기적 쇼크로부터 인명보호 ($\leq 30\text{mA}$)
- 간접 접촉에 의한 전기적 쇼크로부터 인명보호 ($\geq 100\text{mA}$)
- 누설 전류에 의한 화재로부터 보호 (300mA or 500mA)

Catalogue numbers

Vigi iC60 add-on residual current devices								
Type	A 							Width in 9 mm modules
Product	Vigi iC60							
2P	Sensitivity	30 mA	100 mA	300 mA	500 mA	300 mA 	1000 mA 	
	Rating	25 A	A9V21225	A9V22225	A9V24225	A9V26225	-	3
		63 A	A9V21263	A9V22263	A9V24263	A9V26263	A9V25263	4
3P	Sensitivity	30 mA	100 mA	300 mA	500 mA	300 mA 	1000 mA 	
	Rating	25 A	A9V21325	A9V22325	A9V24325	A9V26325	-	6
		63 A	A9V21363	-	A9V24363	A9V26363	A9V25363	7
4P	Sensitivity	30 mA	100 mA	300 mA	500 mA	300 mA 	1000 mA 	
	Rating	25 A	A9V21425	A9V22425	A9V24425	A9V26425	-	6
		63 A	A9V21463	A9V22463	A9V24463	A9V26463	A9V25463	7
Voltage rating (Ue)		230 - 240 V, 400 - 415 V						
Operating frequency		50/60 Hz						

Vigi iC60

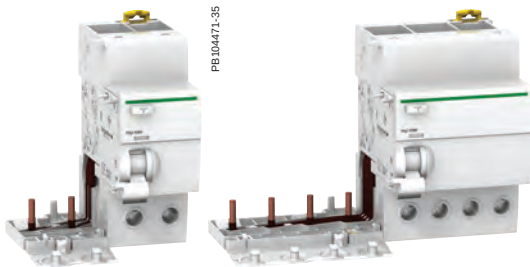
(iC60 부착형 누전차단기 모듈)

SI/type



IEC/EN 61009-1

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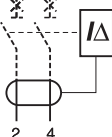
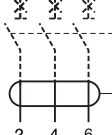
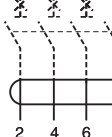


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- 직접 접촉에 의한 전기적 쇼크로부터 인명보호 ($\leq 30\text{mA}$)
- 간접 접촉에 의한 전기적 쇼크로부터 인명보호 ($\geq 100\text{mA}$)
- 누설 전류에 의한 화재로부터 보호 (300mA or 500mA)

SI 타입은 모든 종류의 전파 간섭의 영향을 극복하기 위한 기술을 제공 하며, 어떤 가혹한 환경에서도 정상 작동합니다.

Catalogue numbers

Vigi iC60 add-on residual current devices

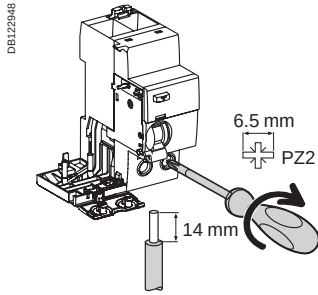
Type	SI 					Width in 9 mm modules
Product	Vigi iC60					
2P	Sensitivity	10 mA	30 mA	300 mA 	1000 mA 	
	Rating	25 A	A9V30225	A9V31225	-	3
		63 A	-	A9V31263	A9V35263	4
3P	Sensitivity	10 mA	30 mA	300 mA 	1000 mA 	
	Rating	25 A	-	A9V31325	-	6
		63 A	-	A9V31363	A9V35363	7
4P	Sensitivity	10 mA	30 mA	300 mA 	1000 mA 	
	Rating	25 A	-	A9V31425	-	6
		63 A	-	A9V31463	A9V35463	7
Voltage rating (Ue)		230 - 240 V, 400 - 415 V				
Operating frequency		50/60 Hz				

Vigi iC60

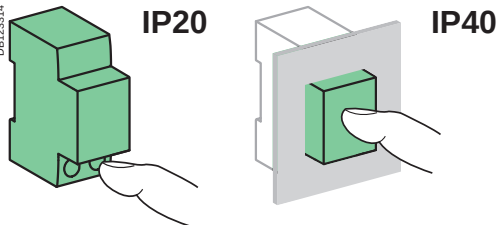
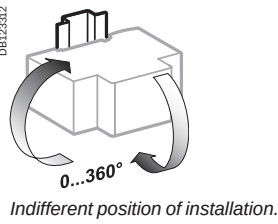
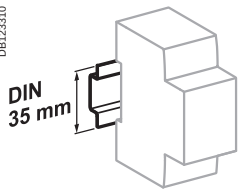
(iC60 부착형 누전차단기 모듈)

AC, A, S/type

연결 단자



Type	Rating	Tightening torque	Copper cables	
			Rigid	Flexible or ferrule
Vigi iC60	25 A	2 N.m	1 to 25 mm ²	1 to 16 mm ²
	40 to 63 A	3.5 N.m	1 to 35 mm ²	1 to 25 mm ²



기술 자료

주요 특성

정격절연전압(Ui)	500 V
오염 등급	3
정격임펄스전압 (Uimp)	6 kV

IEC/EN 61009-1

서지전류(8/20 μs)로 인한 의도하지 않은 트립동작에 대한 내성	AC and A types (no selective Ⅲ)	250 Å
	AC, A types (selective Ⅲ)	3 kA
	SI type	3 kA

기타 특성

IP보호등급	Device only	IP20
	Device in modular enclosure	IP40 Insulation classe II
동작보존온도	AC type	-5°C to +60°C
	A and SI types	-25°C to +60°C
보관온도		-40°C to +85°C

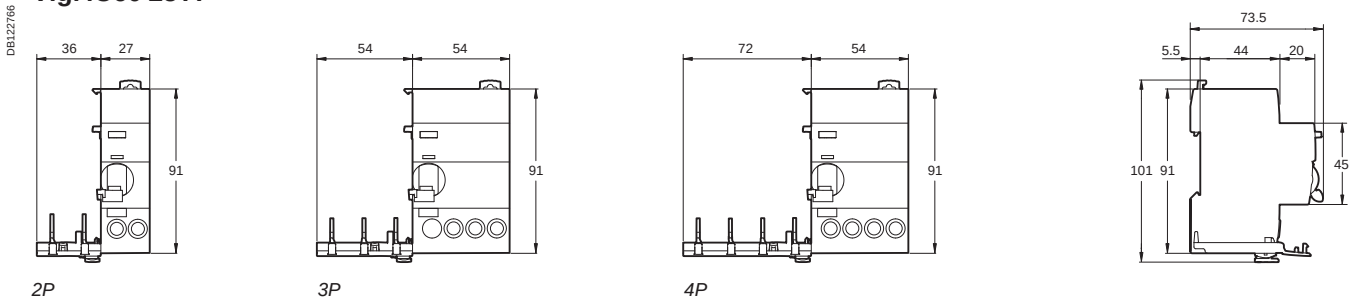
Weight (g)

Add-on residual current devices

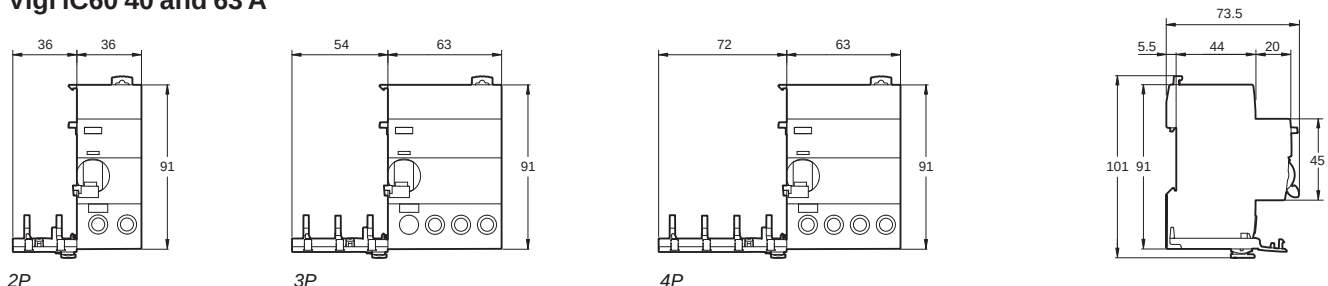
Type	Vigi iC60
2P	165
3P	210
4P	245

Dimensions (mm)

Vigi iC60 25 A



Vigi iC60 40 and 63 A



Vigi C120 (C120 부착형 누전차단기 모듈) AC type



Country approval pictograms

EN 61009

PB107924-30



2P

PB107925-30



3P

PB107926-30

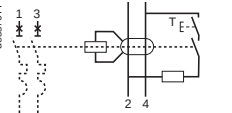
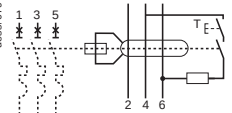
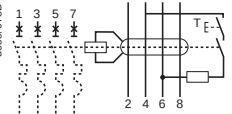


4P

When a Vigi C120 device is combined with a C120 circuit breaker, it provides the following functions:

- protection of persons against electric shock by direct contact (30 mA),
- protection of persons against electric shock by indirect contact (≥ 300 mA),
- protection of installations against fire hazards (300 mA to 1000 mA).

Catalogue numbers

Vigi C120 add-on residual current devices							
Type	AC						Width in 9 mm modules
Product	Vigi C120						
Auxiliaries	Without auxiliary						
2P	Sensitivity	30 mA	300 mA	500 mA	300 mA	1000 mA	
		A9N18563	A9N18564	A9N18565	A9N18544	A9N18545	7
3P	Sensitivity	30 mA	300 mA	500 mA	300 mA	1000 mA	
		A9N18566	A9N18567	A9N18568	A9N18546	A9N18547	10
4P	Sensitivity	30 mA	300 mA	500 mA	300 mA	1000 mA	
		A9N18569	A9N18570	A9N18571	A9N18548	A9N18549	10
Operating voltage (Ue)		230...415 V					
Operating frequency		50/60 Hz					

Vigi C120 (C120 부착형 누전차단기 모듈) A type

DB123430



Country approval pictograms

EN 61009

When a Vigi C120 device is combined with a C120 circuit breaker, it provides the following functions :

- protection of persons against electric shock by direct contact (30 mA),
- protection of persons against electric shock by indirect contact (≥ 300 mA),
- protection of installations against fire hazards (300 mA to 1000 mA).

PE107924-30



2P

PE107925-30



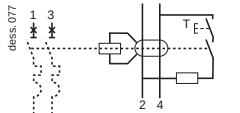
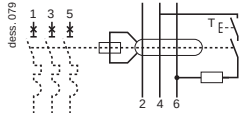
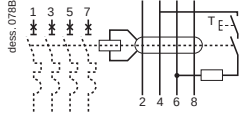
3P

PE107926-30



4P

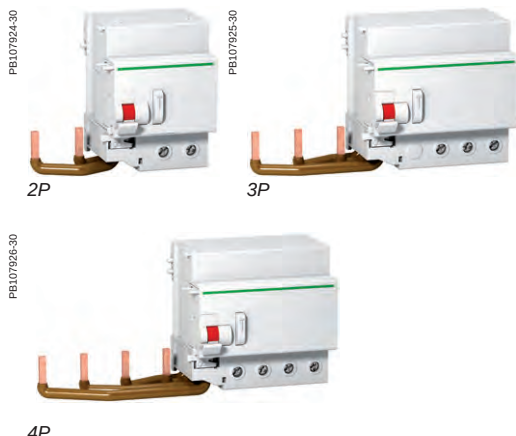
Catalogue numbers

Vigi C120 add-on residual current devices								
Type	A 							Width in 9 mm modules
Product	Vigi C120							
Auxiliaries	Without auxiliary							
2P	Sensitivity	30 mA	300 mA	500 mA	300 mA 	500 mA 	1000 mA 	
		A9N18572	A9N18573	A9N18574	A9N18581	A9N18582	A9N18583	7
3P	Sensitivity	30 mA	300 mA	500 mA	300 mA 	500 mA 	1000 mA 	
		A9N18575	A9N18576	A9N18577	A9N18584	A9N18585	A9N18586	10
4P	Sensitivity	30 mA	300 mA	500 mA	300 mA 	500 mA 	1000 mA 	
		A9N18578	A9N18579	A9N18580	A9N18587	A9N18588	A9N18589	10
Operating voltage (Ue)		230...415 V						
Operating frequency		50/60 Hz						

Vigi C120 (C120 부착형 누전차단기 모듈)



Country approval pictograms



EN 61009

When a Vigi C120 device is combined with a C120 circuit breaker, it provides the following functions:

- protection of persons against electric shock by direct contact (30 mA),
- protection of persons against electric shock by indirect contact (≥ 300 mA),
- protection of installations against fire hazards (300 mA to 1000 mA).

Special feature of type SI

They are appropriate for operating in environments with:

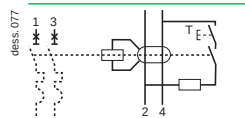
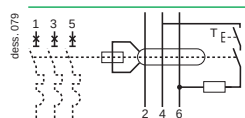
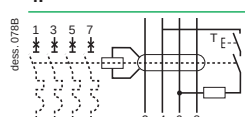
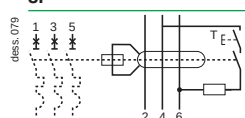
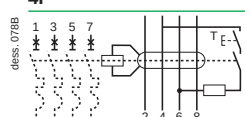
- high risk of nuisance tripping: frequent lightning strikes, IT system, presence of electronic ballasts, frequency converters, presence of switchgear incorporating lighting type interference filters, computer system, etc.
- blind sources:
 - presence of harmonics or high frequency rejections
 - presence of DC components: diodes, diode bridges, switch-mode power supplies, etc.
- protected against nuisance tripping caused by transient voltage surges (lightning strike, operation of switchgear on the network, etc.)

Special feature of type A "SiE"

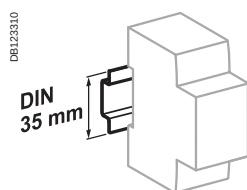
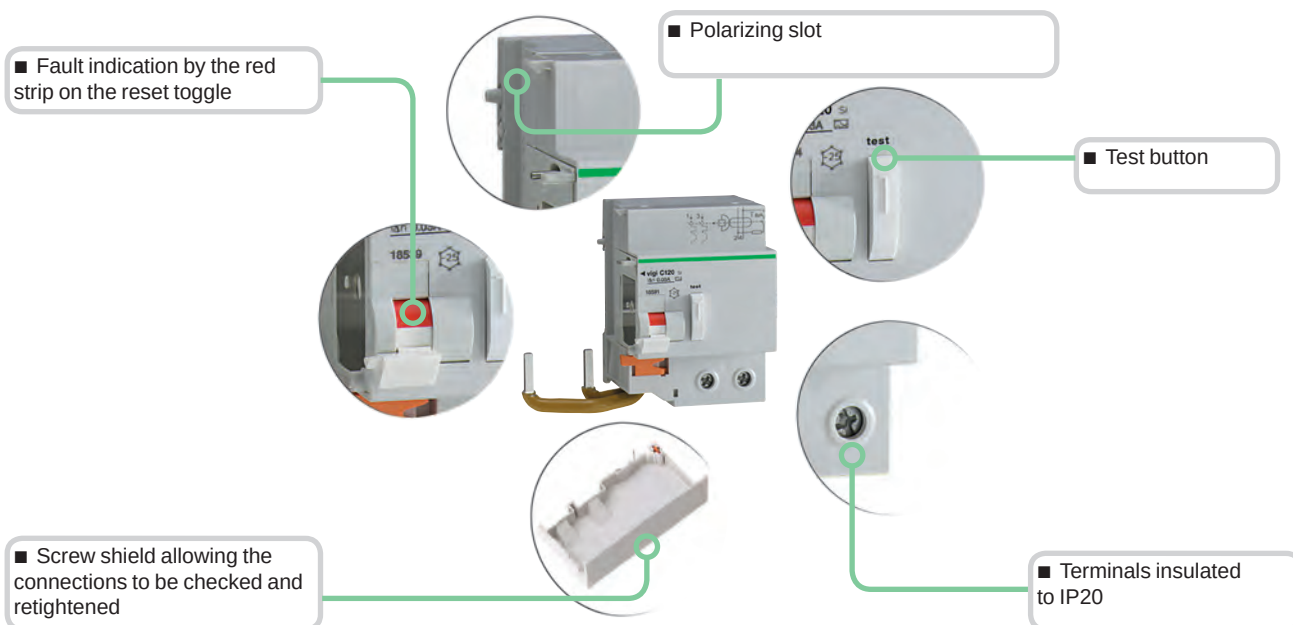
They are appropriate for operation in a humid atmosphere and/or an atmosphere polluted by aggressive agents: swimming pools, marinas, agro-food industry, water treatment plants, etc.

Catalogue numbers

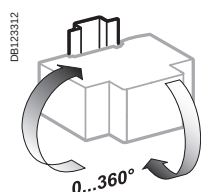
Vigi C120 add-on residual current devices

Type	SI						Width in 9 mm modules
Product	Vigi C120						
Auxiliaries	Without auxiliary						
2P	Sensitivity	30 mA	300 mA	500 mA	300 mA	1000 mA	
		A9N18591	A9N18592	A9N18593	A9N18556	A9N18557	7
3P	Sensitivity	30 mA	300 mA	500 mA	300 mA	1000 mA	
		A9N18594	A9N18595	A9N18596	A9N18558	A9N18559	10
4P	Sensitivity	30 mA	300 mA	500 mA	300 mA	1000 mA	
		A9N18597	A9N18598	A9N18599	A9N18560	A9N18561	10
Type	SiE						Width in 9 mm modules
Product	Vigi C120						
Auxiliaries	Without auxiliary						
3P	Sensitivity	30 mA	300 mA	500 mA	300 mA	1000 mA	
		A9N18676	A9N18677	-	-	-	10
4P	Sensitivity	30 mA	300 mA	500 mA	300 mA	1000 mA	
		A9N18602	A9N18678	-	A9N18600	A9N18601	10
Operating voltage (Ue)		230...415 V					
Operating frequency		50 Hz					

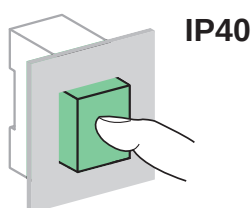
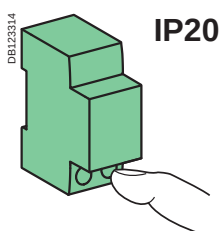
Vigi C120 (C120 부착형 누전차단기 모듈)



Clips onto 35 mm DIN rail.



Any installation position.



Caractéristiques techniques

Main characteristics

Insulation voltage (Ui)	500 V AC
Degree of pollution	3
Rated impulse withstand voltage (Uimp)	6 kV

To EN 61009

Impulse current withstand (8/20 μs) without tripping	Types AC and A (non-selective ㉔)	250 A
	Types AC and A (selective ㉔)	3 kA
	Types SI and SiE (non-selective ㉔)	3 kA
	Types SI and SiE (selective ㉔)	5 kA

Additional characteristics

Degree of protection	Device only	IP20
	Device in a modular enclosure	IP40
Operating temperature	Type AC	-5 °C to +60 °C
	Types A, SI and SiE	-25 °C to +60 °C
Storage temperature		-40 °C to +85 °C

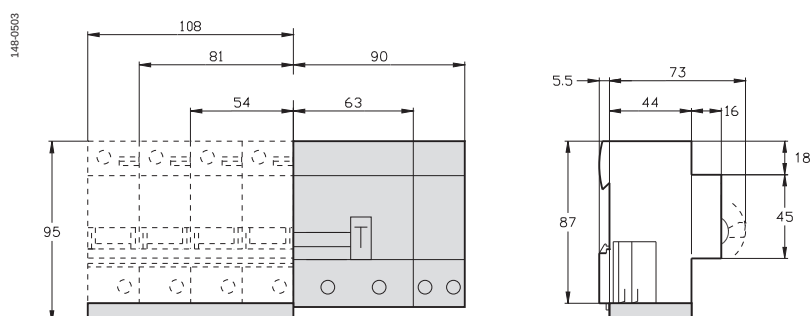
Weight (g)

Add-on residual current devices

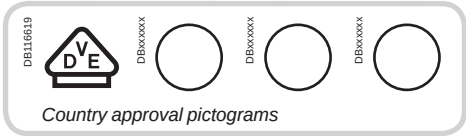
Type	Vigi C120
2P	325
3P	500
4P	580

Dimensions (mm)

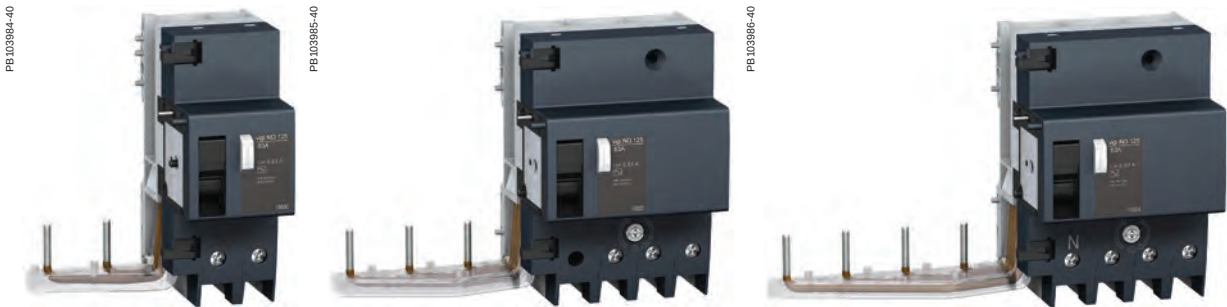
C120 + Vigi C120



Vigi NG125 (NG125 부착형 누전차단기 모듈) AC type



IEC/EN 60947-2

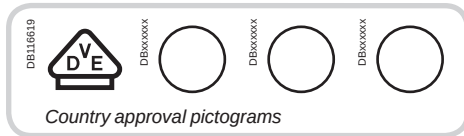


- When it is combined with an NG125 circuit breaker, the Vigi NG125 add-on residual current device offers the following functions:
- protection of persons against electric shocks by direct contact (30 mA),
 - protection of persons against electric shocks by indirect contact (300 mA),
 - protection of installations against fire risks (300 mA).

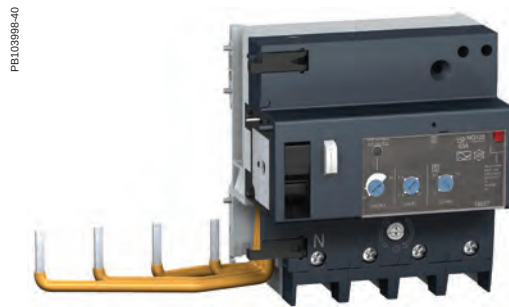
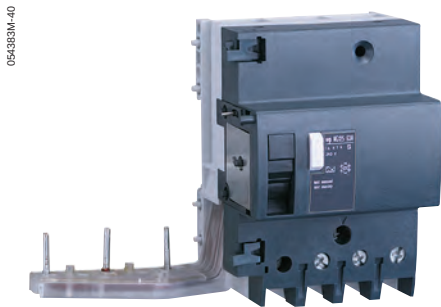
Catalogue numbers

Vigi NG125 add-on residual current devices					
Type		AC		Width in 9 mm modules	
Product		Vigi NG125			
Auxiliaries		Without auxiliaries			
2P		Sensitivity	30 mA	300 mA	
	Rating	63 A	19000	19001	5
3P		Sensitivity	30 mA	300 mA	
	Rating	63 A	19002	19003	9
4P		Sensitivity	30 mA	300 mA	
	Rating	63 A	19004	19005	9
Voltage rating (Ue)			230 - 240 V, 400 - 415 V		
Operating frequency			50/60 Hz		

Vigi NG125 (NG125 부착형 누전차단기 모듈) A type

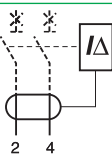
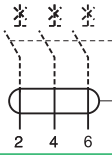
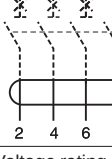


IEC/EN 60947-2

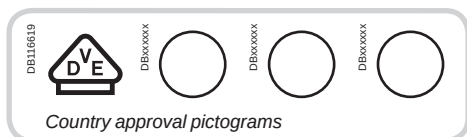


- When it is combined with an NG125 circuit breaker, the Vigi NG125 add-on residual current device offers the following functions:
 - protection of persons against electric shocks by direct contact (30 mA),
 - protection of persons against electric shocks by indirect contact (≥ 300 mA),
 - protection of installations against fire risks (300 mA or 500 mA).

Catalogue numbers

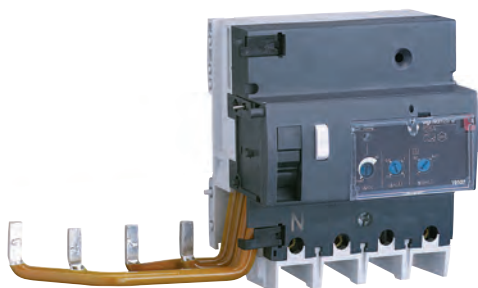
Vigi NG125 add-on residual current devices								
Type	A 							Width in 9 mm modules
Product	Vigi NG125							
Auxiliaries								
2P	Sensitivity	30 mA	300 mA	300 mA 	1000 mA 	300...1000 I/S	300...3000 I/S/R	
	Rating 63 A	19010 19008 (1)	19012 19009 (1)	19030	19031	-	-	5
3P	Sensitivity	30 mA	300 mA	300 mA 	1000 mA 	300...1000 I/S	300...3000 I/S/R	
	Rating 63 A	19013	19014	19032	19033	-	-	9
		-	-	-	-	-	19036 19053 (2)	11
	125 A	19039	-	-	-	19044	19047 19055 (2)	11
4P	Sensitivity	30 mA	300 mA	300 mA 	1000 mA 	300...1000 I/S	300...3000 I/S/R	
	Rating 63 A	19015	19016	19034	19035	-	-	9
		-	-	-	-	-	19037 19054 (2)	11
	125 A	19041	19042	-	-	19046	19049 19056 (2)	11
Voltage rating (Ue)		230 - 240 V, 400 - 415 V Except: (1) 110...220 V and (2) 440...500 V						
Operating frequency		50/60 Hz						

Vigi NG125 (NG125 부착형 누전차단기 모듈) Asi type



IEC/EN 60947-2

057484-40



■ When it is combined with an NG125 circuit breaker, the Vigi NG125 add-on residual current device offers the following functions:

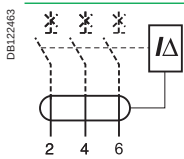
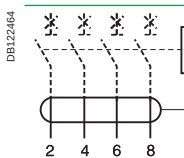
- protection of persons against electric shocks by direct contact (30 mA),
- protection of persons against electric shocks by indirect contact (≥ 300 mA),
- protection of installations against fire risks (300 mA or 500 mA).

Asi types are appropriate for operating in environments with:

- High risk of nuisance tripping: frequent lightning strikes, IT system, presence of electronic ballasts, frequency converters, presence of switchgear incorporating lighting type interference filters, computer system, etc.
- Blind sources
 - presence of harmonics or high frequency rejections,
 - presence of DC components: diodes, diode bridges, switch-mode power supplies, etc.
- Protected against nuisance tripping caused by transient voltage surges (lightning strike, operation of switchgear on the network, etc.).

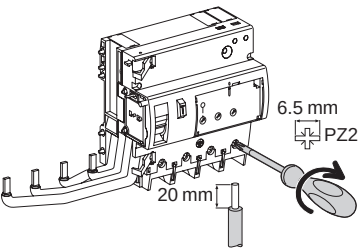
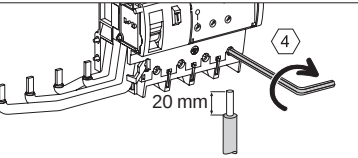
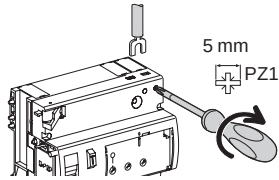
Catalogue numbers

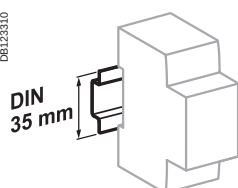
Vigi NG125 add-on residual current devices

Type		Asi 		Width in 9 mm modules
Product		Vigi NG125		
Auxiliaries				
3P	Sensitivity	30 mA	300...3000 I/S/R	
	Rating	125 A	19100	19106
4P	Sensitivity	30 mA	300...3000 I/S/R	
	Rating	125 A	19101	19107
Voltage rating (Ue)		230 - 240 V, 400 - 415 V		
Operating frequency		50/60 Hz		

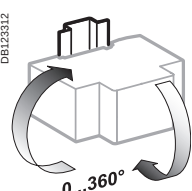
Vigi NG125 (NG125 부착형 누전차단기 모듈)

Connection

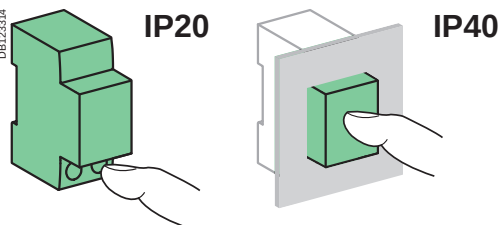
	Rating	Tightening torque	Without accessories			With accessories	
			Rigid	Flexible or ferrule	Screw clamp terminal	70 mm ² Al terminal	Screw-on connection for ring terminal
DB123404 	63 A	3.5 N.m					
DB123405 	125 A	6 N.m			-	25 to 70 mm ²	2 x 35 mm ² 1 x 50 mm ²
DB123408 	Pre-alarm	1 N.m	2 x 2.5 mm ²	2 x 1.5 mm ²	2 x 1.5 mm ²	-	-



Clip on DIN rail 35 mm.



Indifferent position of installation.



Technical data

Main characteristics

According to IEC 60947-2

Insulation voltage (Ui)	690 V
Pollution degree	3
Rated impulse withstand voltage (Uimp)	8 kV

According to IEC/EN 61009-1

Surge current withstand (8/20 μs) without tripping	Selective  or R	5 kA
	Instantaneous	3 kA

Additional characteristics

Degree of protection	Device only	IP20
	Device in modular enclosure	IP40
Operating temperature	AC type	-5°C to +60°C
	A and Asi types	-25°C to +60°C
Storage temperature		-40°C to +85°C

Additional characteristics

Vigi 125 A and adjustable

Plug-in auxiliaries	MXV	Remote tripping
	SDV	Indication of tripping upon earth fault

Adjustable Vigi

Sensitivity adjustable by notch (IΔn)		300, 500, 1000, 3000 mA
Tripping time	Instantaneous	
	Selective 	60 ms
	Time-delayed	150 ms

Leakage current indication on 3P and 4P 300...3000 I/S/R (pre-alarm)	On front face by LED
	Remote, by potential-free normally-open contact 250 V - 1 A (low level)
	Threshold setting by potentiometer from 10 % to 50 % of IΔn
Disconnection essential for dielectric test	By integral pushbutton



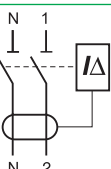
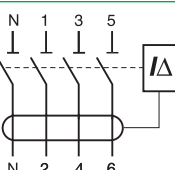
IEC/EN 61008-1

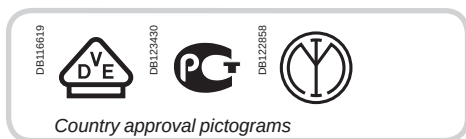


- The iID residual current circuit breakers provide:
- protection of persons against electric shock by direct contact (≤ 30 mA),
 - protection of persons against electric shock by indirect contact (≥ 100 mA),
 - protection of installations against the risk of fire (300 mA or 500 mA).

Catalogue numbers

iID residual current circuit breakers

Type		AC 								Width in 9 mm module	
Product		iID									
Auxiliaries		Can accept auxiliaries, module CA907002									
2P		Sensitivity	10 mA	30 mA	100 mA	300 mA	500 mA	300 mA 	500 mA 		
	Rating	16 A	A9R10216	-	-	-	-	-	-	4	
		25 A	A9R10225	A9R41225	-	A9R44225	A9R16225	-	-		
		40 A	-	A9R41240	A9R12240	A9R44240	A9R16240	-	-		
		63 A	-	A9R41263	A9R12263	A9R44263	A9R16263	A9R15263	-		
		80 A	-	A9R11280	A9R12280	A9R14280	-	A9R15280	-		
		100 A	-	A9R11291	A9R12291	A9R14291	-	A9R15291	-		
4P		Sensitivity	10 mA	30 mA	100 mA	300 mA	500 mA	300 mA 	500 mA 		
	Rating	25 A	-	A9R41425	-	A9R44425	A9R16425	-	-	8	
		40 A	-	A9R41440	A9R12440	A9R44440	A9R16440	A9R15440	A9R17440		
		63 A	-	A9R41463	A9R12463	A9R44463	A9R16463	A9R15463	A9R17463		
		80 A	-	A9R11480	A9R12480	A9R14480	A9R16480	A9R15480	A9R17480		
		100 A	-	A9R11491	A9R12491	A9R14491	-	A9R15491	-		
Voltage rating (Ue)		2P	230 - 240 V								
		4P	400 - 415 V								
Operating frequency			50/60 Hz								



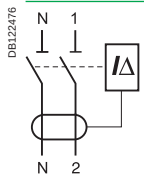
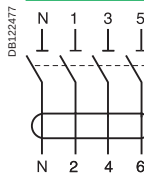
IEC/EN 61008-1



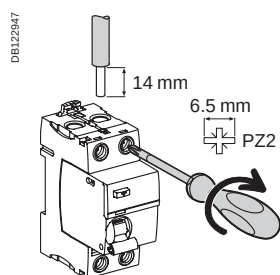
- The iID residual current circuit breakers provide:
- protection of persons against electric shock by direct contact (≤ 30 mA),
 - protection of persons against electric shock by indirect contact (≥ 100 mA),
 - protection of installations against the risk of fire (300 mA or 500 mA).

Catalogue numbers

iID residual current circuit breakers

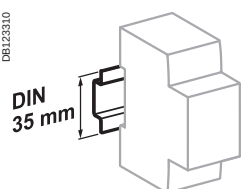
Type		A 							Width in 9 mm module
Product		iID							
Auxiliaries		Can accept auxiliaries, module CA907002							
2P	Sensitivity	10 mA	30 mA	100 mA	300 mA	500 mA	300 mA 		
	Rating	16 A	A9R20216	-	-	-	-	4	
		25 A	A9R20225	A9R21225	-	A9R24225	-		
		40 A	-	A9R21240	-	A9R24240	-	A9R25240	
		63 A	-	A9R21263	-	A9R24263	-	A9R25263	
		100 A	-	A9R21291	-	A9R24291	-	A9R25291	
4P	Sensitivity	10 mA	30 mA	100 mA	300 mA	500 mA	300 mA 		
	Rating	25 A	-	A9R21425	-	A9R24425	-	8	
		40 A	-	A9R21440	A9R22440	A9R24440	A9R26440	A9R25440	
		63 A	-	A9R21463	A9R22463	A9R24463	A9R26463	A9R25463	
		80 A	-	A9R21480	-	A9R24480	-	A9R25480	
		100 A	-	A9R21491	-	A9R24491	A9R26491	A9R25491	
Voltage rating (Ue)		2P	230 - 240 V						
		4P	400 - 415 V						
Operating frequency		50/60 Hz							
Accessories		Module CA907000 and CA907001							

Connection

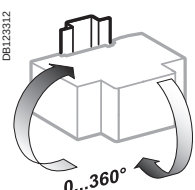


Type	Tightening torque	Without accessory		With accessories*			
		Copper cables		50 mm ²	Screw-on connection for ring terminal	Multi-cables terminal	
		Rigid	Flexible or ferrule	Al terminal		Rigid cables	Flexible cables
iID	3.5 N.m	DB122945 1 to 35 mm ²	DB122946 1 to 25 mm ²	DB122985 50 mm ²	DB118789 Ø 5 mm	DB118787 3 x 16 mm ²	3 x 10 mm ²

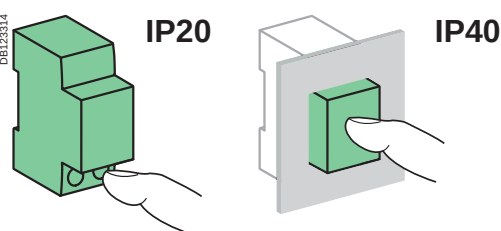
* See module CA907000



Clip on DIN rail 35 mm.



Indifferent position of installation.



Technical data

Main characteristics		
Insulation voltage (Ui)		500 V
Pollution degree		3
Rated impulse withstand voltage (Uimp)		6 kV
According to IEC/EN 61008-1		
Making and breaking capacity (Im/IΔm)		1500 A
Surge current withstand (8/20 μs) without tripping	AC and A types (no selective Ⓢ)	250 Å
	AC, A types (selective Ⓢ)	3 kÅ
	S/I type	3 kÅ
Conditional rated short circuit current (Inc/IΔc)	With iC60N/H/L	Equal to breaking capacity of iC60
	With fuse	10,000 A
Additional characteristics		
Degree of protection	Device only	IP20
	Device in modular enclosure	IP40 Insulation classe II
Endurance (O-C)	Electrical (AC1)	16 to 63 A 15,000 cycles
		80 to 100 A 10,000 cycles
	Mechanical	20,000 cycles
Operating temperature	AC type	-5°C to +60°C
	A and S/I types	-25°C to +60°C
Storage temperature		-40°C to +85°C

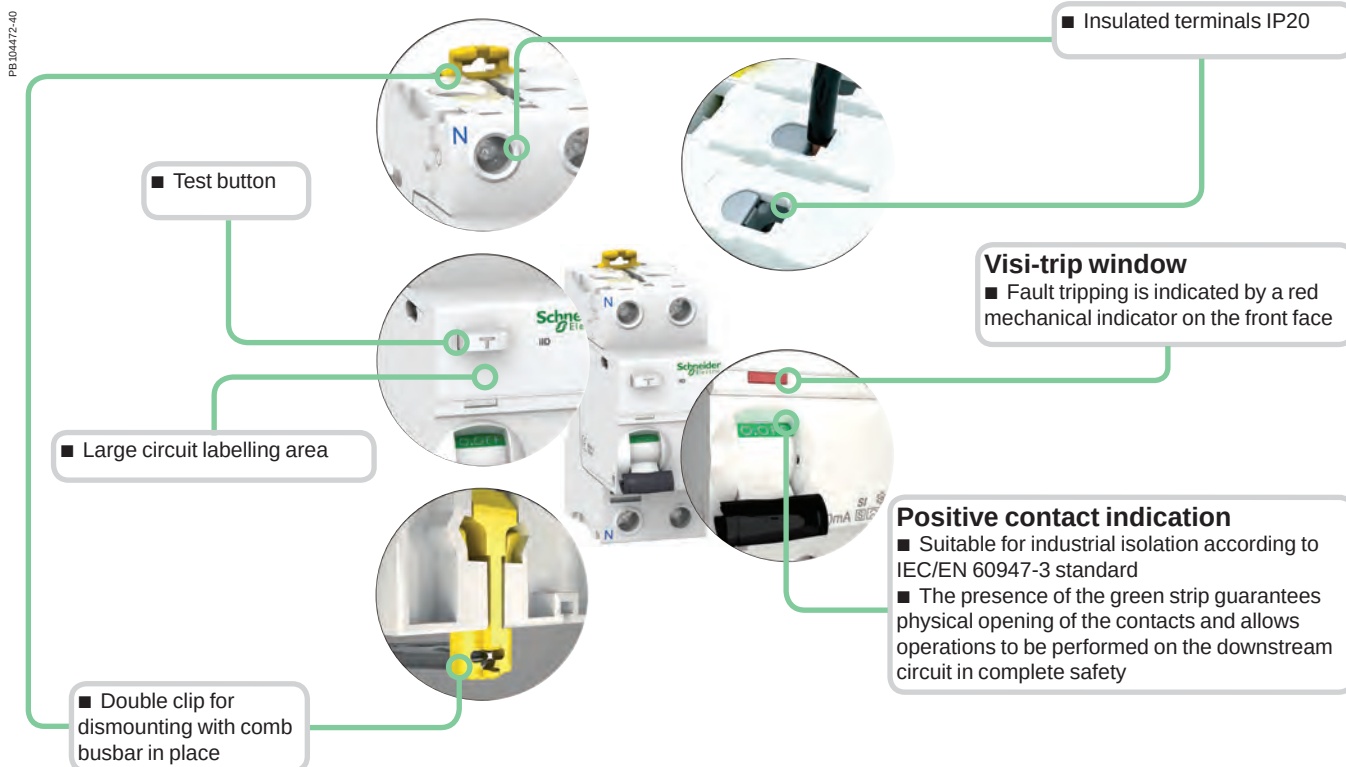
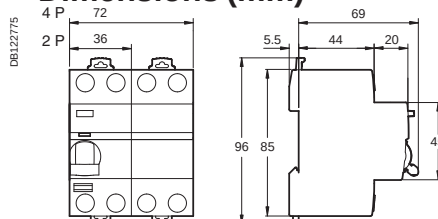


Weight (g)

Residual current circuit breakers

Type	iID
2P	210
4P	370

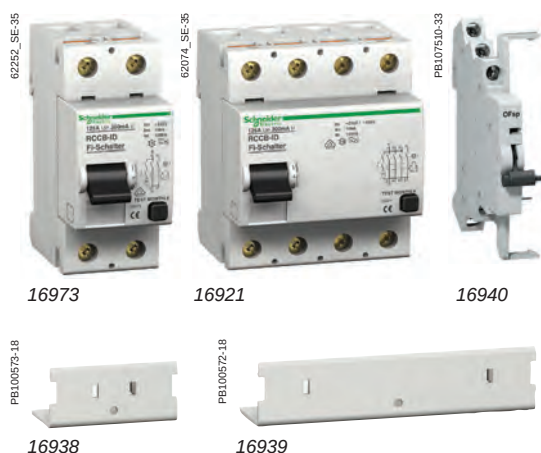
Dimensions (mm)



SI type

The SI type provides increased immunity from electrical interference and polluted or corrosive environments.

IEC/EN 61008-1, VDE 0664



- The RCCB-ID 125 A residual current circuit breakers provide:
 - protection of persons against electric shock by direct contact (30 mA),
 - protection of persons against electric shock by indirect contact (≥ 100 mA),
 - protection of installations against the risk of fire (300 mA or 500 mA).

The **SI** type provides increased immunity from electrical interference and polluted or corrosive environments.

OFsp auxiliary

- Electrical indication: by OFsp auxiliary mounted to the left, it has a double changeover switch indicating the "open" or "closed" position of the RCCB-ID 125 A.

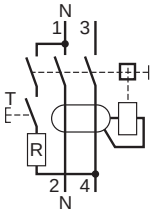
Accessories

- 2P and 4P sealable screw shield.

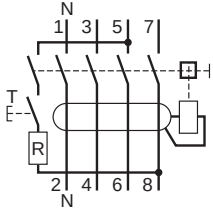
Catalogue numbers

RCCB-ID 125 A residual current circuit breakers

EB9413

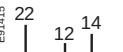
Type	AC 				A 				SI 		Width in 9 mm module	
2P	Sensitivity	30 mA	100 mA	300 mA	500 mA	30 mA	300 mA	300 mA 	500 mA	30 mA		300 mA
	Rating 125 A	16966	-	16967	-	16970	16971	-	-	16972	16973	4

EB9414

4P	Sensitivity	30 mA	100 mA	300 mA	500 mA	30 mA	300 mA	300 mA 	500 mA	30 mA	300 mA	Width in 9 mm module
	Rating 125 A	16905	16906	16907	16908	16924	16926	16925	16927	16920	16921	

Voltage rating (Ue)	2P	230 V
	4P	400 V
Operating frequency	50 Hz	

Auxiliary

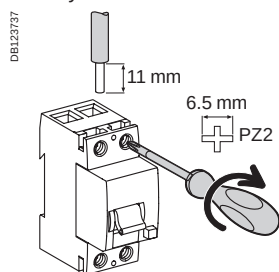
Type				Width in 9 mm module
Contact OFsp	Contact	Voltage		
	1 A	110 V DC	16940	
	6 A	230 V AC (AC15)		

Accessory

Type	Number of pole	
Screw shield (set of 10) for upstream or downstream	2P	16938
	4P	16939

Connection

■ By tunnel terminals for:



Type	Tightening torque	Copper cables	
		Rigid	Flexible or ferrule
RCCB-ID	3 N.m	1 x 1.5 to 50 mm ² 2 x 1.5 to 16 mm ²	1 x 1.5 to 35 mm ² 2 x 1.5 to 16 mm ²
OFsp	0.8 N.m	1 to 1.5 mm ²	1 to 1.5 mm ²

OFsp contact status, depending on the position of the residual current circuit breaker

Type

RCCB-ID 125 A	Closed	■	-	-
	Open	-	■	-
	Tripped on fault	-	-	■
Contact OFsp	22/21	Open	Closed	Closed
	14/11	Closed	Open	Open



Indication of the status of the RCCB-ID via the 3-position toggle and front panel indicator

- Closed (red indicator)
- Tripped on fault (green indicator)
- Open (green indicator)

Technical data

Electrical characteristics

Insulation voltage (U _i)	400 V
Pollution degree	3
Rated impulse withstand voltage (U _{imp})	4 kV

According to IEC/EN 61008-1

Making and breaking capacity (I _m /Δm)		1250 A
Surge current withstand (8/20 μs) without tripping	AC and A types (no selective )	250 A
	Sf type (no selective )	3 kA
	AC, A and Sf types (selective )	3 kA
Conditional rated short circuit current (I _{nc} /Δc)	With FU 125 A gG fuse	10,000 A

Additional characteristics

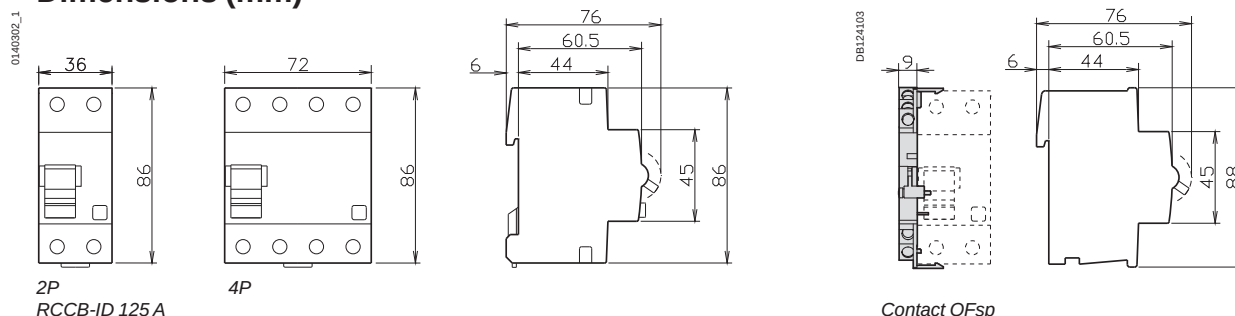
Degree of protection	Device only	IP20 IP40 with screw shield
	Device in modular enclosure	IP40 Insulation classe II
Endurance (O-C)	Electrical	> 2 000 cycles
	Mechanical	> 5 000 cycles
Operating temperature		-25°C to +40°C
Storage temperature		-40°C to +85°C

Weight (g)

Residual current circuit breakers and auxiliary

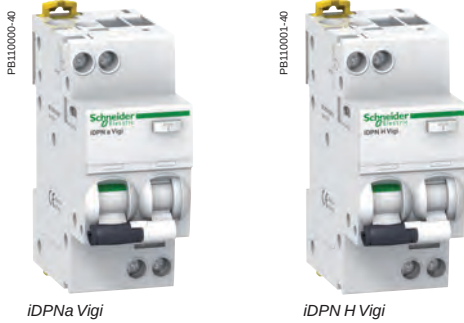
Type	RCCB-ID 125 A	OFsp
2P	230	40
4P	420	

Dimensions (mm)





IEC/EN 61009



■ The iDPN Vigì residual current device provide complete protection for final circuits (against overcurrents and insulation faults):

- protection for users against electric shocks by direct contacts (≤ 30 mA),
- protection for users against electric shocks by indirect contacts (300 mA),
- protection of the installations against fire risks (300 mA).

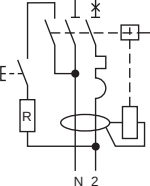
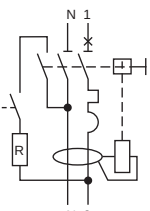
■ The **SI** range has been designed to maintain a network with optimum safety and continuity of service in installations disturbed by:

- extreme atmospheric conditions,
- harmonic generating loads,
- transient operating currents.

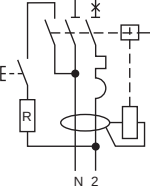
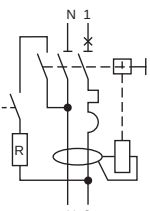
Catalogue numbers

iDPNa Vigì 4500

DB123871

Type		AC 		A 		Width in 9 mm modules	
Auxiliaries		Remote tripping and indication, module CA907000 and CA907002					
1P+N	Curve B	Sensitivity	30 mA	300 mA	10 mA		30 mA
	Rating (In)	6 A	A9D51606	-	-	A9D54606	4
		10 A	A9D51610	-	-	A9D54610	
		13 A	-	-	-	A9D54613	
		16 A	A9D51616	-	-	A9D54616	
		20 A	A9D51620	-	-	A9D54620	
		25 A	A9D51625	-	-	A9D54625	
		32 A	A9D51632	-	-	A9D54632	
		40 A	A9D51640	-	-	A9D54640	
1P+N	Curve C	Sensitivity	30 mA	300 mA	10 mA	30 mA	4
	Rating (In)	6 A	A9D34606	A9D44606	-	A9D35606	
		10 A	A9D34610	A9D44610	A9D05610	A9D35610	
		13 A	-	-	-	A9D35613	
		16 A	A9D34616	A9D44616	A9D05616	A9D35616	
		20 A	A9D34620	A9D44620	-	A9D35620	
		25 A	A9D34625	A9D44625	-	A9D35625	
		32 A	A9D34632	A9D44632	-	A9D35632	
		40 A	A9D34640	A9D44640	-	A9D35640	
Voltage rating (Ue)		230 V AC					
Operating frequency		50 Hz					

DB123871

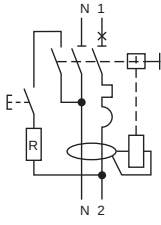
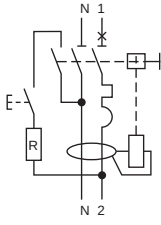
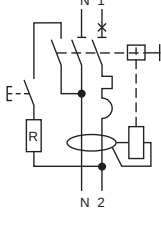
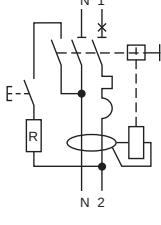
Type		AC 		A 		Width in 9 mm modules	
Auxiliaries		Remote tripping and indication, module CA907000 and CA907002					
1P+N	Curve B	Sensitivity	30 mA	300 mA	10 mA		30 mA
	Rating (In)	6 A	A9D51606	-	-	A9D54606	4
		10 A	A9D51610	-	-	A9D54610	
		13 A	-	-	-	A9D54613	
		16 A	A9D51616	-	-	A9D54616	
		20 A	A9D51620	-	-	A9D54620	
		25 A	A9D51625	-	-	A9D54625	
		32 A	A9D51632	-	-	A9D54632	
		40 A	A9D51640	-	-	A9D54640	
1P+N	Curve C	Sensitivity	30 mA	300 mA	10 mA	30 mA	4
	Rating (In)	6 A	A9D34606	A9D44606	-	A9D35606	
		10 A	A9D34610	A9D44610	A9D05610	A9D35610	
		13 A	-	-	-	A9D35613	
		16 A	A9D34616	A9D44616	A9D05616	A9D35616	
		20 A	A9D34620	A9D44620	-	A9D35620	
		25 A	A9D34625	A9D44625	-	A9D35625	
		32 A	A9D34632	A9D44632	-	A9D35632	
		40 A	A9D34640	A9D44640	-	A9D35640	
Voltage rating (Ue)		230 V AC					
Operating frequency		50 Hz					

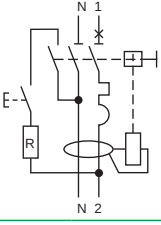
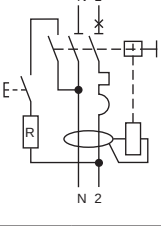


iDPN N Vigì G Type 6000

DB123871

Type		AC	A	Width in 9 mm modules		
Auxiliaries		Remote tripping and indication, module CA907000 and CA907002				
1P+N	Curve C	Sensitivity	30 mA	100 mA	4	
		Rating (In)	6 A	A9D62606		A9D72606
		10 A	A9D62610	A9D72610		
		13 A	A9D62613	A9D72613		
		16 A	A9D62616	A9D72616		
Voltage rating (Ue)		230 V AC				
Operating frequency		50 Hz				

iDPN N Vigi 6000												
Type			AC 		A 				SI 			Width in 9 mm modules
Auxiliaries			Remote tripping and indication, module CA907000 and CA907002									
1P+N	Curve B	Sensitivity	30 mA	300 mA	10 mA	30 mA	100 mA	300 mA	30 mA	100 mA	300 mA	
	Rating (In)	4 A	A9D55604	A9D68604	-	A9D56604	A9D60604	A9D69604	-	-	-	
	6 A	A9D55606	A9D68606	-	A9D56606	A9D60606	A9D69606	-	-	-		
	10 A	A9D55610	A9D68610	A9D08610	A9D56610	A9D60610	A9D69610	-	-	-		
	13 A	-	-	-	A9D56613	A9D60613	A9D69613	-	-	-		
	16 A	A9D55616	A9D68616	A9D08616	A9D56616	A9D60616	A9D69616	-	-	-		
	20 A	A9D55620	A9D68620	-	A9D56620	A9D60620	A9D69620	-	-	-		
	25 A	A9D55625	A9D68625	-	A9D56625	A9D60625	A9D69625	-	-	-		
	32 A	A9D55632	A9D68632	-	A9D56632	A9D60632	A9D69632	-	-	-		
	40 A	A9D55640	A9D68640	-	A9D56640	A9D60640	A9D69640	-	-	-		
1P+N	Curve C	Sensitivity	30 mA	300 mA	10 mA	30 mA	100 mA	300 mA	30 mA	100 mA	300 mA	
	Rating (In)	6 A	A9D31606	A9D41606	-	A9D32606	A9D52606	A9D42606	A9D33606	A9D53606	A9D43606	
	10 A	A9D31610	A9D41610	A9D02610	A9D32610	A9D52610	A9D42610	A9D33610	A9D53610	A9D43610		
	13 A	-	-	-	A9D32613	A9D52613	A9D42613	A9D33613	A9D53613	A9D43613		
	16 A	A9D31616	A9D41616	A9D02616	A9D32616	A9D52616	A9D42616	A9D33616	A9D53616	A9D43616		
	20 A	A9D31620	A9D41620	-	A9D32620	A9D52620	A9D42620	A9D33620	A9D53620	A9D43620		
	25 A	A9D31625	A9D41625	-	A9D32625	A9D52625	A9D42625	A9D33625	A9D53625	A9D43625		
	32 A	A9D31632	A9D41632	-	A9D32632	A9D52632	A9D42632	A9D33632	A9D53632	A9D43632		
	40 A	A9D31640	A9D41640	-	A9D32640	A9D52640	A9D42640	A9D33640	A9D53640	A9D43640		
Voltage rating (Ue)			230 V AC									
Operating frequency			50 Hz									

iDPN H Vigi 10000									
Type			A 		SI 			Width in 9 mm modules	
Auxiliaries			Remote tripping and indication, module CA907000 and CA907002						
1P+N	Curve B	Sensitivity	30 mA	300 mA	30 mA	300 mA			
	Rating (In)	6 A	A9D07606	-	-	-	-	4	
		10 A	A9D07610	-	-	-	-		
		16 A	A9D07616	-	-	-	-		
		20 A	A9D07620	-	-	-	-		
		25 A	A9D07625	-	-	-	-		
		32 A	A9D07632	-	-	-	-		
1P+N	Curve C	Sensitivity	30 mA	300 mA	30 mA	300 mA			
	Rating (In)	6 A	A9D37606	A9D47606	A9D38606	A9D48606	4		
		10 A	A9D37610	A9D47610	A9D38610	A9D48610			
		16 A	A9D37616	A9D47616	A9D38616	A9D48616			
		20 A	A9D37620	A9D47620	A9D38620	A9D48620			
		25 A	A9D37625	A9D47625	A9D38625	A9D48625			
		32 A	A9D37632	A9D47632	A9D38632	A9D48632			
Voltage rating (Ue)			230 V AC						
Operating frequency			50 Hz						

■ Fast contact closure

■ Insulated terminals IP20

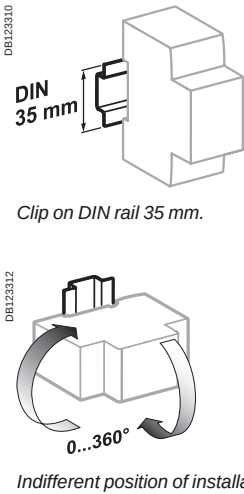
■ Test button

Visi-trip double window

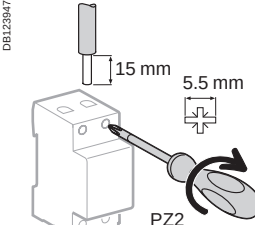
- Fault tripping circuit breaker is indicated by a red mechanical indicator on the front face.
- Earth fault is indicated by a red mechanical indicator on the front face

Positive contact indication

- A green strip on the toggle guarantees opening of all the poles in safety conditions (padlocking possible) for work to be carried out on live parts



Connection



DB123947

15 mm

5.5 mm

PZ2

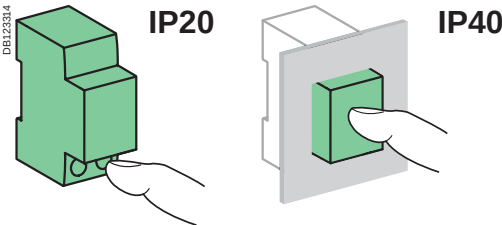
Rating	Tightening torque	Copper cables	
		Rigid	Flexible or ferrule
4 to 40 A	3.5 N.m	1 to 16 mm ²	1 to 10 mm ²

DB122945

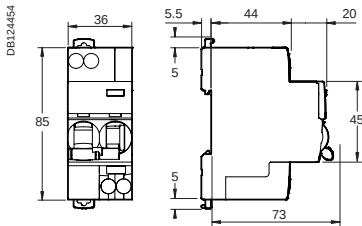
DB122946

Weight (g)

Residual current device	
Type	iDPN Vigì
1P+N	125



Dimensions (mm)



Technical data

Main characteristics				
Type		iDPNa Vigi	iDPN N Vigi	iDPN H Vigi
Insulation voltage (Ui)		400 V AC		
Pollution degree		3		
Rated impulse withstand voltage (Uimp)		4 kV		
Setting temperature for ratings		30°C		
Magnetic tripping	Curve B	Between 3 and 5 In		
	Curve C	Between 5 and 10 In		
According to EN 61009				
Limitation class		3		
Rated breaking capacity (Icn)		4500 A	6000 A	10,000 A
Rated residual breaking and making capacity (IΔm)		4500 A	6000 A	10,000 A
8/20 μs impulse withstand	Type AC	250 Â	250 Â	250 Â
	Type A	250 Â	250 Â	250 Â
	Type <i>SI</i>	-	3 kÂ	3 kÂ
Additional characteristics				
Earth leakage protection with instantaneous tripping		10, 30, 300 mA	10, 30, 100, 300 mA	30, 300 mA
Degree of protection (IEC 60529)	Device only	IP20		
	Device in modular enclosure	IP40 Insulation classe II		
Endurance (O-C)	Electrical	≤ 20 A	20,000 cycles	
		≥ 25 A	10,000 cycles	
	Mechanical	20,000 cycles		
Overvoltage category (IEC 60364)		III		
Operating temperature	Type AC	-5°C to +60°C		
	Type A, <i>SI</i>	-25°C to +60°C		
Storage temperature		-40°C to +85°C		
Tropicalization (IEC 60068-1)		Treatment 2 (relative humidity 95 % to 55°C)		

Connection accessories

See module CA907001

8	Splitter blocks	Multiclip	See module	CA907004
		Distribloc	See module	CA907003
9	50 mm² Al terminal			27060
10	Screw-on connection for ring terminal			27053
11	Multi-cables terminal	4 parts		19091
		3 parts		19096
12	Comb busbar	See module		CM907007

Mounting accessories

See module CA907001

13	Sealable terminal shields	1P (set of 2)	A9A26975
		2P (set of 2)	A9A26976
		3P	1P + 2P
		4P	2P + 2P
14	Interpole barrier	(set of 10)	A9A27001
15	Screw shields	4P (set of 20)	A9A26981
15"	Screw shields	Vigi iC60 (set of 12)	A9A26982
16	Clip-on terminal markers	See module	CA907001
17	9 mm spacer		A9A27062
18	Padlocking device	(set of 10)	A9A26970
19	Plug-in base		A9A27003
20	Rotary handle		
	Black handle		A9A27005
	Red handle		A9A27006
	No handle		A9A27008

Electrical auxiliaries

See module CA907002

Indication

4	iOF/SD+OF auxiliary contact	A9A26929
	(OF+SD or OF+OF combination switch)	
5	iSD fault indicating contact	A9A26927
6	iOF open/close auxiliary contact	A9A26924
7	iOF+SD24 auxiliary contact	A9A26897

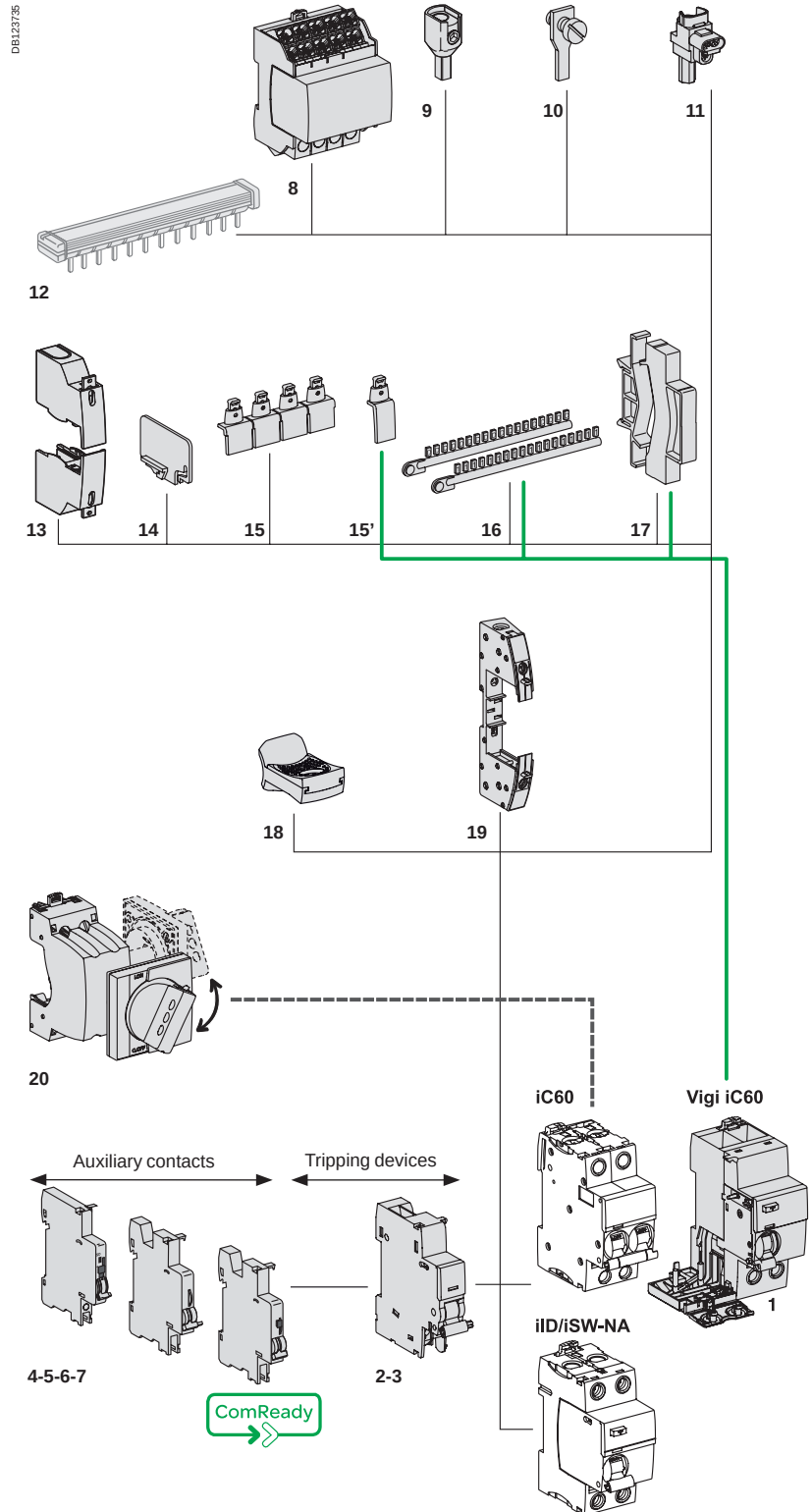
Tripping devices

2	iMN undervoltage release	See module	CA907002
	or iMNs undervoltage release		
	delayed or iMNx		
	undervoltage release with		
	external feeding		
3	Shunt release iMX, iMX+OF	See module	CA907002
	overvoltage release iMSU		

Vigi iC60

See module CA907005

1	Vigi iC60 add-on residual current device	See module	CA902005
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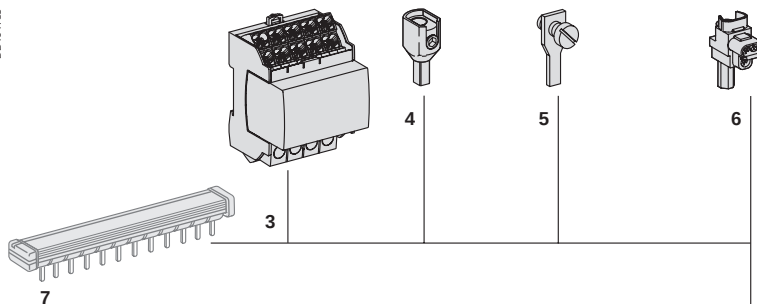


Connection accessories

See module CA907001

3	Splitter blocks	Multiclip	See module	CA907004
		Distribloc	See module	CA907003
4	50 mm ² Al terminal			27060
5	Screw-on connection for ring terminal			27053
6	Multi-cables terminal	4 parts		19091
		3 parts		19096
7	Comb busbar		See module	CM907007

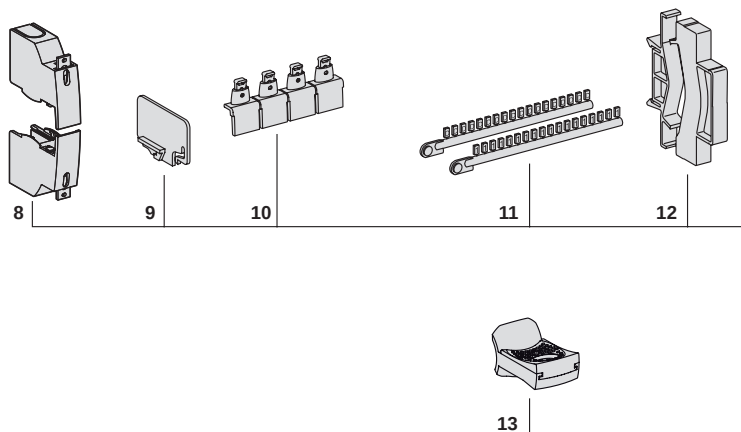
DB404783



Mounting accessories

See module CA907001

8	Sealable terminal shields for top and bottom connection	1P (set of 2)	A9A26975
		2P (set of 2)	A9A26976
		3P	1P + 2P
		4P	2P + 2P
9	Interpole barrier	(set of 10)	A9A27001
10	Screw shields	4P (set of 20)	A9A26981
11	Clip-on terminal markers		See module CA907001
12	9 mm spacer		A9A27062
13	Padlocking device	(set of 10)	A9A26970



Electrical auxiliary

See module CA907002

Control

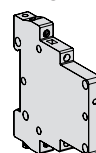
2	iMDU voltage matching auxiliary	A9C18195
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Vigi iC60

See module CA907005

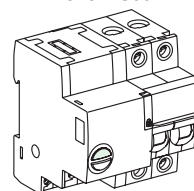
1	Vigi iC60 add-on residual current device	See module	CA902005
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iMDU

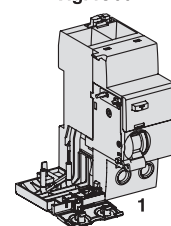


2

Reflex iC60



Vigi iC60



1

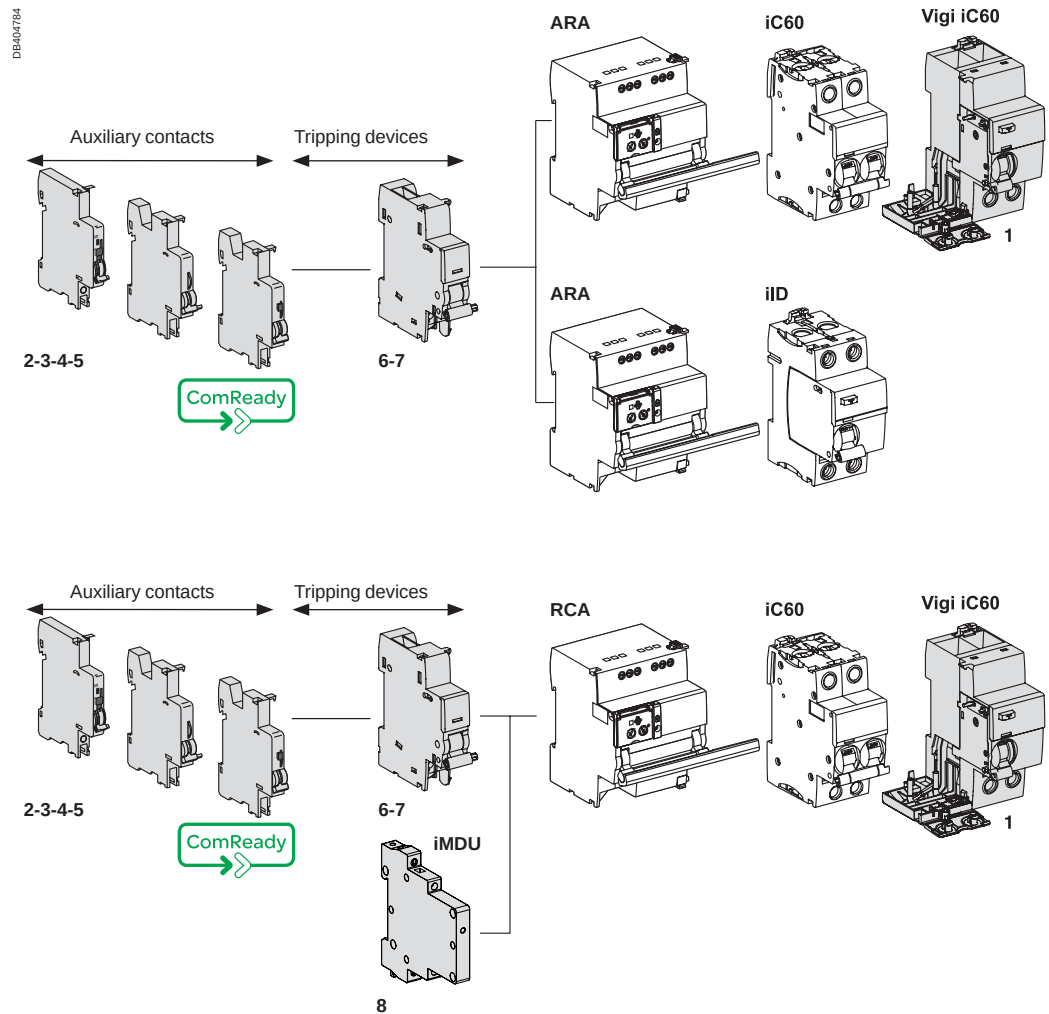
Electrical auxiliaries

See module CA907002

Indication		
2	iOF/SD+OF auxiliary contact (OF+SD or OF+OF combination switch)	A9A26929
3	iSD fault indicating contact	A9A26927
4	iOF open/close auxiliary contact	A9A26924
5	iOF+SD24 auxiliary contact	A9A26897

Tripping devices		
6+	iMN undervoltage release or iMNs undervoltage release delayed or iMNx undervoltage release with external feeding	See module CA907002
7	Shunt release iMX, iMX+OF overvoltage release iMSU	See module CA907002

Control		
8	iMDU voltage matching auxiliary	A9C18195



Vigi iC60

See module CA907005

1	Vigi iC60 add-on residual current device	See module CA902005
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Tripping devices must be mounted first.
Respect specified position for SD functions.

Connection accessories

See module CA907001

6	Screw-on connection for ring terminal	27053
7	Comb busbar	See module CA907009

Mounting accessories

See module CA907001

8	Padlocking device (set of 10)	A9A26970
9	Clip-on terminal markers	See module CA907001
10	9 mm spacer	A9A27062

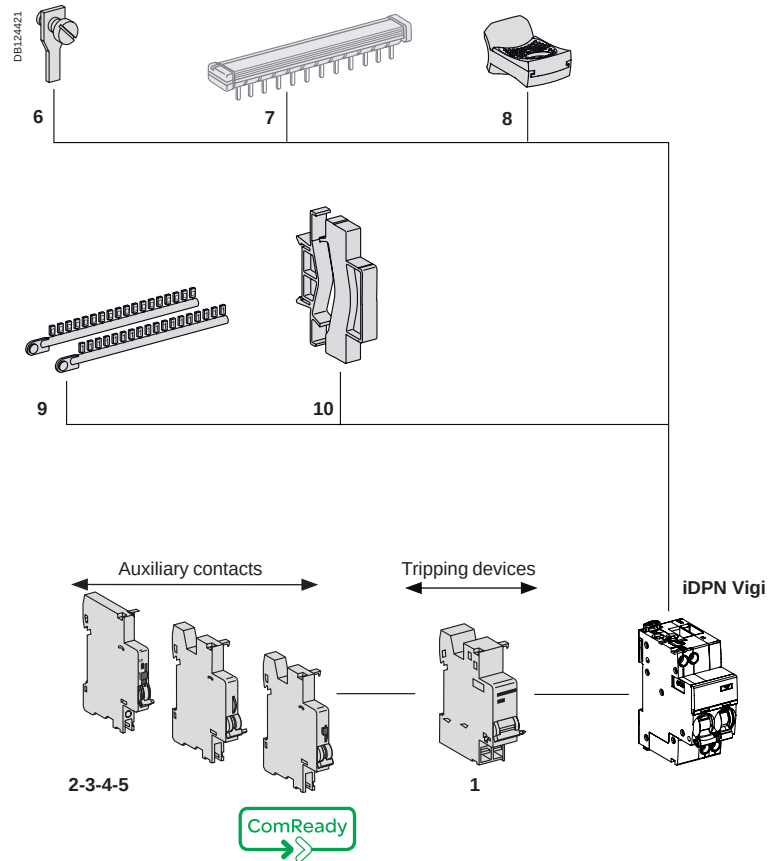
Electrical auxiliaries

See module CA907002

Indication		
2	iOF/SD+OF auxiliary contact (OF+SD or OF+OF combination switch)	A9A26929
3	iSD fault indicating contact	A9A26927
4	iOF open/close auxiliary contact	A9A26924
5	iOF+SD24 auxiliary contact	A9A26897

Tripping devices

1	iMN undervoltage release or iMNs undervoltage release delayed or iMNx undervoltage release with external feeding or shunt release iMX, iMX+OF overvoltage release iMSU	See module CA907002
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Tripping devices must be mounted first.
Respect specified position for SD functions.

Connection accessories

See module CA907012

7	Multi-cable terminal	4 parts	19091
		3 parts	19096
8	Screw-on connection for ring terminal	8 parts	27053
9	Terminal for rear connector		18528
10	50 mm² Al terminal		27060
11	Comb busbar	See module	CM907007

Mounting accessories

See module CA907012

12	Sealable terminal shields for top and bottom connection	1P (set of 2)	18526
13	Interpole barrier	(set of 10)	27001
14	Screw shields	4P (set of 2)	18527
15	Clip-on terminal markers	See module	CA907012
16	9 mm spacer		A9N27062
17	Padlocking device		27145
18	Plug-in base ⁽¹⁾		26997
19	Rotary handle		
	Removable extended handle		27047
	Fixed handle		27048
	Operating sub-assembly ⁽²⁾		27046

(1) For 1P, centreline between two rows: 200 mm

(2) A complete rotary handle consists of a circuit-breaker operating sub-assembly, cat. no. 27046, a handle cat. no. 27047 or a handle cat. no. 27048.

Electrical auxiliaries

See module CA907008

Indication		
3	SD fault indicating contact	A9N26927
4	OF+SD24 auxiliary contact	A9N26899
5	OF open/close auxiliary contact	A9N26924
6	OF/SD+OF auxiliary contact (OF+SD or OF+OF combination switch)	A9N26929

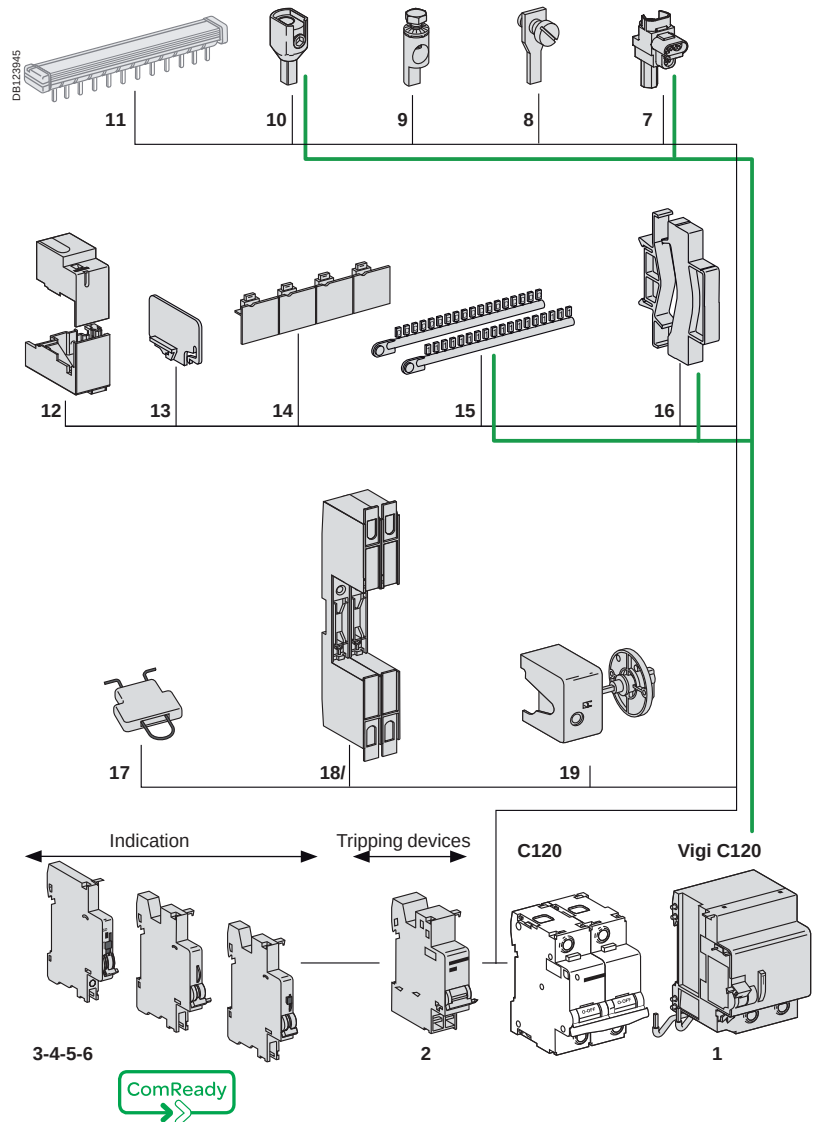
Tripping

2	MN, MNx, MN, MN [□] undervoltage release, MSU overvoltage release or MX + OF shunt release	See module	CA907008
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Vigi C120

See module CA902016

1	Vigi C120 add-on residual current device	See module	CA902016
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Tripping devices must be mounted first.

Connection

6	Comb busbar	see module	CM907007
7	Splitter blocks	Distribloc 125 A	see module CM907008
8	70 mm ² Al terminal		19095
9	Multi-cable terminal	4 parts	19091
		3 parts	19096
10	Screw-on connection for ring	125 A (pack of 4)	19093
11	Small ring terminal	(pack of 4)	19094

Mounting accessories

12	Sealable terminal shield (upstream/downstream)	1P	19080
		2P	19081
		3P	19082
		4P	19083
13	Residual current device terminal shield (upstream of circuit breaker / downstream of Vigi device)	63 A 2P	19074
		3P	19075
		3P adjustable	19077
		4P	19076
		4P adjustable	19078
		125 A 3P	19077
		4P	19078
14	Circuit breaker screw shield	1P (pack of 10)	19084
		2P	19085
		3P	19086
		4P	19087
15	Rotary handle		
	Extended standard	Black	19088
	Extended safety	Red handle, yellow	19089
	Direct standard	Black	19092
	Direct safety	Red handle, yellow background	19097
16	Padlocking device	(pack of 10)	19090
17	White toggle	(pack of 10)	19099

Electrical auxiliaries

Indication

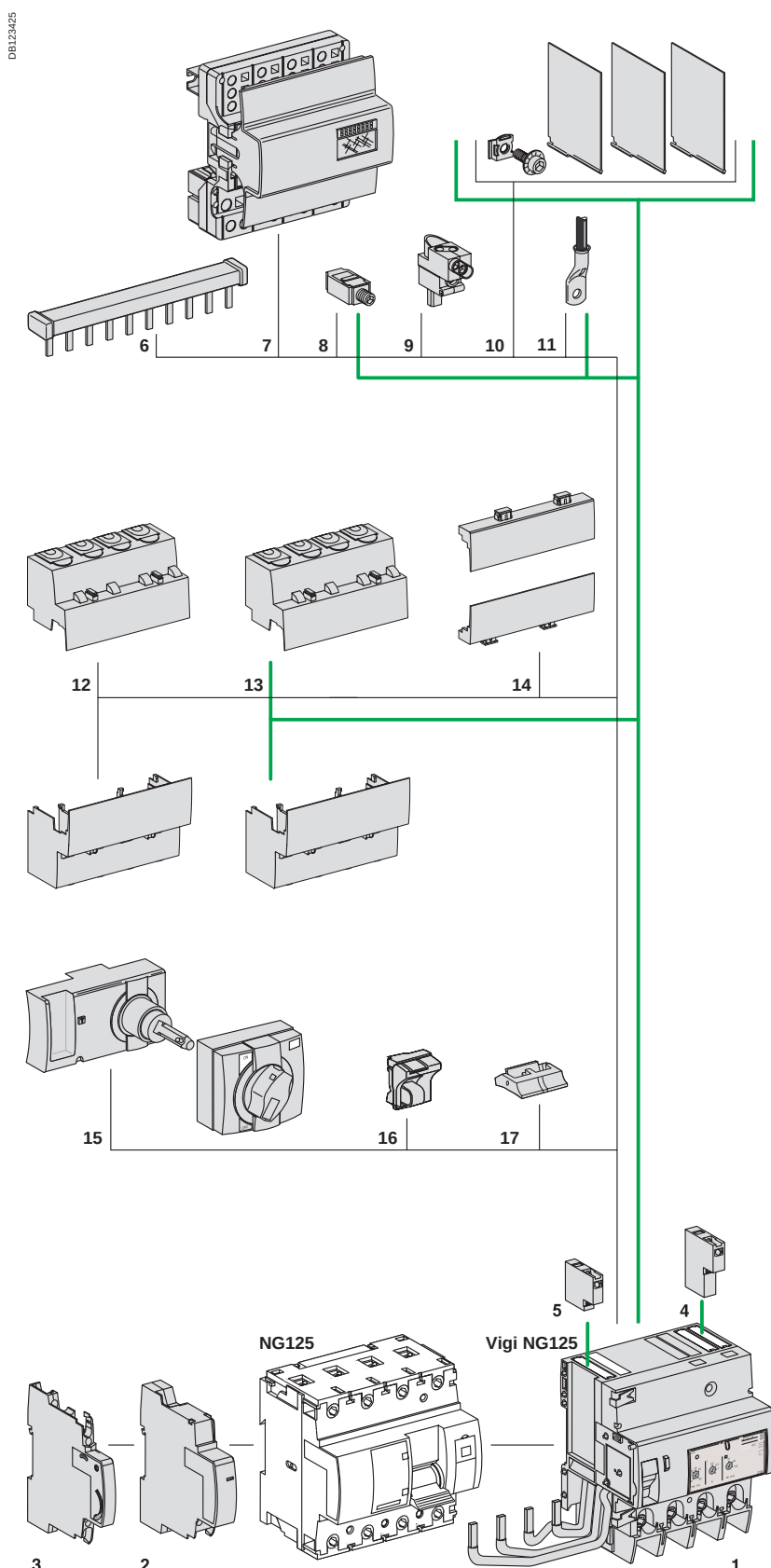
3	Fault indicating auxiliary contact OF+SD	19071
	Open/closed auxiliary contact OF+OF	19072

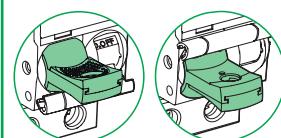
Tripping devices

2	Undervoltage release MN or undervoltage release with external power supply MNx	see module CM907005
	Shunt release MX+OF	see module CM907005

Vigi NG125

1	Vigi NG125 add-on residual current device5	see module CM902008
4	MXV	see module CM907005
5	SDV	see module CM907005

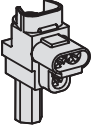
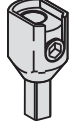


Mounting							
Accessories	로터리 핸들			플러그타입 베이스	패드락 잠금장치		
	PB104508-35 			PB104508-35 	PB104492-15  DB123599 		
Function	Front or side-mounted control ■ Degree of protection: IP55 rotary handle ■ Installation: □ the control mechanism is mounted on the device □ the rotary handle is fixed to the front or side of the enclosure ■ Front-mounted (on door or faceplate) ■ Prevents the door from opening when the device is in the ON position (can be deactivated) ■ Can be padlocked when the device is in the "open" position (can be padlocked with the device in the "closed" position subject to adaptation) ■ Can be locked by padlock of (dia. 5 to 8 mm), not supplied with the device ■ Pushbutton: iID test available in the front face of the rotary handle			■ The Laser Square tool brings the accuracy to align the circuit breaker and the rotary handle	Allows a breaker to be removed or replaced quickly, without handling the connections ■ Degree of protection: IP20 ■ Consists of: □ a base to be fastened on a rail (or panel) □ 2 "blades" to be fastened in the device's terminals ■ Connection: tunnel terminals for cable up to 35 mm² rigid, 25 mm² flexible, ■ Installation: □ in universal enclosure □ on horizontal rail ■ Height: 178 mm ■ Not compatible with Vigi iC60 and auxiliaries ■ Can be locked by padlock of (dia. 6 mm), not supplied with the device	Used to padlock breaker in open or closed position ■ Padlock diameter: 3 to 6 mm ■ Sealable (max. diameter: 1.2 mm) ■ Locking in ON position does not prevent tripping of the breaker in the event of faults ■ Suitable for IEC/EN 60947-2 compliant disconnection	
Catalogue numbers	A9A27005 A9A27006 A9A27008	GVP01			A9A27003 (1 per pole)	A9A26970	
	Operating sub-assembly						
	+	+					
	Black handle	Red handle	No handle				
Set of	1	1	1	1	1	10	
Suitability							
iC60	■ 2P, 3P, 4P			■	■		
iSW	■ 2P, 3P, 4P			■	■		
iC60 + Vigi iC60	■ 2P, 3P, 4P			—	■		
iID	■			■ ≤ 63 A	■		
iDPN Vigi	—			—	■		
Reflex iC60 or RCA+iC60 or ARA+iC60	—			—	■		
ARA+iID	—			—	■		
iSW-NA	■			■	■		

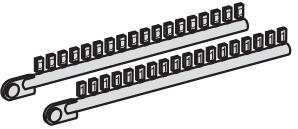
Security

Accessories	스크류 실드		터미널 실드		절연 배리어	9mm 스페이스
PB104489-14		PB104489-14		PB104503-35	PB104484-30	PB104483-35
						
Function						
	Prevents any contact with the connecting screws ■ Upgrades degree of protection to IP20D ■ Sealable, max. diameter 1.2 mm		Prevents any contact with the terminals ■ Upgrades degree of protection to IP20D ■ Sealable, max. diameter 1.2 mm ■ Set of two, for upstream and downstream terminals ■ For 3 poles: A9A26975 + A9A26976 ■ For 4 poles: 2 X A9A26976		Enhances insulation between connections: cables, terminals, lugs, etc	■ Used to: □ complete rows □ separate devices. - Width: 1 x 9 mm module ■ Allows cable routing from one row to another, (above and below), up to 6 mm²
Catalogue numbers	A9A26982	A9A26981	A9A26975	A9A26976	A9A27001	A9A27062
Set of	12 x 1 pole	20 x 4 poles (splittable)	2 x 1 pole	2 x 2 poles	10	5
Suitability						
iC60	—	■	■	■	■	■
iSW	—	—	■	■	■	■
Vigi iC60	■	—	—	—	—	■
iID	—	■	—	■	■	■
iDPN Vigi	—	—	—	—	—	■
Reflex iC60 or RCA+iC60 or ARA+iC60	—	■	■	■	■	■
ARA+iID	—	■	—	■	■	■
iSW-NA	—	■	—	■	■	■

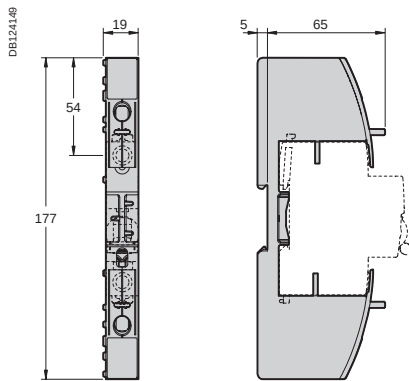
Connection

Accessories	멀티케이블용 터미널 단자		50 mm² terminal AI	링터미널용 터미널 단자
				
	DB118780		DB118781	DB118783
Function				
	For 3 copper cables: ■ Rigid up to 16 mm² ■ Flexible up to 10 mm²		For aluminium cables from 16 to 50 mm²	For lug tipped cables, front or rear mounting
				
	DB118787		DB122935	DB118789
Catalogue numbers	19091	19096	27060	27053
Set of	4	3	1	8
iC60 ≤ 25 A Reflex iC60 ≤ 25 A	—	—	—	■
iC60 > 25 A Reflex iC60 40 A, iSW	■	■	■	■
Vigi iC60	—	—	—	—
iID	■	■	■	■
iDPN Vigi	—	—	—	■
iSW-NA	■	■	■	■
Tightening torque	2 N.m		10 N.m	2 N.m
Length stripping	11 mm		13 mm	—
Tools to use	Dia. 5 mm or PZ2		Hc 1/5" or 5 mm	Dia. 5mm

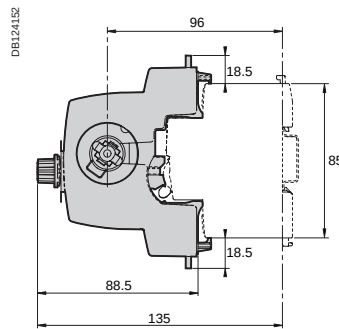
Marking

Accessories	Marker strip					
						
	DB118785					
Used for connection identification						
Catalogue numbers	0: AB1-R0 1: AB1-R1 2: AB1-R2 3: AB1-R3 4: AB1-R4	5: AB1-R5 6: AB1-R6 7: AB1-R7 8: AB1-R8 9: AB1-R9	A: AB1-GA B: AB1-GB C: AB1-GC D: AB1-GD E: AB1-GE F: AB1-GF G: AB1-GG H: AB1-GH I: AB1-GI	J: AB1-GJ K: AB1-GK L: AB1-GL M: AB1-GM N: AB1-GN O: AB1-GO P: AB1-GP Q: AB1-GQ R: AB1-GR	S: AB1-GS T: AB1-GT U: AB1-GU V: AB1-GV W: AB1-GW X: AB1-GX Y: AB1-GY Z: AB1-GZ	+: AB1-R12 -: AB1-R13 blank: AB1-RV
Set of	250					
iC60, Reflex iC60, iSW	■ 4 markers max. per pole					
Vigi iC60	■ 4 markers max. per device					
iID	■ 4 markers max. per device					
iDPN Vigi	■ 4 markers max. per device					
iSW-NA	■ 4 markers max. per device					

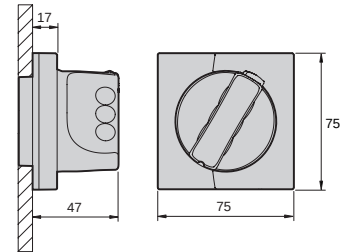
Dimensions (mm)



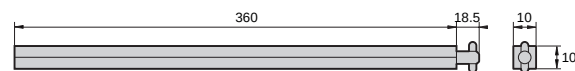
Plug-in base



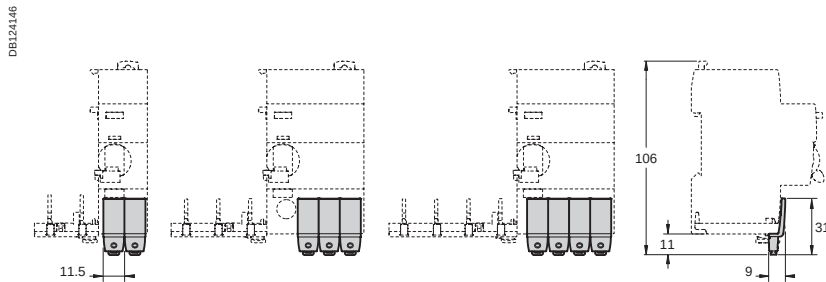
Adapter mechanism



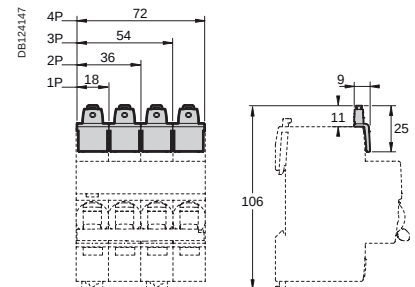
Handle



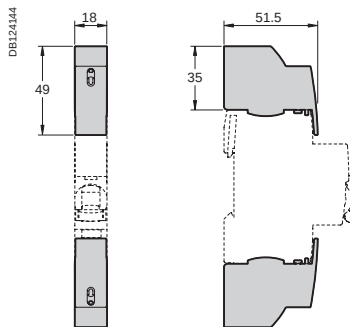
Rotary handle



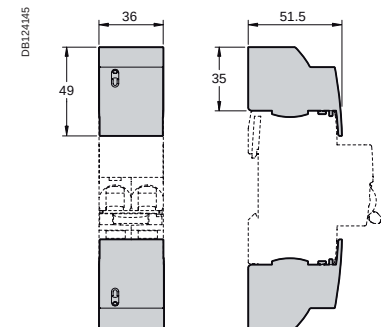
Screw shield 1P (A9A26982)



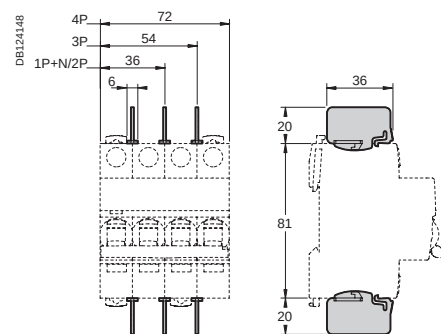
Screw shield 4P (A9A26981)



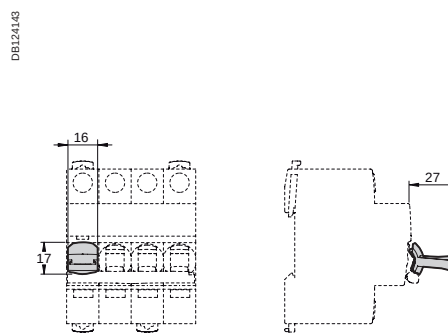
Terminal shield 1P



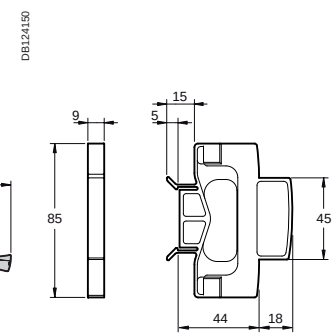
Terminal shield 2P



Inter-pole barrier



Padlocking device



Spacer

■ The electrical auxiliaries are combined with iC60 circuit breakers, iID residual current circuit breakers, remote tripping switch disconnectors iSW-NA, RCA remote controls and ARA automatic reclosers; they enable tripping or remote indication of their position (open/closed/tripped) upon a fault.

■ They are fastened by clips (without tools) to the left side of the breaker.

■ The iOF/SD+OF auxiliary is a 2-in-1 product: via a mechanical selector switch, it provides two contacts, OF+SD or OF+OF.

■ The iOF+SD24 auxiliary can report open/closed (OF) status information and intentional or fault tripping of the associated device (SD) to the Acti 9 Smartlink or a programmable logic controller via the T124 interface (24 V DC).

Tripping auxiliaries:

IEC/EN 60947-1

- iMN: undervoltage release
- iMNs: delayed undervoltage release
- iMNx: undervoltage release, independent from supply voltage
- iMX: shunt release
- iMX+OF: shunt release with open/close contact.

EN 50550

- iMSU: overvoltage release

Indication auxiliaries:

IEC/EN 60947-5-4

- iOF: open/close contact
- iSD: fault indicating contact
- iOF/SD+OF: open/close contact and switchable OF or SD contact.
- iOF+SD24: open/close contact OF and default indicating contact SD with T124 interface.

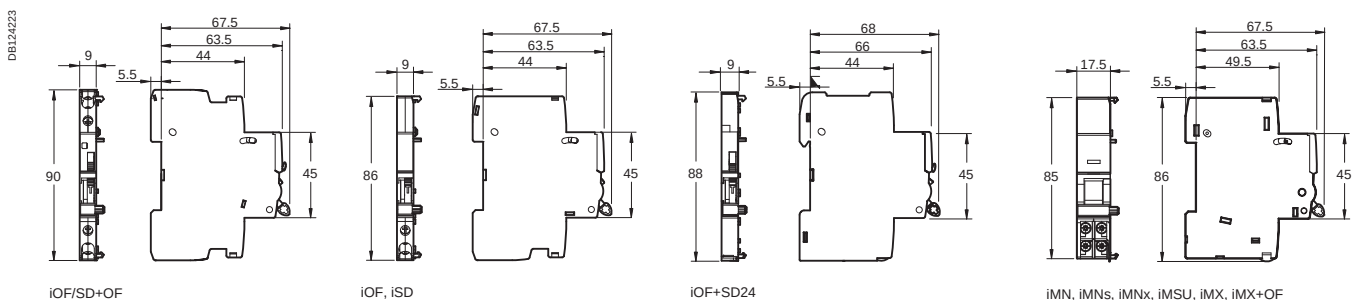


Technical data

Weight (g)

Electrical auxiliaries	
Type	
iMN	69
iMNs	72
iMNx	79
iMSU	68
iMX	64
iMX+OF	68
iOF	32
iSD	33
iOF/SD+OF	43
iOF+SD24	25

Dimensions (mm)



Combination table

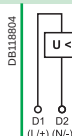
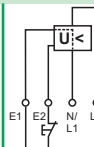
Electrical auxiliaries			Remote control	Devices	
Indication auxiliaries		Tripping auxiliaries	ARA automatic recloser or RCA remote control	iID/iDPN Vigti/iSW-NA*	Vigti
Position					
Left	Right	Max quantity			
1 (iOF/SD+OF or iOF+SD24)	+ 1 iOF/SD+OF	+ 1 (iMN, iMNs, iMNx or iMX, iMX+OF)	-		
Or 1 iOF	+ 1 (iSD or iOF or iOF/SD+OF)	+ 2 (iMN, iMNs, iMNx or iMX, iMX+OF)			
Or None	+ 1 iOF+SD24	+ 2 (iMN, iMNs, iMNx or iMX, iMX+OF)			
Or None	+ None	+ 3 x iMSU			
None	+ 1 (iSD or iOF or iOF/SD+OF or iOF+SD24)	+ 1 (iMN, iMNs, iMNx or iMX, iMX+OF or iMSU)			
Or 1 iOF	+ 1 (iSD or iOF or iOF/SD+OF)	+ None			
None	+ 1 (iSD or iOF or iOF/SD+OF or iOF+SD24)	+ 1 (iMN, iMNs, iMNx or iMX, iMX+OF or iMSU)			
Or 1 iOF	+ 1 (iSD or iOF or iOF/SD+OF)	+ None			

Other possible associations: see technical pages



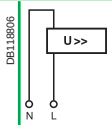
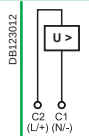
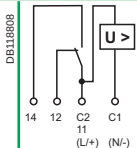
Tripping devices must be mounted first.

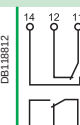
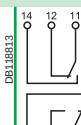
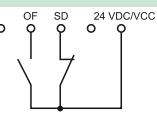
*iSW-NA : the iSD auxiliary contact must be associated with an auxiliary (iMN, iMX, iMX+OF); it indicates that the remote tripping switch disconnector has been tripped open.

		Tripping							
Auxiliaries		iMN			iMNs		iMNx		
Type		저전압 트립 코일 MN							
		Instantaneous			Delayed		Independent of the supply voltage		
		PB104477-35 			PB104478-35 		PB104480-35 		
Function		■ Trips the device with which it is combined when its input voltage decreases (between 70 % and 35 % U_n). Prevents device closing again until its input voltage is restored				■ Tripping of the associated device by opening of the control circuit (e.g. push-button, dry contact)			
						■ Not tripping on transient voltage dip (up to 0.2 s)		■ A drop in the supply voltage does not trip the associated device ■ A locking push-button control allows the circuit protected (e.g. machine control) to be placed in safety configuration	
Wiring diagrams		DB118804 				DB118805 			
Use		■ Emergency stoppage by normally closed push button ■ Ensures the safety of power supply circuits for several machines by preventing "uncontrolled" restarting				■ Emergency stoppage with fail-safe principle ■ Insensitive to control circuit voltage variation to increase service continuity Important: Before any servicing operation switch off the mains power supply (voltage presence at terminals E1/E2)			
Catalogue numbers		A9A26960	A9A26961	A9A26959	A9A26963	A9A26969	A9A26971		
iC60, iLD, iDPN Vigi, iSW-NA, RCA et ARA		■	■	■	■	■	■		
iC60, iLD double terminals		■	■	■	■	■	■		
Technical specifications									
Rated voltage (U _e)	V AC	220...240	48	115	220...240	220...240	380...415		
	V DC	—	48	—	—	—	—		
Standardised operating and non-response to voltage times (U _a)*		—	—	—	—	—	—		
Maximum operating time		—	—	—	—	—	—		
Minimum non-response time		—	—	—	—	—	—		
Operating frequency	Hz	50/60		400	50/60	50/60			
Red mechanical indicator		On front face			On front face	On front face			
Test function		—			—	—			
Width in 9 mm modules		2			2	2			
Operating current		—			—	—			
Number of contacts		—			—	—			
Operating temperature	°C	-35...+70			-35...+70	-35...+70			
Storage temperature	°C	-40...+85			-40...+85	-40...+85			

*(U_a)

Voltagés measured between the phase and the neutral conductor, at which the iMSU device must control the associated protective device.

iMSU						iMX			iMX+OF		
과전압 트립 코일 MSU						선택 트립 코일 MX			선택 트립 코일 + 보조접점		
PB104479-35						PB104496-35			PB104491-35		
											
Switches off the power supply by opening the breaker with which it is combined, in the event that the phase/neutral voltage is exceeded (loss of neutral). For a four-phase network, use three iMSU tripping auxiliaries						Trips the breaker when powered			Includes an open/close contact (OF) to indicate the "open" or "closed" position of the breaker		
											
- Protection of equipment against overvoltages on the electrical network (neutral conductor break) - Voltage monitoring between phase and neutral conductors						Emergency stoppage by normally open push button			- Emergency stoppage by normally open push button - Remote indication of the position of the associated breaker		
A9A26500						A9A26476			A9A26946		
■						■			■		
■						■			■		
230						100...415			100...415		
—						110...130			110...130		
255 V AC						—			—		
275 V AC						—			—		
300 V AC						—			—		
350 V AC						—			—		
400 V AC						—			—		
No tripping						—			—		
15 s						—			—		
5 s						—			—		
0.75 s						—			—		
0.20 s						—			—		
3 s						—			—		
1 s						—			—		
0.25 s						—			—		
0.07 s						—			—		
50/60						50/60			50/60		
On front face						On front face			On front face		
—						—			—		
2						2			2		
—						—			≤ 24 V DC		
—						—			1 NO/NC		
—35...+70						—35...+70			—35...+70		
—40...+85						—40...+85			—40...+85		

		Indication						
Auxiliaries		iOF		iSD	iOF/SD+OF	iOF+SD24		
Type		보조접점		트립알람	보조접점 + 트립알람	보조접점 + 트립알람 (통신용)		
		PE104474-35 		PE104476-35 	PE104475-35 	PE107750-35  ComReady		
Function								
		■ Changeover contact indicates "open" or "closed" position of the breaker		■ Changeover contact indicates position of the breaker; upon: □ electrical fault □ action on tripping auxiliary ■ Same indication as VISI-TRIP	■ The iOF/SD+OF auxiliary is a 2-in-1 product: via a mechanical selector switch, it provides two contacts, OF+SD or OF+OF	■ Double changeover contact which can report the signalling information of the associated device to the Acti 9 Smartlink or a programmable logic controller: □ electrical fault □ actuation of the tripping auxiliary □ "Open" or "Closed" position of the associated device		
Wiring diagrams								
		DB118810 	DB118811 	DB118812  OF position	DB118813  SD position	DB124318 		
Use								
		■ Remote indication of the position of the associated breaker		■ Remote indication of tripping upon a fault of the associated breaker	■ Remote indication of position and/or tripping upon a fault of the associated breaker	■ Remote indication of position and tripping upon a fault of the associated breaker		
Catalogue numbers		A9A26924	A9A26869	A9A26927	A9A26855	A9A26929	A9A26897	
iC60, iID, iDPN Vigi, iSW-NA, RCA et ARA		■	—	■	—	■	■	
iC60, iID double terminals		—	■	—	■	■	■	
Technical specifications								
Rated voltage (Ue)	V AC	240...415		240...415		240...415		-
	V DC	24...130		24...130		24...130		24
Operating frequency	Hz	50/60		50/60		50/60		-
Red mechanical indicator		—		On front face		On front face		On front face
Test function		On toggle		On toggle		On toggle		On toggle
Width in 9 mm modules		1		1		1		1
Operating current		24 V DC	6 A					2 mA mini, 50 mA maxi
		48 V DC	2 A					-
		60 V DC	1.5 A					-
		130 V DC	1 A					-
		240 V AC	6 A					-
		415 V AC	3 A					-
Number of contacts		1 NO/NC		1 NO/NC		1 NO/NC + 1 NO/NC		1 NO/NC
Operating temperature	°C	-35...+70		-35...+70		-35...+70		-25...+70
Storage temperature	°C	-40...+85		-40...+85		-40...+85		-40...+85

Installation							
Accessories	Rotary handle			Plug-in base	Padlocking device		
	PB100137_SE-24 PB100138_SE-24 			056886_SE 	056886_SE 	067209J_SE-33 	
Function							
	Front or side control of 2, 3 and 4-pole circuit breakers ■ Degree of protection: IP40 ■ A complete rotary handle consists of: □ a circuit-breaker operating sub-assembly, cat. no. 27046, □ a handle cat. no. 27047 or a handle cat. no. 27048 ■ Installation: □ the circuit-breaker operating sub-assembly cat. no. 27046 is fixed to the circuit breaker □ the removable handle cat. no. 27047 is mounted on the removable front panel or on the enclosure door □ the fixed handle cat. no. 27048 is fixed to the front or side panel of the enclosure			Allows a circuit breaker to be quickly removed or replaced, without touching the connections ■ Degree of protection: IP20 ■ It consists of: □ a base to be fixed to a rail (or panel) □ 2 "blades" to be fixed in the device terminals ■ Connection: tunnel terminals for cables up to 50 mm² (rigid) or 35 mm² (flexible) ■ Installation: □ on backplate □ on a horizontal rail ■ Centreline between two rows: 200 mm ■ Only on the circuit breaker, without a Vigi device or auxiliary ■ Padlocking option (8 mm dia. padlock not supplied)		Used to padlock a circuit breaker in the "open" or "closed" position ■ Diameter of the padlock: 8 mm max. ■ Locking in the ON position does not prevent the circuit breaker from tripping in the event of a fault ■ Isolation: in conformity with IEC/EN 60947-2.	
Cat. numbers	27047 Removable extended handle	27048 Fixed handle	27046 Operating sub-assembly	26996 (1 per pole)	27145	26970	
Set of	1	1	1	1	4	2	
Suitable for the following devices:							
C120	■ 2P, 3P, 4P			■	■	—	
C120 + Vigi C120	■ 2P, 3P, 4P			—	■	—	
DPN, DPN Vigi	■ 3P, 4P			—	—	■	
C60H-DC	■ 2P			■	—	■	
iSW	■ iSW ≥ at 4 modules of 9 mm			■ iSW 40 to 63 A	—	■	
Connection							
Accessories	Multi-cable terminal	50 mm ² Al terminal	Screw-on connection for ring terminal	Connection kit for ring terminals	Terminal for rear connector		
	DB118780 	DB118782 	DB123897 	089867N-23 	DB118784 		
Function							
	For 3 copper cables: ■ Rigid up to 16 mm² ■ Flexible up to 10 mm²	For 16 to 50 mm² aluminium cables	For lug tipped cables, front or rear mounting	For terminal up to 63 A, front or rear access (screw Ø 5 mm) ■ It incorporates a "conductive" part and an "insulating" part which ensures the phase-to-phase clearance	For cable up to 50 mm² or by terminal ■ Supplied with a 1P terminal shield		
	DB118787 	DB112035 	DB118789 				
Cat. numbers	19091	19096	27060	27053	17400	18528	
Set of	4	3	1	8	2	2	
C120	■	■	■	—	—	■	
Vigi C120	■	■	■	—	—	—	
DPN, DPN Vigi	—	—	—	■	—	—	
C60H-DC, iSW 40 to 125 A	■	■	■	■	■	—	
Tightening torque	2 N.m		10 N.m	2 N.m	—	—	
Stripping length	11 mm		13 mm	—	—	—	
Tools to be used	Diameter 5 mm or PZ2		Hc 1/5" or 5 mm	Diameter 5 mm	Diameter 5 mm	—	

Safety							
Accessories	Screw shield		Terminal shield		Interpole barrier		Spacer
	056870 SE-33 	PB124114 	056869 SE-38 		DB123898 		PB104483-35 
Function	Prevents all contact with the fixing screws ■ The degree of protection becomes IP40 ■ Sealable, max. diameter 1.2 mm ■ Dividable		Prevents all contact with the terminals ■ Degree of protection becomes IP40 ■ Sealable, max. diameter 1.2 mm ■ 1P ■ 1P ■ 2P ■ 3P: 1 x 26975 + 1 x 26976 ■ 4P: 2 x 26976		Improves the insulation between the connections: cables, terminals, lugs, etc.		■ Used to: ☐ complete the rows ☐ separate the devices ■ Width: 1 x 9 mm module ■ Allows that 2 cables are routed from one row to another (above and below), up to 6 mm²
Cat. numbers	18527	26981	18526	26975	26976	27001	A9N27062
Set of	2 (4P dividable)		2 (for upstream/downstream terminal)		10	1	
Suitable for the following devices:							
C120	■	—	■	—	—	■	■
Vigi C120	—	—	—	—	—	—	■
DPN, DPN Vigi	—	—	—	—	—	—	■
C60H-DC	—	■	—	■	■	■	■
iSW	—	■ iSW 40 to 125 A	—	■ iSW 40 to 125 A	■ iSW 40 to 125 A	■ iSW 40 to 125 A	■

Identification				
Accessories	Clip-on terminal marker strip			
				
	031204D_SE-23			
Function	For connection identification			
Cat. numbers	0: AB1-R0 1: AB1-R1 2: AB1-R2 3: AB1-R3 4: AB1-R4 5: AB1-R5 6: AB1-R6 7: AB1-R7 8: AB1-R8 9: AB1-R9	A: AB1-GA B: AB1-GB C: AB1-GC D: AB1-GD E: AB1-GE F: AB1-GF G: AB1-GG H: AB1-GH I: AB1-GI J: AB1-GJ	K: AB1-GK L: AB1-GL M: AB1-GM N: AB1-GN O: AB1-GO P: AB1-GP Q: AB1-GQ R: AB1-GR S: AB1-GS T: AB1-GT	U: AB1-GU V: AB1-GV W: AB1-GW X: AB1-GX Y: AB1-GY Z: AB1-GZ +: AB1-R12 -: AB1-R13 Blank: AB1-RV
Set of	250			
C120	■ 4 markers max. per pole			
Vigi C120	■ 4 markers max. per device			
DPN, DPN Vigi	■ 4 markers max. per pole			
C60H-DC	■ 4 markers max. per pole			

- The electrical auxiliaries provide the remote tripping or position (open/closed/tripped) indication functions of these devices in the event of a fault.
- They clip on (no tool required) to the left-hand side of the associated device.
- The OF+SD/OF auxiliary is a two-in-one product: a mechanical selector switch is used to select one of two contacts: OF+SD or OF+OF.
- The OF+SD24 auxiliary can report open/closed (OF) status information and intentional or fault tripping of the associated device (SD) to the Acti 9 Smartlink or a programmable logic controller via the Ti24 interface (24 V DC).



■ The electrical auxiliaries are not compatible with ID residual current circuit breakers of type B.

Tripping auxiliaries:

IEC/EN 60947-1

- MN: undervoltage release
- MNs: delayed undervoltage release
- MNx: undervoltage release, independent of the supply voltage
- MX: shunt release
- MX+OF: shunt release with open/closed contact.

EN 50550

- MSU: overvoltage release

Indication auxiliaries:

IEC/EN 60947-5-4

- OF.S: open/closed contact for ID
- OF: open/closed contact
- SD: fault indicating contact
- OF+SD/OF: choice of open/closed contact and OF or SD contact via the selector switch
- OF/SD+OF: open/close contact and switchable OF or SD contact.
- OF+SD24: pen/close contact OF and cfault indicating contact SD with Ti24 interface.



Combination table

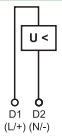
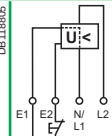
Electrical auxiliaries							Devices		
Indication auxiliaries					Tripping auxiliaries				
Left			Right						
1 max.	OF/SD+OF, OF+SD24	+	1 max.	OF/SD+OF	+	1 max.	MN, MNx, MN  , MX, MX+OF, MSU	056810N_SE-10  C60H-DC, DPN, DPN Vigi, C120	
Or									
1 max.	OF	+	1 max.	OF/SD+OF, SD, iOF	+	2 max.	MN, MNx, MN  , MX, MX+OF, MSU		
Or									
–	None		1 max.	OF+SD24		2 max.	MN, MNx, MN  , MX, MX+OF, MSU		
Or									
–	None		–	None		3 max.	MSU	DPN, DPN Vigi,C120	
–	None		1 max.	OF/SD+OF, OF, OF+SD24	+	2 max.	MN, MNx, MN  , MX, MX+OF, MSU	P.100R28_SE-18  053957_SE-10 	
Or									
1 max.	OF	+	1 max.	OF	+	1 max.	MN, MNx, MN  , MX, MX+OF, MSU		
							OF.S	+	ID



Tripping devices must be installed first.

If two tripping devices are used: the MN undervoltage release must be installed first

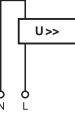
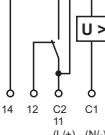
Indication auxiliaries: install the SD auxiliary first

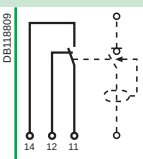
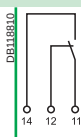
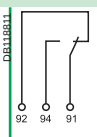
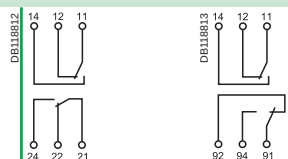
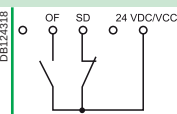
Tripping							
Auxiliaries	MN			MNs		MNx	
Type	Undervoltage release						
	Instantaneous	Delayed			Independent of the supply voltage		
	PE107151-30 	PE107152-30 			PE107149-30 		
				■ No tripping in the event of transient voltage dips (up to 0.2 s)		■ A drop in the supply voltage does not trip the associated device ■ A locking push-button control allows the circuit protected (e.g. machine control) to be placed in safety configuration	
Function	■ Causes the device with which it is associated to trip when its input voltage decreases (between 70 % and 35 % of Un). Prevents the device from closing until its input voltage has been restored			■ Tripping of the associated device by opening of the control circuit (e.g. push-button, dry contact)			
Wiring diagrams	DB118804 			DB118805 			
Utilization	■ Emergency stop via a normally-closed pushbutton ■ Ensures the safety of the power supply circuits of several machines by preventing accidental startups			■ Fail-safe emergency stop ■ Insensitive to the variation in the control circuit voltage to improve continuity of service Important: Before any servicing operation switch off the mains power supply (voltage presence at terminals E1/E2)			
Catalogue numbers	A9N26960	A9N26961	A9N26959	A9N26963	A9N26969	A9N26971	
C120, DPN, DPN Vigi, ID	■	■	■	■	■	■	
C60H-DC	■	■	■	■	■	■	
Technical specifications							
Rated voltage (Ue)	V AC	220...240	48	115	220...240	230	400
	V DC	—	48	—	—	—	—
Standardised operating and non-response to voltage times (Ua)*		—	—	—	—	—	—
Maximum operating time		—	—	—	—	—	—
Minimum non-response time		—	—	—	—	—	—
Operating frequency	Hz	50/60		400	50/60	50/60	
Mechanical state indicator light, red		On front face			On front face	On front face	
Test function		—			—	—	
Width in 9 mm modules		2			2	2	
Operating current		—			—	—	
Number of contacts		—			—	—	
Operating temperature	°C	-25...+50			-25...+50	-25...+50	
Storage temperature	°C	-40...+85			-40...+85	-40...+85	
Standards							
IEC/EN 60947-1		■			■	■	
IEC/EN 60947-5-1		—			—	—	
EN 60947-2		■			■	—	
EN 62019-2 ⁽¹⁾		—			—	—	

(1) For C120, DPN.

*(U_a)

Volages measured between the phase and the neutral conductor, at which the MSU device must control the associated protective device.

MSU					MX			MX+OF		
Voltage threshold release					Shunt release			With Open/Close auxiliary contact		
										
■ Cuts off the power supply by opening the device with which it is associated when the phase/neutral voltage is exceeded (loss of neutral). For a four-phase network, use three MSU tripping auxiliaries					■ Trips the associated device when it is powered on			■ Includes an open/close contact (OF) to indicate the "open" or "closed" position of the breaker		
										
■ Protection of the devices against overvoltages on the electrical network (break in the neutral conductor) ■ Monitoring the voltage between the phase conductor and the neutral conductor					■ Emergency stop via a normally-open pushbutton.			■ Emergency stop via a normally-open pushbutton ■ Remote indication of the position of the associated device		
A9N26500					A9N26476	A9N26477	A9N26478	A9N26946	A9N26947	A9N26948
■					■	■	■	■	■	■
—					■	■	■	■	■	■
230					100...415	48	12...24	100...415	48	12...24
—					110...130	48	12...24	110...130	48	12...24
255 V AC	275 V AC	300 V AC	350 V AC	400 V AC	—	—	—	—	—	—
No tripping	15 s	5 s	0.75 s	0.20 s	—	—	—	—	—	—
	3 s	1 s	0.25 s	0.07 s	—	—	—	—	—	—
50/60					50/60			50/60		
On front face					On front face			On front face		
—					—			—		
2					2			2		
—					—			3 A / 415 V AC 6 A / ≤ 240 V AC		
—					—			1 NO/NC		
-25...+50					-25...+50			-25...+50		
-40...+85					-40...+85			-40...+85		
■					■			■		
—					—			—		
—					—			—		
—					—			—		

Indication					
Auxiliaries	OF.S	OF	SD	OF+SD/OF	OF+SD24
Type	Open/closed auxiliary contact	Open/closed auxiliary contact	Fault indicating contact	Double open/closed or fault indicating contact	Double open/close and fault indicating contact
	 PB100628_SE-30-b	 PB107145-30	 PB107146-30	 PB100625_SE-30-b	 PB107160-35 ComReady
Function					
	Changeover contact indicating the "open" or "closed" position of the associated device ⚠ Compulsory for the addition of tripping or indication auxiliaries on a residual current circuit breaker ID	Changeover contact indicating the "open" or "closed" position of the associated device	- Changeover contact indicating the position of the associated device in the event of: - electrical fault - action on the tripping auxiliary ⚠ Not compatible with a ID residual current circuit breaker, use an OF+SD/OF in the SD position	The OF+SD/OF auxiliary is a two-in-one product: choice of OF + SD or OF + OF contact via the selector switch	- Double changeover contact which can report the signalling information of the associated device to the Acti 9 Smartlink or a programmable logic controller: - electrical fault - actuation of the tripping auxiliary "Open" or "Closed" position of the associated device
Wiring diagrams					
	 DB118809	 DB118810	 DB118811	 DB118812 DB118813 OF position SD position	 DB124318
Utilization					
	Remote indication of the position of the associated device	Remote indication of the position of the associated device	Remote fault tripping indication of the associated device	Remote position and/or fault tripping indication of the associated device	Remote indication of position and tripping upon a fault of the associated breaker
Catalogue numbers	A9N26923	A9N26924	A9N26927	A9N26929	A9N26899
C120, DPN, DPN Vigi, ID	■	■	■	■	■
C60H-DC	■	■	■	■	■
Technical specifications					
Rated voltage (Ue)	V AC 24...415	24...415	24...415	24...415	—
	V DC 24...130	24...130	24...130	24...130	24
Operating frequency	Hz 50/60	50/60	50/60	50/60	—
Mechanical state indicator	—	—	On front face	On front face	On front face
Test function	—	On front face	On front face	On front face	On toggle
Width in 9 mm modules	1	1	1	1	1
Operating current	3 A/415 V AC 6 A/≤ 240 V AC				2 mA mini, 50 mA maxi
Number of contacts	1 NO/NC	1 NO/NC	1 NO/NC	1 NO/NC + 1 NO/NC	1 NO + 1 NC
Operating temperature	°C -25...+50	-25...+50	-25...+50	-25...+50	-25...+70
Storage temperature	°C -40...+85	-40...+85	-40...+85	-40...+85	-40...+85
Standards					
IEC/EN 60947-1	—	—	—	—	—
IEC/EN 60947-5-1	■	■	■	■	■ CEI 60947-5-4
EN 60947-2	—	—	—	—	—
EN 62019-2 ⁽¹⁾	■	■	■	■	—

(1) For C120, DPN.



They remotely trip or indicate circuit breakers or supplementary protectors.

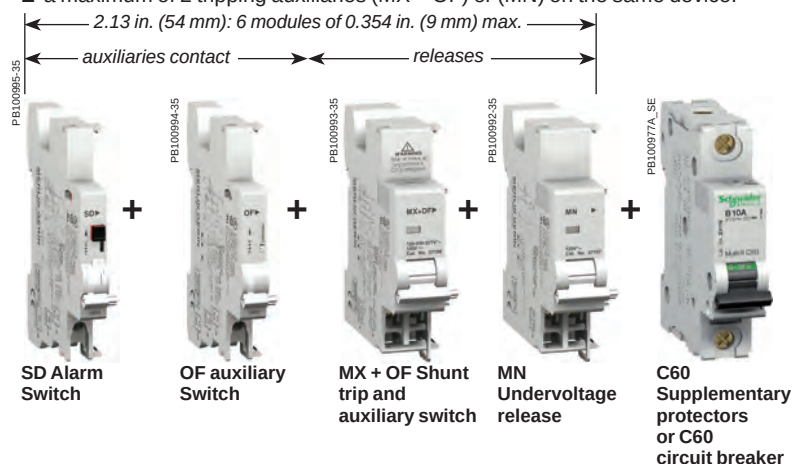
Compliance with electrical auxiliaries standards

- For UL 489 circuit breaker File #217688.
- For CSA C22.2 No. 5.2 circuit breakers File #179014.
- For UL 1077 Supplementary Protectors File #E90509.
- For CSA C22.2 No. 235-M04 Supplementary Protectors File #179014.
- For IEC 60947-2 and IEC 60947-5-1 circuit-breakers.
- CE Marked.

Possible electrical auxiliary combinations

Auxiliaries are mounted to the left of the circuit breaker and/or the supplementary protectors for a total width of 2.13 in (54 mm) max. :

- they are fixed using clips (no tools)
- a maximum of 3 indication auxiliaries (OF), (SD) on the same device
- a maximum of 2 tripping auxiliaries (MX + OF) or (MN) on the same device.



Connection for copper cables UL 486A file #E216919

- Terminal pads for:
- two #16 AWG (1.5 mm²) cables, or one #14 AWG (2.5 mm²) cable
- torque 9 lb.in.

Type	Control voltage V ~	V -	Width in modules 0.354 in. (9 mm)	Cat. no. UL/CSA
OF auxiliary switch				
			1	26925
SD alarm switch				
			1	26928
MX + OF shunt trip				
	24	12 to 24	2	27118
	48	48	2	27110
	110 to 277	110 to 130	2	27109
MN undervoltage release				
Instantaneous	24	24	2	27108
	48	48	2	27106
	120	-	2	27107
	220 to 240	-	2	27105



MN, MX + OF releases technical data

Releases	MN					
Cat. no.	27105	27106			27107	27108
Nominal line voltage (V) (10, -20%)	220 to 240	48	48	48	120	24
Alternating current (∼)	■	■	-	■	■	-
Direct current (---)	-	-	■	-	-	■
Operating frequency	50/60 Hz	■	■	■	■	■
Min. cut-in voltage (V)	187	40.8	40.8	40.8	102	20.4
Min. tripping voltage (V)	Between 0.35 and 0.70 Un					
Holding current (A)	0.014	0.03	0.02	0.011	0.04	0.02
Power consumption (VA)	3.3	1.6	1.1	1.3	1	0.5
Min. voltage dip time (ms)	30	8	8	8	10	10

Releases	MX+OF									
	27109					27110		27118		
Nominal line voltage (V) (+10, -20%)	120	240	277	110	125	48	48	12	24	24
Alternating current (∼)	■	■	■	-	-	■	-	-	■	-
Direct current (---)	-	-	-	■	■	-	■	■	-	■
Operating frequency	50/60 Hz	■	■	-	-	■	-	-	■	-
Min. cut-out voltage (V)	60.5	60.5	60.5	60.5	60.5	26.4	26.4	6.6	6.6	6.6
Inrush current (A)	0.4	0.8	1	0.3	0.3	1	0.7	2.5	7.7	5.6
Inrush power (VA)	44	184	277	38	45	48	33.6	30	185	135
Min. control impulse duration (ms)	8						8	8		
Power circuit breaking time (ms)	18						18	18		

OF, SD auxiliary contacts technical data

- Degree of protection: IP20.
- Rating of auxiliary contact short-circuit protection device:
 - circuit breaker: C60 - 2P - C curve - 6 A - limitation class 3
 - fuse: 6 A, 500 V, type Gg, 10.3 x 38 mm.

Contact rated operational current Ie (A) to IEC 60947-5

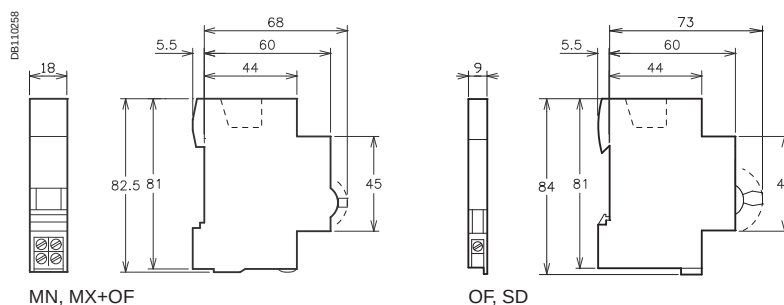
Auxiliary contacts	OF, SD	
Cat. no.	26925 / 26928	
Rated operational voltage Ue (V)	∼	277 V
	Cat. AC12	220 to 240 V
	---	12 to 24 V
	Cat. DC12	48 V
		60 V
		130 V
		3
		6
		6
		2
		1.5
		1

Common technical data of auxiliary contacts and releases

Common technical data

Operating temperature when live (°C)	-25°C to +50°C
Storage temperature	-40°C to +85°C

Dimensions



Mounting						
Accessories	Rotary handle				Toggle	Padlocking device
Function	Extended rotary handle ■ Degree of protection: rotary button IP55 ■ Front installation: ■ Prevents door opening when the circuit breaker is in position O ■ Keeps disconnection ■ Padlocking possible when the device is in position O ■ Padlock diameter: 3 to 6 mm		Direct rotary handle ■ Front installation ■ Keeps disconnection ■ Padlocking possible when the device is in position O ■ Padlock diameter: 3 to 6 mm		White toggle ■ Allows visual distinction of a switchboard incoming device	Allows padlocking: ■ In position I or O of NG125 1P or 2P circuit breakers ■ In position I of NG125 3P or 4P circuit breakers or switches ■ Padlock: dia. 5 to 8 mm (not supplied) <i>Note: NG125 3P/4P circuit breakers and switches are provided with padlocking in position O (disconnected) as original equipment.</i>
Catalogue numbers	19088 Extended standard black	19089 Extended safety	19092 Direct standard black	19097 Direct safety red handle yellow background	19099 White toggle	19090
Pack of	1		1	1	10	1
Suitable for the following devices:						
NG125	■ 3P, 4P		■		■ 3P, 4P	■
Vigi NG125	–		–		–	–

Connection					
Accessories	Multi-cable terminal	70 mm² Al terminal	Screw-on connection for ring terminal	Small ring terminal	
Function	For 3 copper cables: ■ Rigid up to 16 mm² ■ Flexible up to 10 mm²		For aluminium cables from 25 to 70 mm²		Installation: ■ Upstream or downstream ■ Connection ratings 80 to 125 A: □ copper terminal: - flexible cable up to 35 mm² - rigid cable up to 50 mm² □ bars: 16 x 3 mm, 15 x 4 mm, 16 x 4 mm □ small ring terminal ■ Phase-to-phase insulation voltage: Ui = 1000 V
Cat. nos.	19091	19096	19095	19093	19094
Pack of	4	3	4	4	4
NG125	■	■	■ 80, 100, 125 A	■ 80, 100, 125 A	■ 80, 100, 125 A
Vigi NG125	–	–	■ 125 A	■ 125 A	■ 125 A
Tightening torque	2 N.m		6 N.m	6 N.m	6 N.m
Stripping length	11 mm		–	–	–
Tools to be used	Diameter 5 mm or PZ2	Hc 4 mm	Hc 4 mm	Hc 4 mm	–

- The electrical auxiliaries are combined with NG125 circuit breakers and NG125 switch-disconnectors; they provide the remote tripping or position (open/closed/tripped) indication functions of these devices in the event of a fault.
- They clip on (no tool required) to the left-hand side of the associated device.

IEC/EN 60947-2

- Tripping auxiliaries:
 - MN: undervoltage release
 - MNx: undervoltage release, independent of the supply voltage
 - **MX+OF**: shunt release with open/closed contact
 - MXV: shunt release for Vigi add-on residual current device.

IEC/EN 60947-5-1

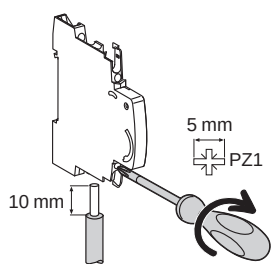
- Indication contacts:
 - OF+OF: open/closed contact
 - OF+SD: fault indicating contact
 - **MX+OF**: shunt release with open/closed contact
 - SDV: fault indicating contact for Vigi add-on residual current device.



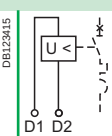
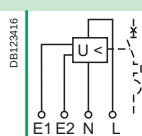
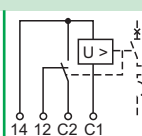
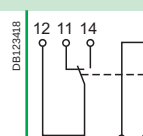
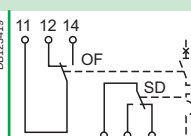
Combination table

Electrical auxiliaries		Device
Indication auxiliaries	Tripping auxiliaries Max. quantity	 NG125
2 (OF+OF or OF+SD)	+ 1 (MX+OF or MN or MNx)	

Connection



Type	Tightening torque	Copper cables		Multi-cable terminal	
		Rigid	Flexible or with ferrule	Flexible or rigid cables	Cables with ferrule
Indication contacts	1 N.m	0.5 to 2.5 mm ²	0.5 to 1.5 mm ²	2 x 2.5 mm ²	2 x 1.5 mm ²
Tripping auxiliaries	1 N.m	0.5 to 2.5 mm ²	0.5 to 1.5 mm ²	2 x 2.5 mm ²	2 x 1.5 mm ²

Tripping						Signalisation						
Auxiliaries	MN		MNx		MX+OF	OF+OF		OF+SD				
Type	Undervoltage release		Shunt release		Auxiliary contact		Fault indicating contact					
	Instantaneous	Independent of the supply voltage	With open/closed auxiliary contact									
												
Function												
	■ Causes tripping of the device with which it is combined when its input voltage decreases (between 70% and 35% of U _n). Prevents closing of the device until its input voltage has been restored		■ Causes tripping of the associated device when powered		■ Double changeover contact indicating "open" or "closed" position of the associated device		■ Double changeover contact indicating: □ the position of the associated device in the event of: - electrical fault - actuation of the tripping auxiliary □ the "open" or "closed" position of the associated device					
		■ Separate input and power supply	■ Includes an open/closed contact (OF) to indicate the "open" or "closed" position of the associated device									
Wiring diagrams												
												
Utilization												
	■ Emergency stop by normally-closed pushbutton ■ Ensures safety of the power supply circuits for several machines by preventing untimely restarting		■ Fail-safe emergency stop ■ Insensitive to variations in the control circuit voltage for improved continuity of service		■ Provided with a self-interrupting contact		■ Remote indication of the position of the associated device		■ Remote indication of tripping upon a fault of the associated device			
Catalogue numbers	19067	19069	19070	19061	19062	19064	19065	19066	19063	19071	19072	
Technical specifications												
Rated voltage (U _e)	V AC	230...240	48	—	220...240	380...415	230...415	48...130	24	12	220...240	220...240
	V DC	—	—	48	—	—	110...130	48	24	12	—	—
Operating frequency	Hz	50/60			50/60		50/60			50/60		50/60
Mechanical state indicator light, red	On front face			On front face		On front face			—		—	
Width in 9 mm modules	2			4		2			1		1	
Current rating	—			—		≥ 240 V AC			3 A	240 V AC		6 A
						< 240 V AC			6 A	415 V AC		3 A
						130 V CC			1 A			
						≤ 48 V CC			2 A			
						≤ 24 V CC			6 A			
Number of contacts	—			—		—			2 NO/NC		2 NO/NC	
Operating temperature	°C	-25...+60			-25...+60		-25...+60			-25...+60		-25...+60
Storage temperature	°C	-40...+85			-40...+85		-40...+85			-40...+85		-40...+85

Comb busbars	
Acti 9	Cuttable
PB110243-14	
PB110252-24	

Function	
	Comb busbars make it easier to implement Schneider Electric products ■ Can be sawn and cut in a single pass, using busbar chocks ■ Supplied with two IP20 lateral end-pieces except for 57 module references ■ The end-pieces are compulsory during cutting ■ The phases are identified by symbols on each side of the comb busbar ■ Cutting marks on the insulating material ■ The spare teeth can be insulated with tooth covers ■ The special comb busbars for circuit breakers with 9 mm auxiliaries have a 9 mm gap for inserting iOF and iSD Strengths: the marking is clear, whether the supply comes from above or below
PB110290-40 + PB110793-40	

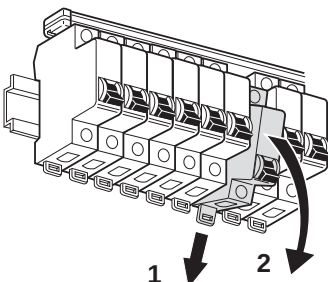
Use												
	■ Power supply by connector recommended											
Number of poles	1P	2P	3P	4P	3 (N+P)	Aux+1P	Aux+2P	Aux+3P	Aux+4P	3 (Aux+1P)	3 (Aux+N+1P)	
Type	L1...	L1L2...	L1L2L3...	NL1L2L3...	NL1NL2 NL3...	AuxL1...	AuxL1L2...	AuxL1L2 L3...	AuxNL1L2 L3 ...	AuxL1AuxL2 AuxL3...	AuxNL1 AuxNL2 AuxNL3...	
Catalogue numbers	6 modules of 18 mm	A9XPH106	–	–	–	–	–	–	–	–	–	
	12 modules of 18 mm	A9XPH112	A9XPH212	A9XPH312	A9XPH412	A9XPH512	–	–	–	–	–	
	18 modules of 18 mm	–	–	–	–	A9XPH518	–	–	–	–	–	
	24 modules of 18 mm	A9XPH124	A9XPH224	A9XPH324	A9XPH424	A9XPH524	–	–	–	–	–	
	57 modules of 18 mm (end-pieces to be ordered separately)	A9XPH157	A9XPH257	A9XPH357	A9XPH457	A9XPH557	A9XAH157	A9XAH257	A9XAH357	A9XAH457	A9XAH657	A9XAH557
	Accessories (optional)	–	–	–	–	–	–	–	–	–	–	–
Set of	1	1	1	1	1	1	1	1	1	1	1	

Technical specifications	
Rated voltage (Ue)	415 V
Insulation voltage (Ui)	500 V
Permissible current at 40°C	100 A
Short-circuit current withstand	Compatible with the breaking capacity of Schneider Electric modular circuit breakers
Fire resistance to IEC 695-2-1	Self-extinguishing 960°C 30 s
Standards	IEC 60947-7-1, IEC 61439-2
Colour	RAL 7016 (anthracite grey)

Comb busbars					Accessories										
Not cuttable					End-piece				Tooth covers		Connectors Monoconnect				
PB110231-15					DB404806					DB404806			PB110725-15		
Comb busbars make it easier to implement Schneider Electric products ■ The phases are identified by symbols on each side of the comb busbar ■ The spare teeth can be insulated with tooth covers ■ They must not be cut					■ Lateral end-pieces providing IP20 protection				■ Insulate teeth that have been left free		■ Comb busbar power supply				
PB110290-40 + PB110793-40															
■ Power supply by connector recommended											■ Horizontal in-come on each side ■ For 35 mm² cable ■ Tightening torque 4 N.m				
	1P	2P	3P	4P	3 (N+P)	1P	2P	3P	4P	–	–				
	L1...	L1L2...	L1L2L3...	NL1L2L3...	NL1NL2 NL3...										
	–	–	–	–	–	–	–	–	–	–	–				
	A9XPM112	A9XPM212	A9XPM312	A9XPM412	A9XPM512	–	–	–	–	–	–				
	–	–	–	–	–	–	–	–	–	–	–				
	–	–	–	–	–	–	–	–	–	–	–				
	–	–	–	–	–	–	–	–	–	–	–				
	–	–	–	–	–	A9XPE110	A9XPE210	A9XPE310	A9XPE410	A9XPT920	A9XPCM04				
	1	1	1	1	1	10	10	10	10	20	4				
415 V															
500 V															
100 A															
Compatible with the breaking capacity of Schneider Electric modular circuit breakers															
Self-extinguishing 960°C 30 s															
IEC 60947-7-1, IEC 61439-2															
RAL 7016 (anthracite grey)															

Accessories	
Comb busbars	
1P, 2P, 3P, 4P comb busbar	
03920d	
	
	
	

Function	
The comb busbars make it easier to install Schneider Electric products. ■ Supplied with 2 side plates, IP 2 ■ Outgoing feeders can be marked ■ Cutting markings on the copper bars and the insulating material ■ Self-extinguishing insulating material, colour RAL 7016 ■ The teeth left on standby can be isolated by tooth cover end-pieces	

Wiring diagram	
DB105977	
	Comb busbars allow dismantability (1-2)

Use												
	■ Power supply via semi-rigid cable directly in the cage of the device: ☐ cross section 25 mm² for iC60 and iID (all ratings) ☐ cross section 10 mm² for STI								Direct power supply on the circuit-breaker terminal: maximum 50 mm² rigid			
	1P		2P		3P		4P		1P	2P	3P	4P
Catalogue numbers	14881	14891	14882	14892	14883	14893	14884	14894	14811	14812	14813	14814
Number of 9 mm modules	24	48	24	48	24	48	24	48	L = 430 mm, 16 poles of 27 mm	L = 430 mm, 16 poles of 27 mm	L = 405 mm, 15 poles of 27 mm	L = 430 mm, 16 poles of 27 mm
Set of	1	2	1	2	1	2	1	2	1			

Suitable for the following devices:												
STI	■	■	■	■	■	■	■	■	■	■	■	■
iC60, iSW	■	■	■	■	■	■	■	■	■	■	■	■
C60H-DC	■	■	■	■	■	■	■	■	■	■	■	■
iID, iSW-NA	■	■	■	■	■	■	■	■	■	■	■	■
C120	■	■	■	■	■	■	■	■	■	■	■	■
NG125 ≤ 63 A	■	■	■	■	■	■	■	■	■	■	■	■

Technical specifications	
Voltage rating (Ue)	500 V
Acceptable current at 40°C	80 A with 1 central power supply point 100 A with 2 power supply points
Max. current per feeder	63 A
Resistance to short-circuit currents	Compatible with the breaking capacity of Schneider Electric modular circuit breakers

Protection
Circuit protection
Earth leakage protection

콤 부스바(Comb Busbar)

for iC60, iID, iSW-NA, C120, NG125, STI,
DPN, C60H-DC, iSW

Accessories

Side plate

Tooth cover end-piece

Insulated connector

039921d

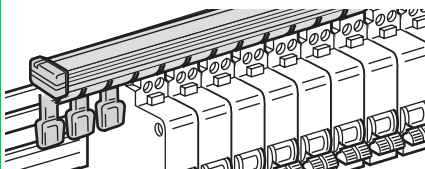


- Compatible with all Schneider Electric comb busbars
- Clip onto the comb busbar's insulating material, which gives them very great stability
- Receive clip-on markers allowing circuit identification

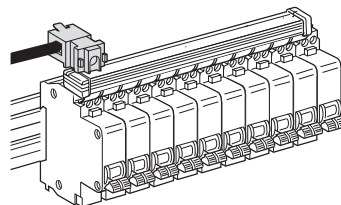
DB10977



DB10977



DB10976



- For 25 mm² semi-rigid cable

1P, 2P

3P, 4P

1P, 2P, 3P, 4P

14886

14887

14888

14818

14885

40

40

40

20

4

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DB123430



Country approval pictograms

PB107797-47



ComReady



IEC/EN 61131-2

The Acti 9 Smartlink transmits data from Acti 9 devices to a PLC or a supervision system via the Modbus serial line communication network.

Functions

Data transmission between the Modbus network and Acti 9 devices

- Circuit breakers, residual current circuit breakers, residual current devices:
 - ☐ open/closed state
 - ☐ tripped state
 - ☐ number of opening/closing cycles
 - ☐ number of tripping actions.
- Contactors, impulse relays:
 - ☐ opening control
 - ☐ closing control
 - ☐ open/closed state
 - ☐ number of cycles
 - ☐ total period of operation of the load (device closed).
- Remote controlled circuit breaker/Reflex iC60:
 - ☐ opening control
 - ☐ closing control
 - ☐ open/closed state
 - ☐ tripped state
 - ☐ number of cycles
 - ☐ total period of operation of the load.
- Power meters:
 - ☐ number of pulses recorded
 - ☐ pulse value setting (e.g. kWh)
 - ☐ total consumption recorded
 - ☐ estimate of power consumption.

All the data are stored in memory: number of cycles, consumption, period of operation, even in the event of a power failure.

The Acti 9 Smartlink can also exchange data with any device having 24 V DC digital inputs/outputs.

No configuration of the connected products is required.

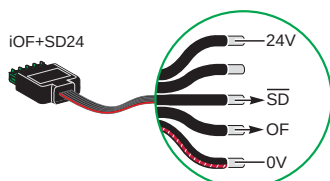
When the Acti 9 Smartlink is switched on, communication automatically adjusts to the Modbus Master (PLC, control station) communication parameters.

PB107753-68



A9XMSB11

DB404941



Catalogue numbers

Acti 9 Smartlink			
Type		Set of	
Acti 9 Smartlink		1	A9XMSB11
Supplied with	Modbus connector	1	
	24 V DC power supply connector	1	
	Locking clips for mounting on Multiclip 80	2	
Accessories			
Link USB / Modbus for Acti 9 Smartlink test		1	A9XCATM1
Prefabricated cables			
With 2 connectors	Short: 100 mm	6	A9XCAS06
	Medium-sized: 160 mm	6	A9XCAM06
	Long: 870 mm	6	A9XCAL06
With 1 connector	Long: 870 mm	6	A9XCAU06
Connectors	5-pin connectors (Ti24)	12	A9XC2412
Mounting kit	DIN rail (4 feet, 4 straps, 4 adapters)	1	A9XMFA04
	Multiclip 200 A (4 adapters)	1	A9XM2B04
Spare parts	Lock for Multiclip 80 A (2 clips)	1	A9XMLA02

The Acti 9 communication system

Acti 9 Smart Test software

- Electrical continuity test
- Functional testing of the devices
- Report printing
- Printing of a simplified diagram
- Project archiving
- Compatible with Windows XP, Seven
- To be download on: Schneider Electric web sites:
□ schneider-electric.com or
□ schneider-electric country web site)

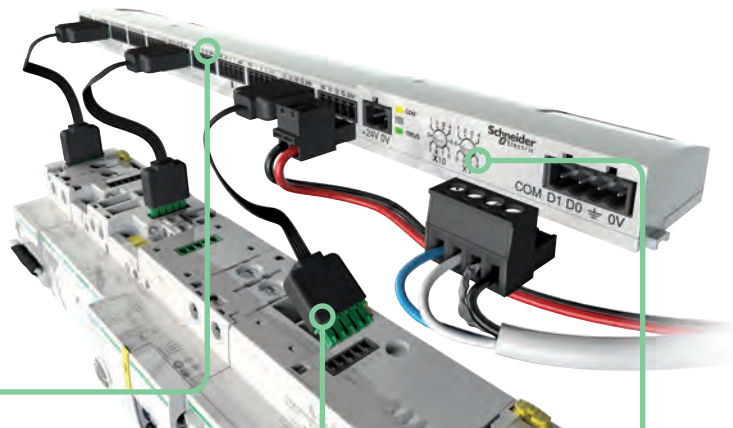


11 input/output channels

- Standard connectors
- In accordance with the IEC 61131-2 standard

- Communication adapts automatically to the communication parameters of the Modbus master (PLC, supervisor).
- Up to 32 slaves connected

PE107806-80



Prefabricated cables

- Simplified cabling
- Fast and safe

Modbus Communication

Connectable devices

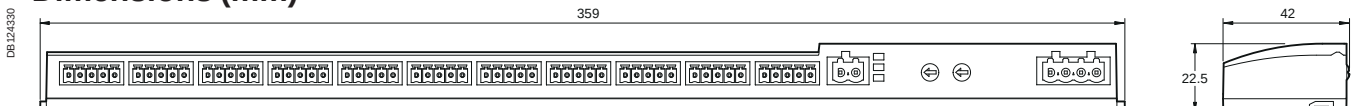
With Ti24 interface

Type	Reference	Description
iACT24	A9C15924	Low-level control and indication auxiliary for iCT contactors
iATL24	A9C15424	Low-level control and indication auxiliary for iTL impulse relays
iOF+SD24	A9A26897	Low-level indication auxiliary for iC60, iLD, ARA, RCA, iSW-NA
OF+SD24	A9N26899	Low-level indication auxiliary for C60, C120, DPN, RCCB/ID, C60H-DC
RCA	See module CA904011	Remote control with Ti24 interface
Reflex iC60	See module CA904012	Reflex iC60 with Ti24 interface

Without Ti24 interface

Power meters with pulse output, e.g. IEM2000T
Meters complying with the IEC 62053-21 standard
24 V DC indicator lamp, Harmony XVL range
All loads not exceeding 100 mA, 24 V DC
IC2000 light sensitive switches
Timers, thermostats, time switches, load shedding devices
All 24 V DC auxiliary contacts, IEC 61131-2 type 1

Dimensions (mm)



단자블럭 63A

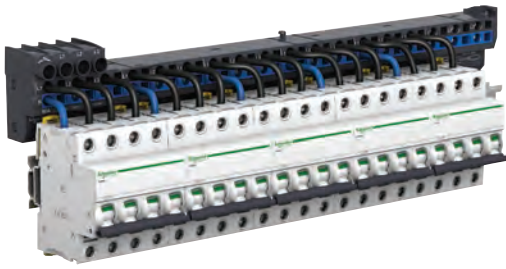


Technical data

Main characteristics

Cat. no	Distribution through the top	04040
	Distribution through the bottom	04041
According to IEC/EN 60947-7-1		
Degree of protection	IP20	
Rated insulation voltage (Ui)	500 V AC	
Voltage rating (Ue)	440 V AC	
Rated impulse withstand voltage (Uimp)	6 kV	
Short-circuit current withstand	Up to breaking capacity of Schneider Electric outgoing circuit breakers, even when reinforced by cascading implementation	
Reference temperature	40°C	
Rated current at 40°C (In)	63 A	
Operating frequency	50/60 Hz	
Width in 9-mm modules	8	

PB104507-35

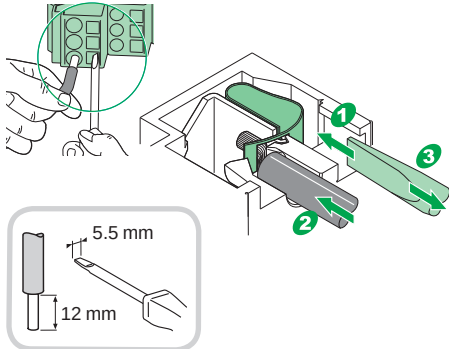


IEC/EN 60947-7-1. IEC/EN 61439-2.

Description

- Multiclip 80 A is a four-pole splitter block 24 modules wide installable on a standard DIN rail.
- Outgoing feeders are connected at the front, without screws, in spring terminals.
- The spring contact pressure adapts automatically to the cross section of the conductor. It is independent of the operator.
- Supplied with 12 black and 12 blue pre-stripped 6 mm² cables.

DE122626



Advantages

- Very fast connection.
- Very simple phase rebalancing.
- In the event of an extension to or modification of the switchboard, connection is very easy.
- Compatible with inter-rows of 150 mm.

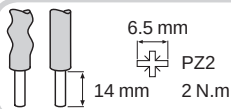
Technical data

Main characteristics

Cat. no	04000
According to IEC/EN 60947-7-1	
Rated current at 40°C (In)	80 A
Maximum operated voltage (Ue)	440 V AC
Operating frequency	50/60 Hz
Rated insulation voltage (Ui)	500 V AC
Pollution degree	3
Rated impulse withstand voltage (Uimp)	6 kV
Degree of protection	IP20
Short-circuit current withstand	Up to breaking capacity of Schneider Electric outgoing circuit breakers, even when reinforced by cascading implementation
Width in 9-mm modules	48

Power supply

- Four-pole tunnel terminals with screw clamping.
- The tunnel terminals are located to facilitate the insertion of cables and clamping by screws.
- One cable per connection point:
 - flexible from 6 to 25 mm²
 - rigid from 10 to 35 mm².



PB104501-45

Installation

- Clip-on mounted Pragma and Prisma DIN rails.
- Screwed on all other symmetric rail.



Distribution

- Connection to spring terminals through the front.
- 2 rows of terminals:
 - 18 connection points for phases (L1, L2, L3)
 - 18 connection points for neutral.
- A single cable per connection point: flexible (without ferrule) or rigid from 1 to 6 mm².
- Maintenance-free (tightness guaranteed over time). Insensitive to vibrations and thermal variations.

PB104595-50



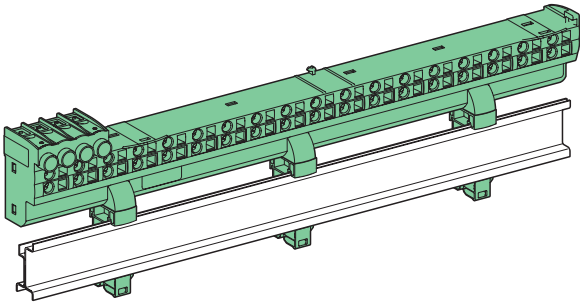
Additional characteristics

According to IEC/EN 61439-2

Operating temperature	-25°C to +60°C
Storage temperature	-40°C to +85°C
Colour	RAL 7016

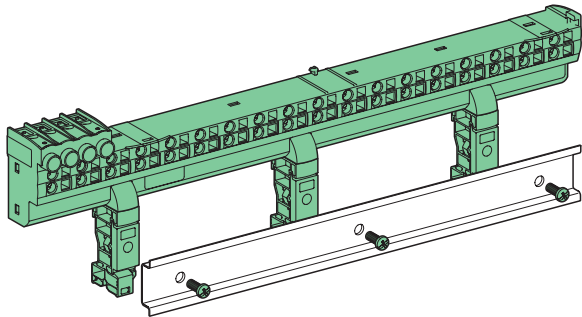
Installation

DB123198



On Pragma and Prisma rails

DB123199



On other symetric rails

Weight (g)

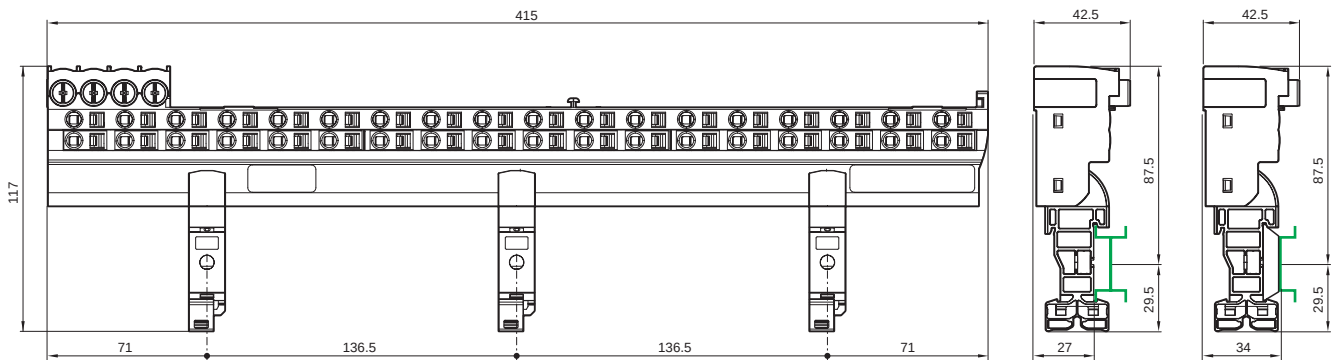
Splitter block

Type

Multiclip	640
-----------	-----

Dimensions (mm)

DB123200





The RCA remote control system allows:

- Remote electrical control (opening and closing) of circuit breakers with or without Vigti add-on RCD, with or without auxiliary.
- Circuit-breaker resetting after tripping, in accordance with safety principles and the regulations in force.
- Local control by operating handle.
- Circuit placing in safety configuration by padlocking.

2 choices of operation after tripping:

- A: Enabling of remote circuit-breaker resetting;
- B: Inhibition of remote resetting.

The version with Ti24 interface allows:

- Direct interfacing of remote control with a programmable logic controller (PLC), a supervision system and any other communication device, having inputs/outputs in 24 V DC (control, OF and SD indications).
- Fast, reliable connection of the remote control to the Acti 9 Smartlink thanks to the prefabricated cables.
- Remote indication by "OF" potential-free contact.
- Provision of 2 operating modes, "1 and 3".

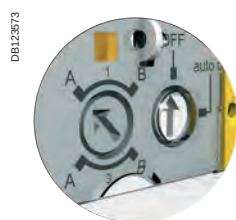
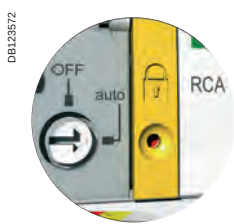
The iMDU auxiliary allows RCA control in 24/48 V AC/DC.

Catalogue numbers

RCA remote control			
Type			Width in 9 mm modules
For circuit breakers 1P, 1P+N, 2P	Voltage		
Without Ti24 interface	230 V AC, 50 Hz	A9C70112	7
With Ti24 interface	230 V AC, 50 Hz	A9C70122	7
For 3P, 4P circuit breakers			
Without Ti24 interface	230 V AC, 50 Hz	A9C70114	7
With Ti24 interface	230 V AC, 50 Hz	A9C70124	7
Auxiliaries			See module CA907000 and CA907002



Without Ti24 interface

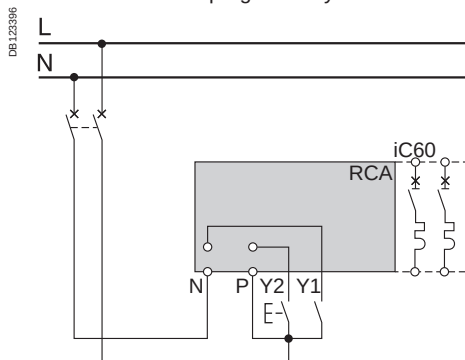


With Ti24 interface

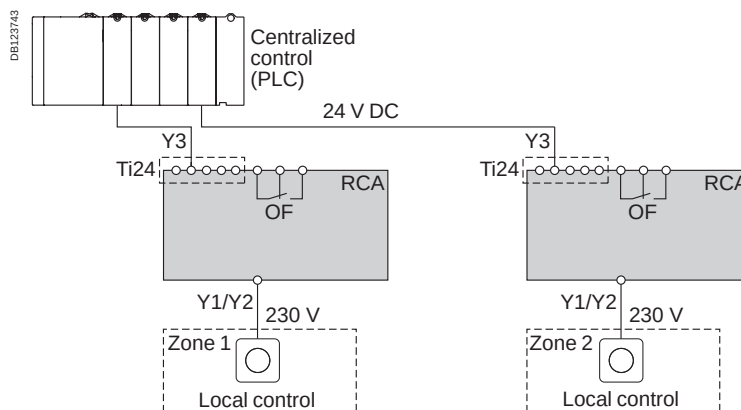
Legend	
Type	Application
OFF	All remote control inhibited
auto	
A	Circuit breaker remote reclosing after tripping allowed
B	Circuit breaker remote reclosing after tripping inhibited
Green indicator lamp	Remote control possible
Orange indicator lamp	Remote control impossible
1 (Ti24)	Mode 1
3 (Ti24)	Mode 3
Y1	Latched order local control
Y2	Impulse-type or latched order local control (depending on mode)
Y3	Latched order centralized control

Standard RCA

■ The orders received on terminals Y1 and Y2 are taken into account progressively in their order of arrival.



RCA Ti24

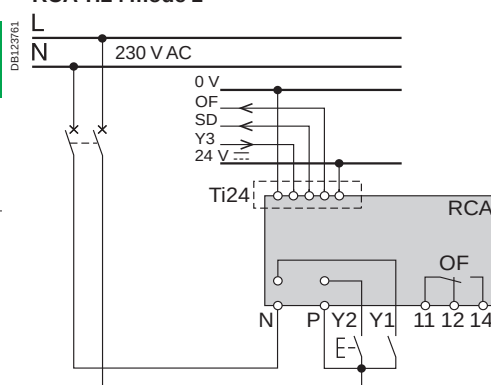


Mode 1: Locally or centrally controlled circuit-breaker opening/closing

■ The orders come from various control points, and they are taken into account in their order of arrival

- Y1: Latched order local control
- Y2: Impulse-type local control
- Y3: Latched order centralized control

RCA Ti24 mode 1

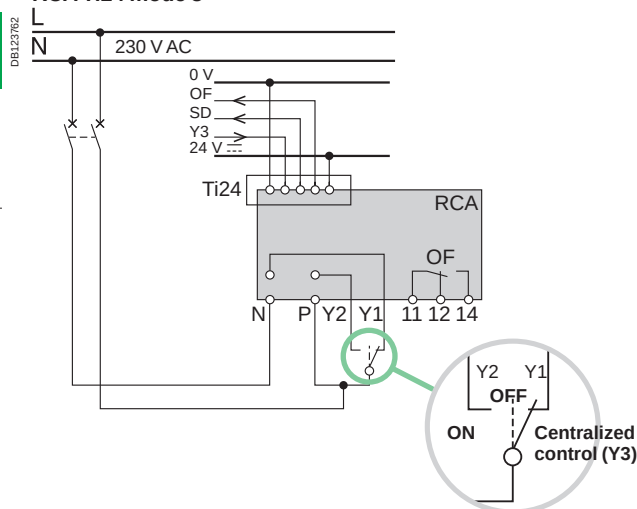


Mode 3: Centrally controlled opening/closing + local override

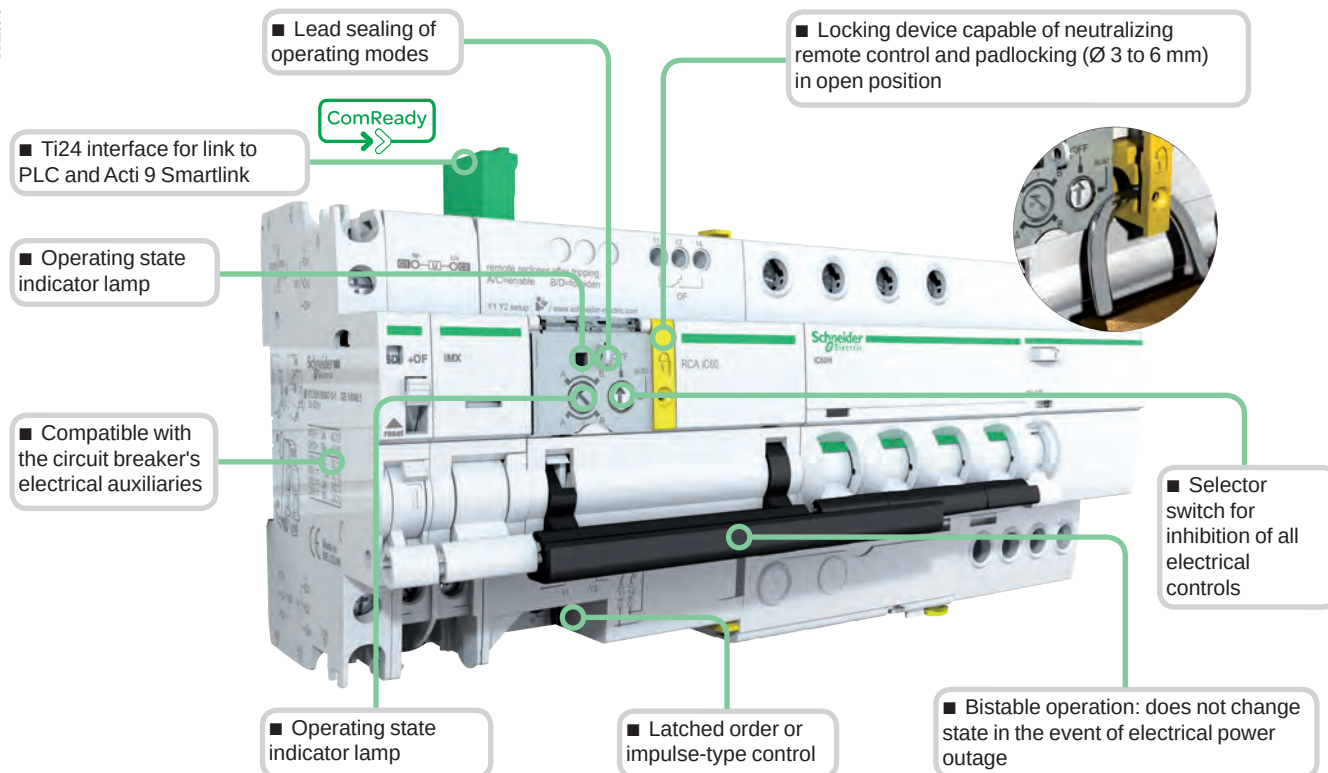
■ 3 positions allowing a choice between override and centralized control:

- Y1: Latched order local control
- Y2: Latched order local control
- Y3: Latched order centralized control

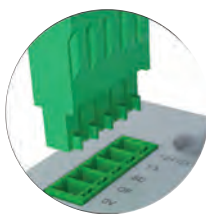
RCA Ti24 mode 3



DB123576



DB123763



DB123578



DB123579



Legend

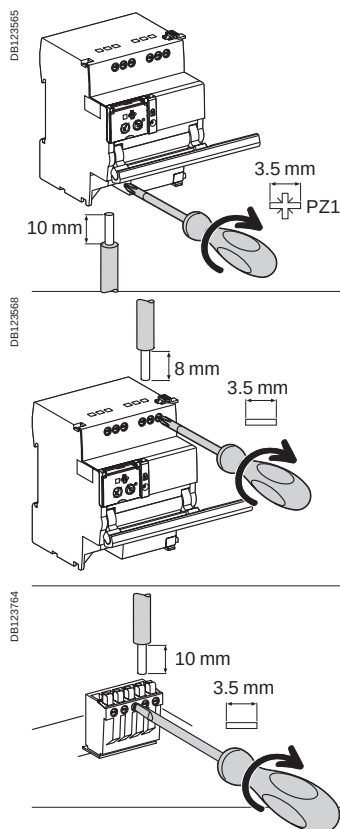
Type	Application
+24VDC	V DC power supply
Y3	Latched order centralized control
SD	Circuit-breaker tripping information
OF	Control circuit state information (open/closed)
0 V	V DC power supply

Y1	Latched order local control
Y2	Impulse-type or latched order local control (depending on mode)
N	230 V AC, 50 Hz power supply
P	
OF	Circuit-breaker state indication contact (open/closed)

11 12 14

Indication auxiliaries	Tripping auxiliaries	RCA remote control	iC60 circuit breaker	Vigi iC60 add-on RCD
No	1 (iSD or iOF or iOF/SD+OF or iOF+SD24)			
1 iOF	1 (iSD or iOF or iOF/SD+OF)	No		

Connection

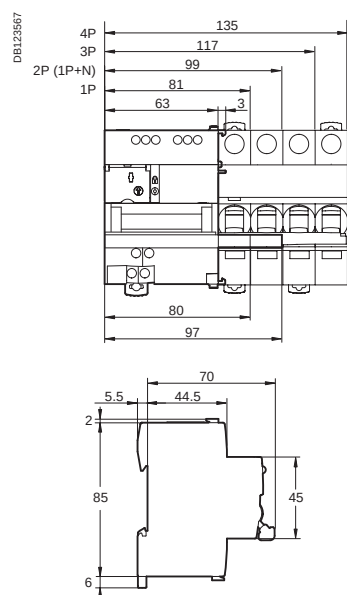


		Without accessories		
Terminal	Tightening torque	Copper cables		
		Rigid	Flexible	Flexible with ferrule
Power supply (N/P) Inputs (Y1/Y2)	1 N.m	0.5 to 10 mm ² 2 x 0.5 to 2 x 2.5 mm ²	0.5 to 6 mm ² 2 x 0.5 to 2 x 2.5 mm ²	0.5 to 4 mm ² 2 x 0.5 to 2 x 2.5 mm ²
Outputs (OF)	0.7 N.m	0.5 to 2.5 mm ² 2 x 0.5 to 2 x 1.5 mm ²	0.5 to 2.5 mm ² 2 x 0.5 to 2 x 1.5 mm ²	0.5 to 1.5 mm ² 2 x 0.5 to 2 x 1.5 mm ²
Ti24 interface	Spring-loaded terminals	0.5 to 1.5 mm ²	0.5 to 1.5 mm ²	-

Weight (g)

Remote controls	
Type	RCA
For 1P, 1P+N, 2P circuit breakers	400
For 3P, 3P+N, 4P circuit breakers	430

Dimensions (mm)



Technical data

Control circuit		
Supply voltage (Ue) (N/P)		230 V AC, 50 Hz
Control voltage (Uc)	Type 1 inputs (Y1/Y2)	230 V AC (as per IEC 61131-2)
Min. duration of control order (Y2)		≥ 200 ms
Response time (Y2)		< 500 ms
Consumption		≤ 1 W
Thermal self-protection with automatic Reset against overheating of the control circuit due to an abnormal number of operations		
Endurance (O-C) (RCA combined with a circuit breaker)		
Electrical/Mechanical		10,000 cycles
Indication / Remote control		
Potential free changeover contact output (OF)	Min.	24 V AC/DC, 10 mA
	Max.	230 V AC, 1 A
Input (Y1/Y2)	230 V AC	5 mA
Ti24 interface (as per IEC 61131)		
Type 1 input (Y3)	24 V DC	5.5 mA
Output (OF and SD)	24 V DC	In max.: 100 mA
Additional characteristics		
Degree of protection (IEC 60529)	Device only	IP20
	Device in a modular enclosure	IP40
Insulation voltage (Ui)		400 V
Degree of pollution (IEC 60947)		3
Rated impulse withstand voltage (Uimp)		6 kV
Operating temperature		-25°C to +60°C
Storage temperature		-40°C to +70°C
Tropicalization		Treatment 2 (relative humidity of 93 % at +40°C)

자동 복구형 차단기 (Automatic Recloser Auxiliaries)

PB100256-40



PB100257-40



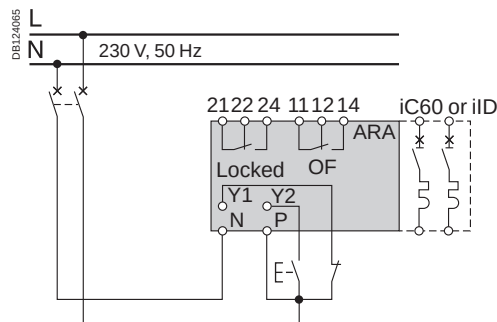
The ARA reclosing auxiliary can:

- Perform automatic reclosing of the associated protection device, after tripping.
- Increase the availability of installations without supervision, isolated, hard of access and demanding very great availability (mobile telephony systems, motorways, pumping stations, airports, railways, meteorological stations, service stations, automatic teller machines, public lighting, tunnels, etc.), by restoring them to operation without intervention by personnel in the event of a transient fault (atmospheric disturbances, industrial overvoltages, etc.).
- The operator can choose predefined reclosing program which allows the safety and availability of facilities to be reconciled taking into account the facility's environment.
- The circuit is placed in safety configuration by the padlocking device.

Catalogue numbers

ARA iC60				
For circuit breaker				Width in 9 mm modules
1P, 1P+N, 2P	Number of programs	Voltage		
	4	230 V AC, 50 Hz	A9C70132	7
3P, 4P				
	4	230 V AC, 50 Hz	A9C70134	7
ARA iID				
For residual current circuit breaker				Width in 9 mm modules
2P	Number of programs	Voltage		
	1	230 V AC, 50 Hz	A9C70342	7
	4	230 V AC, 50 Hz	A9C70332	
4P				
	4	230 V AC, 50 Hz	A9C70334	7

Diagram



Legend

Type	Application
1 2 4 3	Choice of program
Y1	"Remote" inhibition of automatic reclosing
Y2	Remote control of final reclosing
N	230 V power supply
P	
Locked	Automatic recloser inhibition indication contact
OF	Indicates the state of the circuit breaker or residual current circuit breaker (opened or closed)
Indicator lamp	Flashing green
	Flashing red
	Fixed red

자동 복구형 차단기 (Automatic Recloser Auxiliaries)

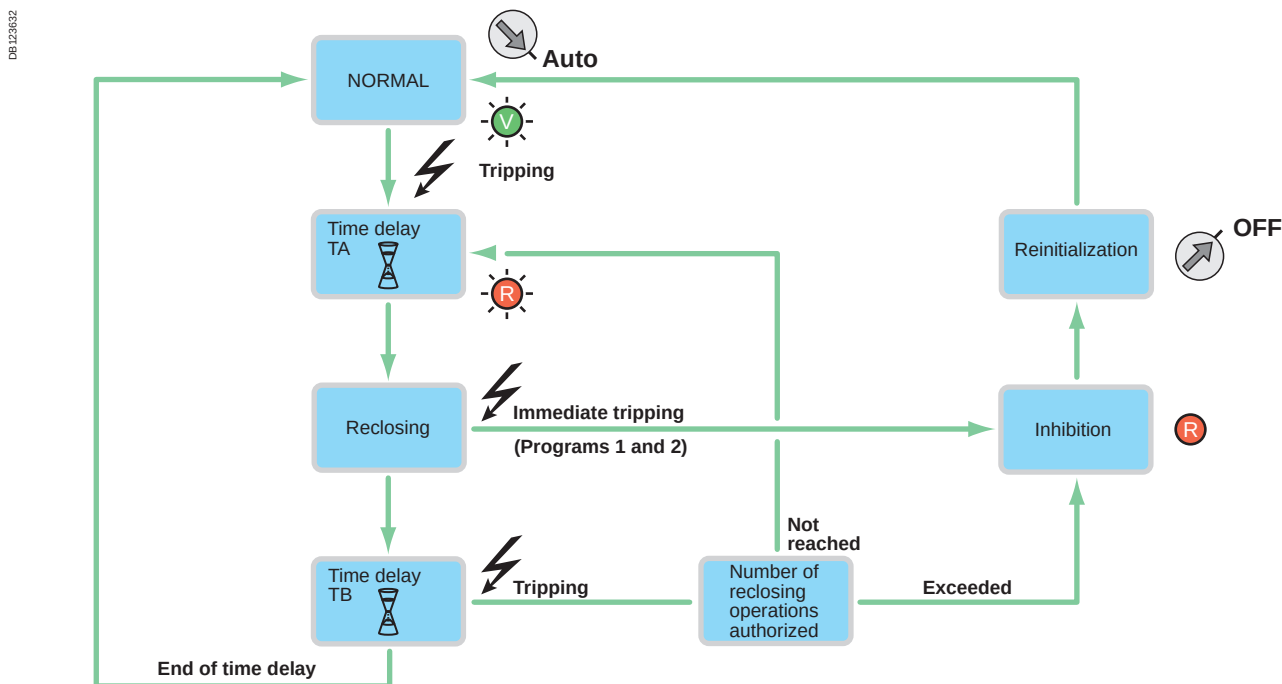
Operating principle

The ARA automatic recloser makes a number of attempts at reclosing depending on the program chosen by the user.

The program includes the following settings:

- A time delay before reclosing (TA).
- A reinitialization time delay (TB).
- A maximum number of reclosing attempts.

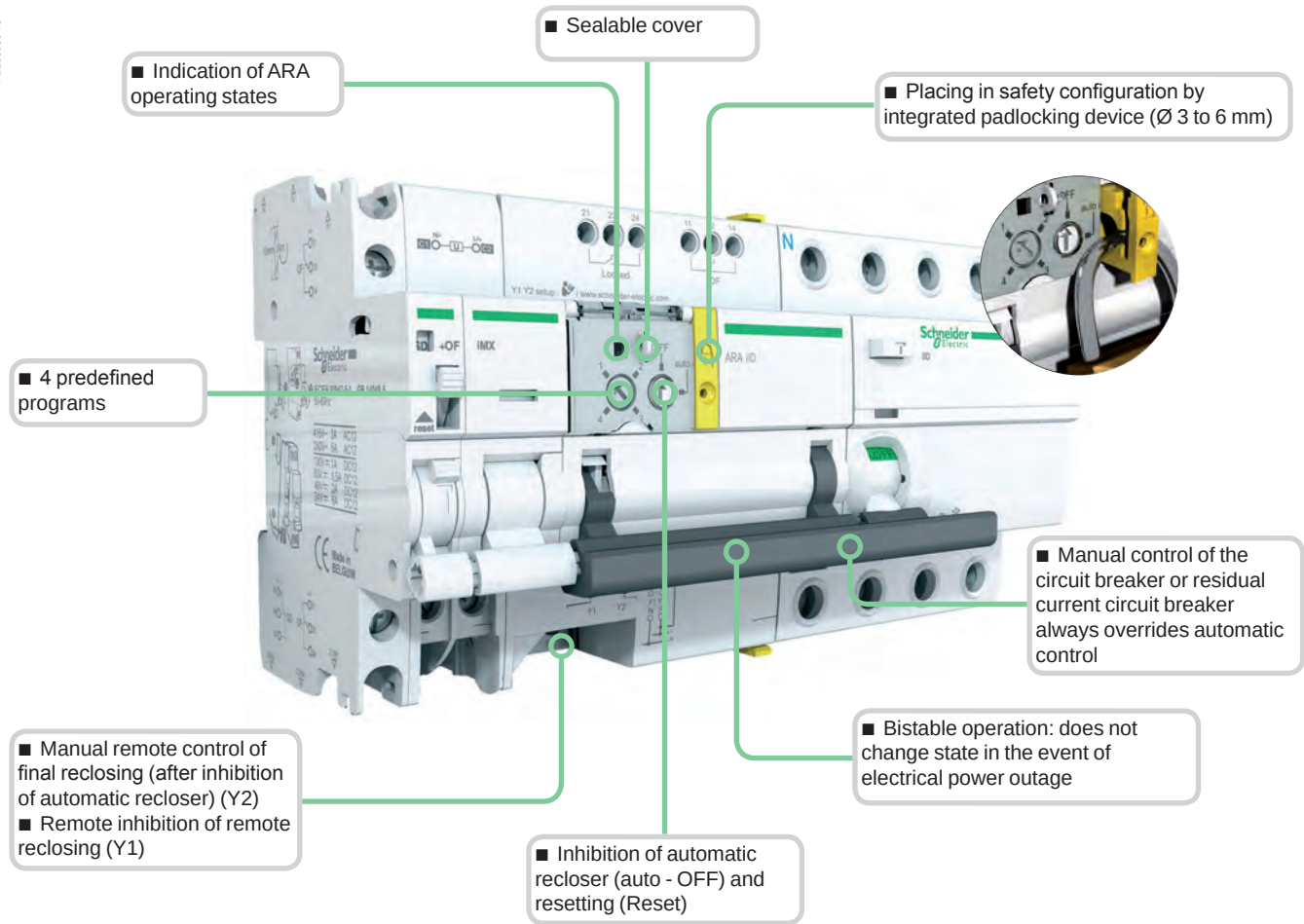
If, following these attempts, the fault is still present, the device places itself in waiting for manual reclosing, or final remote reclosing (Y2).



				Number of reclosing attempts	Delay before reclosing	Check time	Final reclosing Y2
					TA	TB	
		iC60	iID				
		1P, 1P+N, 2P: A9C70132 3P, 4P: A9C70134	2P: A9C70342 2P: A9C70332 4P: A9C70334				
Program		-	1 program 4 programs				
DB12/4061	1 2 4 3	■	-	1	60 s	6 min.	Once after inhibition
	1 2 4 3	■	-	3	60 s 3 min. 3 min.	2 min. 6 min. 6 min.	
DB12/4063	1 2 4 3	■	-	5	60 s 3 min. 3 min. 3 min.	2 min. 6 min. 6 min. 6 min.	
	1 2 4 3	■	-	5	60 s 3 min. 4 min. 5 min. 6 min.	2 min. 6 min. 8 min. 10 min. 12 min.	
DB12/4064	1 2 4 3	-	-	5	60 s 4 min. 10 min. 1 h 6 h	2 min. 3 min. 6 min. 10 min. 10 min.	Once per cycle
	1 2 4 3	-	-	15	20 s 40 s 3 min. 3 min. ...	30 min. 30 min. ...	
Only 1 program available		-	-				

자동 복구형 차단기 (Automatic Recloser Auxiliaries)

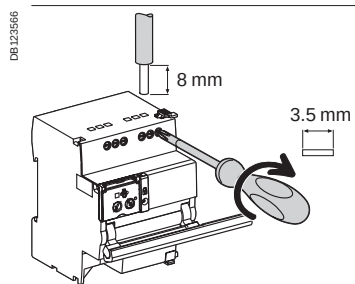
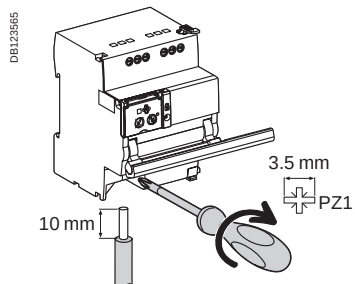
PB100050-78



Indication auxiliaries	Tripping auxiliaries	ARA remote control	iC60 or iID device	Vigi iC60 add-on RCD
PB10474-25 3	PB10475-25 2	PB10466-25 1		
No 1 iOF	1 (iSD or iOF or iOF/SD+OF) 1 (iSD or iOF or iOF/SD+OF)	1 (iMX or iMN) max. No	PB10625-25 ARA	PB10437-25 iC60
			PB10472-25 iID	PB10437-25 Vigi iC60

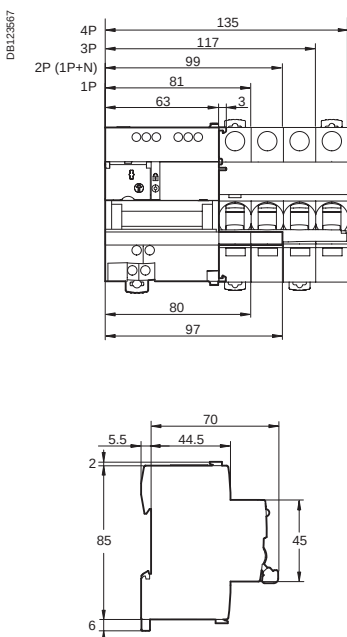
자동 복구형 차단기 (Automatic Recloser Auxiliaries)

Connection



		Without accessories		
Terminal	Tightening torque	Copper cables		
		Rigid	Flexible	Flexible with ferrule
Power supply (N/P) Inputs (Y1/Y2)	1 N.m	0.5 to 10 mm ² 2 x 0.5 to 2 x 2.5 mm ²	0.5 to 6 mm ² 2 x 0.5 to 2 x 2.5 mm ²	0.5 to 4 mm ² 2 x 0.5 to 2 x 2.5 mm ²
Outputs (OF/Locked)	0.7 N.m	0.5 to 2.5 mm ² 2 x 0.5 to 2 x 1.5 mm ²	0.5 to 2.5 mm ² 2 x 0.5 to 2 x 1.5 mm ²	0.5 to 1.5 mm ² 2 x 0.5 to 2 x 1.5 mm ²

Dimensions (mm)



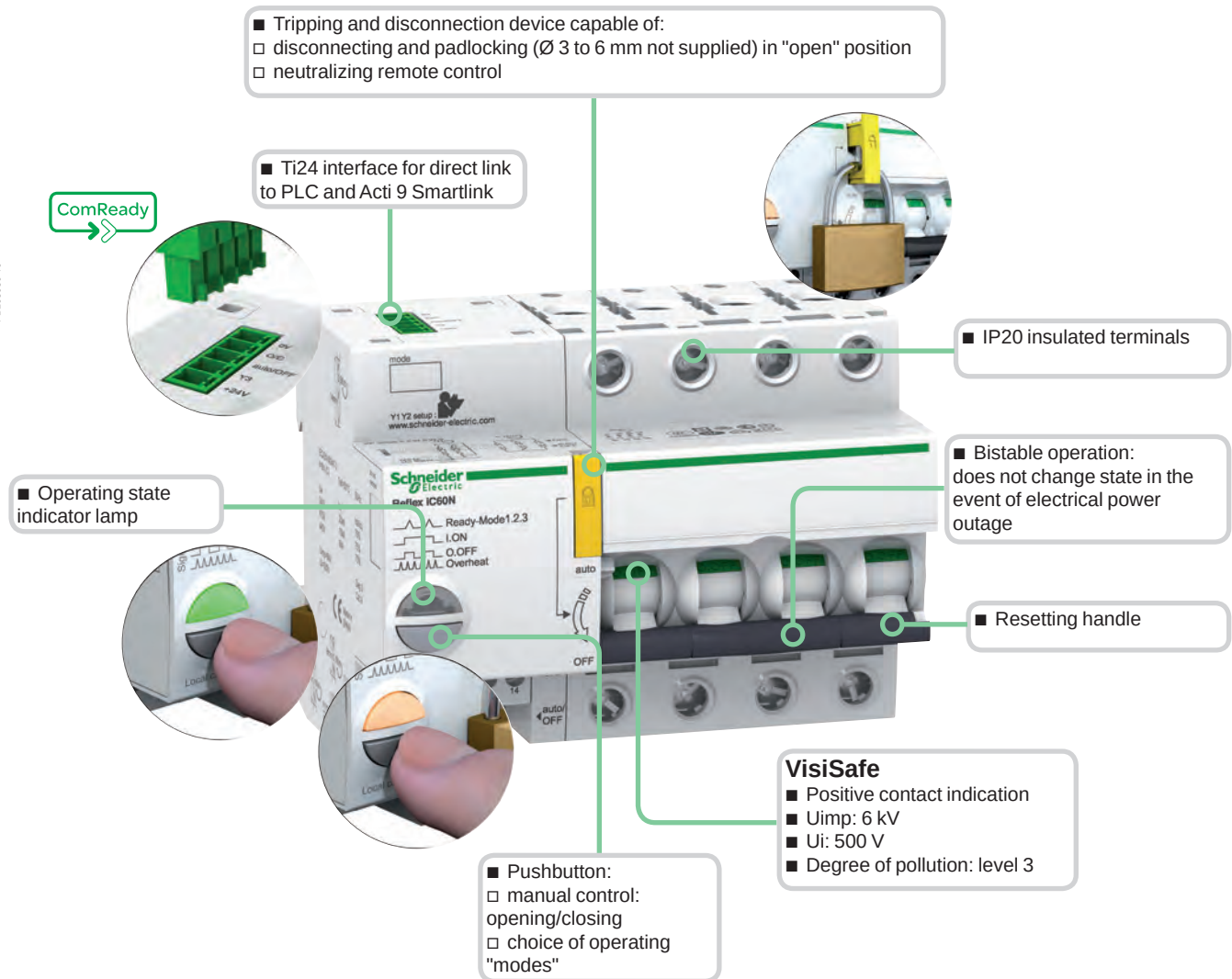
Technical data

Control circuit		
Supply voltage (Ue) (N/P)		230 V AC, 50 Hz
Control voltage (Uc)	Type 1 inputs (Y1/Y2)	230 V AC (as per IEC 61131-2)
Min. duration of control order (Y2)		≥ 200 ms
Response time (Y2)		< 500ms
Consumption		≤ 1 W
Thermal self-protection with automatic Reset against overheating of the control circuit due to an abnormal number of operations		
Endurance (O-C) (ARA combined with a circuit breaker)		
Electrical		5000 cycles
Indication / Remote control		
Potential-free changeover contact output (OF/Locked)	Min.	24 V AC/DC, 10 mA
	Max.	230 V AC, 1 A
Input (Y1/Y2)	230 V AC	5 mA
Additional characteristics		
Degree of protection (IEC 60529)	Device only	IP20
	Device in a modular enclosure	IP40
		Insulation class II
Insulation voltage (Ui)		400 V
Degree of pollution (IEC 60947)		3
Rated impulse withstand voltage (Uimp)		6 kV
Operating temperature		-25°C to +60°C
Storage temperature		-40°C to +70°C
Tropicalization		Treatment 2 (relative humidity of 93 % at +40°C)

Weight (g)

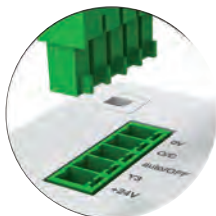
Automatic reclosers	
Type	ARA
For 1P, 1P+N, 2P circuit breakers or iLD 2P residual current circuit breaker	440
For 3P, 4P circuit breakers or iLD 4P residual current circuit breaker	470

PE105980-70



- Longer product service life thanks to:
 - good overvoltage withstand capacity: products designed to provide a high industrial performance level (degree of pollution, rated impulse withstand voltage and insulation voltage),
 - high limitation performances,
 - fast closure independent of the speed of resetting of the operating handle.

DB123765



DB123516



Legend

Ti24 interface

+24VDC	V DC power supply
Y3	Remote control by latched order
auto/OFF	Circuit-breaker state information
O/C	Control circuit state information (open/closed)
0 V	V DC power supply

Y1	Latched order control
Y2	Control by impulse-type
N	230 V AC power supply
P	
O/C	Control circuit state indication contact
auto/OFF	Circuit-breaker tripping indication contact

DBxxxxx



Country approval pictograms

PB106239-40



PB106239-40



IEC/EN 60947-2

The Reflex iC60 devices are integrated control circuit breakers which combine the following main functions in a single device:

- Remote control by latched and/or impulse-type order according to the 3 operating modes to be chosen by the user.
- Circuit breaker, to provide:
 - circuit protection against short-circuit currents,
 - circuit protection against overload currents,
 - disconnection in the industrial sector.

Resetting after a fault is performed manually, by the resetting handle.

The version with Ti24 allows direct interfacing of the Reflex iC60 with a PLC, to:

- Execute remote control (Y3).
- Indicate the state of the control circuit (O/C) and circuit-breaker state information (auto/OFF).

The Ti24 interface also allows fast, reliable connection of the Reflex iC60 to the Acti 9 Smartlink thanks to the prefabricated cables.

The iMDU auxiliary allows the Reflex iC60 to be controlled in 24/48 V AC/DC.

Alternating current (AC) 50 Hz

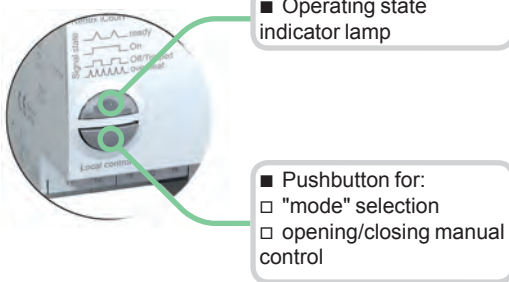
Ultimate breaking capacity (Icu) as per IEC/EN 60947-2				Service breaking capacity (Ics)
	Voltage (Ue)			
Ph/Ph (2P, 3P, 4P)	220 to 240 V	380 to 415 V		
Reflex iC60N				
Rating (In)	10 to 40 A	20 kA	10 kA	75 % of Icu
	63 A	20 kA	10 kA	50 % of Icu
Reflex iC60H				
Rating (In)	10 to 40 A	30 kA	15 kA	50 % of Icu

Catalogue numbers

Reflex iC60 circuit breaker

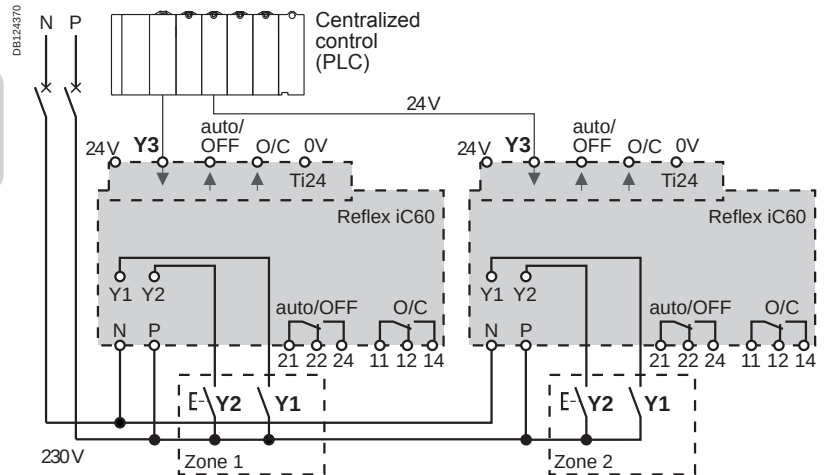
Type	2P			3P			4P		
Rating (In)	Curve			Curve			Curve		
	B	C	D	B	C	D	B	C	D
Reflex iC60N									
With Ti24 interface									
10 A	A9C61210	A9C62210	A9C63210	A9C61310	A9C62310	A9C63310	A9C61410	A9C62410	A9C63410
16 A	A9C61216	A9C62216	A9C63216	A9C61316	A9C62316	A9C63316	A9C61416	A9C62416	A9C63416
25 A	A9C61225	A9C62225	A9C63225	A9C61325	A9C62325	A9C63325	A9C61425	A9C62425	A9C63425
40 A	A9C61240	A9C62240	-	A9C61340	A9C62340	-	A9C61440	A9C62440	-
63 A	A9C61263	A9C62263	-	A9C61363	A9C62363	-	A9C61463	A9C62463	-
Without Ti24 interface									
10 A	-	A9C52210	-	-	A9C52310	-	-	A9C52410	-
16 A	-	A9C52216	-	-	A9C52316	-	-	A9C52416	-
25 A	-	A9C52225	-	-	A9C52325	-	-	A9C52425	-
40 A	-	A9C52240	-	-	A9C52340	-	-	A9C52440	-
63 A	-	A9C52263	-	-	A9C52363	-	-	A9C52463	-
Reflex iC60H									
With Ti24 interface									
10 A	A9C64210	A9C65210	A9C66210	A9C64310	A9C65310	A9C66310	A9C64410	A9C65410	A9C66410
16 A	A9C64216	A9C65216	A9C66216	A9C64316	A9C65316	A9C66316	A9C64416	A9C65416	A9C66416
25 A	A9C64225	A9C65225	A9C66225	A9C64325	A9C65325	A9C66325	A9C64425	A9C65425	A9C66425
40 A	A9C64240	A9C65240	-	A9C64340	A9C65340	-	A9C64440	A9C65440	-
Width in 9 mm modules	9			11			13		
Vigi iC60	Vigi iC60 add-on residual current device, module CA902005			Vigi iC60 add-on residual current device, module CA902005			Vigi iC60 add-on residual current device, module CA902005		
iMDU auxiliary	See module CA907000 and CA907002			See module CA907000 and CA907002			See module CA907000 and CA907002		
Accessories	See module CA907000 and CA907001			See module CA907000 and CA907001			See module CA907000 and CA907001		

DB123517



Remote control is possible by 3 operating modes to be set using the pushbutton on the front panel.

Three types of control: Y1, Y2, Y3



Operating modes

Mode 1: Reflex iC60 opening/closing, locally or centrally controlled

- The opening/closing orders come from various control points, and they are taken into account in their order of arrival
- Y1: latched order local control
- Y2: impulse-type local control
- Y3: latched order centralized control

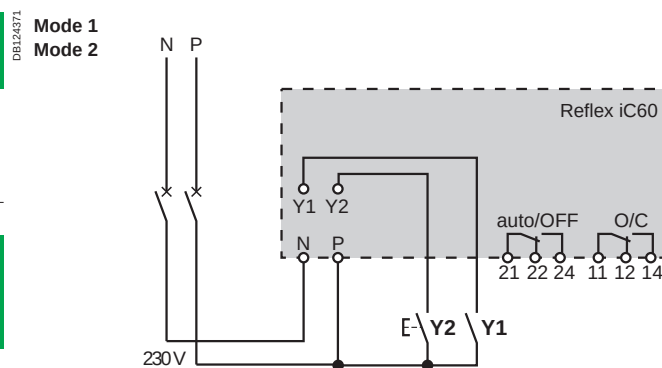
Mode 2: Reflex iC60 opening/closing, possible inhibition of local impulse-type control

- Y1 is used to inhibit Y2
- Y1: local opening/Y2 inhibition latched order control
- Y2: impulse-type local opening/closing control
- Y3: latched order centralized opening/closing control

Mode 3: Reflex iC60 opening/closing, possible inhibition of centralised latched order control

- Y1 is used to inhibit Y3
- Y3 inhibition local latched order control
- Y2: impulse-type local opening/closing control
- Y3: latched order centralized opening/closing control

Reflex iC60 without Ti24 interface



Reflex iC60 with Ti24 interface

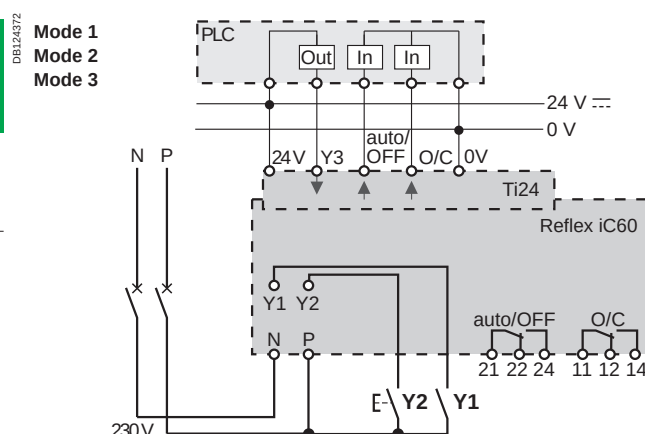
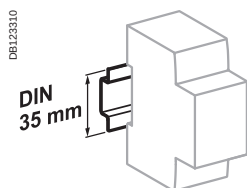


Table of modes

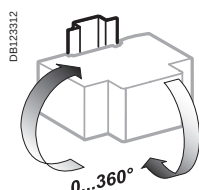
	Mode 1	Mode 2	Mode 3
Reflex iC60 without interface Ti24	■ Default mode	■ Possible mode	–
Reflex iC60 with interface Ti24	■ Possible mode	■ Possible mode	■ Default mode

Control, remote control
Integrated control circuit
breakers

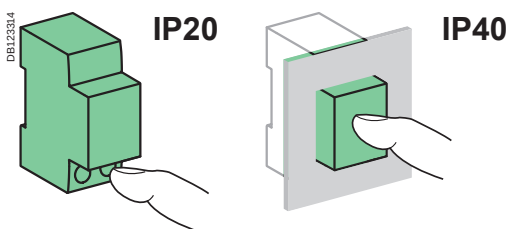
통합형 올인원솔루션 Reflex iC60 (MCB + 전자접촉기 + 릴레이)



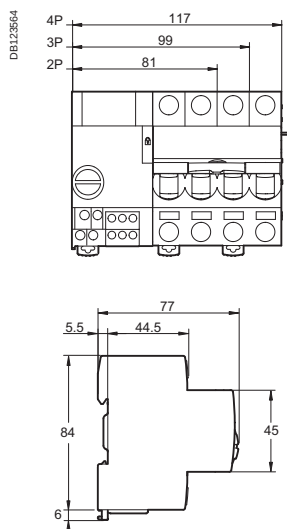
Clip on DIN rail 35 mm.



Indifferent position of installation.



Dimensions (mm)



Technical data

Control circuit

Supply voltage (U _e) (N/P)	230 V AC - 50 Hz
Control voltage (U _c)	Inputs (Y1/Y2)
	230 V AC - 5 mA (24...48 V AC/DC, with iMDU auxiliary)
	Input (Y3)
	24 V DC - 5.5 mA
Min. duration of control impulse (Y2)	≥ 250 ms
Response time (Y2)	≤ 200 ms
Consumption	≤ 1 W
Inrush consumption	< 1000 VA
Length of control wires	Inputs (Y1/Y2)
	Cable: 100 m Wires in a sheath: 500 m
	Input (Y3)
	500 m
Inrush current at 230 V - 50 Hz	2P
	4.2 Å
	3P
	8.2 Å
	4P
	16.2 Å

Power circuit

Max. working voltage (U _e)	400 V AC
Insulation voltage (U _i)	500 V
Rated impulse withstand voltage (U _{imp})	Set to Disconnected
	6 kV
	Set to Ready
	4 kV
Thermal tripping	Reference temperature
	50°C
Magnetic tripping	Curve B
	4 In ± 20 %
	Curve C
	8 In ± 20 %
	Curve D
	12 In ± 20 %
Overvoltage category (IEC 60364)	IV
Temperature derating	See module CA908007

Indication / Remote control

Potential-free changeover contact outputs (O/C, auto/OFF)	Min.
	24 V DC - 100 mA
	Max
	230 V AC - 1 A

Ti24 interface (as per IEC 61131)

Outputs (O/C, auto/OFF)	Ti24 interface
	24 V DC - 100 mA max

Endurance (O-C)

Electrical	AC1 - AC7a
	Up to 50,000 cycles ⁽¹⁾
	AC5a - AC5b
	Up to 15,000 cycles ⁽¹⁾
	AC7c
	Up to 20,000 cycles ⁽¹⁾
Mechanical	50,000 cycles

Additional characteristics

Degree of protection (IEC 60529)	Device only
	IP20
	Device in a modular enclosure
	IP40
	Insulation class II
Degree of pollution	3
Operating temperature	-25°C to +60°C
Storage temperature	-40°C to +85°C
Tropicalization	Treatment 2 (relative humidity of 93 % at 40°C)
Immunity to voltage dips	IEC 61000-4-11 class III
Immunity to power supply frequency variations	IEC 61000-4-28 and IACS E10
Immunity to harmonics	IEC 61000-4-13 class 2
Immunity to electrostatic discharges	Air
	8 kV, IEC 61 000-4-2
	Contacts
	4 kV, IEC 61 000-4-2
Immunity to stray magnetic fields	10 V/m up to 3 GHz, IEC 61000-4-3
Immunity to fast transients	4 kV from 5 to 100 kHz, IEC 61000-4-4
Immunity to shock waves	IEC 61000-4-5
Immunity to power frequency magnetic fields	10 V from 150 kHz to 80 MHz, IEC 61000-4-6
Immunité aux champs magnétiques à la fréquence du réseau	Level 4 30 A/m to IEC 61000-4-8 and IEC 61000-4-9
Conducted emissions	CISPR 11/22
Radiated emissions	CISPR 11/22

(1) See the derating table according to the load types and ratings

Weight (g)

Circuit breaker

Type	Reflex iC60
2P	480
3P	620
4P	750



EN 61095, IEC 1095

iCT contactors are available in two versions:

- Contactors without manually-operated
- Contactors with manually-operated.

The breadth of the iCT contactor range satisfies most application cases.

iCT contactors can be combined with auxiliary control, protection and indication functions.

Contactors

iCT 2P



manual control

iCT 4P



■ iCT contactors can be used to remote control applications in alternative networks:

- lighting, heating, ventilation, roller blinds, sanitary hot water
- mechanical ventilation systems, etc
- load-shedding of non-priority circuits

PB106120-34



Indication iACTs

■ This auxiliary allows indication or control of the "open" or "closed" position of the contactor power contacts

PB106124-34



Interference filtering iACTp

■ This auxiliary is an interference suppressor which limits overvoltages on the control circuit

PB106123-34



Dual control iACTc

■ Used to control a contactor in impulse-type mode or to combine latched or impulse-type control orders

PB107751-34



Control and indication 24 V DC iACT24

■ Allows control and indication of a 230 Vac contactor from the Acti 9 Smartlink or by a PLC, by 24 V DC signals
■ Also allows control by a maintained signal

PB106125-34



Time delay iATeT

■ This auxiliary is used to time delay for iCT and iTL. According to cabling, there are 5 possible time delay types:

- 1 for iTL
- 4 for iCT

Function type A: late closing

Delay energizing of contactor

Function type B: time delay

■ Energize the contactor by closing a push button
■ The time delay starts as soon as the control contacts are closed

Function type C: late opening

■ Energize the contactor by closing a push button
■ The time delay starts when the control contacts are opened

Function type H: fixed time operation

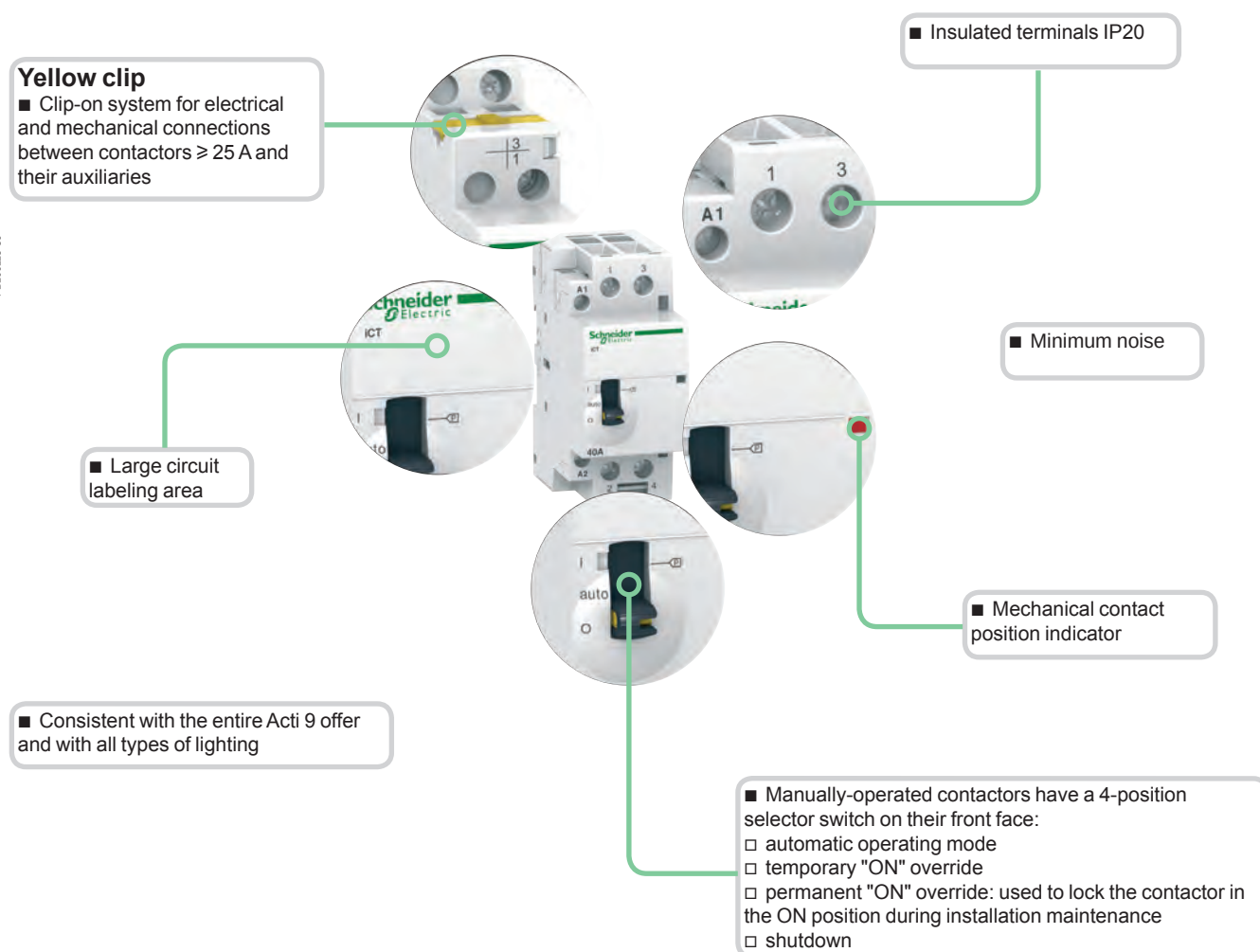
■ Operate the contactor for a pre-determined time from the moment of energizing

Contactors

Contactors auxiliaries

Choice of 50 Hz contactors											
Type		Contactor						Manually-operated contactors			
Rating	A	16	20	25	40	63	100	16	25	40	63
Auxiliaries								Contactors that can be equipped with auxiliaries			
iACTs indication auxiliary		Yes	Yes	Yes				Yes			
iACTp protection auxiliary	By yellow clips	No	No	Yes				No	Yes		
iACTc, iATeT control auxiliary	By yellow clips	No	No	Yes				No	Yes		
iACT24 control auxiliary		Non	No	Yes (for contactors 230 V - 50 Hz)				No	Yes (for contactors 230 V - 50 Hz)		

PB100115-39



Choice of 60 Hz contactors				
Contactor				Manually-operated contactors
16	25	40	63	40
Contactors that can be equipped with auxiliaries				
Yes				
No	Yes			
No	Yes			
No				

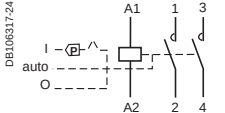
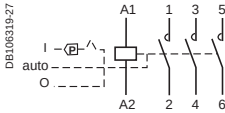
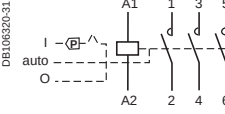
Catalogue numbers

iCT contactors 50 Hz

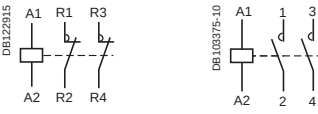
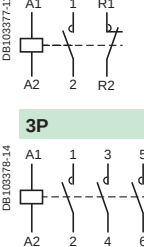
Type						Width in 9 mm modules		
1P	Rating (In)		Control voltage (V AC) (50 Hz)	Contact				
	AC7a	AC7b						
DB103375-5	16 A	6 A	12	1NO	A9C22011	2		
			24	1NO	A9C22111	2		
			48	1NO	A9C22211	2		
			220	1NO	A9C22511	2		
			230...240	1NO	A9C22711	2		
	25 A	8.5 A	220	1NO	A9C20531	2		
		230...240	1NO	A9C20731	2			
2P								
DB122915	16 A	6 A	12	2NO	A9C22012	2		
			24	2NO	A9C22112	2		
			48	2NO	A9C22212	2		
			220	2NO	A9C22512	2		
			230...240	2NO	A9C22712	2		
	DB103377-11			12	1NO+1NC	A9C22015	2	
24				1NO+1NC	A9C22115	2		
220				1NO+1NC	A9C22515	2		
230...240				1NO+1NC	A9C22715	2		
230...240				2NO	A9C22722	2		
20 A		6 A	230...240	2NO	A9C22722	2		
DB103375-10	25 A	8.5 A	24	2NO	A9C20132	2		
			48	2NO	A9C20232	2		
			220	2NO	A9C20532	2		
			230...240	2NO	A9C20732	2		
			220	2NC	A9C20536	2		
	230...240	2NC	A9C20736	2				
	40 A	15 A	220...240	2NO	A9C20842	4		
	63 A	20 A	24	2NO	A9C20162	4		
			220...240	2NO	A9C20862	4		
	100 A	-	220...240	2NO	A9C20882	6		
3P								
DB103376-14	16 A	6 A	220...240	3NO	A9C22813	4		
	25 A	8.5 A	220...240	3NO	A9C20833	4		
	40 A	15 A	220...240	3NO	A9C20843	6		
	63 A	20 A	220...240	3NO	A9C20863	6		
4P								
DB122916	16 A	6 A	24	4NO	A9C22114	4		
			220...240	4NO	A9C22814	4		
			220...240	2NO+2NC	A9C22818	4		
	20 A	6 A	220 ...240	4NO	A9C22824	4		
	25 A	8.5 A	24	4NO	A9C20134	4		
DB122917			220...240	4NO	A9C20834	4		
			24	4NC	A9C20137	4		
			220...240	4NC	A9C20837	4		
			220...240	2NO+2NC	A9C20838	4		
40 A	15 A	220...240	4NO	A9C20844	6			
DB103381-18	63 A	20 A	220...240	4NC	A9C20847	6		
			24	4NO	A9C20164	6		
			220...240	4NO	A9C20864	6		
			24	4NC	A9C20167	6		
			220...240	4NC	A9C20867	6		
DB122918	100 A	-	220...240	2NO+2NC	A9C20868	6		
			220...240	3NO+1NC	A9C20869	6		
			220...240	4NO	A9C20884	12		
			220...240					
			220...240					

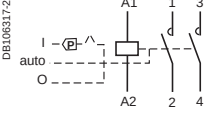
Catalogue numbers

iCT manual control contactor 50 Hz

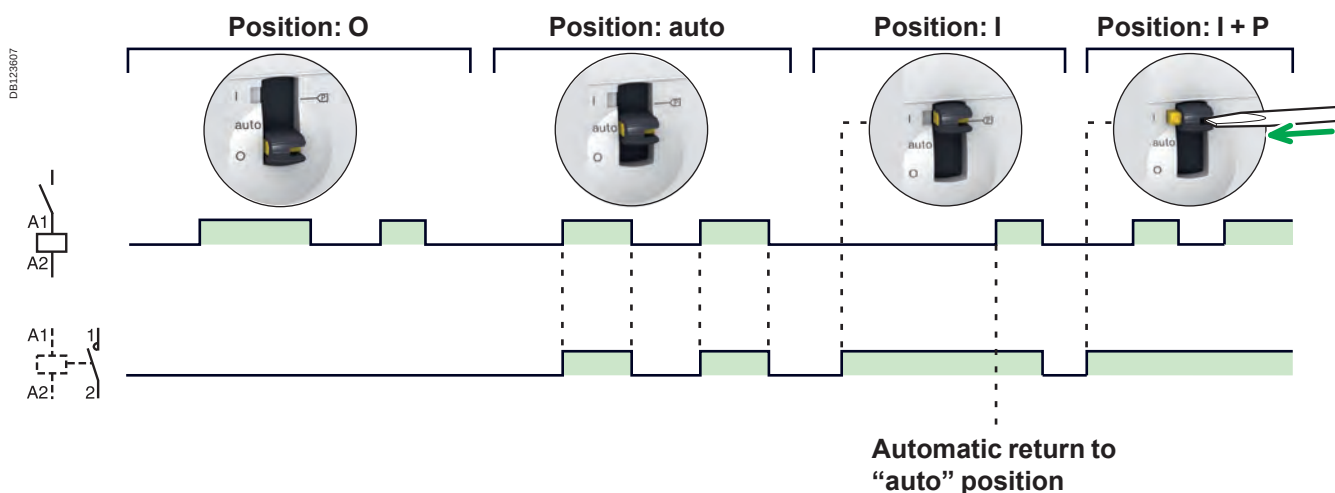
Type						Width in 9 mm modules
2P	Rating (In)		Control voltage (V AC) (50 Hz)	Contact		
	AC7a	AC7b				
	16 A	6 A	220	2NO	A9C23512	2
			230...240	2NO	A9C23712	2
			220	1NO+1NC	A9C23515	2
			230...240	1NO+1NC	A9C23715	2
	25 A	8,5 A	24	2NO	A9C21132	2
			220	2NO	A9C21532	2
			230...240	2NO	A9C21732	2
			230...240	2NO	A9C21732	2
40 A	15 A	24	2NO	A9C21142	2	
		220...240	2NO	A9C21842	4	
		24	2NO	A9C21162	4	
		220...240	2NO	A9C21862	4	
63 A	20 A	24	2NO	A9C21162	4	
		220...240	2NO	A9C21862	4	
3P						
	25 A	8,5 A	220...240	3NO	A9C21833	4
	40 A	15 A	220...240	3NO	A9C21843	6
4P						
	25 A	8,5 A	24	4NO	A9C21134	4
			220...240	4NO	A9C21834	4
	40 A	15 A	24	4NO	A9C21144	6
			220...240	4NO	A9C21844	6
	63 A	20 A	24	4NO	A9C21164	6
			220...240	4NO	A9C21864	6

Catalogue numbers

iCT contactors 60 Hz						
Type						Width in 9 mm modules
1P	Rating (In)	Control voltage (V AC) (60 Hz)	Contact			
AC7a	AC7b					
	25 A	8.5 A	127	1NO	A9C20431	2
			220...240	1NO	A9C20631	2
	16 A	6 A	127	1NO+1NC	A9C22415	2
			220...240	1NO+1NC	A9C22615	2
	25 A	8.5 A	127	2NO	A9C20432	2
			220...240	2NO	A9C20632	2
			127	2NC	A9C20436	2
			220...240	2NC	A9C20636	2
	40 A	15 A	127	2NO	A9C20442	4
			220...240	2NO	A9C20642	4
	25 A	8.5 A	127	3NO	A9C20433	4
			220...240	3NO	A9C20633	4
	40 A	15 A	127	3NO	A9C20443	6
			220...240	3NO	A9C20643	6
	63 A	20 A	127	3NO	A9C20463	6
			220...240	3NO	A9C20663	6

iCT manual control contactor 60 Hz						
Type						Width in 9 mm modules
2P	Rating (In)	Control voltage (V AC) (60 Hz)	Contact			
AC7a	AC7b					
	40 A	15 A	127	2NO	A9C21442	4
			220...240	2NO	A9C21642	4

Operation (Manual control contactor)

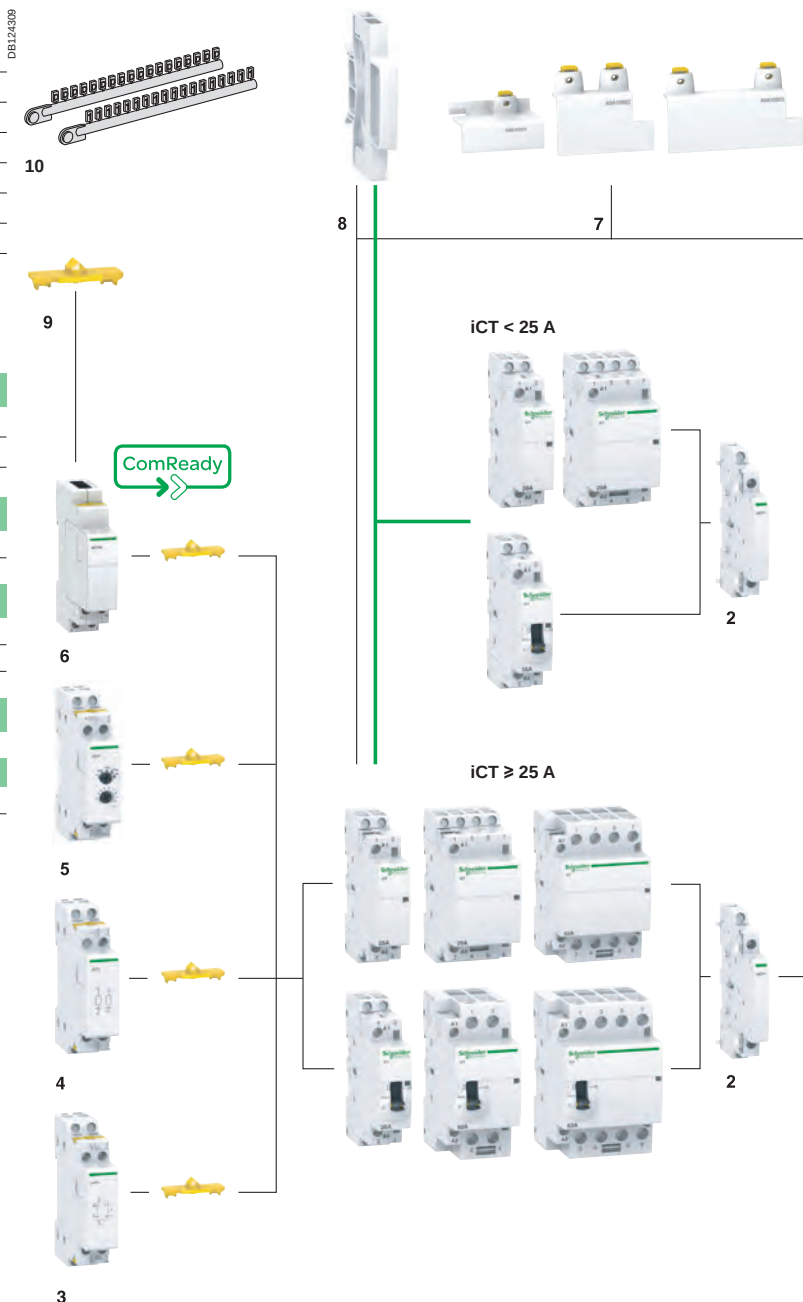


Mounting accessories

7	Sealable screw shields for top and bottom	3P, 4P 25 A	A9A15921
		2P 40/63 A	A9A15922
		3P, 4P 40/63 A	A9A15923
8	9 mm spacer		A9A27062
9	Yellow clips		A9C15415
10	Clip-on terminal markers	see module	CA907001

Auxiliaries

Indication			
2	iACTs	1NO + 1NC	A9C15914
		1CO	A9C15915
		2NO	A9C15916
Double control inputs			
3	iACTc	230 V AC	A9C18308
		24 V AC	A9C18309
Coil suppression blocs			
4	iACTp	12...48 V AC	A9C15919
		48...127 V AC	A9C15918
		220...240 V AC	A9C15920
Time delay			
5	iATet	24...240 V AC	A9C15419
Control and indication			
6	iACT24	230 V AC	A9C15924

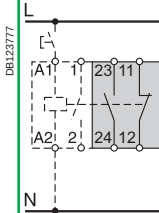
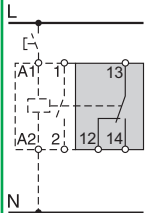
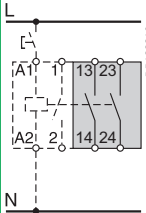
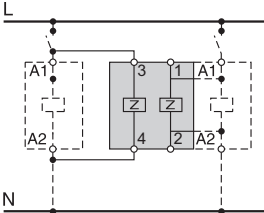
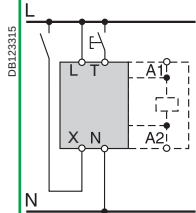


Technical data

Power circuit		
Voltage rating (Ue)	1P, 2P	250 V AC
	3P, 4P	400 V AC
Frequency		50 Hz or 60 Hz
Type of load		See module CA908026
Endurance (O-C)		
Electrical		100,000 cycles
Maximum number of switching operation a day		100

Additional characteristics		
Insulation voltage (Ui)		500 V AC
Pollution degree		2
Rated impulse withstand voltage (Uimp)		2.5 kV (4 kV for 12/24/48 V AC)
Degree of protection (IEC 60529)	Device only	IP20
	Device in modular enclosure	IP40
Operating temperature		-5°C to +60°C ⁽¹⁾
Storage temperature		-40°C to +70°C
Tropicalization (IEC 60068-1)		Treatment 2 (relative humidity 95 % at 55°C)
ELSV compliance (Extra Low Safety Voltage) for 12/24/48 V AC versions		
The product control conforms to the SELV (safety extra low voltage) requirements		

(1) In the case of contactor mounting in a enclosure for which the interior temperature is in range between 50°C and 60°C, it is necessary to use a spacer, cat. no. A9A27062, between each contactor

Auxiliaries		Indication	Protection	Control				
Type	iACTs	iACTp	iACTc					
	Indication	Interference filtering	Impulse/latched control					
	With Open/Close auxiliary contact	2 protection circuits						
								
Function								
	■ This auxiliary allows indication of the "open" or "closed" position of the contactor power contacts	■ This auxiliary is an interference suppressor which limits overvoltages on the control circuit	■ This auxiliary, combined with contactors, enables them to be controlled by 2 order types: □ impulse order for local control (input T) □ latched order for centralised control (input X) □ the last order received takes priority					
Wiring diagrams								
								
Mounting								
	■ Mounted to the right of iCT	■ Mounted to the left of iCT by yellow clips⁽¹⁾ ■ By wires	■ Mounted to the left of iCT by yellow clips⁽¹⁾					
Use								
	–	■ The iACTp has 2 separate and identical circuits, allowing it to be combined with 2 different one on the iCT the other by wires	■ Mains power outages: □ < 1 s: keeps its initial status □ ≥ 5 s: reset □ put back into operation by manual operation on input X or T. ■ Minimum impulse duration: 250 ms					
Catalogue numbers	A9C15914	A9C15915	A9C15916	A9C15918	A9C15919	A9C15920	A9C18308	A9C18309
Technical specifications								
Control voltage (U _e)	V AC	24...240	48 ...127	12 ...48	220 ...240	230...240	24...48	
	V DC	24...130	–	–	–	–	–	
Operating frequency	Hz	50/60	50/60	50/60	50/60	50/60	50/60	
Width in 9 mm modules		1	2	2	2	2	2	
Auxiliary contact (breaking capacity)		■ Minimum: 10 mA at 24 V DC/AC - cos φ = 1 ■ Maximum: □ 5 A at 240 V AC - cos φ = 1 □ 1 A at 130 V DC		–	–	–	–	
Number of contacts		1NO + 1NC	1CO	2NO	–	–	–	
Operating temperature	°C	-5°C to +50°C		–	–	–	–	
Storage temperature	°C	-40°C to +70°C		–	–	–	–	
Consumption		–	–	–	–	–	OFF load: 3 VA Inrush ⁽²⁾ : 2 VA Holding ⁽²⁾ : 0.2 VA	

(1) Electrical and mechanical link.

(2) Maximum consumption of all contactors controlled.

Control (cont.)

iATEt

Time delay

PB106125-34



■ This auxiliary is used to time delay for iCT and iTL. According to cabling, there are 5 possible time delay types:

- ☐ 1 for iTL
- ☐ 4 for iCT.

Function type A: late closing

■ Delay energizing of contactor.

Function type B: time delay

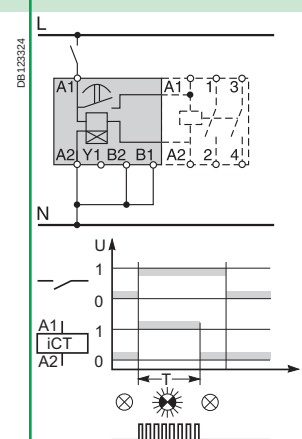
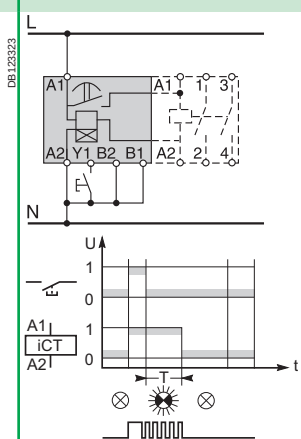
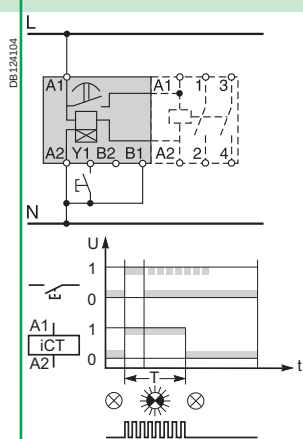
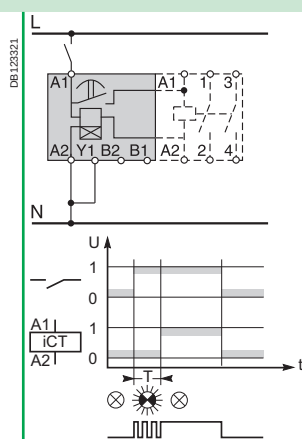
■ Energize the contactor by closing a push button.
■ The time delay starts as soon as the control contacts are closed.

Function type C: late opening

■ Energize the contactor by closing a push button.
■ The time delay starts when the control contacts are opened.

Function type H: fixed time operation

■ Operate the contactor for a pre-determined time from the moment of energizing.



■ Mounted to the left of iCT by yellow clips⁽¹⁾

A9C15419

24...240

24...110

50/60

2

—

—

-20°C to +50°C

-40°C to +80°C

Off-load: 5 VA
Inrush⁽²⁾: 3 A
Holding⁽²⁾: 0.2 A



Country approval pictograms

iTL, iTLI, iTLs,
iTLC, iTLm

IEC/EN 60669-2-2

iTLs: IEC/EN 60947-5-1

Impulse relays

PBL06126-34



PBL06128-34



iTL

- The impulse relays are used to control, by means of pushbuttons, lighting circuits consisting of:
 - incandescent lamps, low-voltage halogen lamps, etc. (resistive loads)
 - fluorescent lamps, discharge lamps, etc. (inductive loads)

Remote indication

PBL06133-34



iTLs

- Allows remote indication of its operating state (open/closed)

PBL06139-34



Indication iATLs

- Allows remote indication of the associated impulse relay

Centralised control

PBL06130-34



iTLC

- Allows centralised control of a group of TLC impulse relays, whilst at the same time retaining local impulse-type control

PBL06137-34



Centralised control iATLC

- Used for centralised control, thanks to a "pilot line", of a group of impulse relays controlling separate circuit, while at the same time maintaining local individual control of each impulse relay

Latched control

PBL06132-34



iTLm

- Operated by latched orders from a changeover contact (switch, time switch, thermostat). Manual control does not work

PBL06138-34



Latched control iATLm

- Controls the associated impulse relay by latched orders from a changeover contact

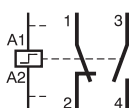
Impulse relays

Impulse relays are used:

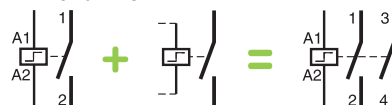
- Closing of the impulse relay pole(s) is triggered by an impulse on the coil.
- Having two stable mechanical positions, the pole(s) will be opened by the next impulse. Each impulse received by the coil reverses the position of the pole(s).
- Can be controlled by an unlimited number of pushbuttons.
- Zero energy consumption.

**Changeover contact iTLi**

- This impulse relay has a changeover contact

**Extensions iETL**

- Used to increase the number of impulse relay poles
- Can be installed on the iTL, iTLi, iTLc, iTLm and iTLs

**Centralised control + indication iATLc+s**

- Used for centralised control, thanks to a "pilot line", of a group of impulse relays controlling separate circuit, while at the same time maintaining local individual control of each impulse relay
- Remote indication of the mechanical status of each relay

**Multi-level centralised control iATLc+c**

- Allows centralised control of a group of iTLc or "iTL + ATLc" impulse relays



ComReady

Control and indication 24 V DC iATL24

- Allows control and indication of a 230 V AC impulse relay from the Acti 9 Smartlink or by a PLC, by 24 V DC signals
- Also allows control by a pulsed signal

**Time delay iATEt**

- Combined with an impulse relay, it automatically disconnects the circuit after a preset time

**Control iATLz**

- Must be used when installing several illuminated PBs in parallel to control an impulse relay (prevents operating malfunctions)

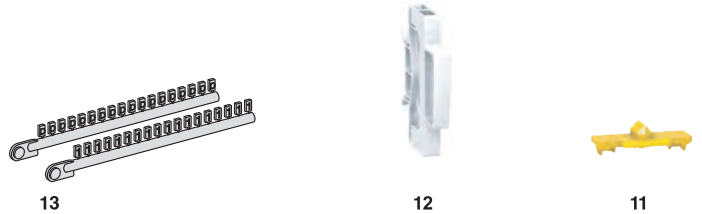
**Step by step control iATL4**

- Allows step-by-step control of two circuits via a single pushbutton

Mounting accessories

11 Yellow clips	A9C15415
12 9 mm spacer	A9A27062
13 Clip-on terminal markers	see module CA907001

DB123631



Auxiliaries

Centralised control			
2 iATLc ^{(1), (3)}	24...240 V AC	A9C15404	
Indication			
3 iATLs ⁽¹⁾	24...240 V AC	A9C15405	
Centralised control + indication			
4 iATLc+s ⁽³⁾	24...240 V AC	A9C15409	
Multi-level centralised control			
5 iATLc+c ^{(2), (3)}	24...240 V AC	A9C15410	
Step by step control			
6 iATL4	230 V AC	A9C15412	
Control by illuminated push-buttons			
7 iATLz	130...240 V AC	A9C15413	
Latched control			
8 iATLm ⁽¹⁾	12...240 V AC	A9C15414	
Time delay control			
9 iATEt ⁽⁴⁾	24...240 V AC	A9C15419	
Control and indication			
10 iATL24	230 V AC	A9C15424	

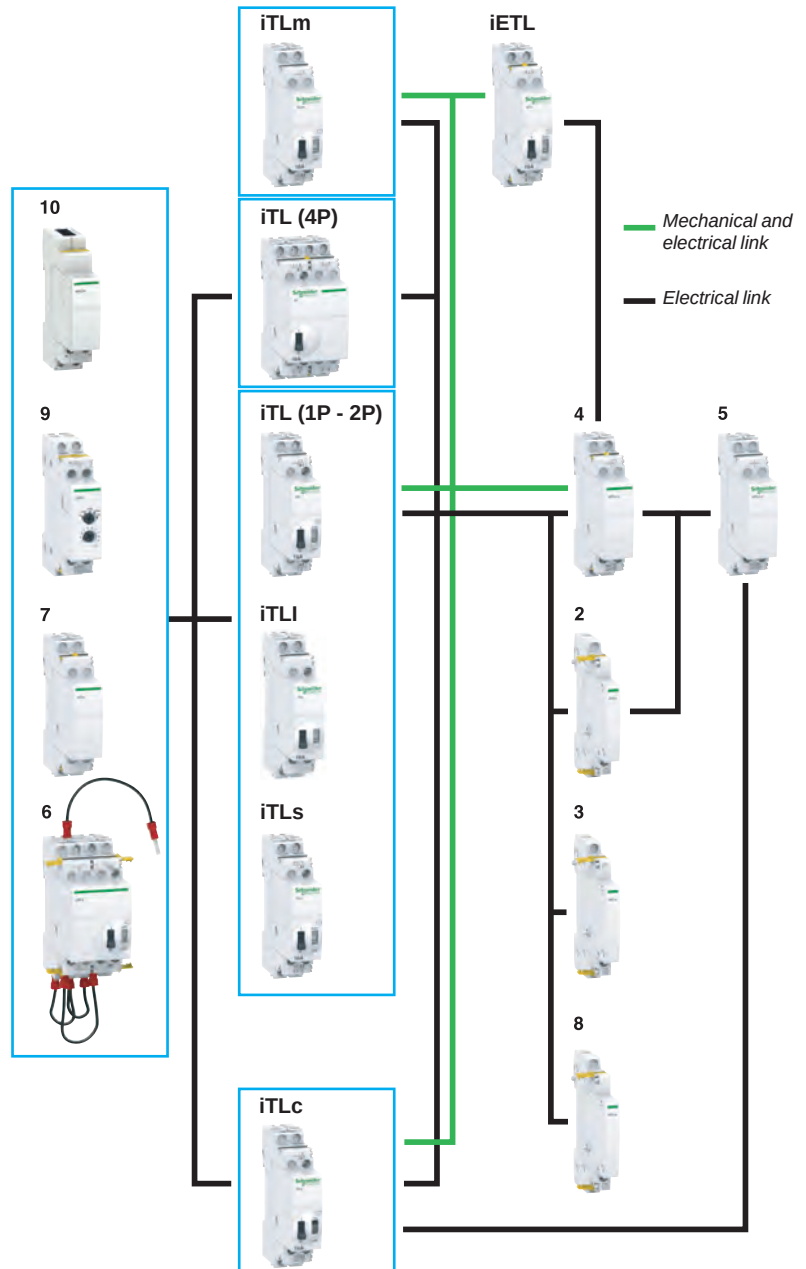
(1) The iATLc, iATLs and iATLm 9 mm auxiliaries are used by themselves to the right of an impulse relay.

(2) Connection by traditional cabling.

The iATLc+c must be mounted to the right of an iATLc+s or an iATLc.

(3) The centralised control functions (iTLc, iATLc, iATLc+s, iATLc+c) only operate on AC voltage networks.

(4) iATEt: control voltage:
24...240 V AC, 24...110 V DC.



PB100126-4L

Yellow clip

- A simple clip-on system for flexible auxiliaries combination and improved robustness
- For electrical and mechanical connections

- Large circuit labeling area

- Consistent with the entire Acti 9 offer and with all types of lighting

- Insulated terminals IP20

- Built-in or optional auxiliary function: state indication, centralised control, latched control, control for illuminated pushbutton, step-by-step control, time delay

- Disconnection of remote control by selector switch (except for 4P single-piece iTL) for maintenance operation

- Manual controls on front face: direct and priority manual control by O-I toggle
- Mechanical contact position indicator

		Choice impulse relays auxiliaries																					
Type		Standard iTL						Changeover iTLI						iTLC centralised control			iTLM control on latched order		iTLS remote indication				
Rating	A	16						32		16						16			16		16		
Control voltage	V AC	230/240	130	48	24	12	230/240	230/240	130	48	24	12	230/240	48	24	230/240	230/240	48	24				
	V DC	110	48	24	12	6	110	110	48	24	12	6	-		110	110	24	12					
Auxiliaries																							
Extension																							
iETL		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■					
Centralised control + indication																							
iATLC+s		■	■	■	■	-	■	■	■	■	-	-	-	-	-	-	■	■	■				
Centralised control																							
iATLC		■	■	■	■	-	■	■	■	■	-	-	-	-	-	-	■	■	■				
Indication																							
iATLS		■	■	■	■	-	■	■	■	■	■	■	■	■	■	■	■	■	■				
Multi-level centralised control																							
iATLC+c		■	■	■	■	-	■	■	■	■	-	-	■	■	■	-	■	■	■				
Latched control																							
iATLM		■	■	■	■	■	■	■	■	■	■	■	-	-	-	-	■	■	■				
Control for illuminated Pushbutton																							
iATLz		■	■	-	-	-	■	■	■	-	-	-	■	■	-	-	■	■	-				
Step by step control																							
iATL4		■	-	-	-	-	■	■	-	-	-	-	■	-	-	-	■	-	-				
Time delay control																							
iATEt		■	■	■ (*)	■	-	■	■	■	■	■ (*)	-	■	■	■	-	■	■	■ (*)				
Control and indication																							
iATL24		■	-	-	-	-	■	■	-	-	-	-	■	-	-	-	■	-	-				

(*) iATEt : does not operate on 12 V DC.

Catalogue numbers

iTL impulse relays

Type			1P	2P	3P	4P
Rating (In)	Control voltage (Uc)					
	(V AC)	(V DC)				
16 A	12	6	A9C30011	A9C30012	A9C30011 + A9C32016	A9C30012 + A9C32016
	24	12	A9C30111	A9C30112	A9C30111 + A9C32116	A9C30114
	48	24	A9C30211	A9C30212	A9C30211 + A9C32216	A9C30212 + A9C32216
	130	48	A9C30311	A9C30312	A9C30311 + A9C32316	A9C30312 + A9C32316
	230...240	110	A9C30811	A9C30812	A9C30811 + A9C32816	A9C30814
32 A	230...240	110	A9C30831	A9C30831 + A9C32836	A9C30831 + 2 x A9C32836	A9C30831 + 3 x A9C32836
Width in 9 mm modules			2	2	4	4

iTLI impulse relays

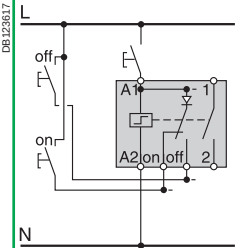
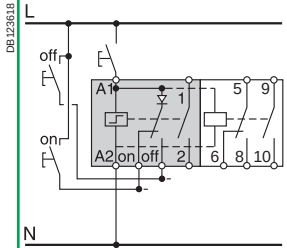
Type			1P
Rating (In)	Control voltage (Uc)		
	(V AC)	(V DC)	
16 A	12	6	A9C30015
	24	12	A9C30115
	48	24	A9C30215
	130	48	A9C30315
	230...240	110	A9C30815
Width in 9 mm modules			2

iETL extensions for iTL and iTLI

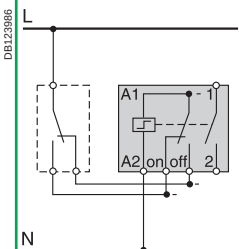
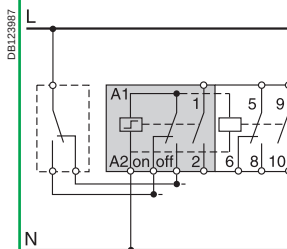
Type					Width in 9 mm modules
1P	Rating (In)	Control voltage (Uc)			
		(V AC)	(V DC)		
	32 A	230...240	110	A9C32836	2
2P	Rating (In)	Control voltage (Uc)			
		(V AC)	(V DC)		
	16 A	12	6	A9C32016	2
		24	12	A9C32116	2
		48	24	A9C32216	2
		130	48	A9C32316	2
		230...240	110	A9C32816	2

Catalogue numbers (cont.)

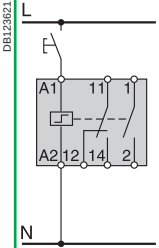
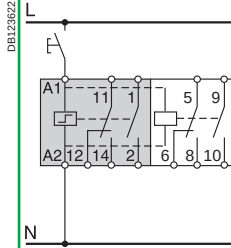
iTLC impulse relay with centralised control

Type		1P	3P
			
Rating (In)	Control voltage (Uc) (V AC)		
16 A	24	A9C33111	A9C33111 + A9C32116
	48	A9C33211	A9C33211 + A9C32216
	230...240	A9C33811	A9C33811 + A9C32816
Width in 9 mm modules		2	4

iTLm impulse relay with latched control

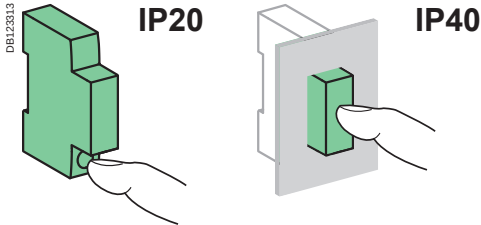
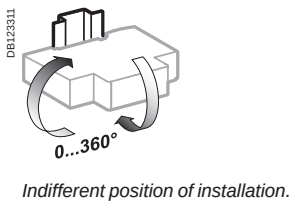
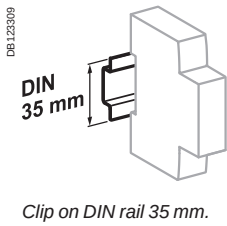
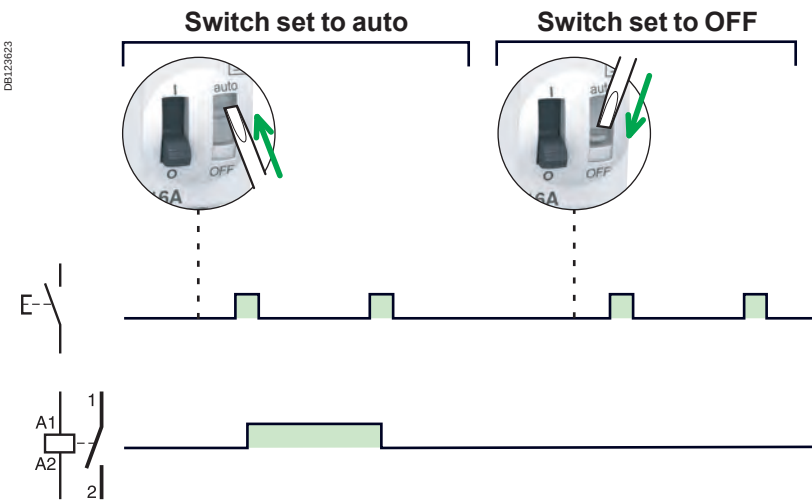
Type		1P	3P
			
Rating (In)	Control voltage (Uc) (V AC)		
16 A	230...240	A9C34811	A9C34811 + A9C32116
Width in 9 mm modules		2	4

iTLs impulse relay with remote indication*

Type		1P	3P
			
Rating (In)	Control voltage (Uc)		
	(V AC)	(V DC)	
	24	12	A9C32111
	48	24	A9C32211
16 A	230...240	110	A9C32811
			A9C32811 + A9C32816
Width in 9 mm modules			4

(*) Short circuit protection device for indication contacts : 6 A gG fuse.

Operation



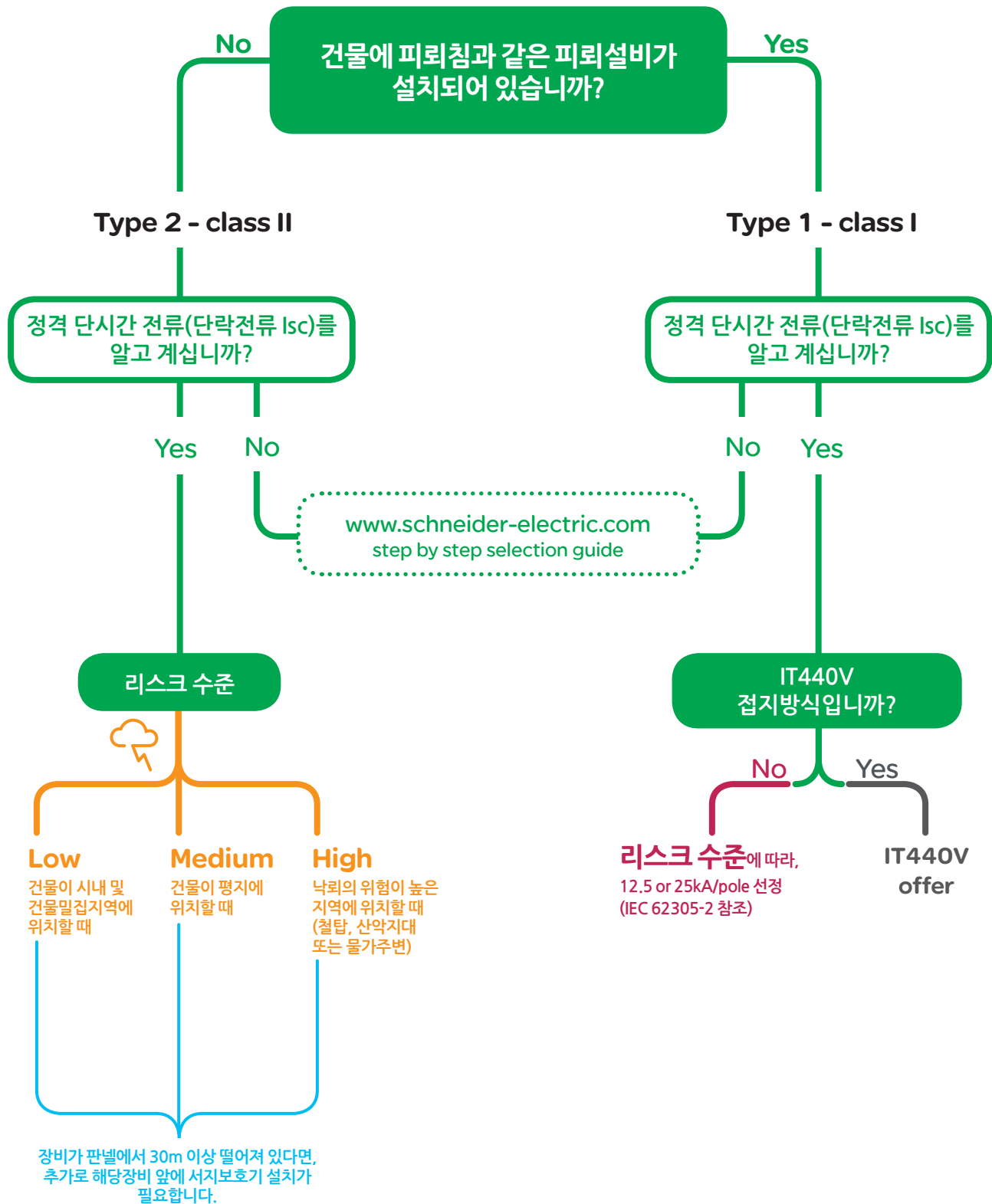
Technical data

Control circuit		
	iTL and iTLI 16 A iTLC, iTLm, iTLs, iETL 16 A	iTL 32 A, iETL 32 A
Dissipated power (during the impulse)	1, 2, 3P: 19 VA 4P: 38 VA	19 VA
Illuminated PB control	Max. current 3 mA (if > use an ATLz)	
Operating threshold	Min. 85 % of Un in conformance with IEC/EN60669-2-2	
Duration of the control order	50 ms to 1 s (200 ms recommended)	
Response time	50 ms	
Power circuit		
Voltage rating (Ue)	1P, 2P	24 ...250 V AC
	3P, 4P	24....415 V AC
Frequency	50 Hz or 60 Hz	
Maximum number of operations per minute	5	
Maximum number of switching operation a day	100	
Additional characteristics to IEC/EN 60947-3		
Insulation voltage (Ui)	440 V AC	
Pollution degree	3	
Rated impulse withstand voltage (Uimp)	6 kV	
Endurance (O-C)		
Electrical to IEC/EN 60947-3	200,000 cycles (AC21)	50,000 cycles (AC21)
	100,000 cycles (AC22)	20,000 cycles (AC22)
Overvoltage category	IV	
Other characteristics		
Degree of protection (IEC 60529)	Device only	IP20
	Device in modular enclosure	IP40 Insulation class II
Operating temperature	-20°C to +50°C	
Storage temperature	-40°C to +70°C	
Tropicalization (IEC 60068-1)	Treatment 2 (relative humidity 95 % at 55°C)	

Control and indication

Auxiliaire	iATL24	
Type	Control and indication 24 V DC	
	With Ti24 connector	

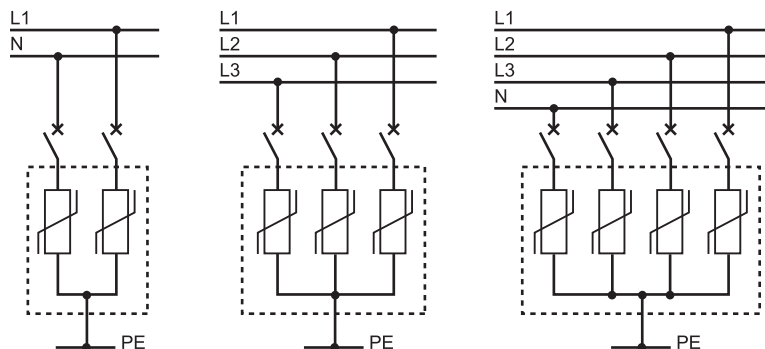
(1) Mechanical and electrical connection.



Internal architecture of surge arresters

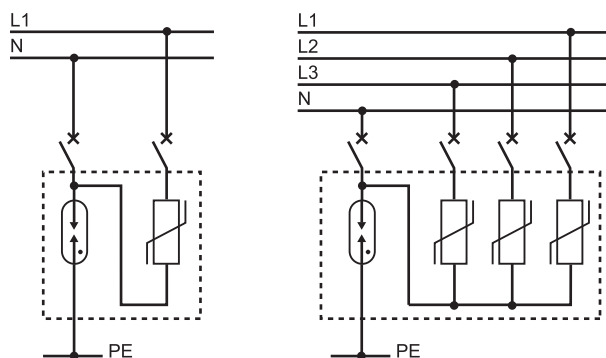
■ 2P, 3P, 4P surge arresters:

- they provide protection against common-mode overvoltages only
- they are appropriate for TN-C and IT earthing systems.



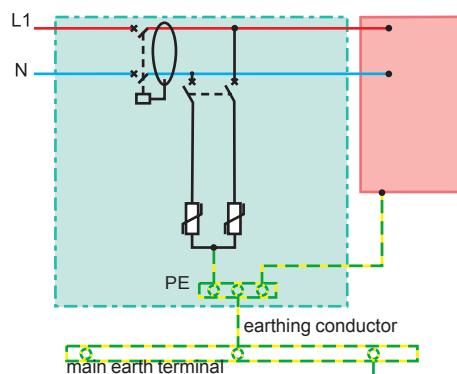
■ 1P+N, 3P+N surge arresters:

- they provide protection against common-mode and differential-mode overvoltages
- they are appropriate for TT, TN-S, and IT earthing systems.



■ Single-pole (1P) surge arresters:

- they are used to satisfy the demand of different assemblies (according to the manufacturer's instructions) by supplying only one product. However, special dimensioning will be required for N - PE protection (for example 1+N and 3P+N)
- -the assembly must be validated by means of the tests specified in EN 61643-11.



Connection example.

iPRF1 12.5r/PRF1 Master/ PRD1 25r/PRD1 Master Type 1 및 2 서지보호기

The Type 1 range of surge arresters meets the normative withstand capability of current wave type 10/350 as (8/20 as for Type 2 surge arresters).

It is suitable for use with TT, TN-S, TN-C and 230 V IT earthing connection systems (neutral point connection).

In addition, the PRF1 Master surge arrester covers the 400 V IT system.

iPRF1 12.5r and PRD1 surge arresters are fitted with a remote transfer contact to send «end-of-life indication» information.

PRD1 surge arresters are fitted with easy-to-replace withdrawable cartridges.

iPRF1 12.5r/PRF1 Master/PRD1 25r/PRD1 Master

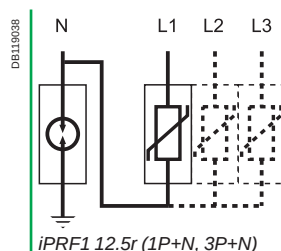
The Type 1 surge arrester is recommended for electrical installations in the service sector and industrial buildings protected by a lightning conductor or by a meshed cage.

It protects electrical installations against direct lightning strikes.

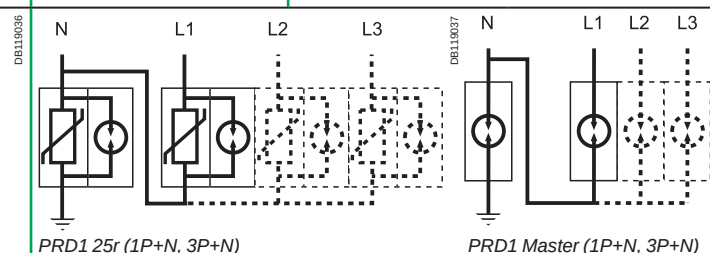
It is used to conduct the direct lightning current, propagating from the earth conductor to the network conductors.

It must be installed with an upstream disconnection device, such as a fuse or circuit-breaker, whose breaking capacity must be at least equal to the maximum prospective short-circuit current at the installation point.

iPRF1 12.5r and PRD1 25r surge arresters also provide Type 2 protection and protect the electrical installation by finely clipping the lightning wave overvoltages.



Type of surge arrester	Product solution	
Fixed surge arrester	1P+N	3P+N
iPRF1 12.5r T1, T2	A9L16632	A9L16634
PRF1 Master T1		



Cartridge surge arrester	1P+N	3P+N
PRD1 25r T1 + T2	16330	16332
PRD1 Master T1	16361	16363



PRF1 12.5r



PRD1 25r

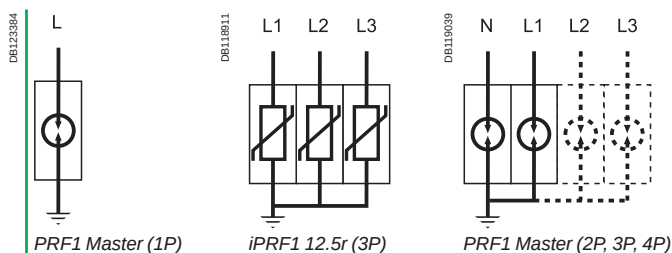


PRD1 Master

iPRF1 12.5r/PRF1 Master/ PRD1 25r/PRD1 Master Type 1 및 2 서지보호기

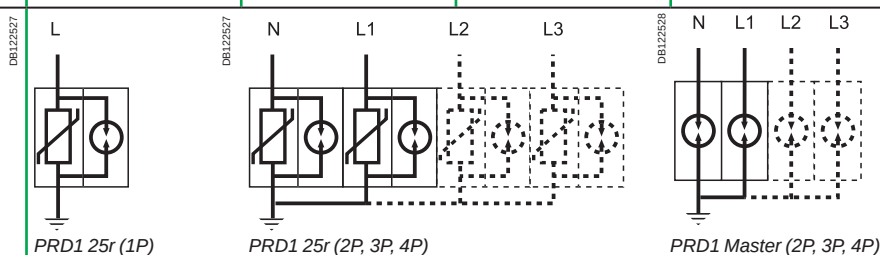
Accessories

Type	Number of poles	Cat. no.
4P Wiring comb busbars	4	16643
6P Wiring comb busbars	6	16644
8P Wiring comb busbars	8	16645
200 mm flexible cable (PRF1 Master)		16646



Name of the surge arrester	Spare cartridge		
	Phase Type 1	Type 2	Neutral
PRD1 25r			
PRD1 25r 1P	16315	16316	-
PRD1 25r 1P+N	16315	16316	16317
PRD1 25r 3P	3 x 16315	3 x 16316	-
PRD1 25r 3P+N	3 x 16315	3 x 16316	16317
PRD1 Master			
PRD1 Master 1P	16314	-	-
PRD1 Master 1P+N	16314	-	16317
PRD1 Master 3P	3 x 16314	-	-
PRD1 Master 3P+N	3 x 16314	-	16317

					Neutral point connection	Recommended accessory
	1P	2P	3P	4P		
					TT, TN-S	
			A9L16633		TN-C	
		2 x 16630			IT ⁽¹⁾ distributed neutral	16643
	16630		3 x 16630		IT ⁽¹⁾ non-distributed neutral	16644
				4 x 16630	IT ⁽¹⁾ distributed neutral	16645



	1P	2P	3P	4P		
					TT, TN-S	
		2 x 16329		4 x 16329	IT 230 V	
	16329		16331		TN-C	
					TT, TN-S	
		2 x 16360		4 x 16360	IT 230 V	
			16362		TN-C	

(1) Version without indicator light.

iPRF1 12.5r/PRF1 Master/ PRD1 25r/PRD1 Master Type 1 및 2 서지보호기

Name of the surge arrester	Nb. of poles	Width	I imp (kA) (10/350) Impulse current		I max (kA) (8/20) Maximal discharge current	In - kA Rated discharge current	Up - kV Degree of protection	Un - V Nominal line voltage	Uc - V Maximum steady state voltage	Cat. no.
Fixed surge arrester		9 mm modules	Surge arrester	Surge arrester + disconnector						
iPRF1 12.5r Type 1 + 2										
	1P+N	4	12.5/50 N/PE		50	25	1.5	230	350	A9L16632
	3P	8	12.5		50	25	1.5	230 / 400	350	A9L16633
	3P+N	8	12.5/50 N/PE		50	25	1.5	230 / 400	350	A9L16634
PRF1 Master Type 1										
	1P	4	50	35	-	50	1.5	230	440	16630
Withdrawable surge arrester										
PRD1 25r Type 1 + 2										
	1P	4	25		40	25	1.5	230	350	16329
	1P+N	8	25/100 N/PE		40	25	1.5	230/400	350	16330
	3P	12	25		40	25	1.5	230	350	16331
	3P+N	16	25/100 N/PE		40	25	1.5	230/400	350	16332
PRD1 Master Type 1										
	1P	4	25		-	25	1.5	230	350	16360
	1P+N	8	25/100 N/PE		-	25	1.5	230/400	350	16361
	3P	12	25		-	25	1.5	230	350	16362
	3P+N	16	25/100 N/PE		-	25	1.5	230/400	350	16363
Spare cartridge										
C1 Master-350	-	4	-	-	-	25	1.5	-	350	16314
C1 25-350	-	23 mm	-	-	-	25	1.5	-	350	16315
C2 40-350	-	12 mm	-	-	-	20	1.4	-	350	16316
C1 Neutral-350	-	4	-	-	-	-	-	-	350	16317

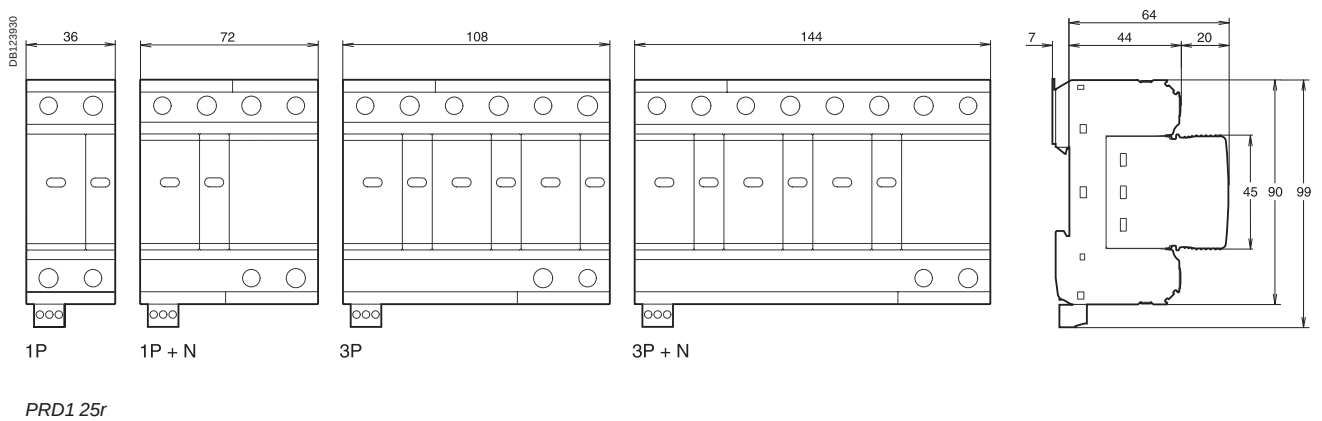
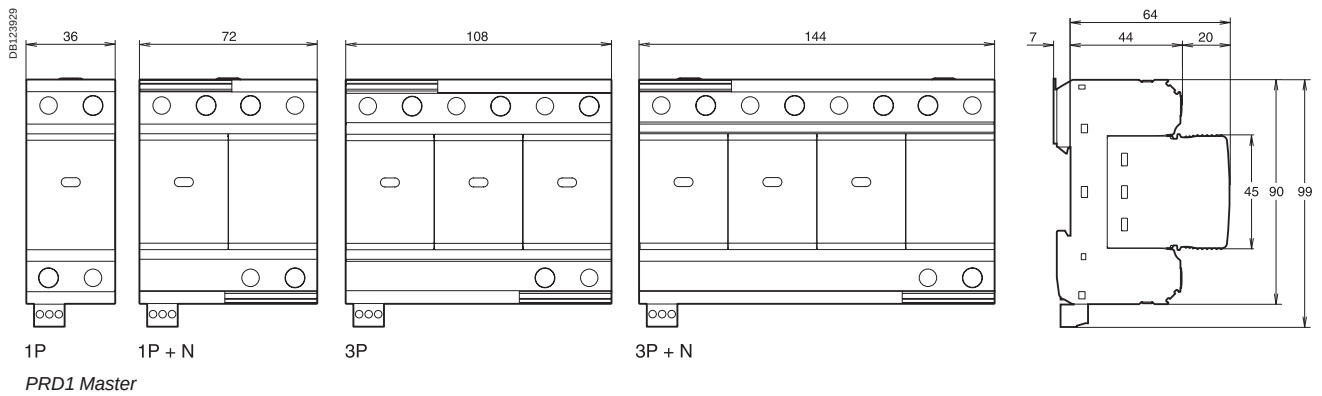
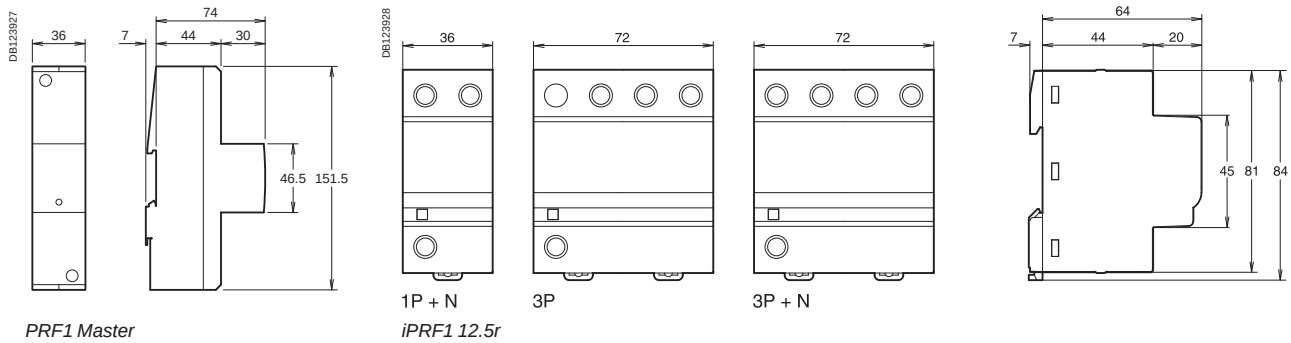
Technical data					
		iPRF1 12.5r	PRF1 Master	PRD1 25r	PRD1 Master
Operating frequency		50 Hz	50/60 Hz	50 Hz	50 Hz
Degree of protection	Front panel	IP40	IP40	IP40	IP40
	Terminals	IP20	IP20	IP20	IP20
	Impacts	IK05	IK05	IK05	IK05
Response time		≤ 25 ns	≤ 1 μs	≤ 25 ns	≤ 100 ns
End-of-life indication		Green: correct operation	-	White: correct operation	White: correct operation
		Red: at end of life	-	Red: at end of life	Red: at end of life
	Remote notification	1 A/250 V AC	-	1 A/250 V AC. 0.2 A/125 V DC	1 A/250 V AC. 0.2 A/125 V DC
By tunnel terminal	Rigid cable	10...35 mm ²	10...50 mm ²	2.5...35 mm ²	10...35 mm ²
	Flexible cable	10...25 mm ²	10...35 mm ²	2.5...25 mm ²	10...25 mm ²
Operating temperature		-25°C to +60°C	-40°C to +85°C	-25°C to +60°C	-25°C to +60°C
Standards	Type 1	IEC 61643-1 T1. EN 61643-11 Type 1	IEC 61643-1 T1. EN 61643-11 Type 1	IEC 61643-1 T1. EN 61643-11 Type 1	IEC 61643-1 T1. EN 61643-11 Type 1
	Type 2	IEC 61643-1 T2. EN 61643-11 Type 2	-	IEC 61643-1 T2. EN 61643-11 Type 2	-
Certification		CE	KEMAKEUR, CE	KEMAKEUR, CE	CE

Choice of disconnector / surge arrester							
Type	Iimp: impulse current	Isc: prospective short-circuit current at the installation point					
		10 kA		15 kA	25 kA	36 kA	50 kA
iPRF1 12.5r	12.5 kA	C120N 80 A curve C	C120H 80 A curve C or NG125N 80 A curve C	NG125N 80 A curve C	Contact us		
PRF1 Master	35 kA	Compact NSX160B 160 A TM			Compact NSX160F 160 A	Compact NSX160N 160 A	
PRD1 25r	25 kA	NG125N 80 A curve C			-		
PRD1 Master	25 kA	NG125N 80 A curve C			NG125H 80 A curve C	NG125L 80 A curve C	

iPRF1 12.5r/PRF1 Master/ PRD1 25r/PRD1 Master Type 1 및 2 서지보호기

Dimensions

(mm)



iPRD withdrawable surge arresters allow quick replacement of damaged cartridges.
Type 2 surge arresters are tested with a 8/20 μ s current wave.
Type 3 surge arresters are tested with a 12/50 μ s and 8/20 μ s combined wave.

Each surge arrester in the range has a specific application:

■ **incoming protection (type 2):**

- the iPRD65r is recommended for a very high risk level (strongly exposed site)
- the iPRD40(r) is recommended for a high risk level
- the iPRD20(r) is recommended for a medium risk level

■ **secondary protection (type 2 or 3):**

- the iPRD8(r) ensures secondary protection of loads to be protected and is placed in cascade with the incoming surge arresters. This surge arrester is required when the loads to be protected are at a distance of more than 30 m from the incoming surge arrester.

The iPRD surge arresters with “r” indication have remote transfer of the information: “cartridge to be replaced”.

Catalogue number iPRD surge arresters



2P



4P

Rated discharge current (Imax) / Nominal discharge current (In)	Type of protection		Network					
	Incoming	Secondary	1P+N	3P+N	1P	2P	3P	4P
65 kA / 20 kA								
Very high risk level (strongly exposed site)	iPRD65				A9L16556			
			A9L16557			A9L16442		
							A9L16443	
			A9L16559					
							A9L16659	
40 kA / 15 kA								
High risk level	iPRD40				A9L16561			
			A9L16562			A9L16444		
							A9L16445	
			A9L16564					
							A9L16597	
20 kA / 5 kA								
Medium risk level	iPRD20				A9L16571			
			A9L16672			A9L16446		
							A9L16447	
			A9L16674					
							A9L16599	
8 kA / 2.5 kA								
Secondary protection: placed near the loads to be protected when they are at a distance of more than 30 m from the incoming surge arrester		iPRD8			A9L16576			
			A9L16677			A9L16448		
							A9L16449	
			A9L16679					
							A9L16678	



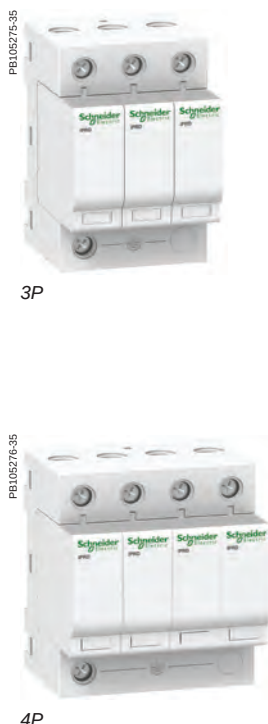
Cartridge

Spare cartridges iPRD		
Type	Spare cartridges for	Cat. no
C 65-350	iPRD65r	A9L16681
C 40-350	iPRD40, iPRD40r	A9L16685
C 20-350	iPRD20, iPRD20r	A9L16687
C 8-350	iPRD8, iPRD8r	A9L16689
C neutral	All products (1P+N, 3P+N)	A9L16691

	Earthing system	Transfer	Surge arrester name	Width in mod. of 9 mm	Up (kV) Voltage protection level			Un (V) Rated voltage network	Uc (V) Maximum continuous operating voltage		
					CM*		DM*		CM*		DM*
					L/≡	N/≡	L/N		L/≡	N/≡	L/N
iPRD65											
A9L16556	TT & TN	■	iPRD65r 1P	2	≤ 1.5	-	-	-	350	-	-
A9L16557	TT & TN-S	■	iPRD65r 1P+N	4	-	≤ 1.5	≤ 1.5	-	-	260	350
A9L16442	TN-C	■	iPRD65r 2P	6	≤ 1.5	≤ 1.5	-	-	350	350	-
A9L16443	TN-C	■	iPRD65r 3P	6	≤ 1.5	-	-	-	350	-	-
A9L16559	TT & TN-S	■	iPRD65r 3P+N	8	-	≤ 1.5	≤ 1.5	-	-	260	350
A9L16659	TN-C	■	iPRD65r 4P	8	≤ 1.5	≤ 1.5	-	-	350	350	-
iPRD40											
A9L16561	TT & TN	■	iPRD40r 1P	2	≤ 1.4	-	-	230	350	-	-
A9L16562	TT & TN-S	■	iPRD40r 1P+N	4	-	≤ 1.4	≤ 1.4	-	-	260	350
A9L16444	TN-C	■	iPRD40r 2P	6	≤ 1.4	≤ 1.4	-	-	350	350	-
A9L16445	TN-C	■	iPRD40r 3P	6	≤ 1.4	-	-	230/400	350	-	-
A9L16564	TT & TN-S	■	iPRD40r 3P+N	8	-	≤ 1.4	≤ 1.4	-	-	260	350
A9L16597	TN-C	■	iPRD40r 4P	8	≤ 1.4	≤ 1.4	-	-	350	350	-
iPRD20											
A9L16571	TT & TN		iPRD20 1P	2	≤ 1.1	-	-	230	350	-	-
A9L16672	TT & TN-S	■	iPRD20r 1P+N	4	-	≤ 1.4	≤ 1.1	-	-	260	350
A9L16446	TN-C		iPRD20 2P	6	≤ 1.1	≤ 1.1	-	-	350	350	-
A9L16447	TN-C		iPRD20 3P	6	≤ 1.1	-	-	230/400	350	-	-
A9L16674	TT & TN-S	■	iPRD20r 3P+N	8	-	≤ 1.4	≤ 1.1	-	-	260	350
A9L16599	TN-C		iPRD20 4P	8	≤ 1.1	≤ 1.1	-	-	350	350	-
iPRD8 (1) Type 2 / Type 3											
A9L16576	TT & TN		iPRD8 1P	2	≤ 1 / ≤ 1	-	-	230	350	-	-
A9L16677	TT & TN-S	■	iPRD8r 1P+N	4	-	≤ 1.4 / ≤ 1	≤ 1 / ≤ 1.1	-	-	260	350
A9L16448	TN-C		iPRD8 2P	6	≤ 1 / ≤ 1	≤ 1 / ≤ 1	-	-	350	350	-
A9L16449	TN-C		iPRD8 3P	6	≤ 1 / ≤ 1	-	-	230/400	350	-	-
A9L16679	TT & TN-S	■	iPRD8r 3P+N	8	-	≤ 1.4 / ≤ 1	≤ 1 / ≤ 1.1	-	-	260	350
A9L16678	TN-C		iPRD8 4P	8	≤ 1 / ≤ 1	≤ 1 / ≤ 1	-	-	350	350	-

* CM: common mode (phase to earth and neutral to earth). * DM: differential mode (phase to neutral). (1) Uoc: combined waveform voltage: 10 kV.

Catalogue number iPRD IT surge arresters



Rated discharge current (I _{max}) / Nominal discharge current (I _n)	Type of protection		N L1 L2 L3		
	Incoming	Secondary	1P	3P	4P
65 kA / 20 kA					
Very high risk level (strongly exposed site)	iPRD65		A9L16555	A9L16558	
40 kA / 15 kA					
High risk level	iPRD40			A9L16563	A9L16597
20 kA / 5 kA					
Medium risk level	iPRD20			A9L16573	A9L16599
8 kA / 2.5 kA					
Secondary protection: placed near the loads to be protected when they are at a distance of more than 30 m from the incoming surge arrester		iPRD8		A9L16578	A9L16678

Technical data iPRD, iPRD IT surge arresters

Main characteristics	
Operating frequency	50/60 Hz
Operating voltage (U _e)	230/400 V AC
Permanent operating current (I _c)	< 1 mA
Response time	< 25 ns
Satisfactory operation indication: by mechanical indicator	White In operation Red Cartridge must be replaced
Remote indication of satisfactory operation	By contact NO, NC 250 V / 0.25 A
Additional characteristics	
Operating temperature	-25°C to +60°C
Type of connection terminals	Tunnel terminals, 2.5 to 35 mm ²
Standards	IEC 61643-1 T2 and EN 61643-11 Type 2
Surge arrester/circuit breaker association	
Type of surge arrester	Associated circuit breaker
iPRD65	Curve C 50 A
iPRD40	Curve C 40 A
iPRD20	Curve C 25 A
iPRD8	Curve C 20 A



Cartridge

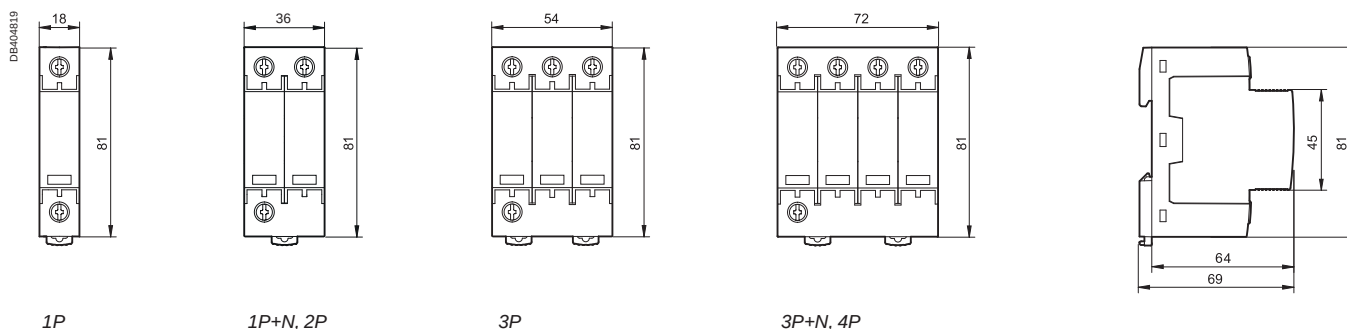
Spare cartridges iPRD IT

Type	Spare cartridges for	Cat. no
C 65-460	iPRD65r IT	A9L16682
C 40-460	iPRD40r IT	A9L16684
C 20-460	iPRD20r IT	A9L16686
C 8-460	iPRD8r IT	A9L16688

	Earthing system	Transfer	Surge arrester name	Width in mod. of 9 mm	Up (kV) Voltage protection level			Un (V) Rated voltage network	Uc (V) Maximum continuous operating voltage		
					CM*		DM*		CM*		DM*
					L/⊥	N/⊥	L/N		L/⊥	N/⊥	L/N
iPRD65											
A9L16555	IT	■	iPRD65r 1P IT	2	≤ 2	-	-	230	460	-	-
A9L16558	IT	■	iPRD65r 3P IT	6	≤ 2	-	-	230/400	460	-	-
iPRD40											
A9L16563	IT	■	iPRD40r 3P IT	6	≤ 2	-	-	-	460	-	-
A9L16597	IT	■	iPRD40r 4P IT	8	≤ 2	≤ 2	-	-	460	460	-
iPRD20											
A9L16573	IT	■	iPRD20r 3P IT	6	≤ 1.6	-	-	-	460	-	-
A9L16599	IT	■	iPRD20r 4P IT	8	≤ 1.6	≤ 1.6	-	-	460	460	-
iPRD8 (1) Type 2 / Type 3											
A9L16578	IT	■	iPRD8r 3P IT	6	≤ 1.4 / ≤ 1.6	-	-	-	460	-	-
A9L16678	IT	■	iPRD8r 4P IT	8	≤ 1.4 / ≤ 1.6	≤ 1.4 / ≤ 1.6	-	-	460	460	-

* **CM**: common mode (phase to earth and neutral to earth). * **DM**: differential mode (phase to neutral). (1) **Uoc**: combined waveform voltage: 10 kV.

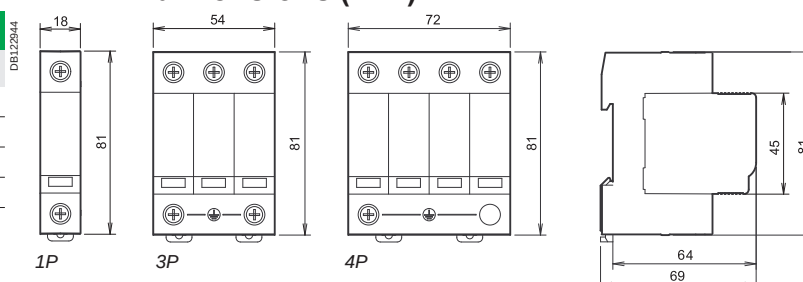
iPRD dimensions (mm)



Weight (g)

Surge arrester	
Type	iPRD
1P	115
1P+N, 2P	220
3P	340
3P+N, 4P	450

iPRD IT dimensions (mm)



The iPF multi-pole single-piece surge arrester range is adapted for earthing systems: TT, TN-S, TN-C.

Type 2 surge arresters are tested with a 8/20 μ s current wave.

Type 3 surge arresters are tested with a 12/50 μ s and 8/20 μ s combined wave.

Each surge arrester in the range has a specific application:

■ **incoming protection (type 2):**

- the iPF65(r) is recommended for a very high risk level (strongly exposed site)
- the iPF40(r) is recommended for a high risk level
- the iPF20 is recommended for a medium risk level

■ **secondary protection (type 2 or 3):**

- the iPF8 ensures secondary protection of loads to be protected and is placed in cascade with the incoming surge arresters. This surge arrester is required when the loads to be protected are at a distance of more than 30 m from the incoming surge arrester.

The iPF surge arresters with “r” indication have remote transfer of the information: “surge arrester to be replaced”.



1P+N.



3P+N.

Rated discharge current (Imax) / Nominal discharge current (In)	Type of protection		Network							
	Incoming	Secondary (type 2 or 3)	1P+N	3P+N	1P	2P	3P	4P		
65 kA / 20 kA										
	iPF65				A9L15683					
			A9L15684			A9L15584				
				A9L15685			A9L15581			
				A9L15586						
									A9L15585	
40 kA / 15 kA										
High risk level	iPF40				A9L15686					
			A9L15687			A9L15587				
				A9L15690			A9L15582			
				A9L15688					A9L15590	
									A9L15588	
20 kA / 5 kA										
Medium risk level	iPF20				A9L15691					
			A9L15692			A9L15592				
				A9L15693			A9L15597			
									A9L15593	
8 kA / 2.5 kA										
Secondary protection: placed near the loads to be protected when they are at a distance of more than 30 m from the incoming surge arrester		iPF8			A9L15694					
			A9L15695			A9L15595				
				A9L15696			A9L15598			
									A9L15596	

Surge arrester/circuit breaker association

Type of surge arrester	Associated circuit breaker
iPF65	Curve C 50 A
iPF40	Curve C 40 A
iPF20	Curve C 25 A
iPF8	Curve C 20 A

Technical data

Main characteristics		
Operating frequency		50/60 Hz
Operating voltage (Ue)		230/400 V AC
Permanent operating current (Ic)		< 1 mA
Response time		< 25 ns
End of life indication: by green/red mechanical indicator	Green	In operation
	Red	At end of life
End of life remote indication		By contact NO, NC 250 V / 0.25 A
Additional characteristics		
Operating temperature		-25°C to +60°C
Type of connection terminals		Tunnel terminals, 2.5 to 35 mm²
Standards		IEC 61643-1 T2 and EN 61643-11 Type 2

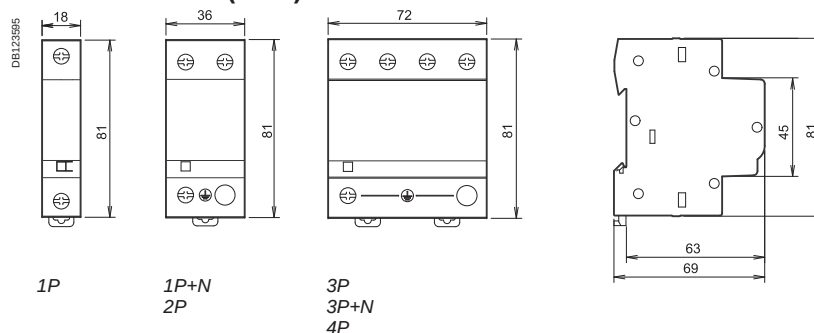
	Earthing system	Transfer	Surge arrester name	Width in mod. of 9 mm	Up (kV) Voltage protection level			Un (V) Rated voltage network	Uc (V) Maximum continuous operating voltage		
					CM*		DM*		CM*		DM*
					L/⊥	N/⊥	L/N		L/⊥	N/⊥	L/N
iPF65											
	TT & TN		iPF65 1P	2	≤ 1.5	-	-	230	340	-	-
	TT & TN-S		iPF65 1P+N	4	-	≤ 1.5	≤ 1.5		-	260	340
	TN-C		iPF65 2P		≤ 1.5	≤ 1.5	-		340	340	-
	TN-C		iPF65 3P	8	≤ 1.5	-	-	230/400	340	-	-
	TT & TN-S	■	iPF65r 3P+N		-	≤ 1.5	≤ 1.5		-	260	340
	TT & TN-S		iPF65 3P+N		-	≤ 1.5	≤ 1.5		-	260	340
	TN-C	■	iPF65r 4P		≤ 1.5	≤ 1.5	-		340	340	-
iPF40											
	TT & TN		iPF40 1P	2	≤ 1.5	-	-	230	340	-	-
	TT & TN-S		iPF40 1P+N	4	-	≤ 1.5	≤ 1.5		-	260	340
	TN-C		iPF40 2P		≤ 1.5	≤ 1.5	-		340	340	-
	TN-C		iPF40 3P	8	≤ 1.5	-	-	230/400	340	-	-
	TT & TN-S	■	iPF40r 3P+N		-	≤ 1.5	≤ 1.5		-	260	340
	TT & TN-S		iPF40 3P+N		-	≤ 1.5	≤ 1.5		-	260	340
	TN-C	■	iPF40r 4P		≤ 1.5	≤ 1.5	-		340	340	-
	TN-C		iPF40 4P		≤ 1.5	≤ 1.5	-		340	340	-
iPF20											
	TT & TN		iPF20 1P	2	≤ 1.1	-	-	230	340	-	-
	TT & TN-S		iPF20 1P+N	4	-	≤ 1.5	≤ 1.1		-	260	340
	TN-C		iPF20 2P		≤ 1.1	≤ 1.1	-		340	340	-
	TN-C		iPF20 3P	8	≤ 1.1	-	-	230/400	340	-	-
	TT & TN-S		iPF20 3P+N		-	≤ 1.5	≤ 1.1		-	260	340
	TN-C		iPF20 4P		≤ 1.1	≤ 1.1	-		340	340	-
iPF8 (1)											
Type 2 / Type 3											
	TT & TN		iPF8 1P	2	≤ 1 / ≤ 1.1	-	-	230	340	-	-
	TT & TN-S		iPF8 1P+N	4	-	≤ 1.5 / ≤ 1.2	≤ 1 / ≤ 1.1		-	260	340
	TN-C		iPF8 2P		≤ 1 / ≤ 1.1	≤ 1 / ≤ 1.1	-		340	340	-
	TN-C		iPF8 3P	8	≤ 1 / ≤ 1.1	-	-	230/400	340	-	-
	TT & TN-S		iPF8 3P+N		-	≤ 1.5 / ≤ 1.2	≤ 1 / ≤ 1.1		-	260	340
	TN-C		iPF8 4P		≤ 1 / ≤ 1.1	≤ 1 / ≤ 1.1	-		340	340	-

* CM: common mode (phase to earth and neutral to earth). * DM: differential mode (phase to neutral). (1) U_{oc}: combined waveform voltage: 10 kV.

Weight (g)

Surge arrester	
Type	iPF
1P	125
2P	210
3P	335
4P	420

Dimensions (mm)



Withdrawable iQuick PRD surge arresters allow damaged cartridges to be replaced quickly. They offer remote reporting of the "cartridge must be changed" message.



iQuick PRD 8r, 1P+N.



iQuick PRD 40r, 3P+N.

They protect electrical and electronic equipment against lightning-induced surges. iQuick PRD surge arresters are prewired, incorporating their end-of-life disconnecter. Each surge arrester in the range has a specific use:

■ **incoming protection (type 2):**

- iQuick PRD 40r is recommended for a high risk level
- iQuick PRD 20r is recommended for a moderate risk level

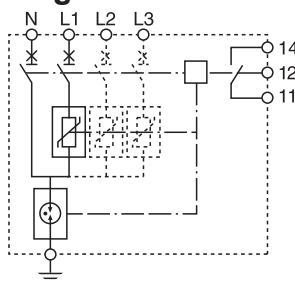
■ **close protection (type 2 or 3):**

- iQuick PRD 8r provides close protection for the loads to be protected and is cascade-mounted with the incoming surge arresters. This surge arrester is required as close as possible to the loads to be protected when they are located more than 30 metres away from the incoming surge arrester.

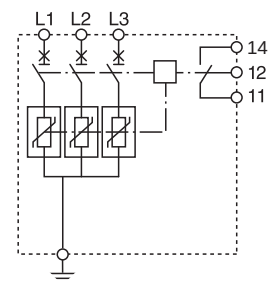
General technical data

Operating voltage	230/400 V AC		
Disconnecter short-circuit withstand	Isc = 25 kA (50 Hz)		
Operating frequency	50/60 Hz		
Constant operating current Ic	< 1 mA		
Response time	< 25 ns		
Protection class	IP40 on the front panel IK05		
Type of connection	Tunnel terminals, 2.5 to 35 mm ²		
End of life indication	By the cartridges	White	Operational
		Red	At end of life
	By control lever in OFF position and red mechanical indicator lamp By the NO/NC remote indication contact 250 V AC / 2 A		
Operating temperature	-25°C to +60°C		
Storage temperature	-40°C to +70°C		
Standards	IEC 61643-1 T2 and EN 61643-11 Type 2		
Certifications	NF, KEMA KEUR (iQuick PRD 8r, 20r)		
Weight (g)	1P+N: 435 (iQuick PRD 40r: 445)		
	3P: 665 (iQuick PRD 40r: 700)		
	3P+N: 810 (iQuick PRD 40r: 850)		

Diagrams

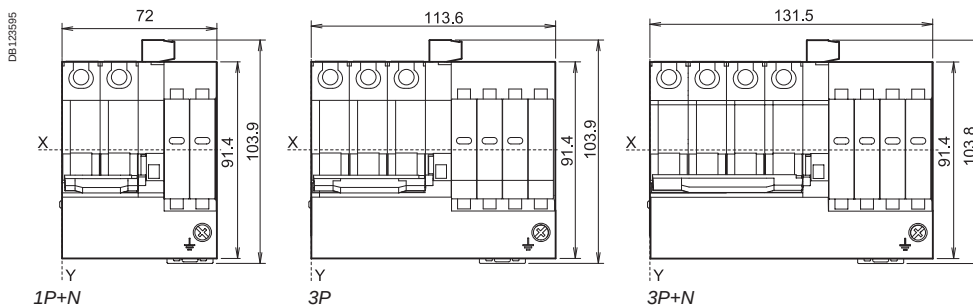


1P+N / 3P+N.



3P.

Dimensions (mm)



Technical data

Name of surge arrester	No. of poles	Width in 9 mm modules	Imax (kA) Maximum discharge current	In (kA) Nominal discharge current	Up (MCB+SPD) (kV) (1) Protection level			Earthing system	Un (V) Nominal mains voltage	Uc (V) Maximum steady state voltage			Cat. no.
					CM	N/≠	DM			CM	N/≠	DM	
					L/≠	N/≠	L/N			L/≠	N/≠	L/N	
iQuick PRD 40r													
iQuick PRD 40r	1P+N	8	40	20	1.5	1.5	2.5	TT and TN-S	230/400	-	264	350	A9L16292
iQuick PRD 40r	3P	13			2	-	-	TN-C and IT 230 V		350	-	-	A9L16293
iQuick PRD 40r	3P+N	15			1.5	1.5	2.5	TT and TN-S		-	264	350	A9L16294
iQuick PRD 20r													
iQuick PRD 20r	1P+N	8	20	5	1.5	1.5	1.5	TT and TN-S	230/400	-	264	350	A9L16295
iQuick PRD 20r	3P	13			1.5	-	-	TN-C and IT 230 V		350	-	-	A9L16296
iQuick PRD 20r	3P+N	15			1.5	1.5	1.5	TT and TN-S		-	264	350	A9L16297
iQuick PRD 8r (2)					Type 2 / Type 3								
iQuick PRD 8r	1P+N	8	8	2	1.5/1.4	1.5/1.5	1.2/1.4	TT and TN-S	230/400	-	264	350	A9L16298
iQuick PRD 8r	3P	13			1.2/1.4	-	-	TN-C and IT 230 V		350	-	-	A9L16299
iQuick PRD 8r	3P+N	15			1.5/1.4	1.5/1.5	1.2/1.4	TT and TN-S		-	264	350	A9L16300

CM: common mode (between phase/earth and neutral/earth).

DM: differential mode (between phase and neutral).

(1) Up (MCB + SPD): total value measured between Modular Circuit Breaker (MCB) terminal block and PE surge arrester device terminal block (SPD).

(2) Uoc: open-circuit voltage in combined wave: 10 kV.



Replacement cartridges.

Replacement cartridges

Type	Replacement cartridges for	Up (Cartridge) (kV)	Cat. no.
C 40-350	iQuick PRD 40r	1.4	A9L16310
C 20-350	iQuick PRD 20r	1.2	A9L16311
C 8-350	iQuick PRD 8r	1.1	A9L16312
C neutral-350	All products	1.5	A9L16313

Accessories

Earth terminal block support

Type			Cat. no.
Support kit	L = 4 blocks	Batch of 1	PRA90053
25 mm ² terminal block kit	L = 1 block	Batch of 5	
			PRA90046



Pragma: the earth terminal block needs 1 support kit and 1 terminal block kit.



Country approval pictograms

IEC 61643-1 ^{T2}
EN 61643-11 Type 2
UTE C 61740-51 ^{T2}
prEN 50539-11 ^{T2}



iPRD 40r 600PV

iPRD PV-DC direct current surge arresters are designed to protect against overvoltages due to a lightning strike: of the "DC" input to the inverter and of photovoltaic panels.

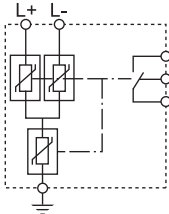
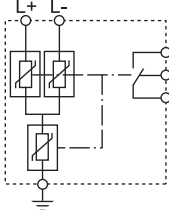
It should be installed in a switchboard inside the building. If the switchboard is located outside, it must be weatherproof.

Withdrawable iPRD PV-DC surge arresters allow damaged cartridges to be replaced quickly.

The surge arrester base can be turned over to allow the phase/neutral/earth cables to enter through either the top or the bottom

They offer remote reporting of the "cartridge must be changed" message.

Catalogue numbers

Internal diagram	Imax (kA) Maximum discharge current	In (kA) Nominal discharge current	Up (kV) Protection level			U _{CPV} (V) ⁽¹⁾ Maximum steady state voltage			Width in module of 9 mm	Cat. no.	
			L+/-	L-/±	L+/L-	L+/-	L-/±	L+/L-			
iPRD 40r 600PV											
DB124052 	40	15	2,8	2,8	2,8	840	840	840	6	A9L16434	
iPRD 40r 1000PV											
DB124052 	40	15	3.9	3.9	3.9	1000	1000	1000	6	A9L16436	

(1) $U_{cpv} \geq 1.2 \times U_{oc\ stc}$ ($U_{oc\ stc}$: maximum no-load voltage of the photovoltaic generator "photovoltaic module manufacturer's data")

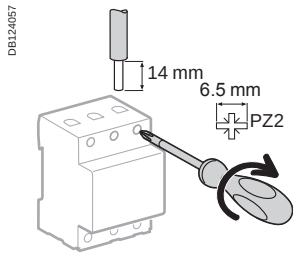


Replacement cartridges

Replacement cartridges

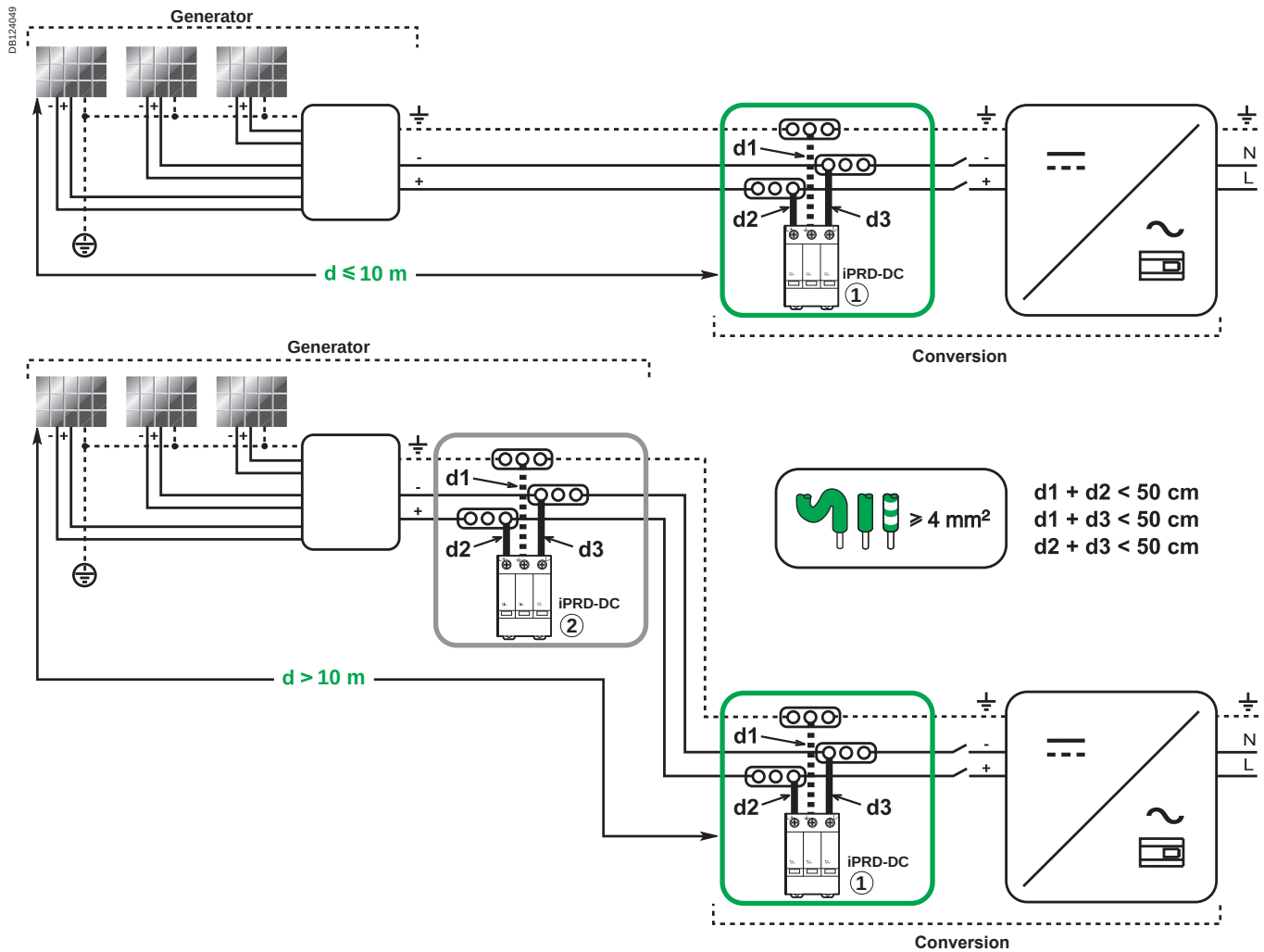
Type	Replacement cartridges for	Cat. no.
C 40-600PV	iPRD-DC40r 600PV	A9L16683
C 40-600PV	iPRD-DC40r 1000PV	A9L16692
C neutral PV	iPRD-DC40r 600PV	A9L16690

Connection

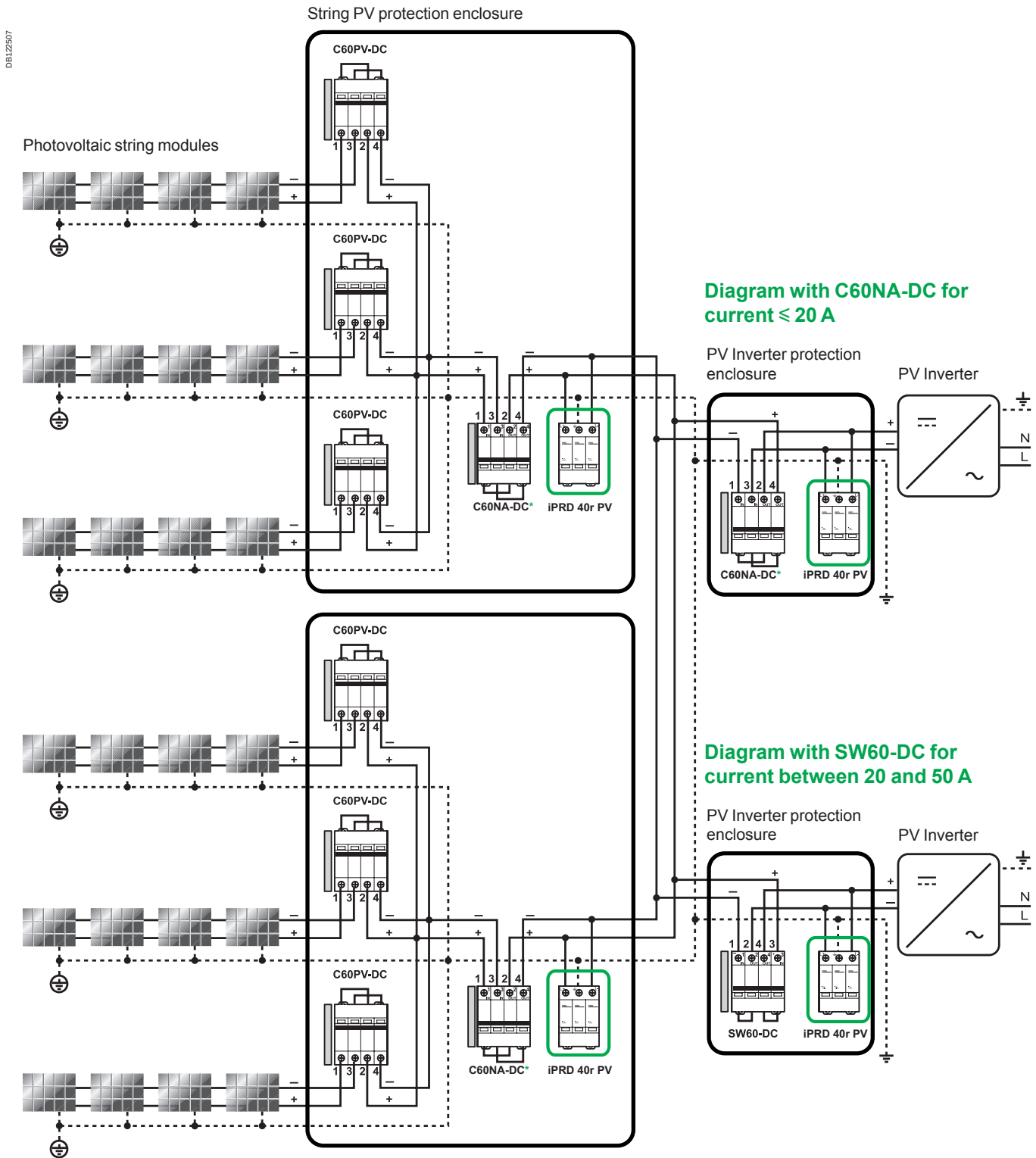


Type	Tightening torque	Copper cables	
		Rigid	Flexible or ferrule
iPRD PV-DC	2 N.m	2,5 à 25 mm ²	2,5 à 16 mm ²

Depending on the distance between the "generator" part and the "conversion" part, it may be necessary to install two surge arresters or more, to ensure protection of each of the two parts.

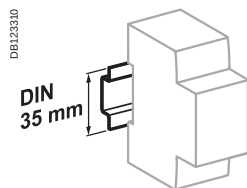


Application diagram

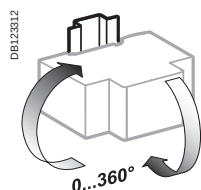


*C60NA-DC :
20 A/1000 V DC or
32 A/800 V DC or
50 A/700 V DC

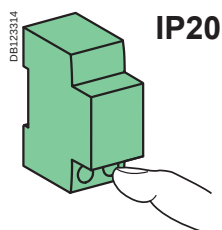
MN, MX, MNx, MN $\square$, MX+OF,
OF, SD, OF+SD/OF, OF+SD24



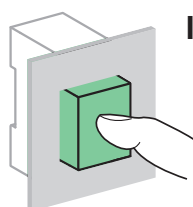
Clip on DIN rail 35 mm.



Indifferent position of installation.



IP20



IP40

Technical data

Main characteristics

Type of network	Isolated direct current
Temps de réponse	< 25 ns
Short circuit current (I_{SCP})	30 A
Type of surge arresters	Type 2
End-of-life indication mode	Circuit opened by integrated thermal disconnecter

Additional characteristics

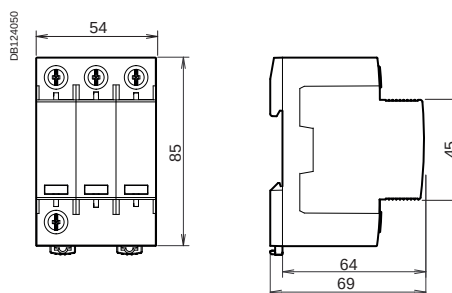
Degree of protection (IEC 60529)	Device only	IP20	
	Device in modular enclosure	IP40	
	Chocs	IK03	
Satisfactory operation indication	By the cartridges	White	Operational
		Red	Cartridge must be replaced
	By the NO/NC remote indication contact 250 V AC / 0.25 A		
Operating temperature	-25°C to +60°C		
Storage temperature	-40°C to +85°C		
Tropicalization (IEC 60068-1)	Treatment 2 (relative humidity of 95 % at 55°C)		

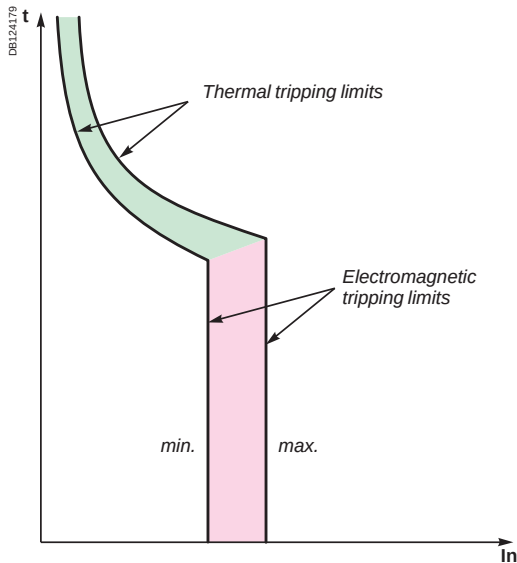
Weight (g)

Surge arresters

Type	
iPRD 40r 600PV	400
iPRD 40r 1000PV	400

Dimensions (mm)





The following curves show the total fault current breaking time, depending on its amperage. For example: based on the curve on page 3, an iC60 circuit breaker of curve C, 20 A rating, will interrupt a current of 100 A (5 times the rated current I_n) in:

- 2 seconds at least
- 7 seconds at most.

The circuit breakers' tripping curves consist of two parts:

- tripping of overload protection (thermal tripping device): the higher the current, the shorter the tripping time
- tripping of short-circuit protection (magnetic tripping device): if the current exceeds the threshold of this protection device, the breaking time is less than 10 milliseconds. For short-circuit currents exceeding 20 times the rated current, the time-current curves do not give a sufficiently precise representation. The breaking of high short-circuit currents is characterized by the current limiting curves, in peak current and in energy. The total breaking time can be estimated at 5 times the value of the ratio $(I^2t)/(\hat{I})^2$.

Verification of the discrimination between two circuit breakers

By superimposing the curve of a circuit breaker on that of the circuit breaker installed upstream, one can check whether this combination will be discriminating in cases of overload (discrimination for all current values, up to the magnetic threshold of the upstream circuit breaker). This verification is useful when one of the two circuit breakers has adjustable thresholds; for fixed-threshold devices, this information is provided directly by the discrimination tables.

To check discrimination on short circuit, the energy characteristics of the two devices must be compared.

손실 전력 (Power Loss)

What is the power loss per pole?

The table below indicates device power loss in Watts for each rating, per pole, with nominal current:

Circuit breaker																							
Rating	0.5	0.75	1	1.6	2	2.5	3	4	6	6.3	10	12.5	13	16	20	25	32	40	50	63	80	100	125
DPN									2		3			3.4		3.7	4.7						
C60-C60H DC	2.2	2.96	2.3		2.55		2.24	2.4	2.7		1.7			2.59	2.94	3.05	3.55	4.6	4.75	6.05			
iC60	2.26		2.3		1.85		2.24	2.4	1.3		2		1.95	2.05	2.2	2.7	2.8	3.6	4	4.4			
C120											1.6			2.3	2.8	2.5	3.4	3.5	3.6	4	4.5	6	8
NG125											2			2.5	3	3.2	3.5	4	4.7	5.5	6	7	9
C60LMA				2.4		2.5		2.4		3	2	2.2		2.6		3		4.6					
NG125LMA								3		2	2			2.5	3	3.2	3.5	4	4.7	5.5	6	7	9
Switches																							
NG125NA																				5.5	6	7	9
RCCB-ID type A/AC														1		1.4		3.6		4.4	7.2	18	28
RCCB-ID type B																1.2		2.9		7.2	12	18	28
I-NA																		3.2		3.2			

Impedance calculation

$$Z = P / I^2$$

- Z : impedance in Ohms.
- P : power loss in Watts (table values).
- I : power rating in Amperes.

Voltage drop calculation

$$U = P / I$$

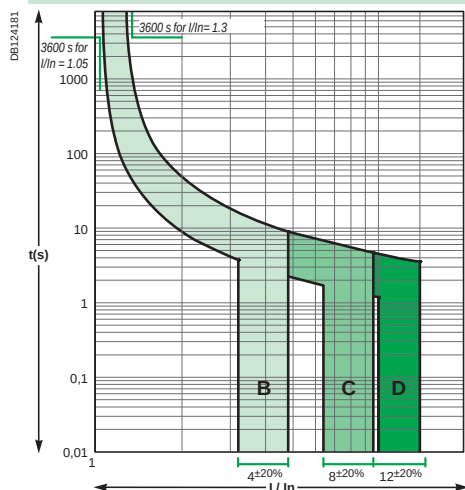
- U : voltage drop in Volts.
- P : power loss in Watts (table values).
- I : power rating in Amperes.

Alternative current 50/60 Hz

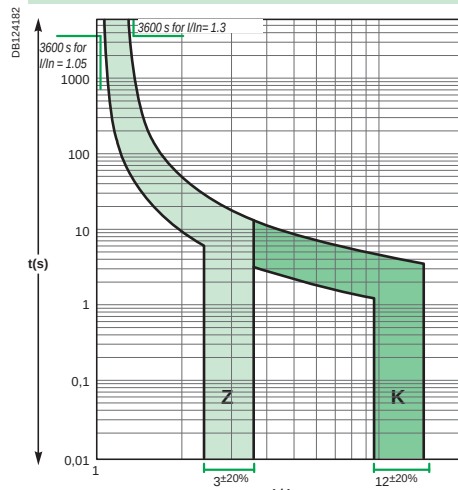
iC60N/H/L

According to IEC/EN 60947-2 (reference temperature 50°C)

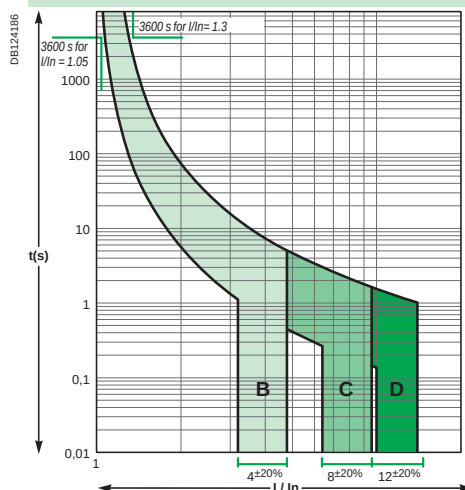
Curves B, C, D rating up to 4 A



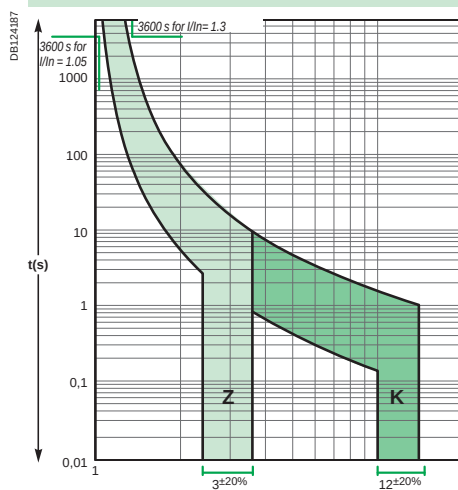
Curves Z, K rating up to 4 A



Curves B, C, D rating 6 A to 63 A



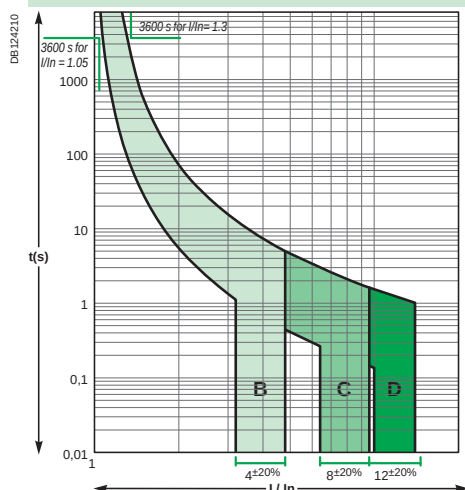
Curves Z, K rating 6 A to 63 A



Reflex iC60N/H

According to IEC/EN 60947-2 (reference temperature 50°C)

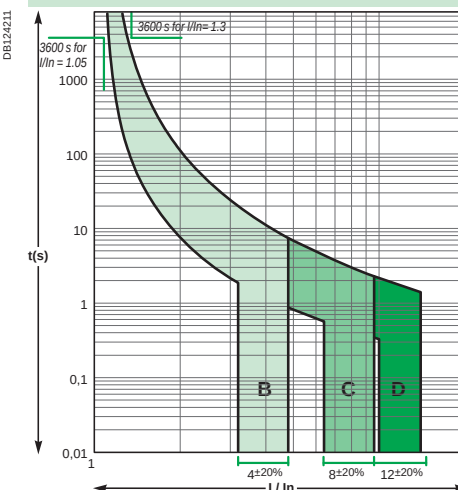
Curves B, C, D



NG125a/N/H/L

According to IEC/EN 60947-2 (reference temperature 50°C)

Curves B, C, D

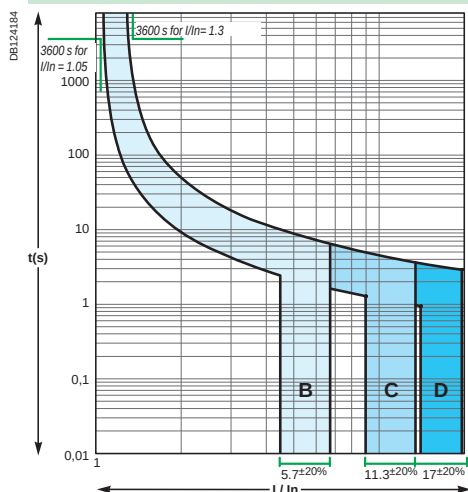


Direct current

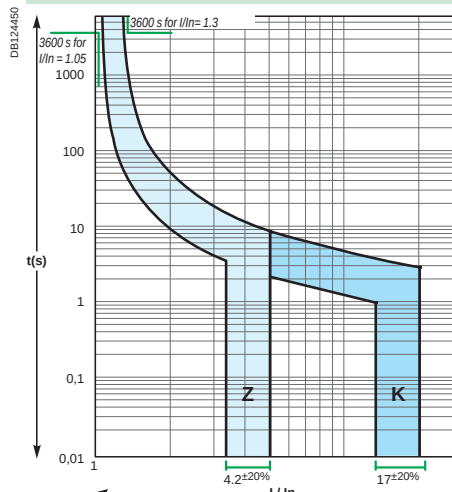
iC60N/H/L

According to IEC/EN 60947-2 (reference temperature 50°C)

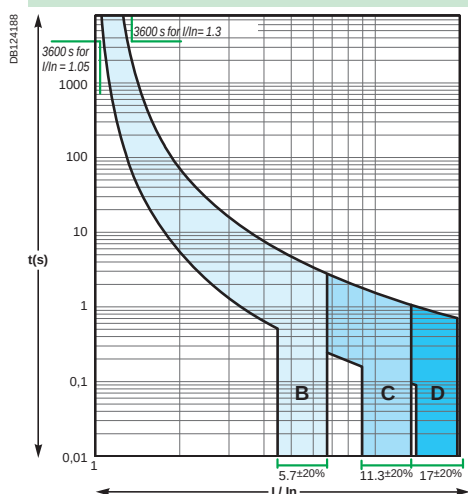
Curves B, C, D rating up to 4 A



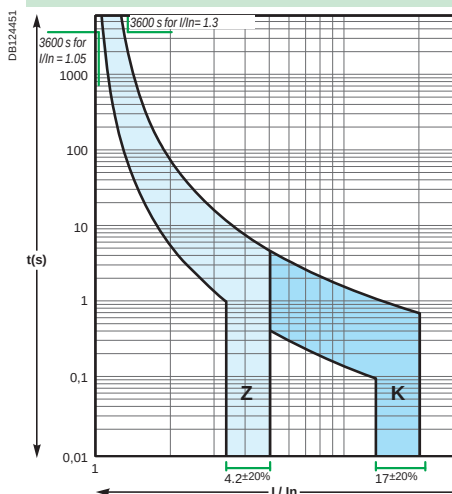
Curves Z, K rating up to 4 A



Curves B, C, D rating 6 A to 63 A



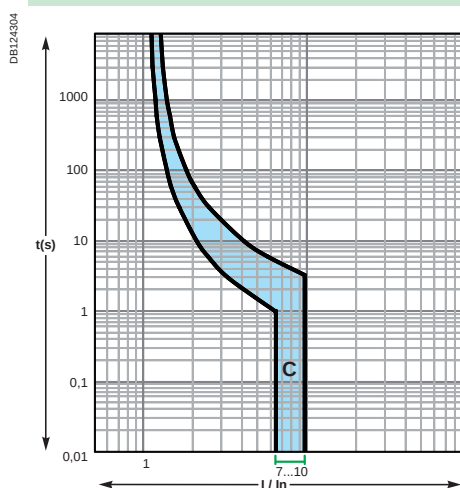
Curves Z, K rating 6 A to 63 A



C60H-DC

According to IEC/EN 60947-2 (reference temperature 25°C)

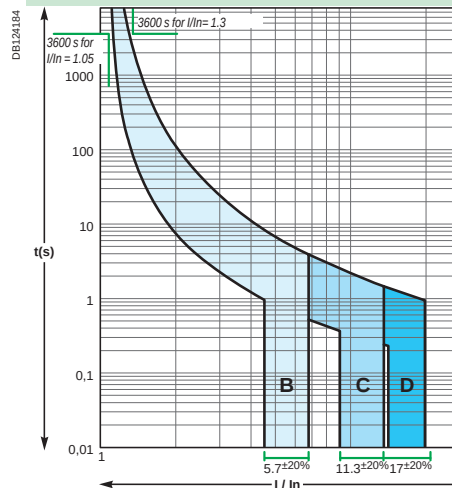
Curve C



NG125a/N/H/L

According to IEC/EN 60947-2 (reference temperature 50°C)

Curves B, C, D



Tripping curves IEC 60947-5 / GB 14048-2

The operating range of the magnetic trip unit is included for:

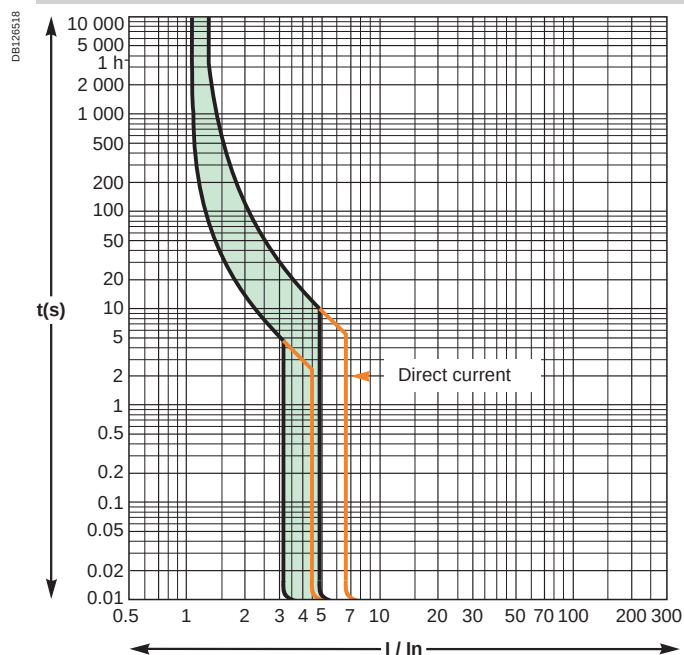
- curve B: between 3.2 I_n and 4.8 I_n
- curve C: between 7 I_n and 10 I_n
- curve D: between 10 I_n and 14 I_n .

The curves show:

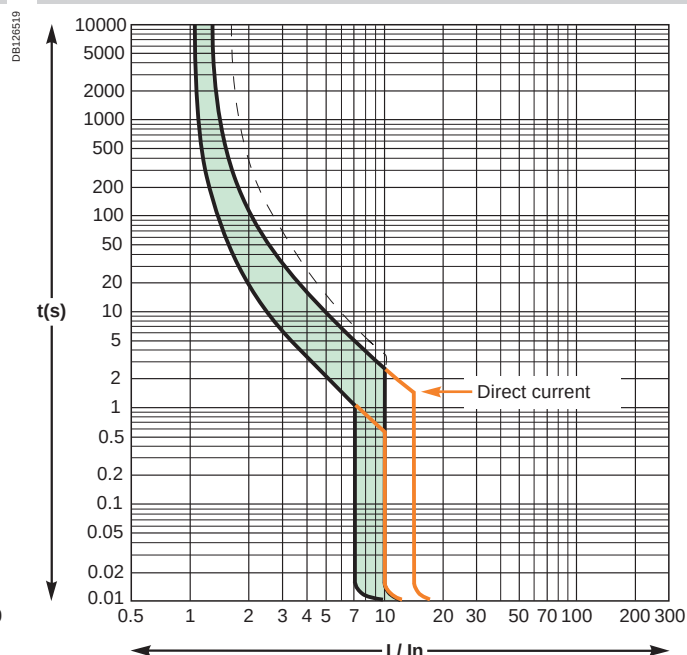
- the cold thermal tripping limits (25 °C), charged poles
- the electromagnetic tripping limits, 2 charged poles

C120

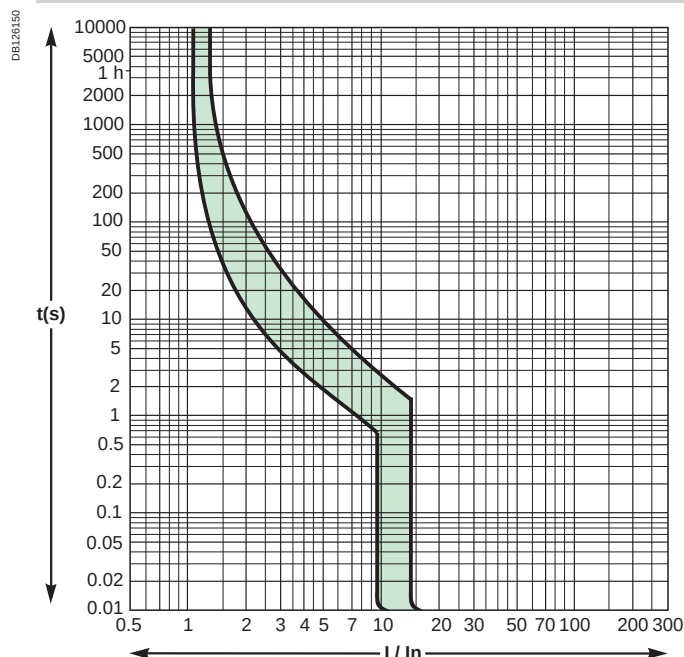
Curve B



Curve C



Curve D



Acti9 devices have successfully passed the environmental resistance tests specified in the building standards (IEC / EN 60898 and 60947-2 for circuit breakers, IEC / EN 61008 for residual current circuit breakers, etc.). Most of these tests were performed under the control of official bodies in different countries: the devices therefore carry the quality mark issued by each of these bodies.

Schneider Electric has also subjected these devices to additional tests with higher requirements, to give users reliability and sturdiness that are unparalleled on the market.

These tests checked that the constraints described below did not have any significant effect on the main functions of the devices:

- Tripping (for protection devices).
- Isolation and dielectric withstand.
- Degree of protection (IP) of the casing.
- Grip on the mounting bracket (rail).
- Manual opening / closing.

Additional checks were performed for certain tests, mentioned in the tables below.

Constraints Atmospheric

Type	Humidity	Salt mist	Corrosive atmospheres		Dust
Standard defining the test protocol	IEC 60068-2-78	IEC 60068.2.52	IEC 60721-3-3		
Constraint level applied	Temperature 40°C, relative humidity 93%.	Severity 2 (maritime environment).	Classification 3C2: urban regions with industrial activities, heavy traffic.	Covered swimming pools atmospheres	Plaster deposits + bumps.
Additional checks after constraint		Conductivity, overheating. No corrosion.			Conductivity and overheating.
Circuit breakers					
iK60N	■	■	-	-	■
iC60a/N/H/L	■	■	■	■	■
Residual current circuit breakers					
iID K	■	■	-	-	■
iID	■	■	■	SI only	■
Residual current devices					
iC60a/N/H/L + Vigi iC60	■	■	■	SI only	■
Protection device auxiliaries					
iOF	■	■	■	-	■
iSD	■	■	■	-	■
iOF/SD+OF	■	■	■	-	■
iMN, iMNs	■	■	■	-	■
iMX, iMX+OF	■	■	■	-	■
iMNx	■	■	■	-	■
iMSU	■	■	■	-	■
Surge arresters					
iPF	-	-	-	-	-
iPRD	-	■		-	-
Mounting accessories					
Rotary handle	■	■	-	-	■
Plug-in base	■	■	-	-	■
Padlocking device	■	■	■	-	■
Safety accessories					
Screw shield	■	■	■	-	■
Interpole barrier	■	■	■	-	■
Spacer	■	■	■		
Splitter blocks					
Multiclip	■	■	■	-	■
Distribloc	■	■	■	-	■
Comb busbars for iC60	■	■	■	-	■

Mechanical

Storage

	Vibrations, impacts and bumps	Vibrations	Bumps (repeated impacts)	Impacts	Impacts on the device	Falls	Damp heat
	IEC 60721-3-3	IEC 60068-2-6	IEC 60068-2-27	IEC 60068-2-27	IEC 62262	IEC 60068-2-32	IEC 60068-2-30
	Class 3M4: industrial environment with considerable vibrations and impacts (e.g. proximity of machines, circulation of vehicles).	Amplitude: 3.5 mm. Acceleration: 1 g. Directions: 3 axes. Frequency: 5 to 300 Hz.	Acceleration: 15 g. Pulse duration: 6 ms.	Force: 15 g. Pulse duration: 11 ms.	IK 07: 5 impacts of 0.7 J.	Height: 0.8 m, concrete floor.	Db: - Temperature: 55°C. - Relative humidity: 95%.
	No power supply fault, no tripping.				Casing, degree of protection (IP).	Casing, degree of protection (IP).	
	-	■	■	-	■	■	
	■	■	■	■	■	■	
	-	■	■	-	■	■	
	■	■	■	■	■	■	
	■	■	■	■	■	■	
	■	■	■	■	■	■	
	■	■	■	■	■	■	■
	■	■	■	■	■	■	■
	■	■	■	■	■	■	■
	■	■	■	■	■	■	■
	■	■	■	■	■	■	■
	■	■	■	■	■	■	■
	-	-	-	-	-		
	-	■ Frequency: 8.5 to 100 Hz.	-	-	-	■ Height: 0.6 m.	
	■	■	■	■	■	■	
	■	■	■	■	■	■	
	■	■	■	■	■	■	
	■	■	■	■	■	■	
	■	■	■	■	■	■	
	■	■	■	■	■	■	■
	■	■	■	■	■	■	■
	■	■	■	■	■	■	■

Influence of temperature on the operation

Devices		Characteristics influenced by temperature	Temperature	
			Min.	Max.
iDPN, C60H-DC, C120, NG125, C60PV-DC circuit breakers		Tripping on overload	-30°C	+70°C
iK60 circuit breakers		Tripping on overload	-25°C	+60°C
iC60a/N/H/L circuit breakers		Tripping on overload	-35°C	+70°C
Circuit breakers	With Vigi (AC)	Tripping on overload	-5°C	+60°C
	With Vigi (A, SI)		-25°C	+60°C
Reflex iC60		Tripping on overload	-25°C	+60°C
C60NA-DC, SW60PV-DC switch-disconnectors		Maximum operating current	-25°C	+70°C
iID K residual current circuit breakers		Maximum operating current	-5°C	+60°C
iID residual current circuit breakers	AC	Maximum operating current	-5°C	+60°C
	A, SI		-25°C	+60°C
Switches	iSW	Maximum operating current	-20°C	+50°C
	iSW-NA		-35°C	+70°C
Protection auxiliaries		None	-35°C	+70°C
RCA, ARA control auxiliaries		None	-25°C	+60°C
iCT contactors		Installation conditions	-5°C	+60°C
iTL impulse relays		None	-20°C	+50°C
iCT, iTL auxiliaries		None	-20°C	+50°C
Distribloc		Maximum operating current	-25°C	+60°C
Multiclip		Maximum operating current	-25°C	+60°C

Note: the temperature considered is the temperature viewed through the device.

Circuit breakers

High temperatures

- A rise in temperature causes lowering of the thermal threshold (tripping on overload).
 - Protection is still ensured: the tripping threshold remains lower than the current acceptable by the cable (I_z)
 - To prevent nuisance tripping, it should be checked that this threshold remains higher than the maximum operating current (I_B) of the circuit, defined by:
 - the rated load currents,
 - the coefficients of expansion and simultaneity of use.
- If the temperature is sufficiently high for the tripping threshold to become lower than the operating current I_B , switchboard ventilation should be provided for.

Low temperatures

- A fall in temperature increases the thermal tripping threshold of the circuit breaker.
- There is no risk of nuisance tripping: the threshold remains higher than the maximum operating current of the circuit (I_B) demanded by the loads.
- It should be checked that the cable remains suitably protected, i.e. that its acceptable current (I_z) is higher than the values shown in the following tables (in amperes).

When the ambient temperature could vary within a broad range, both these aspects must be taken into account:

- the difference between the maximum operating current of the circuit (I_B) and the tripping threshold of the circuit breaker for the minimum ambient temperature,
- the difference between the strength of the cable (I_z) and the maximum tripping threshold of the circuit breaker for the maximum ambient temperature.

Operating current not to be exceeded (A)							
Installation conditions (IEC 60947-2)		iC60 alone			Several iC60 in the same enclosure (calculate with the reduction coefficient indicated below)		
Ambient temperature (°C)		35°C	50°C	65°C	35°C	50°C	65°C
Type	Nominal rating (A)	Actual rating (A)					
iC60	25	26.35	25	23.57	26.35 x 0.8 = 21	25 x 0.8 = 20	23.57 x 0.8 = 19
	32	34	32	29.9	34 x 0.8 = 27	32 x 0.8 = 25.6	29.9 x 0.8 = 24
	40	42.5	40	37.34	42.5 x 0.8 = 34	40 x 0.8 = 32	37.34 x 0.8 = 30

Tertiary/Industry (IEC 60947-2)

DPN derating table (IEC 60947-2)

iDPN		Ambient temperature (°C)																				
Rating	Curve	-30	-25	-20	-15	-10	-5	0	+5	+10	+15	+20	+25	+30	+35	+40	+45	+50	+55	+60	+65	+70
1 A	B, C, D	1.69	1.66	1.62	1.59	1.55	1.51	1.47	1.43	1.39	1.35	1.30	1.26	1.21	1.16	1.11	1.06	1	0.94	0.88	0.81	0.73
2 A	B, C, D	2.68	2.64	2.60	2.56	2.52	2.48	2.44	2.40	2.36	2.32	2.28	2.23	2.19	2.14	2.10	2.05	2	1.95	1.90	1.85	1.79
3 A	B, C, D	4.03	3.97	3.91	3.86	3.80	3.74	3.68	3.61	3.55	3.49	3.42	3.36	3.29	3.22	3.15	3.07	3	2.92	2.85	2.77	2.68
4 A	B, C, D	5.26	5.19	5.12	5.05	4.98	4.90	4.83	4.75	4.67	4.60	4.52	4.43	4.35	4.27	4.18	4.09	4	3.91	3.81	3.72	3.62
6 A	B, C, D	7.51	7.42	7.34	7.25	7.16	7.07	6.98	6.89	6.80	6.70	6.61	6.51	6.41	6.31	6.21	6.11	6	5.89	5.78	5.67	5.56
10 A	B	12.47	12.33	12.19	12.05	11.90	11.76	11.61	11.46	11.30	11.15	10.99	10.83	10.67	10.51	10.34	10.17	10	9.82	9.65	9.46	9.28
10 A	C, D	13.02	12.85	12.68	12.51	12.34	12.16	11.98	11.80	11.61	11.42	11.23	11.03	10.84	10.63	10.43	10.22	10	9.78	9.56	9.32	9.09
13 A	B	16.96	16.74	16.52	16.29	16.06	15.83	15.59	15.35	15.11	14.86	14.61	14.36	14.09	13.83	13.56	13.28	13	12.71	12.42	12.11	11.80
13 A	C, D	17.15	16.92	16.69	16.45	16.21	15.97	15.72	15.47	15.22	14.96	14.69	14.43	14.15	13.87	13.59	13.30	13	12.70	12.38	12.06	11.74
16 A	B, C	20.62	20.36	20.10	19.84	19.57	19.30	19.02	18.74	18.46	18.17	17.87	17.58	17.27	16.96	16.65	16.33	16	15.67	15.32	14.98	14.62
16 A	D	20.78	20.51	20.24	19.97	19.69	19.41	19.13	18.84	18.54	18.24	17.94	17.63	17.32	17.00	16.67	16.34	16	15.65	15.30	14.94	14.56
20 A	B	25.65	25.33	25.01	24.69	24.36	24.03	23.69	23.35	23.00	22.65	22.29	21.92	21.55	21.17	20.79	20.40	20	19.59	19.18	18.75	18.32
20 A	C, D	25.98	25.65	25.31	24.97	24.62	24.27	23.91	23.55	23.18	22.81	22.43	22.04	21.65	21.25	20.84	20.42	20	19.57	19.12	18.67	18.20
25 A	B, C, D	32.02	31.63	31.23	30.83	30.42	30.00	29.58	29.16	28.72	28.29	27.84	27.39	26.93	26.46	25.98	25.50	25	24.49	23.98	23.45	22.91
32 A	B, C, D	41.60	41.06	40.52	39.97	39.42	38.85	38.28	37.70	37.11	36.51	35.90	35.28	34.65	34.01	33.35	32.68	32	31.30	30.59	29.86	29.11
40 A	B, C, D	52.70	51.99	51.28	50.56	49.83	49.08	48.33	47.56	46.78	45.99	45.18	44.36	43.52	42.67	41.80	40.91	40	39.07	38.12	37.14	36.14

iC60, Reflex iC60 derating table (IEC 60947-2)

iC60	Ambient temperature (°C)																					
Rating	-35	-30	-25	-20	-15	-10	-5	0	+5	+10	+15	+20	+25	+30	+35	+40	+45	+50	+55	+60	+65	+70
0.5 A	0.66	0.65	0.64	0.63	0.63	0.62	0.61	0.60	0.59	0.58	0.57	0.56	0.55	0.54	0.53	0.52	0.51	0.5	0.49	0.48	0.47	0.45
1 A	1.32	1.30	1.28	1.27	1.25	1.23	1.21	1.20	1.18	1.16	1.14	1.12	1.10	1.08	1.06	1.04	1.02	1	0.98	0.96	0.93	0.91
2 A	2.79	2.75	2.71	2.67	2.63	2.58	2.54	2.50	2.45	2.40	2.36	2.31	2.26	2.21	2.16	2.11	2.05	2	1.94	1.89	1.83	1.76
3 A	4.21	4.15	4.08	4.02	3.96	3.89	3.83	3.76	3.69	3.62	3.55	3.48	3.40	3.32	3.25	3.17	3.08	3	2.91	2.82	2.73	2.64
4 A	5.62	5.54	5.46	5.37	5.29	5.20	5.11	5.02	4.93	4.83	4.74	4.64	4.54	4.44	4.33	4.22	4.11	4	3.88	3.76	3.64	3.51
6 A	8.55	8.42	8.29	8.16	8.03	7.89	7.75	7.61	7.46	7.31	7.16	7.01	6.85	6.69	6.52	6.35	6.18	6	5.81	5.62	5.43	5.22
10 A	13.34	13.16	12.99	12.81	12.63	12.45	12.26	12.08	11.88	11.69	11.49	11.29	11.09	10.88	10.67	10.45	10.23	10	9.77	9.53	9.29	9.04
13 A	17.09	16.87	16.66	16.44	16.22	15.99	15.77	15.54	15.30	15.06	14.82	14.57	14.32	14.07	13.81	13.55	13.28	13	12.72	12.43	12.14	11.83
16 A	21.09	20.82	20.56	20.28	20.01	19.73	19.45	19.16	18.87	18.57	18.27	17.96	17.65	17.33	17.01	16.68	16.34	16	15.65	15.29	14.92	14.54
20 A	25.99	25.68	25.36	25.04	24.71	24.38	24.05	23.71	23.37	23.02	22.66	22.30	21.94	21.56	21.18	20.80	20.40	20	19.59	19.17	18.74	18.30
25 A	31.91	31.55	31.18	30.81	30.43	30.05	29.66	29.27	28.87	28.46	28.06	27.64	27.22	26.79	26.35	25.91	25.46	25	24.53	24.06	23.57	23.07
32 A	42.04	41.52	40.99	40.45	39.91	39.36	38.80	38.23	37.65	37.07	36.47	35.87	35.25	34.63	33.99	33.34	32.68	32	31.31	30.60	29.88	29.13
40 A	52.59	51.93	51.27	50.59	49.91	49.22	48.52	47.81	47.09	46.35	45.61	44.85	44.08	43.30	42.50	41.68	40.85	40	39.13	38.24	37.34	36.40
50 A	67.14	66.25	65.36	64.45	63.53	62.59	61.64	60.68	59.70	58.70	57.69	56.65	55.60	54.53	53.43	52.31	51.17	50	48.80	47.57	46.31	45.01
63 A	86.28	85.09	83.88	82.65	81.41	80.14	78.86	77.55	76.22	74.87	73.49	72.08	70.65	69.19	67.70	66.17	64.60	63	61.35	59.66	57.92	56.13

Reflex iC60

C60H-DC derating table (IEC 60947-2)

C60H-DC		Ambient temperature (°C)																				
Rating		-30	-25	-20	-15	-10	-5	0	+5	+10	+15	+20	+25	+30	+35	+40	+45	+50	+55	+60	+65	+70
0.5 A		0.63	0.62	0.61	0.60	0.59	0.58	0.56	0.55	0.54	0.53	0.51	0.5	0.49	0.47	0.46	0.44	0.43	0.41	0.39	0.38	0.36
1 A		1.18	1.17	1.15	1.14	1.12	1.10	1.09	1.07	1.05	1.04	1.02	1	0.98	0.96	0.94	0.92	0.90	0.88	0.86	0.84	0.82
2 A		2.54	2.50	2.45	2.41	2.36	2.31	2.26	2.21	2.16	2.11	2.06	2	1.94	1.88	1.82	1.76	1.70	1.63	1.56	1.48	1.41
3 A		3.78	3.71	3.65	3.58	3.51	3.45	3.38	3.30	3.23	3.16	3.08	3	2.92	2.84	2.75	2.66	2.57	2.48	2.38	2.27	2.17
4 A		5.08	4.99	4.90	4.81	4.71	4.62	4.52	4.42	4.32	4.22	4.11	4	3.89	3.77	3.65	3.53	3.40	3.27	3.13	2.98	2.83
5 A		6.00	5.92	5.83	5.74	5.66	5.57	5.48	5.39	5.29	5.20	5.10	5	4.90	4.80	4.69	4.58	4.47	4.36	4.24	4.12	4.00
6 A		7.26	7.15	7.04	6.94	6.83	6.71	6.60	6.48	6.37	6.25	6.12	6	5.87	5.74	5.61	5.47	5.33	5.19	5.04	4.89	4.73
10 A		12.59	12.38	12.16	11.94	11.71	11.49	11.25	11.01	10.77	10.52	10.26	10	9.73	9.45	9.17	8.87	8.57	8.25	7.92	7.58	7.22
13 A		15.49	15.28	15.07	14.85	14.63	14.41	14.19	13.96	13.72	13.49	13.25	13	12.75	12.49	12.23	11.97	11.69	11.41	11.13	10.83	10.53
15 A		18.61	18.31	18.01	17.70	17.38	17.06	16.74	16.40	16.07	15.72	15.36	15	14.63	14.25	13.85	13.45	13.03	12.60	12.16	11.69	11.21
16 A		19.43	19.14	18.85	18.55	18.25	17.95	17.64	17.32	17.00	16.68	16.34	16	15.65	15.29	14.93	14.56	14.17	13.78	13.37	12.95	12.52
20 A		24.06	23.72	23.37	23.02	22.67	22.31	21.94	21.56	21.18	20.80	20.40	20	19.59	19.17	18.74	18.30	17.85	17.39	16.92	16.43	15.93
25 A		30.35	29.91	29.45	28.99	28.52	28.05	27.56	27.07	26.57	26.06	25.53	25	24.46	23.90	23.33	22.74	22.14	21.53	20.89	20.24	19.56
30 A		37.35	36.74	36.12	35.50	34.86	34.21	33.54	32.86	32.17	31.46	30.74	30	29.24	28.46	27.66	26.83	25.98	25.10	24.19	23.24	22.25
32 A		38.45	37.91	37.36	36.80	36.24	35.66	35.08	34.48	33.88	33.27	32.64	32	31.35	30.68	30.00	29.31	28.59	27.86	27.11	26.34	25.54
40 A		48.92	48.17	47.42	46.65	45.87	45.08	44.28	43.45	42.62	41.76	40.89	40	39.09	38.16	37.20	36.22	35.21	34.17	33.10	31.99	30.84
50 A		59.93	59.09	58.25	57.39	56.52	55.63	54.74	53.82	52.89	51.95	50.98	50	49.00	47.97	46.93	45.86	44.77	43.64	42.49	41.31	40.09
63 A		78.16	76.91	75.63	74.33	73.01	71.67	70.30	68.90	67.47	66.02	64.53	63	61.44	59.83	58.18	56.49	54.74	52.93	51.06	49.12	47.10

Tertiary/Industry (IEC 60947-2) (cont.)

C60PV-DC derating table (IEC 60947-2)

C60PV-DC	Ambient temperature (°C)																				
Rating	-30	-25	-20	-15	-10	-5	0	+5	+10	+15	+20	+25	+30	+35	+40	+45	+50	+55	+60	+65	+70
1A	1.18	1.17	1.15	1.14	1.12	1.1	1.09	1.07	1.05	1.04	1.02	1	0.98	0.96	0.94	0.92	0.9	0.88	0.86	0.84	0.82
2A	2.54	2.5	2.45	2.41	2.36	2.31	2.26	2.21	2.16	2.11	2.06	2	1.94	1.88	1.82	1.76	1.7	1.63	1.56	1.48	1.41
3A	3.78	3.71	3.65	3.58	3.51	3.45	3.38	3.3	3.23	3.16	3.08	3	2.92	2.84	2.75	2.66	2.57	2.48	2.38	2.27	2.17
5A	6	5.92	5.83	5.74	5.66	5.57	5.48	5.39	5.29	5.2	5.1	5	4.9	4.8	4.69	4.58	4.47	4.36	4.24	4.12	4
8A	9.64	9.5	9.36	9.22	9.08	8.93	8.78	8.63	8.48	8.32	8.16	8	7.83	7.67	7.49	7.31	7.13	6.95	6.76	6.56	6.36
10A	12.6	12.4	12.2	11.9	11.7	11.5	11.2	11	11.8	10.5	10.3	10	9.7	9.4	9.2	9.9	8.6	8.2	7.9	7.6	7.2
13A	15.5	15.3	15.1	14.8	14.6	14.4	14.2	14	13.7	13.5	13.2	13	12.7	12.5	12.2	12	11.7	11.4	11.1	10.8	10.5
15A	18.6	18.3	18	17.7	17.4	17.1	16.7	16.4	16.1	16.7	15.4	15	14.6	14.3	13.9	13.5	13.0	12.6	12.2	11.7	11.2
16A	19.4	19.1	18.9	18.6	18.3	18.0	17.6	17.3	17.0	16.7	16.3	16	15.7	15.3	14.9	14.6	14.2	13.8	13.4	13.0	12.5
20A	24.1	23.7	23.4	23.0	22.7	22.3	21.9	21.6	21.2	20.8	20.4	20	19.6	19.2	18.7	18.3	17.9	17.4	16.9	16.4	15.9
25A	30.4	29.9	29.5	29.0	28.5	28.1	27.6	27.1	26.6	26.1	25.5	25	24.5	23.9	23.3	22.7	22.1	21.5	20.9	20.2	19.6
30A	37.4	36.7	36.1	35.5	34.9	34.2	33.5	32.9	32.2	31.5	30.7	30	29.2	28.5	27.7	26.8	26.0	25.1	24.2	23.2	22.3

C120 derating table (IEC 60947-2)

C120	Ambient temperature (°C)																				
Rating	-30	-25	-20	-15	-10	-5	0	+5	+10	+15	+20	+25	+30	+35	+40	+45	+50	+55	+60	+65	+70
10 A	14.49	14.25	14.01	13.76	13.51	13.25	12.99	12.72	12.45	12.17	11.89	11.59	11.29	10.98	10.67	10.34	10	9.65	9.29	8.91	8.51
16 A	21.24	20.95	20.66	20.36	20.06	19.76	19.44	19.13	18.81	18.48	18.15	17.81	17.46	17.11	16.75	16.38	16	15.61	15.22	14.81	14.39
20 A	27.03	26.64	26.25	25.85	25.45	25.04	24.63	24.20	23.77	23.34	22.89	22.43	21.97	21.49	21.01	20.51	20	19.48	18.94	18.39	17.82
25 A	33.73	33.25	32.76	32.27	31.77	31.26	30.75	30.22	29.69	29.14	28.59	28.02	27.45	26.86	26.25	25.63	25	24.35	23.68	22.99	22.28
32 A	42.70	42.11	41.52	40.91	40.29	39.67	39.03	38.39	37.73	37.06	36.38	35.69	34.98	34.26	33.53	32.77	32	31.21	30.40	29.56	28.71
40 A	54.80	54.00	53.18	52.35	51.50	50.65	49.77	48.88	47.98	47.05	46.11	45.15	44.17	43.17	42.14	41.08	40	38.89	37.74	36.56	35.34
50 A	69.08	68.05	67.00	65.93	64.84	63.74	62.62	61.47	60.30	59.12	57.90	56.66	55.39	54.10	52.77	51.40	50	48.56	47.07	45.53	43.94
63 A	87.12	85.81	84.48	83.13	81.76	80.36	78.94	77.50	76.02	74.52	72.98	71.42	69.82	68.18	66.50	64.77	63	61.18	59.30	57.36	55.35
80 A	103.67	102.35	101.01	99.66	98.29	96.90	95.48	94.05	92.59	91.12	89.61	88.08	86.53	84.94	83.33	81.68	80	78.28	76.53	74.73	72.89
100 A	137.58	135.54	133.47	131.37	129.23	127.05	124.84	122.59	120.29	117.95	115.56	113.12	110.62	108.07	105.45	102.76	100	97.16	94.22	91.19	88.05
125 A	174.56	171.88	169.16	166.40	163.59	160.73	157.82	154.85	151.82	148.74	145.59	142.36	139.06	135.69	132.22	128.66	125	121.23	117.33	113.30	109.12

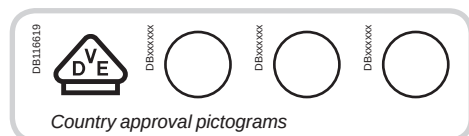
NG125 derating table (IEC 60947-2)

NG125	Ambient temperature (°C)																				
Rating	-30	-25	-20	-15	-10	-5	0	+5	+10	+15	+20	+25	+30	+35	+40	+45	+50	+55	+60	+65	+70
10 A	13.70	13.47	13.24	13.00	12.75	12.51	12.25	11.99	11.73	11.46	11.18	10.90	10.61	10.31	10	9.68	9.35	9.01	8.66	8.29	7.90
16 A	20.32	20.05	19.76	19.48	19.19	18.89	18.59	18.29	17.98	17.67	17.35	17.02	16.69	16.35	16	15.65	15.28	14.91	14.53	14.14	13.74
20 A	26.02	25.64	25.25	24.85	24.45	24.04	23.63	23.21	22.77	22.34	21.89	21.43	20.97	20.49	20	19.50	18.99	18.46	17.91	17.35	16.77
25 A	33.76	33.21	32.65	32.08	31.51	30.92	30.32	29.70	29.08	28.44	27.79	27.12	26.43	25.72	25	24.25	23.48	22.69	21.86	21.00	20.11
32 A	41.19	40.60	40.00	39.40	38.79	38.16	37.53	36.88	36.22	35.55	34.87	34.18	33.47	32.74	32	31.24	30.46	29.66	28.84	28.00	27.13
40 A	53.54	52.69	51.83	50.95	50.05	49.14	48.21	47.26	46.29	45.30	44.29	43.26	42.20	41.12	40	38.85	37.67	36.45	35.19	33.87	32.51
50 A	66.26	65.23	64.19	63.13	62.05	60.95	59.83	58.69	57.53	56.35	55.14	53.90	52.63	51.33	50	48.63	47.22	45.77	44.27	42.72	41.11
63 A	83.42	82.13	80.82	79.49	78.14	76.76	75.35	73.92	72.46	70.97	69.45	67.90	66.30	64.67	63	61.28	59.51	57.69	55.81	53.86	51.84
80 A	100.41	99.09	97.75	96.40	95.02	93.63	92.21	90.78	89.32	87.83	86.32	84.79	83.22	81.63	80	78.34	76.64	74.91	73.13	71.31	69.44
100 A	133.37	131.26	129.13	126.96	124.75	122.50	120.21	117.87	115.49	113.05	110.57	108.02	105.42	102.74	100	97.18	94.27	91.28	88.18	84.97	81.63
125 A	165.22	162.68	160.09	157.47	154.80	152.08	149.32	146.50	143.62	140.69	137.70	134.63	131.50	128.29	125	121.62	118.14	114.56	110.86	107.03	103.06

Tertiaire/Industrie (CEI 60947-3)

SW60-DC derating table (IEC 60947-3)

SW60PV-DC	Ambient temperature (°C)											
Rating	+5	+10	+15	+20	+25	+30	+35	+40	+45	+50	+60	+70
50 A	63	61	60	58	56	54	52	50	48	46	41	35



iEM2000T	iME
IEC 62053-21 and IEC 61557-12	IEC 61557-12
PMD/DD/K55/1	PMD/DD/K55/1 PMD/SD/K55/1 (iME4zrt)
MID approval	IEC 62053-21 (accuracy)

Single-phase				
Kilowatt-hour meter	iEM2000T	iME1	iME1z	iME1zr
Type	0...40 A	0...63 A	0...63 A With partial meter	0...63 A With partial meter and remote transfer of metering impulses
				
Function				
	Digital kilowatt-hour meters designed for sub-metering of active energy (rms) consumed by a single-phase or three-phase electric circuit with or without distributed neutral.			
Catalogue numbers	A9MEM2000T	A9M17065	A9M17066	A9M17067
Technical specifications				
Rating (A)	0...40	0...63		
Voltage (Ue)	V AC 230 ± 20 %	230 ± 20 %		
Operating frequency	Hz 48/62	48/62		
Direct measurement	Up to 40 A	Up to 63 A		
Measurement by CT	—	—		
Metering and activity indicator light (yellow)	3,200 flashes per kWh	1,000 flashes per kWh		
Total meter (max. capacity) on all 3 phases	—	999.99 MWh		
Total meter display	—	In kWh or MWh with 5 significant digits. No decimal point in kWh; 2 digits after the decimal point in MWh		
Partial meter (max. capacity) on all 3 phases with RESET	—	—	99.99 MWh	
Partial meter display	—	—	In kWh or MWh with 4 significant digits. No decimal point in kWh; 2 digits after the decimal point in MWh	
Remote transfer	By static output: ■ ELV insulation voltage: 4 kV, 50 Hz ■ 20 mA/35 V DC max. ■ 100 impulses of 120 ms per kWh	—	—	By NO impulse contact: ■ ELV insulation voltage: 4 kV, 50 Hz ■ 18 mA/24 V DC, 100 mA/230 V AC ■ 1 impulse of 200 ms (contact closing) per kWh
Width in 9 mm modules	2	4		
Use with contactor				
	■ Mount the kilowatt hour meter upstream of the contactor ■ Move the kilowatt hour meter away from the switchgear to limit interference			

(1) example: 500/5 CT = 10,000/500 flashes per kWh = 20 flashes per kWh

(2) example: 500/5 CT = 500/10 kWh per impulse = 50 kWh per impulse.

Power Meter Series PM3200

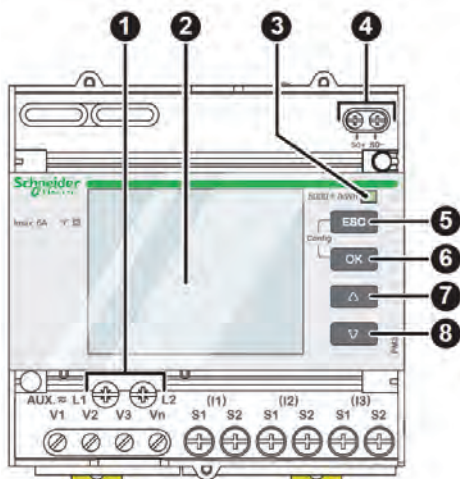
Functions and characteristics



Power Meter Series PM3200



Power Meter Series PM3255



Front of meter parts

- 1 Control power
- 2 Display with white backlight
- 3 Flashing yellow meter indicator (to check accuracy)
- 4 Pulse output for remote transfer (PM3210)
- 5 **ESC**: cancellation
- 6 **OK**: confirmation
- 7 **▲**: up
- 8 **▼**: down

This PowerLogic Power meter offers basic to advanced measurement capabilities. With compact size and DIN rail mounting, the PM3200 allows mains and feeders monitoring in small electrical cabinets. Combined with current transformers and voltage transformers, these meters can monitor 2-, 3- and 4-wire systems. The graphic display has intuitive navigation to easily access important parameters.

Four versions are available offering basic to advanced applications:

- **PM3200**
 - Electrical parameters I, In, U, V, PQS, E, PF, Hz
 - Power/current demand
 - Min/max.
- **PM3210**
 - Electrical parameters I, In, U, V, PQS, E, PF, Hz, THD
 - Power/current demand, peak demand
 - Min/max.
 - 5 timestamped alarms
 - kWh pulse output
- **PM3250**
 - Electrical parameters I, In, U, V, PQS, E, PF, Hz, THD
 - Power/current demand, peak demand
 - Min/max.
 - 5 timestamped alarms
 - LED to indicate communications
 - RS485 port for Modbus communication
- **PM3255**
 - Electrical parameters I, In, U, V, PQS, E, PF, Hz, THD
 - Power/current demand and peak demand
 - Min/max. and 15 timestamped alarms
 - LED to indicate communications
 - Up to 4 tariffs management
 - 2 digital inputs, 2 digital outputs
 - Memory for load profile (demand 10mn to 60mn)
 - RS485 port for Modbus communication

Innovative design makes the meters smart and simple:

- Easy to install for panel builders
- Easy to commission for contractors and installers
- Easy to operate for end users

Applications

Cost management applications

- Bill checking
- Sub-billing, including WAGES view
- Cost allocation, including WAGES view

Network management applications

- Panel instrumentation
- Up to 15 onboard timestamped alarms to monitor events
- Easy integration with PLC system by input/output interface

Market segments

- Buildings
- Industry
- Data centres and networks

Meter model and description	Performance	Part no.
PM3200 basic power meter	Basic power meter	METSEPM3200
PM3210 power meter with pulse output	Power, current, THD, peak demand	METSEPM3210
PM3250 power meter with RS485 port	Power, current, THD, peak demand	METSEPM3250
PM3255 power meter plus 2 digital inputs, 2 digital outputs with RS485 port	Power, current, THD, peak demand, memory for load profile	METSEPM3255

Power Meter Series PM3200

Functions and characteristics

Function guide	PM3200 Range			
	PM3200	PM3210	PM3250	PM3255
Performance standard				
IEC61557-12 PMD/Sx/K55/0.5	■	■	■	■
General				
Use on LV and HV systems	■	■	■	■
Number of samples per cycle	32	32	32	32
CT input 1A/5A	■	■	■	■
VT input	■	■	■	■
Multi-tariff	4	4	4	4
Multi-lingual backlit display	■	■	■	■
Instantaneous rms values				
Current, voltage	Per phase and average	■	■	■
Active, reactive, apparent power	Total and per phase	■	■	■
Power factor	Total and per phase	■	■	■
Energy values				
Active, reactive and apparent energy; import and export	■	■	■	■
Demand value				
Current, power (active, reactive, apparent) demand; present	■	■	■	■
Current, power (active, reactive, apparent) demand; peak		■	■	■
Power quality measurements				
THD Current and voltage		■	■	■
Data recording				
Min/max of the instantaneous values	■	■	■	■
Power demand logs				■
Energy consumption log (day, week, month)				■
Alarms with time stamping		5	5	15
Digital inputs/digital outputs		0/1		2/2
Communication				
RS-485 port			■	■
Modbus protocol			■	■



Power Meter Series PM3210

Connectivity advantages

Programmable digital input	External tariff control signal (4 tariffs) Remote Reset partial counter External status like breaker status Collect WAGES pulses
Programmable digital output	Alarm (PM3255) kWh pulses
Graphic LCD display	Backlit graphic display allows smart navigation in relevant information and in multi languages
Communication	Modbus RS485 with screw terminals allows connection to a daisy chain

Timers	MIN	MINs	MINp	MINt
Type	Electromechanical timer	Silent electronic timer	Silent electronic timer with switch-off warning function	Silent electronic timer with switch-off warning and impulse relay functions
Adjustable time delay (min.)	From 1 to 7	From 0.5 to 20	From 0.5 to 20	From 0.5 to 20
Long time delay (h)	-	-	1	1
Output contact current (P. f = 1) (A)	16	16	16	16
Catalogue number	15363	CCT15232	CCT15233	CCT15234



Time switches (18 mm)	IHP 1c	IHP +1c	IHH 7j 1c ARM	IH 24h1c ARM	IH 24h1c SRM
Type	Programmable	Programmable	Mechanical	Mechanical	Mechanical
Number of channels	1	1	1	1	1
Cycle period	Weekly	Weekly	Weekly	Daily	Daily
Number of switching operation	56	84	42 On- 42 Off	48 On- 48 Off	48 On- 48 Off
Output contact current (P. f = 1) (A)	16	16	16	16	16
Catalogue number	15854	CCT15837	15331	15336	15335



Time switches (45 mm)	IHP 1c/2c	IHP +1c/+2c	IHP DCF
Type	Programmable	Programmable	Programmable (1)
Number of channels	1/2	1/2	1
Cycle period	Weekly	Weekly	Weekly
Number of switching operation	56	84	42
Output contact current (P. f = 1) (A)	16	16	16
Catalogue number	CCT15400 CCT15402	CCT15401 CCT15403	15857

(1) The IHP DCF is synchronised on the Frankfurt 's DCF77 radio station via the ANT DCF antenna.



Time switches (54 mm)	IH 60mm 1c SRM	IH 24h 1c SRM/ARM	IH 24h 2c ARM	IH 7j 1c ARM	IH 24h+ 7j 1+1c ARM
Type	Mechanical	Mechanical	Mechanical	Mechanical	Mechanical
Number of channels	1	1	2	1	1+1
Cycle period	Hourly	Daily	Daily	Weekly	Daily+ Weekly
Number of switching operation	48 On- 48 Off	48 On- 48 Off	24 On- 24 Off	42 On- 42 Off	16 On- 16 Off + 7 On- 7 Off
Output contact current (P. f = 1) (A)	10	16	16	16	16
Catalogue number	CCT15338	CCT15634 CCT15365	15337	CCT15367	15366



Time switch Multifunctional	ITM 4c- 6E
Type	Programmable
Number of channels	4 (and 6 condition inputs)
Cycle period	Weekly or Annual
Number of switching operation	15 time brackets in weekly time programming 45 time brackets in annual time programming 20 different pulses in pulse programming
Output contact current (P. f = 1) (A)	10
Catalogue number	15270



Dimmers	STD 400 RC/RL-DIN	STD 400 RC/RL-SAE	STD 1000 RL-DIN	STD 1000 RL-SAE	SCU 10 DIN	SCU 10 SAE
Admissible power (W)	40 to 400	40 to 400	60 to 1000	60 to 1000	Up to 1500	Up to 1500
Admissible loads: Incandescent, halogen, LV halogen lamps, fans, ventilators...	■	■	■	■	-	-
Mono, duo fluorescent tubes with electronic ballast, fluocompact lamps with electronic ballast	-	-	-	-	■	■
Simple control with local push-button or with auxiliary push-button	■	■	■	■	■	■
Scenario control with push-buttons connected on the 4 digital inputs	-	■	-	■	-	■
Catalogue number	CCTDD20001	CCTDD20002	CCTDD20003	CCTDD20004	CCTFF20011	CCTDD20012



Twilight switches	IC 100	IC 2000	IC 2000P+	IC 100k/p + 1/2 c	IC Astro 1c/2C
Type	18 mm twilight switch with wall mounted cell	45 mm twilight switch with switchboard or wall mounted cell	45 mm programmable twilight switch with time switch function	36 and 54 mm programmable twilight switch with digital wall mounted cell	45 mm Astronomic programmable twilight switch with time switch function
Adjustable brightness threshold (lx)	2 to 100	2 to 2000	2 to 50 60 to 300 350 to 2100	1 to 99,000	According to sunrise and sunset times
Time delay (s)	20 (On) 80 (Off)	60	20 to 140	0 to 59.59	-
Number of switching operation	-	-	42	84 (only for + version)	84
Output contact current (P. f = 1) (A)	16	16	16	16	16
Catalogue number	15482	CCT15284 CCT15368	15483	CCT15250 CCT15252	CCT15223 CCT15243



Thermostats	TH4	TH7	THP1	THP2
Type	Simple control according to 3 temperature set points	Simple control according to 3 temperature set points	Weekly programmable control according to 3 temperature set points for 1 zone	Weekly programmable control according to 3 temperature set points for 2 zones
Temperature range (°C)	+8°C to +26°C	-40°C to +80°C	+5°C to +30°C	+5°C to +30°C
Number of channels	1	1	1	2
Output contact current (P. f = 1) (A)	16	16	5	5
Type of delivered probes	1 ambient probe	-	1 ambient probe	2 ambient probes
Catalogue number	CCT15841	CCT15840	15833	15834



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