

Ex panelboard for hazardous areas
Zone 1, 2, 21 and 22

CROUSE-HINDS
SERIES

AGP17

Explosion-protected panelboards



Safe. Reliable. Efficient.



Powering Business Worldwide



AGP17 Explosion-protected panelboards

Energy distribution, switching and control assembly

A robust solution for power distribution in Zone 1, 2, 21 and 22 hazardous areas

Eaton's Crouse-Hinds series AGP17 distribution and control board is certified for hazardous areas with Ex de protection. Ex e increased safety Stainless Steel/GRP enclosure ensures maximum performance and corrosion resistance. A wide range of internal encapsulated components are available to



Factory sealed assembly eliminates flame path

- Easy installation and reduced labor cost
- Reduced maintenance cost by eliminating Ex d inspections according to IEC60079-17, which requires inspections within every three years

Ex e enclosure eliminates Ex d bolts

- Easy to open and access
- Improves safety by avoiding the risk of compromising safety due to missing, broken, stripped or galled bolts

316LSS/GRP enclosure

- High level of corrosion and chemical resistance, ideal for off-shore applications and other aggressive hazardous areas

Modular design

- Simple expansion options
- Easily replace encapsulated components

Ex d MCCB up to 250A

- Covers wide range of Ex design applications

Lightweight and compact design

- Easy to install
- Advantage for off-shore applications

AGP17 Explosion-protected panelboards

Energy distribution, switching and control assembly

Applications

Designed to provide overcurrent and short circuit protection for low voltage power, lighting, and heating circuits in hazardous and harsh industry.

The AGP17 is an ideal choice for high demanding applications within hazardous and harsh locations, such as marine offshore platforms, refineries, chemical and petrochemical plants, mining, food processing, pharmaceutical plants, corrosive and industrial processing facilities.

Certifications and Compliance

- SEV 21 ATEX 0559X ; IECEx NEP 18.0001X

Marking accd. to 2014/34/EU

- Ⓜ II 2 G Ex db eb ia/ib mb [ia/ib] IIC T4~T6 Gb
- Ⓜ II 2 D Ex tb IIIC T80°C Db IP66

Marking accd. to IECEx

- Ex db eb ia/ib mb [ia/ib] IIC T4~T6 Gb
- Ex tb IIIC T80°C Db IP66

Degree of protection accd. to IEC 60079

- IP66

Permissible ambient temperature

- -20 °C up to +40 °C
- -40 °C up to +55 °C (option)

Materials and finishes

- Enclosure material: SS316L (standard), SS304 (optional), GRP(glass fiber reinforced plastic)
- Stainless steel enclosure finish: Electro-polish (standard), mechanical brush (optional), Painting or powder coating are also optional
- Material thickness(316L/304 only)
1.5mm (standard), 2mm (optional)

Product features

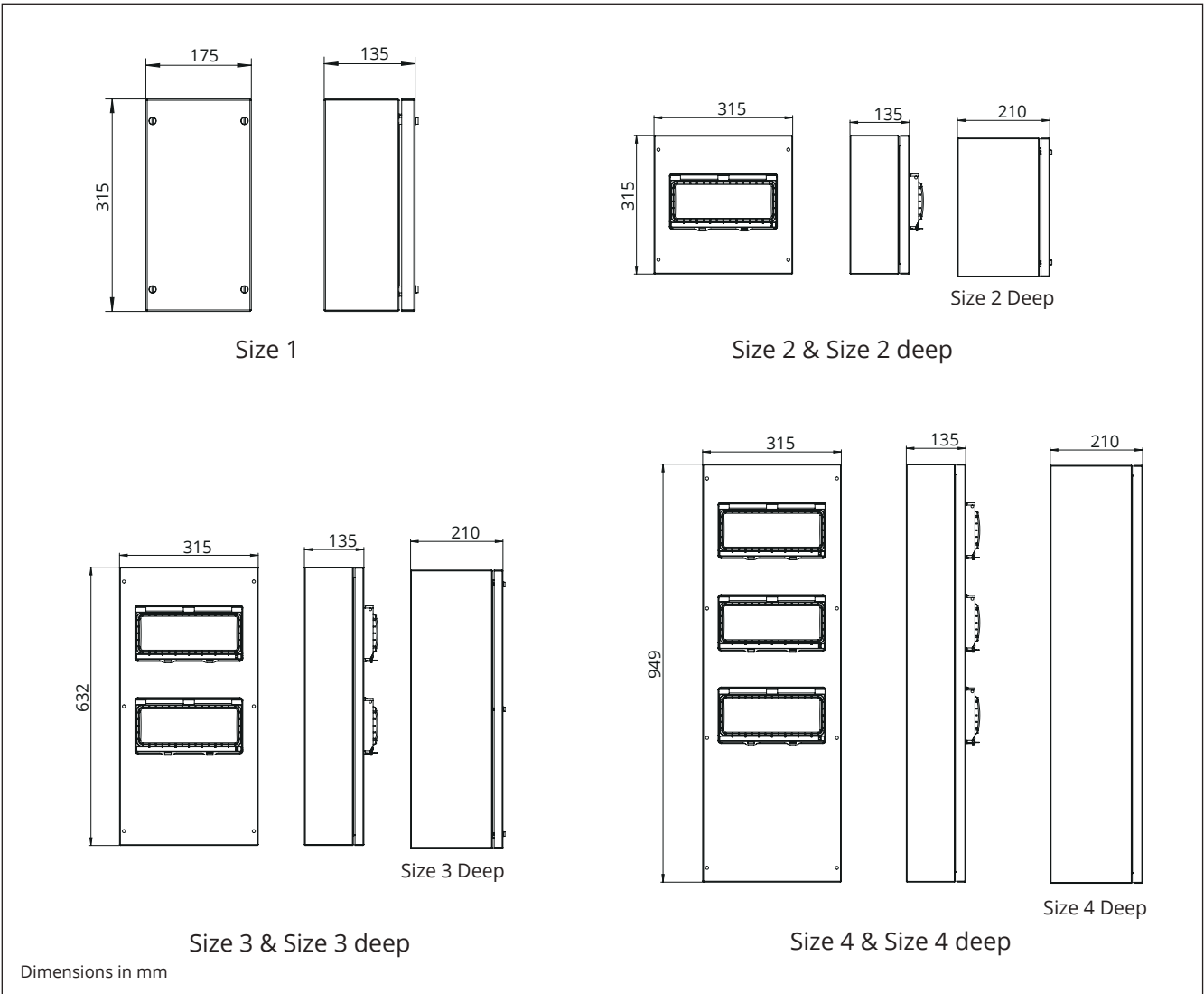
- ATEX, IECEx
- Ex de type explosionproof protection
- Modular enclosure and internal components
- Up to 250A rated encapsulated MCCB is available for main breaker.
- Wide range of encapsulated components including MCB, RCD,RCBO, contactor, overload relay, etc.
- Test function available for RCD/RCBO.

Electrical Ratings

- Rated voltage up to 690V
- Rated current up to 315A
- Terminal cross section up to 240mm²



316L enclosure with dimension for panelboard



Note: Enclosures can be connected for panel building on request.

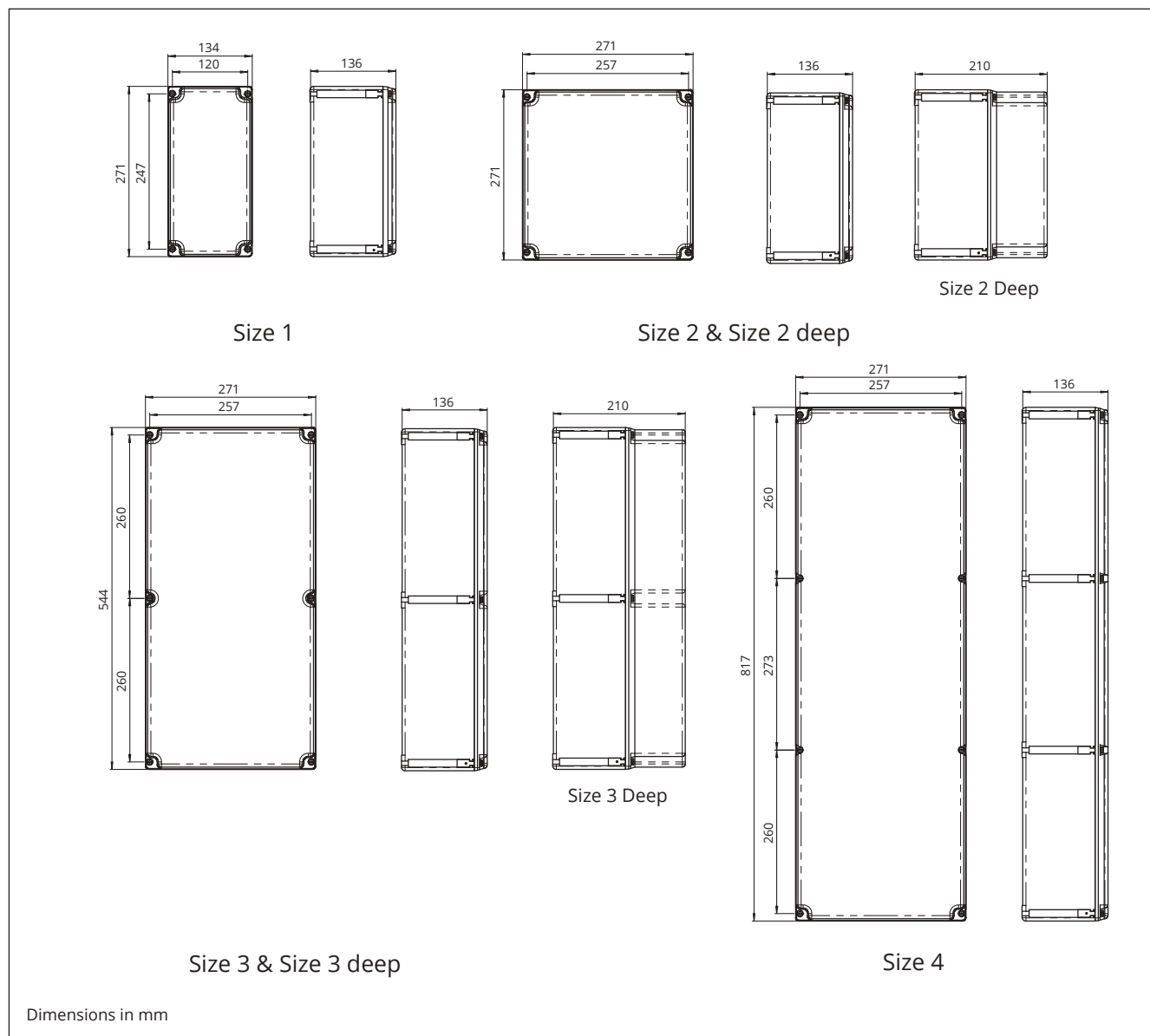
Dimensions of enclosures

Type	Dimension (H x W x D in mm)
Size 1	315 x 175 x 135
Size 2	315 x 315 x 135
Size 2 deep	315 x 315 x 210
Size 3	632 x 315 x 135
Size 3 deep	632 x 315 x 210
Size 4	949 x 315 x 135
Size 4 deep	949 x 315 x 210

Note: Enclosures can be connected on request .



GRP enclosure with dimension for panelboard



Note: Enclosures can be connected for panel building on request.

Dimensions of enclosures

Type	Dimension (H x W x D in mm)
Size 1	271x134x136
Size 2	271x271x136
Size 2 deep	271x271x210
Size 3	544x271x136
Size 3 deep	544x271x210
Size 4	817x271x136

Note: Enclosures can be connected on request .



Ex-d built-in components - MCB Modules



MCB 0.5A to 63A

Certifications and Compliances

Marking accd. to ATEX/IECEx	Ex db eb IIC Gb
Application temperature	-40°C up to +64°C / -20°C up to +64°C

Electrical Ratings

Rated voltage	Main contact	max. 440 V AC
	Auxiliary contact	max. 250 V AC
Rated current	Main contact	0.5A to 63A
	Auxiliary contact	max. 5 A
Rated switching capacity 2/3 phase		max. 15kA
Back-up fuse		depend on rated current up to 125 A
Connection terminals	Main contact	25 mm ²
	Auxiliary contact	2.5 mm ²

Additional Specifications

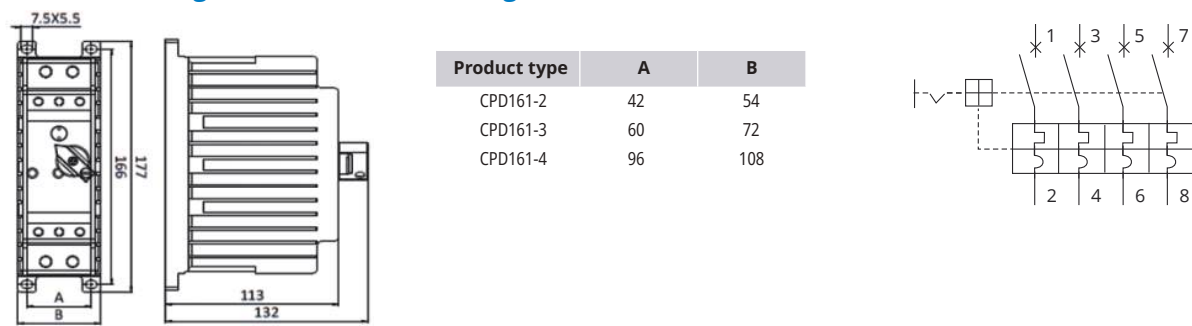
Weight	0.74 kg size 1
	1.13 kg size 2
	1.49 kg size 3
Enclosure material	Reinforced flame-retardant nylon
Enclosure colour	black
Options	Aux. contact; signal contact; shunt trip; undervoltage release
Padlocking capability	Padlockable at off position

MCB Ordering Logic

CPD161	-2	-1	1	2	-C	630	10	-1	2	1	1	N
Product Group	Enclosure size	Internal components code	Internal MCB	MCB size	Tripping characteristic	Rated current	Rated switching capacity	Aux. contact	Signal contact	Shutting release	Undervoltage release	Tamb
CPD161	2 Size 1	1 MCB	1 Eaton/PL10~1P(230/400V) , 2~4P(400V) 50/60Hz 2 Eaton/FAZ ~ 1P(240/415V) , 2~4P(440V) 50/60Hz	1 1Pole	B B capacity	005 0.5A	15 15kA ¹⁾	0 NA	0 NA	0 NA	0 NA	N
	3 Size 2			2 2Pole	C C capacity	010 1A	10 10kA	1 1NO	1 1C/O	1 12-110V	1 115VAC	-20°C up to
	4 Size 3			3 3Pole	D D capacity	020 2A	06 6kA	2 1NC	2 110-415V	2 230VAC	+64°C	
	Enclosure Size 1 2P			4 4Pole		030 3A	3 1C/O		3 400VAC	Blank		
	1P				040 4A	4 2NO		-40°C up to				
	1P+ Aux. contact				060 6A	5 1NO+1C/O		+64°C				
	(1NO+1NC or 1CO or 2CO)				080 8A	6 1NO+1NC						
	1P+ Signal contact 1CO and/or Aux.				100 10A							
	contact 1CO)				130 13A							
	Enclosure Size 2 3P				160 16A							
	2P+ Aux. contact				200 20A							
	(1NO+1NC or 1CO or 2CO)				250 25A							
	2P+ Signal contact 1CO and/or Aux.				320 32A							
	contact 1CO)				400 40A							
	2P+ shutting release contact				500 50A							
	2P+ undervoltage release contact				630 63A							
	Enclosure Size 3 4P											
	3P/4P+ Aux. contact											
(1NO+1NC or 1CO or 2CO)												
3P/4P+ Signal contact 1CO and/or												
Aux.contact 1CO)												
3P/4P+ shutting release contact												
3P/4P+ undervoltage release contact												

¹⁾ FAZ only
Contact Eaton for other configuration

Dimension drawing (mm) / Connection diagram



AGP17 Stainless Steel Panelboard with Painting

Ex-d built-in components - MCCB Modules



CPD162

MCCB 20A to 250A

Certifications and Compliances

Marking accd. to ATEX/IECEx	Ex db eb IIC Gb
Functional temperature	-20°C up to +70°C
Application temperature ¹⁾	-20°C up to +55°C
Limits of service temperature	-20°C up to +110°C
Component degree of protection accd. EN 60529	IP20
Storage temperature	-20°C up to +55°C in original packing

Electrical Ratings

Safe Isolation to EN 61140	between aux contacts and main contacts	500 VAC
	between aux contacts	300 VAC
Rated impulse withstand voltage	main contacts	8000 V
	auxiliary contacts	6000 V
Rated operating voltage U_e		440 V
Rated switching capacity I_{cu}	400/415/440V (50/60Hz) kA/cos ϕ 500VDC	25 kA
Rated current I_n	main contact	20A, 25A, 32A, 40A, 63A, 80A, 100A, 125A, 160A, 200A or 250A
	aux. contact	max. 5 A
Adjustable setting range I_r		0.8 to 1.0 x rated current I_n
Short current protection		$I_i = 10 \times I_n$
Utilization category to IEC/EN 60947-2		A
Making/breaking capacity at rated current up to 400 V		AC1 & AC3
Connecting terminals main contact		1 x 4.0 mm ² up to 1 x 185 mm ²
Rated voltage aux. contact		max. 500 V AC
Rated current aux contact	AC15 le (up to 230 V) / DC13 le (up to 24 V)	4 A / 3 A
	AC15 le (up to 400 V) / DC13 le (up to 60 V)	2 A / 1.2 A
	AC15 le (up to 500 V) / DC13 le (up to 110 V)	1 A / 0.8 A
	DC13 le (up to 220 V)	0.3 A
Connecting terminals aux./signal contact		1.0 mm ² up to 4.0 mm ² fine stranded
Total opening delay on short circuit		< 10 ms

Additional Specifications

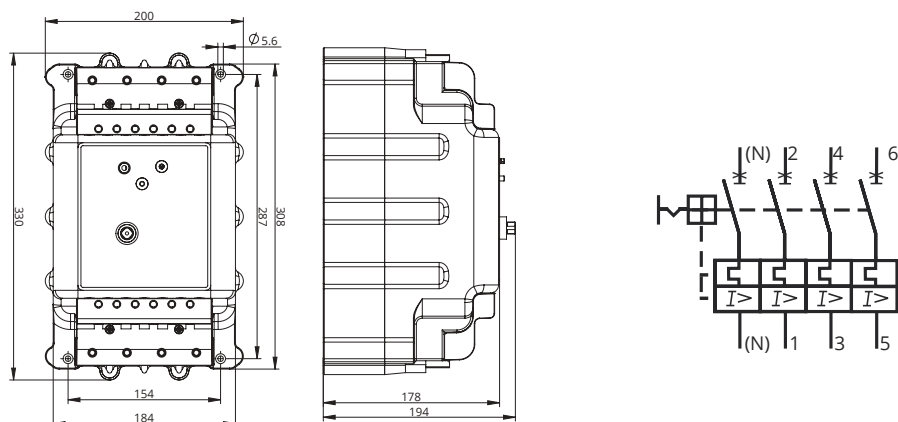
Weight	12.7 kg - 4-pole / 11.5 kg - 3-pole
Enclosure material	GRP
Built-in position	Vertical and rotated 90 deg in all directions
Release system	Thermomagnetic release

¹⁾ The limits of the operating temperature range and the max. permissible temperature rise of the components (functional temperature) have to be taken into account.

MCCB Ordering Logic

CPD162	3	5	020	00	01
Product type	MCCB pole	Breaking capacity	Rated current	Accessories 1	Accessories 2
CPD162	3 3pole 4 4pole	1 440V/25kA,DC500V 10kA	020 20A 025 25A 032 32A 040 40A 050 50A 063 63A 080 80A 100 100A 125 125A 160 160A 200 200A 250 250A	00 MCCB only 01 MCCB + 1NO 02 MCCB + 1NC 03 MCCB + trip indicator 1NO 04 MCCB + 1NO+1NC+trip indicator 1NC 05 MCCB + 2NO 06 MCCB + 2NC 07 MCCB + 2NO + trip indicator 1NO 08 MCCB + 2NC + trip indicator 1NO 09 MCCB + 1NC + trip indicator 1NO	00 MCCB only 01 shunt trip 24VAC/DC + early make 1NO 02 shunt trip 110V-130VAC/DC + early make 1NO 03 shunt trip 208V-250VAC/DC + early make 1NO 04 shunt trip 380V-440VAC/DC + early make 1NO 05 uv release 24V 50/60Hz + early make 1NO 06 uv release 110V-130V 50/60Hz + early make 1NO 07 uv release 208V-240V 50/60Hz + early make 1NO 08 uv release 380V-440V 50/60Hz + early make 1NO 09 uv release 480V-525V 50/60Hz + early make 1NO 10 shunt trip 24VAC/DC 11 shunt trip 110V-130VAC/DC 12 shunt trip 208V-250VAC/DC 13 shunt trip 380V-440VAC/DC 14 uv release 24V 50/60Hz 15 uv release 110V-130V 50/60Hz 16 uv release 208V-240V 50/60Hz 17 uv release 380V-440V 50/60Hz 18 uv release 480V-525V 50/60Hz 19 early make aux switch 2NO 20 uv release 24VDC

Dimension drawing (mm) / Connection diagram



Ex-d built-in components - RCD modules



RCD 30mA to 300mA (16A/25A/40A/63A)

Certifications and Compliances

Marking accd. to ATEX/IECEx	Ex db eb IIC Gb
Application temperature	-25°C up to +55°C / -20°C up to +55°C

Electrical Ratings

Rated voltage	Main contact	max. 415 V AC
	Auxiliary contact	max. 250 V AC
Rated current	Main contact	16A to 63A
	Auxiliary contact	max. 5 A
Rated residual operating current	30mA, 100mA or 300mA	
Back-up fuse	depend on rated current up to 100 A	
Connection terminals	Main contact	25mm ²
	Auxiliary contact	2.5 mm ²

Additional Specifications

Weight	0.74 kg Size 1
	1.13 kg Size 2
	1.49 kg Size 3
Enclosure material	Reinforced flame-retardant nylon
Enclosure colour	black
Options	Aux. contact; signal contact
Padlocking capability	Padlockable at off position

RCD Ordering Logic

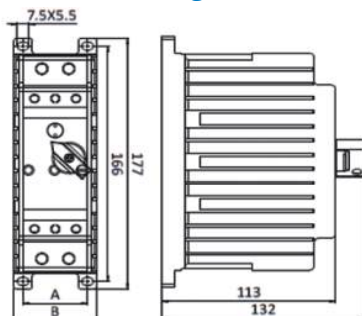
Product Group	Enclosure size	Internal components code	Internal RCD	Internal industrial RCD size	Rated current	Rated residual operating current	Aux. contact	Signal contact	Tamb
CPD161	2 Size 1	2 RCD	1 Eaton / PFIM / 2P or 4P / (230V/400V) / 50Hz / 55°C ³⁾	2 2Pole	160 16A ¹⁾	030 30mA	0 NA	0 NA	N -20°C up to +55°C
	3 Size 2								
	4 Size 3	2P	2 Eaton / FRMm-A / 2P or 4P / (240V/415V) / 60Hz / 40°C	4 4Pole	250 25A	100 100mA ²⁾	1 1C/O	1 1C/O	Blank -25°C up to +55°C
	Enclosure Size 1								
	Enclosure Size 2	2P+ Aux. contact(1CO)			400 40A	300 300mA ²⁾			TN -20°C up to +40°C
	Enclosure Size 2	2P+ Signal contact(1CO)							
	Enclosure Size 3	4P							
	Enclosure Size 3	4P+ Aux. contact(1CO)							
	Enclosure Size 3	4P+ Signal contact(1CO)			630 63A				T -25°C up to +40°C
	Enclosure Size 3	4P+ Signal contact(1CO)							

¹⁾ FRMm-A only

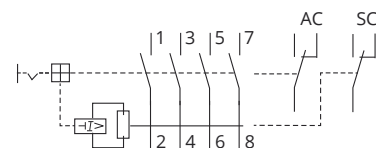
²⁾ Not available for FRMm-A 63A/2P and 63A/4P

³⁾ This is max. permissible ambient temperature
Contact Eaton for other configuration

Dimension drawing (mm) / Connection diagram



Product type	A	B
CPD161-2	42	54
CPD161-3	60	72
CPD161-4	96	108



Ex-d built-in components - RCBO modules



RCBO 6A to 63A (30A/300mA)

Certifications and Compliances

Marking accd. to ATEX/IECEx	Ex db eb IIC Gb
Application temperature	-25°C up to +55°C / -20°C up to +55°C

Electrical Ratings

Rated voltage	Main contact	max. 400 V AC
	Auxiliary contact	max. 250 V AC
Rated current	Main contact	6A to 63A
	Auxiliary contact	max. 5 A
Rated switching capacity 2/3 phase		10 kA
Back-up fuse		depend on rated current up to 100 A
Connection terminals	Main contact	25mm ²
	Auxiliary contact	2.5 mm ²

Additional Specifications

Weight	0.74 kg size 1
	1.13 kg size 2
	1.49 kg size 3
Enclosure material	Reinforced flame retardant nylon
Enclosure colour	black
Options	Aux. contact; signal contact
Padlocking capability	Padlockable at off position

RCBO Ordering Logic

Product Group	Enclosure size	Internal components code	Internal RCBO	RCBO size	Tripping characteristic	Rated current	Rated switching capacity	Rated residual operating current	Aux. contact	Signal contact	Tamb
CPD161	2 Size 1	3 RCBO	1 Eaton / PLD10 / 1P+N / 230V / 50Hz / 10kA / 55°C ¹⁾ / Electronic	2 1Pole+N	B B capacity	060 6A	10 10kA	030 30mA	0 NA	0 NA	N -20°C up to +55°C
	3 Size 2		2 Eaton / PL10+PDB / 2P/400V / 50Hz / 10kA / 55°C / Electronic ²⁾	4 2Pole	C C capacity	080 8A	06 6kA	300 300mA	1 1C/O	1 1C/O	Blank -25°C up to +55°C
	4 Size 3		3 Eaton / PFL10 / 1P+N / 230V / 50Hz / 10kA / 55°C / Electromagnetic		D D caoacity	100 10A		100 100mA ³⁾	2 2C/O	2 2C/O	TN -20°C up to +40°C
	Enclosure Size 1		4 Eaton / PL10+PBSM / 2P / 230V / 50Hz / 10kA / 55°C / Electromagnetic ²⁾			130 13A					T -25°C up to +40°C
	Enclosure Size 2		5 Eaton / FRBmM-B / 2P / 240V / 50Hz or 60Hz / 10kA / 40°C			160 16A					
			6 Eaton / FRBmM-B / 2P / 240V / 50Hz / 6kA, only 32A or 40A / 40°C			200 20A					
			7 Eaton / FRBmM-C / 2P / 240V / 50Hz / 60Hz / 10kA / 40°C			250 25A					
			8 Eaton / FRBmM-C / 2P / 240V / 50Hz / 6kA, only 32A or 40A / 40°C			320 32A					
	Enclosure Size 3					400 40A					
						500 50A					

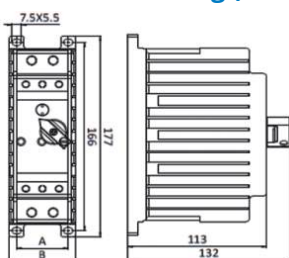
¹⁾ PL10+PDB or PL10+PBSM

²⁾ Enclosure size 3, Utilize philosophy of MCB + RCCB connection in series for 2pole RCBO

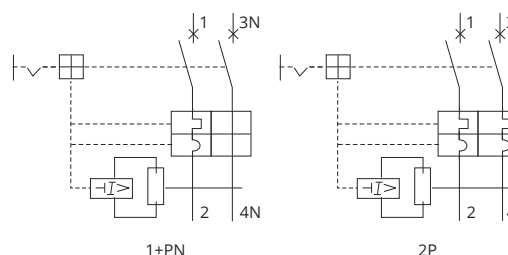
³⁾ Not available for PLD10 & PFL10

⁴⁾ This is max. permissible ambient temperature
Contact Eaton for other configuration

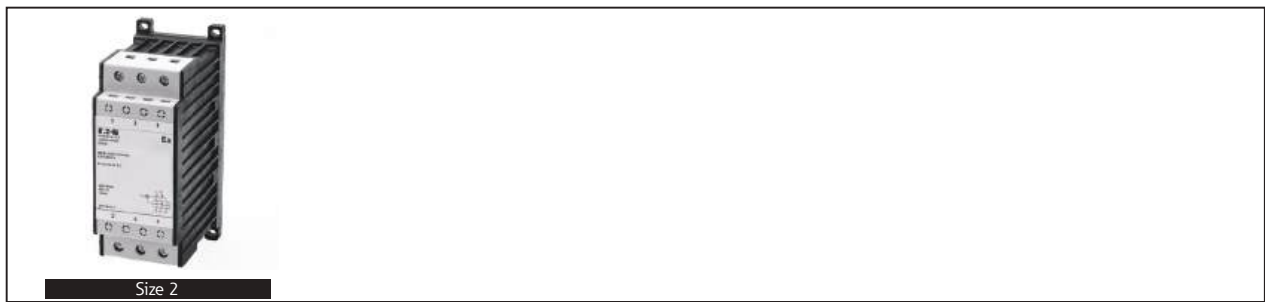
Dimension drawing (mm) / Connection diagram



Product type	A	B
CPD161-2	42	54
CPD161-3	60	72
CPD161-4	96	108



Ex-d built-in components - Motor Contactors



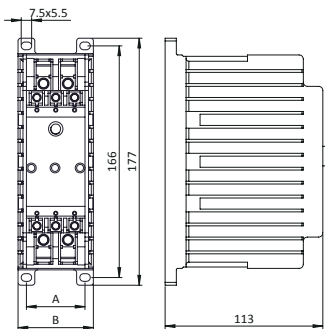
Motor Contactors

Certifications and Compliances						
Marking accd. to ATEX/IECEx		Ex db eb IIC Gb				
Application temperature		-20°C up to +50°C				
Electrical Ratings						
Rated voltage	Main contact	max. 440V AC				
	Auxiliary contact	max. 415V AC				
Rated current	Auxiliary contact	max. 5A				
	Main contact	6 A	9 A	12 A	16 A	
Rated capacity AC-3 accd. to EN 60947-4-1	220/240V	1.5 kW	2.2 kW	3 kW	3 kW	
	380/415V	2.2 kW	4 kW	5.5 kW	7.5 kW	
	440V	3 kW	4 kW	5.5 kW	7.5 kW	
Connection terminals	Main contact	25 mm ²				
	Auxiliary contact	2.5 mm ²				
Additional Specifications						
Weight	3 pole	1.13 kg size 2				
Enclosure material		Reinforced flame retardant nylon				
Enclosure colour		black				
Options		Aux. contact				

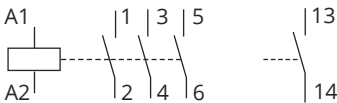
Motor contactor Ordering logic

CPD161	-3	-6	1	-09	-AC230		-2	-1	N
Product Group	Enclosure size	Internal components code	Internal contactor	Rated current	Control voltage(A1-A2)		Aux. contactor NO number	Aux. contactor NC number	Tamb
CPD161	3 Size 2	6 Motor contactor	1 Schneider/Tesys K series	06 6A 09 9A 12 12A 16 16A	AC024 AC24 V AC048 AC48 V AC110 AC110 V AC230 AC230 V AC240 AC230/240 V AC400 AC380/400 V AC440 AC440 V	DC012 DC12 V DC024 DC24 V DC048 DC48 V DC060 DC60 V DC110 DC110 V DC220 DC220 V	0 NA 1 1NO 2 2NO	0 NA 1 1NC 2 2NC	N -20°C up to +50°C Blank -25°C up to +50°C

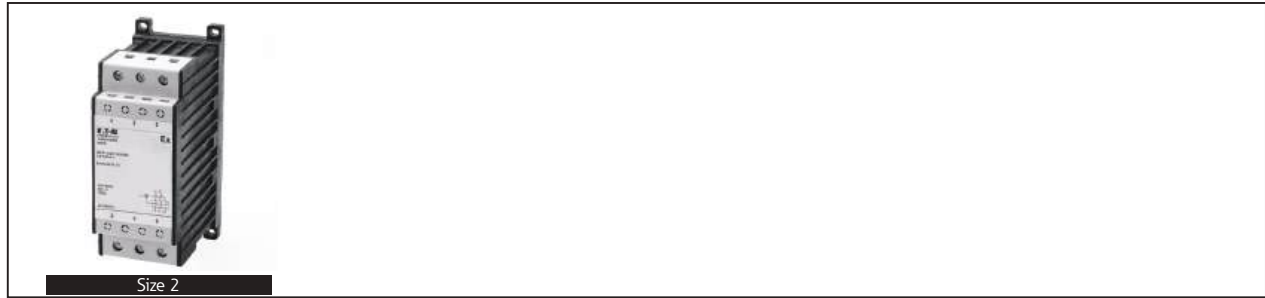
Dimension drawing (mm) / Connection diagram



Product type	A	B
CPD161-3	60	72



Ex-d built-in components - Installation Contactors



Installation Contactors

Certifications and Compliances

Marking accd. to ATEX/IECEx	Ex db eb IIC Gb
Application temperature	-25°C up to +64°C / -20°C up to +64°C

Electrical Ratings

Rated voltage	Main contact	max. 415V AC
	Auxiliary contact	max. 415V AC
Rated current	Auxiliary contact	max. 5A
	Main contact	20 A
Rated capacity AC-1 accd. to IEC/EN 60947-4-1	220-240V	7.6 kW
	380-415V	13.5 kW
Rated capacity AC-3 accd. to IEC/EN 60947-4-1	220V	2.2 kW
	230-240V	2.5 kW
	380-415V	4 kW
Connection terminals	Main contact	25mm ²
	Auxiliary contact	2.5 mm ²

Additional Specifications

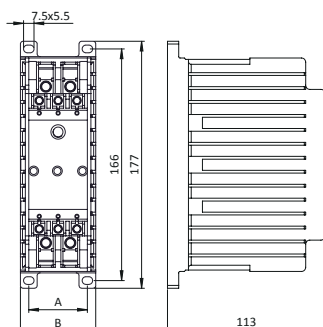
Weight	1.13 kg size 2
	1.49 kg size 3
Enclosure material	Reinforced flame retardant nylon
Enclosure colour	black

Installation Contactor Ordering Logic

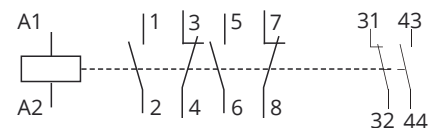
CPD161	-2	-5	1	2	-50	230	-3	1	0	1	N
Product Group	Enclosure size	Internal components code	Internal installation contactors	Installation contactor Pole number	Rated current	Control voltage (Coil voltage)	Main NO contacts	Main NC contacts	Aux. NO contacts	Aux. NC contacts	Tamb
CPD161	3 Size 2	5 Installation contactor	1 Eaton/Z-SCH installation contactor	2 2Pole 4 4Pole	20 20A	024 24V AC 230 230V AC	0 0NO 1 1NO 2 2NO 3 3NO 4 4NO	0 0NC 1 1NC 2 2NC 3 3NC 4 4NC	0 0NO 1 1NO	0 0NC 1 1NC	N -20°C up to +64°C Blank -25°C up to +64°C

Enclosure Size 2 20A rating

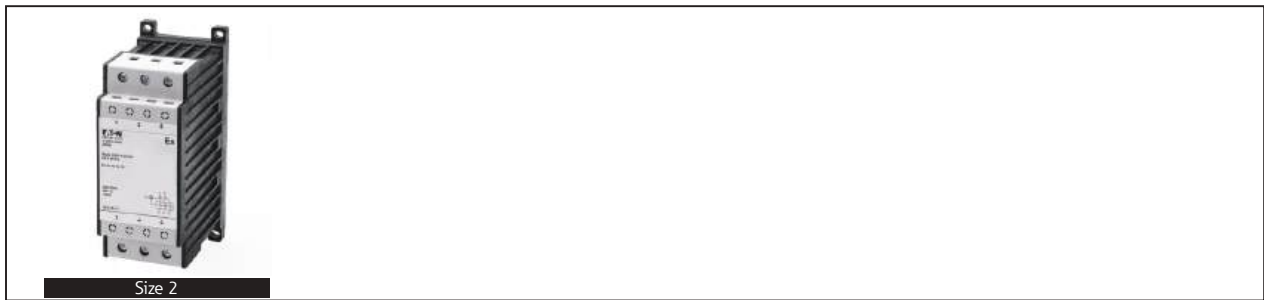
Dimension drawing (mm) / Connection diagram



Product type	A	B
CPD161-3	60	72



Ex-d built-in components - Thermal Relays



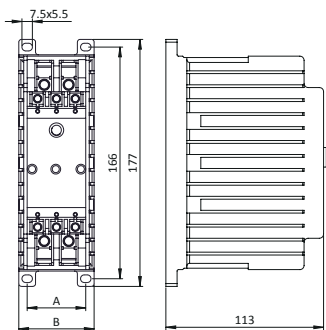
Thermal Relays

Certifications and Compliances		
Marking accd. to ATEX/IECEX		Ex db eb IIC Gb
Application temperature		-20°C up to +40°C
Electrical Ratings		
Rated voltage	Main contact	max. 600V AC
	Auxiliary contact	max. 600V AC
Rated current	Main contact	12.5A
	Auxiliary contact	max. 5 A
Connection terminals	Main contact	25mm ²
	Auxiliary contact	2.5mm ²
Additional Specifications		
Weight	3 pole	1.13 kg size 2
Enclosure material		Reinforced flame retardant nylon
Enclosure colour		black

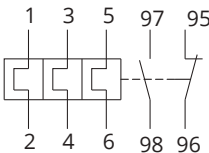
Thermal relay Ordering Logic

CPD161	3	4	1	02	N
Product Group	Enclosure size	Internal components code	Rated voltage (production series)	Rated current (Tripping current)	Tamb
CPD161	3 Size 2	4 Thermal relay	1 Eaton/XTOD/CC1 Thermal relay	01 0.3-0.45A 02 0.45-0.67A 03 0.67-1.0A 04 1.0-1.5A 05 1.4-2.1A 06 1.8-2.7A 07 2.4-3.6A 08 3.5-5.0A 09 4.0-6.0A 10 5.5-8.5A 11 8.5-12.5A	N -20°C up to +40°C Blank -25°C up to +40°C

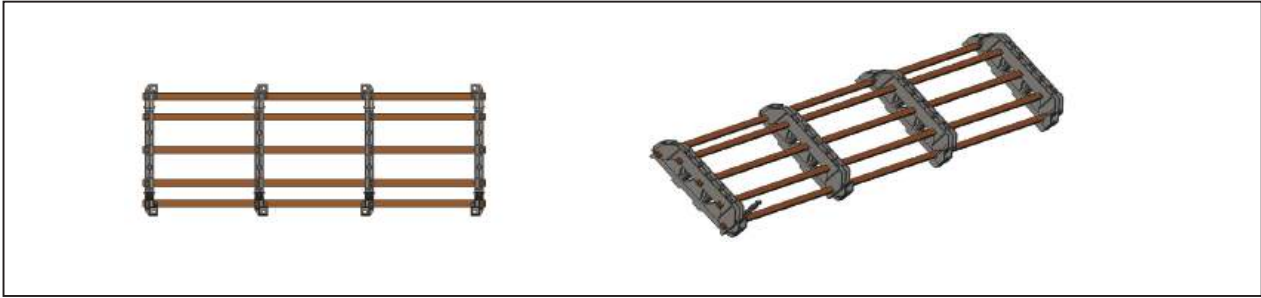
Dimension drawing (mm) / Connection diagram



Product type	A	B
CPD161-3	60	72



Ex e built-in components - Busbar



Busbar system

Busbar

Certification and compliances

ATEX / IECEx certificate	SEV 21 ATEX 0558U / IECEx_NEP_21.0007U
Marking according to ATEX / IECEx	Ex eb IIC Gb
Permissible ambient temperature	-55°C up to +55°C

Electrical Ratings 250A

Rated voltage	690V
Rated current	250A
Rated short time current/1s	4kA
Rated short circuit current	35kA
Rated cross-section	60 mm ²
Wire cross-section	1.5 mm ² up to 185 mm ²
Overall length of unit	Up to 6300 mm

Electrical Ratings 315A

Rated voltage	690V
Rated current	315A
Rated short time current/1s	9kA
Rated short circuit current	47kA
Rated cross-section	120 mm ²
Wire cross-section	1.5 mm ² up to 185 mm ²
Overall length of unit	Up to 6300 mm

Built-in components - Pushbutton



Technical data

Ex-pushbutton DRT and double pushbutton DDT

Marking accd. to 2014/34/EU	Ⓔ II 2 G Ex de IIC/IIB Gb / Ⓔ I M2 Ex de I Mb
EC-Type Examination Certificate	IBExU 14 ATEX 1030 U
IECEX Certificate of Conformity	IECEX IBE 14.0005U
Marking accd. to IECEx	Ex de IIC Gb Ex de IIB Gb Ex de I Mb
Operating temperature	–45 °C up to +80 °C (IIC) –60 °C up to +80 °C (IIB)
Application temperature ¹⁾	–45 °C up to +55 °C (IIC) –60 °C up to +55 °C (IIB)
Rated voltage	500 V AC
Rated current	16 A
Rated current with gold contact points	0.4 A
Rated making-/rated breaking capacity accd. EN 60947-5-1	AC-15: Ue 250 V / Ie 6 A Ue 500 V / Ie 4 A DC-13: Ue 24 V / Ie 6 A Ue 220 V / Ie 1 A
Degree of protection accd. to EN 60529	IP66 (installed condition)
Type of mounting	DIN rail mounting
Enclosure colour	grey
Gasket material	Neoprene (standard), Fluorsilikon or Viton on request
2-pole version	
Connecting terminals	2 x 2.5 mm ²
Dimensions (L x W x H)	59 x 31 x 45 mm
Weight	0.15 kg
4-pole version²⁾	
Connecting terminals	4 x 2.5 mm ²
Dimensions (L x W x H)	59 x 73 x 45 mm
Weight	0.35 kg

¹⁾ The limits of the operating temperature range and the max. permissible temperature rise of the components have to be taken into account.

²⁾ The 4-pole pushbutton needs two mounting areas.
The actuator will be in the middle of the two mounting areas.

Built-in components - Pushbutton

Ordering code for component (Code 2)

Code	Component	Code			
A	Pushbutton, for enclosure mounting	DRT			
	Double pushbutton, for enclosure mounting	DDT			
CodeCircuit	Contacts	Code			
	DRT	DDT	silver contact points	gold contact points	
C 2 NC			13	16	
2 NO			14	17	
1 NO + 1 NC			15	18	
4 NC			20	25	
1 NC + 3 NO			21	26	
2 NC + 2 NO			22	27	
3 NC + 1 NO			23	28	
4 NO			24	29	

Built-in components - Pushbutton

Ordering code for component (Code 2)

Code	Label	Inscription	Code	Inscription	Code
D1, D2		0, I, Start, Stop	001	0	002
		I	003	I I	004
			005	STOP	006
		START	007	emergency stop	008
		LANGSAM	009	SCHNELL	010
		EMERG.STOP	011	→	012
		ARRET	014	MARCHE	015
		AUF	016	AB	017
		Neutral white	018	Neutral green	019
		0, I, Arret, Marche	020	UP	024
		DOWN	025	ZU	026
		ON	027	OFF	028
		+	030	-	031
		Neutral rot	033	Neutral yellow	034
		EIN	036	AUS	037
		AUTO	039	HAND	050
		SENKEN	051	HEBEN	052
		LINKS	053	RECHTS	054
		FAST	055	SLOW	056
		RESET	057	OPEN	058

Ordering code for component (Code 2)

Content	Circuit	Code	Ordering code				
			A	B	C	D1	D2

Pushbutton with silver contact points

Version with standard label (0, I, START, STOP)

2 NC	2 NC	13	DRT	0	13	001	---
2 NO	2 NO	14	DRT	0	14	001	---
1 NO + 1 NC	1 NO + 1 NC	15	DRT	0	15	001	---
4 NC	4 NC	20	DRT	0	20	001	---
3 NO + 1 NC	3 NO + 1 NC	21	DRT	0	21	001	---
2 NO + 2 NC	2 NO + 2 NC	22	DRT	0	22	001	---
1 NC + 3 NO	1 NC + 3 NO	23	DRT	0	23	001	---
4 NO	4 NO	24	DRT	0	24	001	---

Double pushbutton with gold contact points

Version with standard label (0, I, START, STOP)

2 NC	2 NC	16	DDT	0	16	001	001
2 NO	2 NO	17	DDT	0	17	001	001
1 NO + 1 NC	1 NO + 1 NC	18	DDT	0	18	001	001
4 NC	4 NC	25	DRT	0	25	001	001
3 NO + 1 NC	3 NO + 1 NC	26	DRT	0	26	001	001
2 NO + 2 NC	2 NO + 2 NC	27	DRT	0	27	001	001
1 NC + 3 NO	1 NC + 3 NO	28	DRT	0	28	001	001
4 NO	4 NO	29	DRT	0	29	001	001

Built-in components - Key-operated Pushbutton



Technical data

Ex-key-operated pushbutton SLT	
Marking accd. to 2014/34/EU	Ⓔ II 2 G Ex de IIC/IIB Gb / Ⓔ I M2 Ex de I Mb
EC-Type Examination Certificate	IBExU 14 ATEX 1030 U
IECEx Certificate of Conformity	IECEx IBE 14.0005U
Marking accd. to IECEx	Ex de IIC Gb / Ex de IIB Gb / Ex de I Mb
Operating temperature range	–45 °C up to +80 °C (IIC) / –60 °C up to +80 °C (IIB)
Application temperature ¹⁾	–45 °C up to +55 °C (IIC) / –60 °C up to +55 °C (IIB)
Rated voltage	500 V AC
Rated current	16 A
Rated current with gold contact points	0.4 A
Rated making-/rated breaking capacity	AC-15: Ue 250 V / Ie 6 A / Ue 500 V / Ie 4 A
accd. EN 60947-5-1	DC-13: Ue 24 V / Ie 6 A / Ue 220 V / Ie 1 A
Degree of protection accd. to EN 60529	IP66 (installed condition)
Type of mounting	DIN rail mounting
Enclosure colour	grey
Gasket material	Neoprene (standard), Fluoric Silicone or Viton on request
Latch point	CEAG 1 (others on request)
2-pole version	
Connecting terminals	2 x 2.5 mm ²
Dimensions (L x W x H)	59 x 31 x 45 mm
Weight	0.15 kg
4-pole version ¹⁾	
Connecting terminals	4 x 2.5 mm ²
Dimensions (L x W x H)	59 x 73 x 45 mm
Weight	0.35 kg

¹⁾ The limits of the operating temperature range and the max. permissible temperature rise of the components have to be taken into account.

²⁾ The 4-pole pushbutton needs two mounting areas. The actuator will be in the middle of the two mounting areas.

Ordering code for component (Code 2)

Content	Circuit	Code	Ordering code				
			A	B	C	D1	D2

Key-operated pushbutton with silver contact points

Version with contact function: lockable/removable/lockable/removable (Code 10)

2 NC	2 NC	13	SLT	0	13	10	---
2 NO	2 NO	14	SLT	0	14	10	---
1 NO + 1 NC	1 NO + 1 NC	15	SLT	0	15	10	---
2 NO + 2 NC	2 NO + 2 NC	22	SLT	0	22	10	---
4 NC	4 NC	20	SLT	0	20	10	---
4 NO	4 NO	24	SLT	0	24	10	---
3 NO + 1 NC	3 NO + 1 NC	21	SLT	0	21	10	---
1 NO + 3 NC	1 NO + 3 NC	23	SLT	0	23	10	---

Key-operated pushbutton with gold contact points

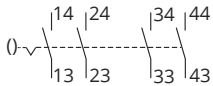
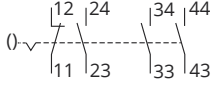
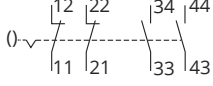
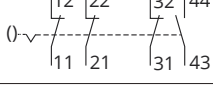
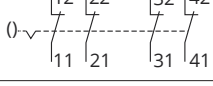
Version with contact function: lockable/removable/lockable/removable (Code 10)

2 NO + 2 NC	2 NO + 2 NC	27	SLT	0	27	10	001
4 NC	4 NC	25	SLT	0	25	10	001
4 NO	4 NO	29	SLT	0	29	10	001
3 NO + 1 NC	3 NO + 1 NC	26	SLT	0	26	10	001
1 NO + 3 NC	1 NO + 3 NC	28	SLT	0	28	10	001

Built-in components - Key-operated Pushbutton

Ordering code for component (Code 2)

Code	Component	Code
A	Key-operated pushbutton SLT	SLT

Code	Circuit	Contacts	Code	silver contact points	gold contact points
C	2 NC			13	16
	2 NO			14	17
	1 NO + 1 NC			15	18
	4 NC			20	25
	1 NC + 3 NO			21	26
	2 NC + 2 NO			22	27
	3 NC + 1 NO			23	28
	4 NO			24	29

Code	Function	Pushbutton not pressed	Key	Pushbutton pressed	Key	Code
D		lockable	removable	lockable	removable	10
		lockable	removable	lockable	not removable	11
		lockable	removable	not lockable	not removable	12
		lockable	not removable	lockable	removable	13
		not lockable	not removable	lockable	removable	14
		not lockable	removable	auto lockable	removable	15

Built-in components - Key-operated Switch



Technical data

Key-operated switch SLS	
Marking accd. to 2014/34/EU	Ex II 2 G Ex de IIC/IIB Gb / Ex I M2 Ex de I Mb
EC-Type Examination Certificate	IBExU 14 ATEX 1030 U
IECEX Certificate of Conformity	IECEX IBE 14.0005U
Marking accd. to IECEX	Ex de IIC Gb Ex de IIB Gb Ex de I Mb
Operating temperature range	–45 °C up to +80 °C (IIC) –60 °C up to +80 °C (IIB)
Application temperature ¹⁾	–45 °C up to +55 °C (IIC) –60 °C up to +55 °C (IIB)
Rated voltage	500 V AC
Rated current	16 A
Rated current with gold contact points	0.4 A
Rated making-/rated breaking capacity accd. EN 60947-5-1	AC-15: Ue 250 V / Ie 6 A Ue 500 V / Ie 4 A DC-13: Ue 24 V / Ie 6 A Ue 60 V / Ie 0.8 A Ue 110 V / Ie 0.5 A
Switching system	engaging – engaging – engaging
Degree of protection accd. to EN 60529	IP66 (installed condition)
Type of mounting	DIN rail mounting
Enclosure colour	grey
Latch point	CEAG 1 (others on request)
2-pole version	
Connecting terminals	2 x 2.5 mm ²
Dimensions (L x W x H)	59 x 31 x 45 mm
Weight	0.15 kg
4-pole version ¹⁾	
Connecting terminals	4 x 2.5 mm ²
Dimensions (L x W x H)	59 x 73 x 45 mm
Weight	0.35 kg

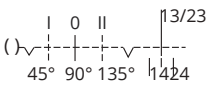
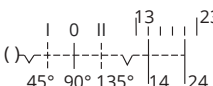
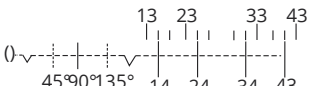
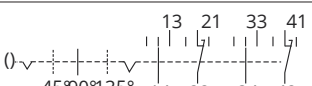
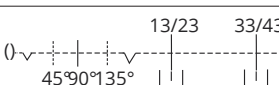
¹⁾ The limits of the operating temperature range and the max. permissible temperature rise of the components have to be taken into account.

²⁾ The 4-pole pushbutton needs two mounting areas.
The actuator will be in the middle of the two mounting areas.

Built-in components - Key-operated Switch

Ordering code for component (Code 2)

Code	Component	Code
A	Key-switch	SLS

CodeCircuit	Contacts	Code silver contact points	gold contact points
2 NO		04	14
2 NO		18	18
4 NO		29	25
2 NC + 2 NO		26	26
4 NO		27	27

Code	Contact label	Inscription	Code
D		I 0 II	01
		Fern 0 Ort	02
		Hand 0 Auto	03

Example for ordering code (Code 2)

Contact system	Ordering code		
	A	C	D
Key switch with silver contact points and label „I 0 II			
04	SLS 5	04	01
05	SLS 5	05	01

Built-in components - Mushroom-head Pushbutton



Technical data

Ex-mushroom-head pushbutton (emergency stop „SGTE“ and normal version „SGT“)	
Marking accd. to 2014/34/EU	Ex II 2 G Ex de IIC/IIB Gb / Ex I M2 Ex de I Mb
EC-Type Examination Certificate	IBExU 14 ATEX 1030 U
IECEx Certificate of Conformity	IECEx IBE 14.0005U
Marking accd. to IECEx	Ex de IIC Gb Ex de IIB Gb Ex de I Mb
Operating temperature range	-45 °C up to +80 °C (IIC) -60 °C up to +80 °C (IIB)
Application temperature ¹⁾	-45 °C up to +55 °C (IIC) -60 °C up to +55 °C (IIB)
Rated voltage	500 V AC
Rated current	16 A
Rated current with gold contact points	0.4 A
Rated making-/rated breaking capacity accd. EN 60947-5-1	AC-15: Ue 250 V / Ie 6 A Ue 500 V / Ie 4 A DC-13: Ue 24 V / Ie 6 A Ue 220 V / Ie 1 A
Degree of protection accd. to EN 60529	IP66 (installed condition)
Type of mounting	DIN rail mounting
Enclosure colour	grey
Gasket material	Neoprene (standard), Fluoric Silicone or Viton on request
2-pole version	
Connecting terminals	2 x 2.5 mm ²
Dimensions (L x W x H)	59 x 31 x 45 mm
Weight	0.15 kg
4-pole version	
Connecting terminals	4 x 2.5 mm ²
Dimensions (L x W x H)	59 x 73 x 45 mm
Weight	0.35 kg

¹⁾ The limits of the operating temperature range and the max. permissible temperature rise of the components have to be taken into account.

²⁾ The 4-pole pushbutton needs two mounting areas.

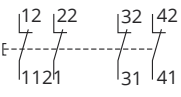
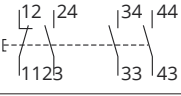
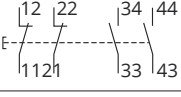
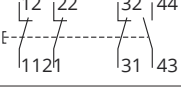
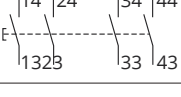
The actuator will be in the middle of the two mounting areas.

The pushbutton „Emergency Stop“ will be equipped with a black plate in the centre of the pushbutton actuator.

Built-in components - Mushroom-head Pushbutton

Ordering code for component (Code 2)

Code	Component	Code	
A	Mushroom-head pushbutton	SGT	
	Mushroom-head pushbutton (emergency stop)	SGTE	

CodeCircuit	Contacts	Code	
		silver contact points	gold contact points
C 2 NC		13	16
2 NO		14	17
1 NO + 1 NC		15	18
4 NC		20	25
1 NC + 3 NO		21	26
2 NC + 2 NO		22	27
3 NC + 1 NO		23	28
4 NO		24	29

Built-in components - Mushroom-head Pushbutton

Ordering code for component (Code 2)

Code	Label	Inscription	Code	Inscription	Code
D		emergency stop (German - Englisch) ¹⁾	1	0	002
		emergency stop (German - French) ¹⁾	4	I I	004
		0, I, START, STOP	01	STOP	006
		0	02	emergency stop	008
		I	03	SCHNELL	010
		I I	04	–	012
			05	MARCHE	015
		STOP	06	AB	017
		START	07	Neutral green	019
		LANGSAM	09	UP	024
		SCHNELL	10	ZU	026
		–	12	OFF	028
		ARRET	14	-	031
		MARCHE	15	Neutral yellow	034
		0, I, Arret, Marche	20	AUS	037
		UP	24	HAND	050
		DOWN	25	HEBEN	052
		ZU	26	RECHTS	054
		ON	27	SLOW	056
		OFF	28	OPEN	058
		+	30		
		-	31		

Code	Mushroom head inscription	Colour	Code
E		red	1
		yellow ²⁾	2
		black ²⁾	3

pushbutton					
Code	Function	released	engaged	unlocking	Code
F		not lockable	not lockable	n/a (pushbutton function)	1 ²⁾
		not lockable	lockable	hand released	2
		not lockable	lockable	key released	3

1) only SGTE

2) only SGT

Ordering code for component (Code 2)

Content	Ordering code				
	A	C	D	E	F

EMERGENCY STOP mushroom-head pushbutton red, with silver contact points

Version with inscription D/E, hand released

2 NC	SGTE 0	13	1	1	2
2 NO	SGTE 0	14	1	1	2
1 NO + 1 NC	SGTE 0	15	1	1	2
2 NO + 2 NC	SGTE 0	22	1	1	2
4 NC	SGTE 0	20	1	1	2
4 NO	SGTE 0	24	1	1	2
3 NO + 1 NC	SGTE 0	21	1	1	2
1 NO + 3 NC	SGTE 0	23	1	1	2

Mushroom-head pushbutton with silver contact points, without locking, mushroom head, black

Version with standard label (0, I, START, STOP)

2 NC	SGT 0	13	01	3	1
2 NO	SGT 0	14	01	3	1
1 NO + 1 NC	SGT 0	15	01	3	1
2 NO + 2 NC	SGT 0	22	01	3	1
4 NC	SGT 0	20	01	3	1
4 NO	SGT 0	24	01	3	1
3 NO + 1 NC	SGT 0	21	01	3	1
1 NO + 3 NC	SGT 0	23	01	3	1

Built-in components - Mini-control Switch



Technical data

Ex-Mini-control switch SCT	
Marking accd. to 2014/34/EU	Ex II 2 G Ex de IIC/IIB Gb / Ex I M2 Ex de I Mb
EC-Type Examination Certificate	IBExU 14 ATEX 1030 U
IECEx Certificate of Conformity	IECEx IBE 14.0005U
Marking accd. to IECEx	Ex de IIC Gb Ex de IIB Gb Ex de I Mb
Operating temperature range	-45 °C up to +80 °C (IIC) -60 °C up to +80 °C (IIB)
Application temperature ¹⁾	-45 °C up to +55 °C (IIC) -60 °C up to +55 °C (IIB)
Rated voltage	500 V AC
Rated current	16 A
Rated current with gold contact points	0.4 A
Rated making-/rated breaking capacity accd. EN 60947-5-1	AC-15: Ue 250 V / Ie 6 A Ue 500 V / Ie 4 A DC-13: Ue 24 V / Ie 6 A Ue 220 V / Ie 1 A
Degree of protection accd. to EN 60529	IP66 (installed condition)
Type of mounting	DIN rail mounting
Enclosure colour	grey
2-pole version	
Connecting terminals	2 x 2.5 mm ²
Dimensions in mm (L x W x H)	59 x 31 x 45
Weight	0.15 kg
4-pole version ¹⁾	
Connecting terminals	4 x 2.5 mm ²
Dimensions (L x W x H)	59 x 73 x 45 mm
Weight	0.35 kg

¹⁾ The limits of the operating temperature range and the max. permissible temperature rise of the components have to be taken into account.

²⁾ The 4-pole pushbutton needs two mounting areas.
The actuator will be in the middle of the two mounting areas.

Built-in components - Mini-control Switch

Ordering code for component (Code 2) Code A - C - D - E

Code	Component		Ordering code
A	Mini Control switch		SCT
Code	Switching system	Version	Code
C	4	spring – engaging – spring	4
			
	5	engaging – engaging – engaging	5
			
	6	engaging – engaging	6
			
	7	spring – engaging – engaging	7
			
	8	engaging – engaging – spring	8
			
	9	engaging – spring	9
			

Built-in components - Mini-control Switch

Ordering code for component (Code 2) Code A - C - D - E

Code	Circuit	Contacts	Code	
			silver contact points	gold contact points
D			01	11
			02	12
			03	13
			04	14
			05	15
			07	17
			22	32
			23	33
			21	31
			26	36
			25	35
			27	37
			24	34

Built-in components - Mini-control Switch

Ordering code for component (Code 2)

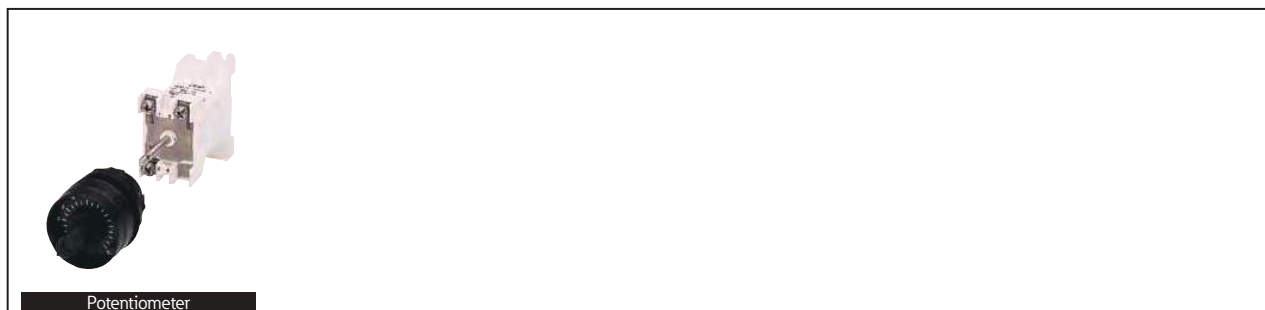
Code	Inscription	Code	Inscription	Code
E	0	I	01	0
	I	II	02	AUS
	STOP	START	03	AUS
	HAND	AUTO	04	ÖRTLICH
	SENKEN	HEBEN	05	START
	REMOTE	LOCAL	06	OFF
	I	0	07	HAND
	AUS	BETRIEB	08	0
	AUS	0	09	MAN
	AUF	0	10	START
	Entriegelt	0	11	HEBEN
	OUT	OF	12	OFF
	LOCAL	REMOTE	13	AUS
				II
				AUTO
				HAND
				AUS
				NORMAL
				ON
				OFF
				AUTO
				START
				AUTO
				STOP
				SENKEN
				ON
				EIN
				18
				19
				20
				21
				22
				23
				24
				25
				26
				27
				28
				29
				30

Other labels on request

Example for ordering code (Code 2)

Circuit	Switching system	Contacts Code	Ordering code	A	C	D	E
Control switch with silver contact points							
Switch can be locked in all positions							
I II	6	01	SCT	6		01 or 21	02
0 I	6	03	SCT	6		03 or 23	01
I II	6	02	SCT	6		02 or 22	02
I 0 II	4	04	SCT	4		04 or 24	07
I 0 II	5	05	SCT	5		05 or 26	07
0 I	7	07	SCT	7		07 or 27	01

Built-in components - Potentiometer



Technical data

Ex-potentiometer POT	
Marking accd. to 2014/34/EU	Ex II 2 G Ex de IIC/IIB Gb / Ex I M2 Ex de I Mb
EC-Type Examination Certificate	IBExU 14 ATEX 1030 U
IECEX Certificate of Conformity	IECEX IBE 14.0005U
Marking accd. to IECEx	Ex de IIC Gb Ex de IIB Gb Ex de I Mb
Operating temperature range	-45 °C up to +80 °C (IIC) -60 °C up to +80 °C (IIB)
Application temperature ¹⁾	-45 °C up to +55 °C (IIC) -60 °C up to +55 °C (IIB)
Rated voltage	up to 250 V
Power consumption (VA)	max. 1 W
Resistance range	100 – 10000 Ohm
Tolerance	± 20 %
Connecting terminals	2 x 2.5 mm ²
Degree of protection accd. to EN 60529	IP66 (installed condition)
Dimensions (L x W x H) approx.	59 x 31 x 45 mm
Weight	0.15 kg
Type of mounting	DIN rail mounting
Enclosure colour	grey
Angle of rotation	270°
Scale	0 - 100 %

¹⁾ The limits of the operating temperature range and the max. permissible temperature rise of the components have to be taken into account.

Ordering code for component (Code 2) - code A - C

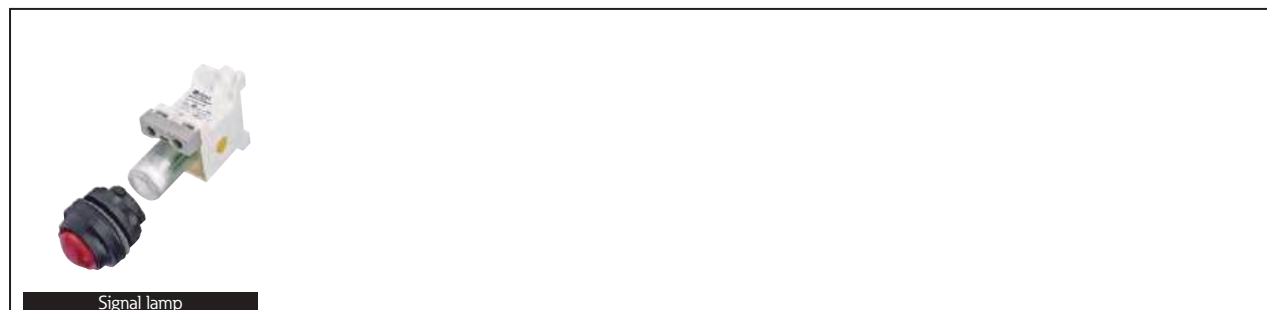
Code	Component	Code
A	Potentiometer	POT

Code	Resistance	Code
C	0 - 100 Ohm	01
	0 - 220 Ohm	02
	0 - 470 Ohm	03
	0 - 1000 Ohm	04
	0 - 2200 Ohm	07
	0 - 4700 Ohm	05
	0 - 10000 Ohm	06

Example for ordering code (Code 2)

Content	Code
Potentiometer 1 W 25 % tolerance	
0 - 100 Ohm	POT 01
0 - 470 Ohm	POT 03
0 - 4700 Ohm	POT 05

Built-in components - Signal Lamp



Technical data

Ex-signal lamp SIL	
Marking accd. to 2014/34/EU	Ⓔ II 2 G Ex d e IIC/IIB Gb / Ⓔ II 2 G Ex d ia IIC/IIB Gb
EC-Type Examination Certificate	IBExU 12 ATEX 1047 U
IECEx Certificate of Conformity	IECEx IBE 13.0031U
Marking accd. to IECEx	Ex de IIC/IIB Gb Ex d ia IIC/IIB Gb
Operating temperature range	–45 °C up to +68 °C (IIC) –60 °C up to +68 °C (IIB)
Application temperature ¹⁾	–45 °C up to +60 °C (IIC) –60 °C up to +60 °C (IIB)
Rated voltage (Ex ed IIC)	20 V up to 254 V AC/DC
(Ex d ia IIC)	10 V up to 30 V DC
(Ex ed IIC)	12 V up to 24 V AC/DC
Rated current 20 V to 254 V	approx. 4 - 15 mA
10 V up to 30 V (Ex d ia IIC)	max. 25 mA
12 V up to 24 V	max. 24 mA
Max. values for Ex ia	U _i = 30 V DC, I _i = 100 mA, P _i = 750 mW
Connecting terminals	2 x 2.5 mm ²
Degree of protection accd. to EN 60529	IP66
Dimensions (L x W x H) approx.	59 x 31 x 45 mm
Weight	0.15 kg
Type of mounting	DIN rail mounting
Enclosure colour	grey

¹⁾ The limits of the operating temperature range and the max. permissible temperature rise of the components have to be taken into account.

Ordering code for component (Code 2) - code A - C - D

Code	Component	Code
A	Signal lamp	SIL

Code	Colour of the lens	Code
C	white	1
	yellow	2
	red	3
	blUe	4
	green	5

Code	Voltage	Code
D	20 V - 254 V AC/DC	10
	10 V - 30 V DC (Ex-i) ¹⁾	34
	12 V - 24 V AC/DC	11

¹⁾ Supply by valve-driver components, e.g., with data: U_o = 20 V - 18 V DC with R_i = 200 Ω - 500 Ω or U_o = 10 V - 18 V DC with R_i = 100 Ω - 200 Ω
No effective C_i and L_i values.

Example for ordering code (Code 2)

Content	Ordering code		
	A	C	D
Signal lamp SIL (examples)			
Universal voltage 20 V - 250 V AC/DC white	SIL	1	10
For intrinsically safe circuits 18 V up to 30 V DC blUe	SIL	4	34
Low voltage 12 V up to 24 V AC/DC red	SIL	3	11

Built-in components - Measuring Instrument AM 72



AM 72

Technical data

Ex-measuring instrument AM 72	Moving iron	Moving coil
Marking accd. to 2014/34/EU	Ⓔ II 2 G Ex e II / D II 2 G Ex e mb II	Ⓔ II 2 G Ex ib IIC
	Ⓔ I M 2 Ex e I	Ⓔ I M 2 Ex ib I
EC-Type Examination Certificate	PTB 99 ATEX 2032 U	
Application temperature	-20 °C up to +40 °C -55 °C up to +55 °C (option)	
Rated voltage	up to 750 V (AM 72)	
Power consumption (VA)	max. 0.31 A	
Overload range	10 fold - 25 sec. 25 fold - 4 sec. 50 fold - 1 sec. indicated 1 : 1.5, optional 1:6, 1:10	10 fold - 5 sec.
Measuring range	max. 0 - 25 A direct / n / 1A	0/4 - 24 mA
Inductance Li		< 0.1 mH
Capacitance Ci		< 0.1 nF
Winding specification of moving coil		26.5 windings
Internal resistance		2.5 Ω ±30 %
Open circuit voltage max. Ui		30 V
Connecting terminals max. Ii		150 mA
Accuracy	Class 2.5	Class 1.5
Movement	Moving iron	Moving coil
Connecting terminals	2 x 1.5 - 4 mm ²	
Degree of protection accd. to EN 60529	IP66 (installed condition)	
Display size	68 x 68 mm (AM 72)	
Weight	0.35 kg	
Type of mounting	DIN rail mounting	
Enclosure material	Polycarbonate	

Built-in components - Measuring Instrument AM 72

Ordering code for component (Code 2) Code A - C - D

Code	Component	Code
A	Measuring instrument AM 72	AM72

Code	Movement	Code
C	Direct connection	1
	CT connection n/1 A	2
	CT connection n/5 A	3
	Power connection 0 - 20/24 mA (Scale 0-100% / 120%) ¹⁾	5
	Power connection 4 - 20/24 mA (Scale 0-100% / 120%) ¹⁾	6
	Moving-coil connection 0 - 20/24 mA (Scale 0-100% / 120%) ^{1) 3)}	7
	Moving-coil connection 4 - 20/24 mA (Scale 0-100% / 120%) ^{1) 3)}	8

Code	Measuring range	Code	Measuring range	Code
D	0 - 1	02	0 - 75 / 112.5 A	13
	0 - 2.5 / 3.75 A ²⁾	03	0 - 100 / 150 A	14
	0 - 5 / 7.5 A ²⁾	04	0 - 150 / 225 A	15
	0 - 10 / 15 A ²⁾	05	0 - 200 / 300 A	16
	0 - 15 / 22.5 A	06	0 - 250 / 375 A	17
	0 - 20 / 30 A ²⁾	08	0 - 300 / 450 A	18
	0 - 30 / 45 A	09	0 - 400 / 600 A	19
	0 - 40 / 60 A	10	0 - 500 / 750 A	20
	0 - 50 / 75 A	11	0 - 600 / 900 A	21
	0 - 60 / 90 A	12	0 - 100% / 150%	33

¹⁾ Movements 0 - 20 mA / 4 - 20 mA and with moving-coil connection are only available with scale 0 - 100 %/120 %v

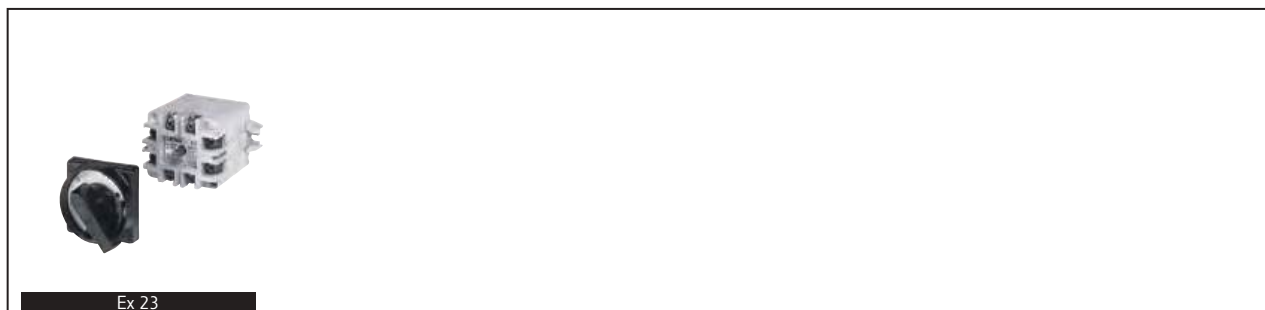
²⁾ Version for direct connection or with CT connection n/1 A possible.

³⁾ Moving coil only for Ex-i or Ex-d flameproof applications - Other interchangeable scales available on request.

Example for ordering code (Code 2)

Moving iron measuring instrument AM 72		Ordering code		
Version with CT connection n/1A		A	C	D
Converter n / 1A	0 - 100% / 150%	AM72	2	33

Built-in components - Control Switch Ex 23



Technical data

Ex-Built-in components for individual control stations	
Control switch Ex 23	Ex 23
Marking accd. to 2014/34/EU	Ⓔ I M2 Ex d e I Mb Ⓔ II 2G Ex d e IIB/IIC Gb Ⓔ II 2G Ex d ia/ib IIB/IIC Gb
IECEX Certificate of Conformity	IECEX IBE 13.0108 U
Marking accd. to IECEx	Ex d e I Mb Ex d e IIB/IIC Gb Ex d ia/ib IIB/IIC Gb
EC-Type Examination Certificate	BVS 13 ATEX E 107U
Operating temperature range	-45 °C up to +80 °C (IIC) -60 °C up to +80 °C (IIB)
Application temperature ¹⁾	-45 °C up to +55 °C (IIC) -60 °C up to +55 °C (IIB)
Rated voltage	up to 500 V
Rated current	10 A
Rated current with gold contact points	0.4 A
Rated making-/rated breaking capacity	AC-15: U _e 230 V / I _e 6 A
accd. EN 60947-5-1	U _e 500 V / I _e 4 A
	DC-13: U _e 24 V / I _e 6 A
	U _e 230 V / I _e 0.5 A
Connecting terminals	2 x 0.5 - 2.5 mm ²
Weight	
1 level:	approx. 0.2 kg
2 level:	approx. 0.35 kg
3 level:	–
Type of mounting	DIN rail mounting
Enclosure colour	grey

¹⁾ The limits of the operating temperature range and the max. permissible temperature rise of the components have to be taken into account.

²⁾ min. cross section of used cable ≥ 12 A: 2.5 mm²

Built-in components - Control Switch Ex 23

Ordering code for component (Code 2) Code A - C - D - E - F

Code	Component	Code
A	Ex 23	Ex 23

Code	Switching system	Code
C	spring – engaging – spring	4
	engaging – engaging – engaging	5
	engaging – engaging	6
	spring – engaging – engaging	7
	engaging – engaging – spring	8

D	Contacts Silver contact points	Code	Contacts Silver contact points	Code
		060		034
		062		037
		065		049
		061		023
		063		019
		067		033
		011		024

Versions with gold contact points are available on request.
Versions with compulsory NO are possible.

Built-in components - Control Switch Ex 23

Ordering code for component (Code 2) Code A - C - D - E - F

Code	Inscription (labels)			Code	Inscription (labels)			Code
E	0		I	01	0	I	II	18
	I		II	02	AUS	AUTO	EIN	19
	STOP		START	03	AUS	HAND	AUTO	20
	HAND		AUTO	04	ÖRTLICH	AUS	FERN	21
	SENKEN		HEBEN	05	START	NORMAL	STOP	22
	REMOTE		LOCAL	06	OFF	0	ON	23
	I	0	II	07	HAND	OFF	AUTO	24
	AUS	BETRIEB	EIN	08	0	IN	START	25
	AUS	0	EIN	09	MAN		AUTO	26
	AUF	0	AB	10	START		STOP	27
	Entriegelt	0	Verriegelt	11	HEBEN		SENKEN	28
	OUT	OF	HAND	12	OFF		ON	29
	LOCAL	REMOTE	AUTO	13	AUS		EIN	30
	STOP	0	START	14	HAND		AUTO	31
	HAND	0	AUTO	15	ON		OFF	32
	AUF	AUS	ZU	16	I	II	III	33
Code	Padlocking facility							Code
F	none							0
	centre							1
	right							2
	left							3

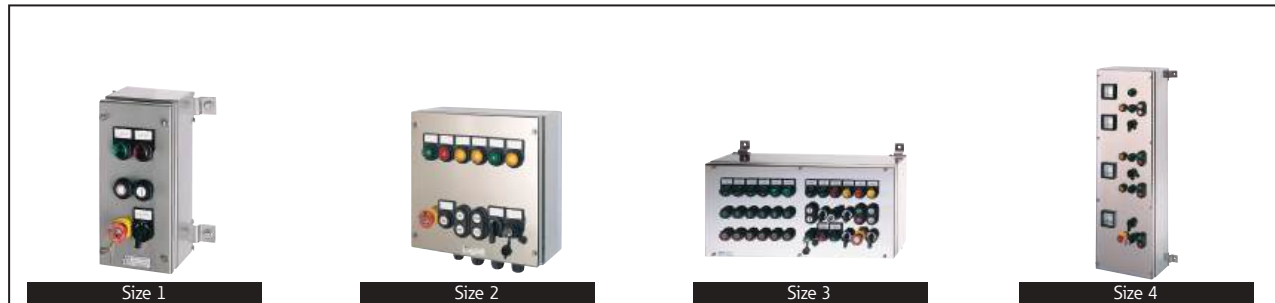
Example for ordering code (Code 2)

Content	Component	Contacts	Code	Label	Code	Padlocking facility	Ordering code
A	Switching system B	C		D		E	A B C D E
Ex 23	 6		060	060 I - II	02	none  0	Ex 23 6 060 02 0
Ex 23	 5		034	034 I - 0 - II	07	centre  1	Ex 23 5 034 07 1

Other combination available on request

Appendix 1

316L enclosure for control assembly



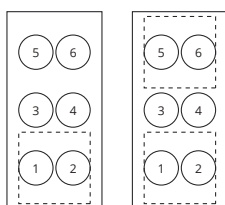
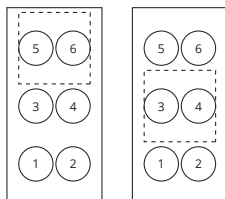
Technical data

Permissible ambient temperature	–20 °C up to +40 °C / –40 °C up to +55 °C (option)
Rated voltage	690 V AC
Rated current	40 A
Connecting terminals	see technical data for built-in components
Degree of protection accd. to IEC 60079	IP66 (standard)
Cable glands/Gland plates/Enclosure drilling	as ordered accd. to manufacturer's specification
Enclosure material	SS316L (standard) or SS304 (option)
Enclosure colour	Electro-polish (standard) or mechanical brush (option)
Assembly with size 1 enclosure	
Connecting terminals	max. 20 terminals UT 4
Dimensions (L x W x H)	315 x 175 x 135 mm
Weight (empty)	4 kg with mounting lugs
Components arrangement	6 mounting areas
Assembly with size 2 enclosure	
Connecting terminals	max. 30 terminals UT 4
Dimensions (L x W x H)	315 x 315 x 135 mm
Weight (empty)	8 kg with mounting lugs
Components arrangement	distance 40 mm max. 18 mounting areas distance 50 mm max. 15 mounting areas distance 60 mm max. 12 mounting areas
Assembly with size 3 enclosure	
Connecting terminals	max. 60 terminals UT 4
Dimensions (L x W x H)	632 x 315 x 135 mm
Weight (empty)	12 kg with mounting lugs
Components arrangement	distance 40 mm max. 36 mounting areas distance 50 mm max. 30 mounting areas distance 60 mm max. 24 mounting areas
Assembly with size 4 enclosure	
Connecting terminals	max. 90 terminals UT 4
Dimensions (L x W x H)	949 x 315 x 135 mm
Weight (empty)	17 kg with mounting framework
Components arrangement	distance 40 mm max. 54 mounting areas distance 50 mm max. 45 mounting areas distance 60 mm max. 36 mounting areas

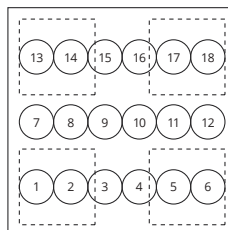
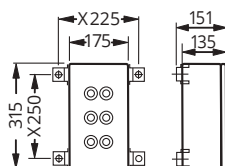
Appendix 1

316L enclosure for control assembly

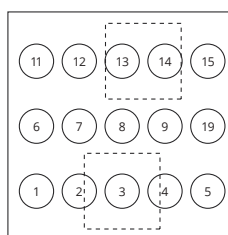
Mounting areas I Dimension drawing



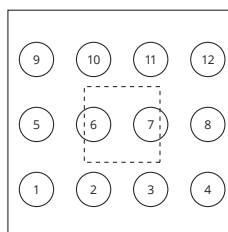
Distance between centers
40, 50 and 60 mm



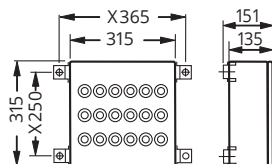
Distance between centers 40 mm



Distance between centers 50 mm



Distance between centers 60 mm



Size 1

Size 2

X = fixing dimension

○ = mounting space for switch, pushbutton (2-pole) or signal lamp

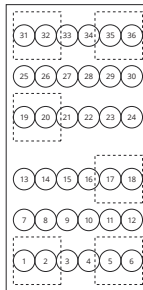
□ = mounting space for switch, pushbutton (4-pole) ampere- or voltmeter

Dimensions in mm

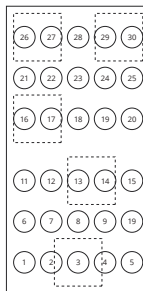
Appendix 1

316L enclosure for control assembly

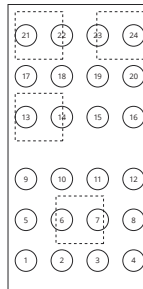
Mounting areas I Dimension drawing



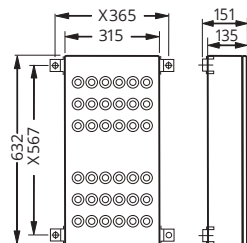
Distance between centers 40 mm



Distance between centers 50 mm

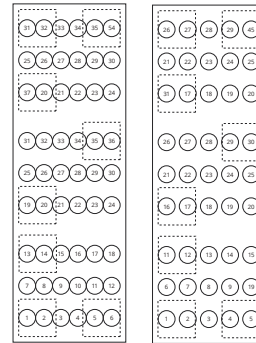


Distance between centers 60 mm

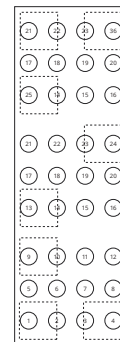


Size 3

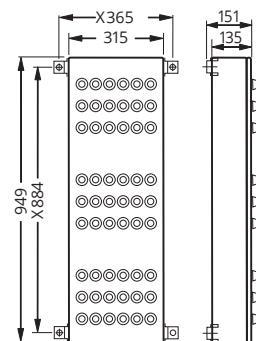
Dimensions in mm



Distance between centers
40 mm 50 mm



Distance between centers 60 mm



Size 4

X = fixing dimension

Appendix 2

GRP enclosure for control assembly



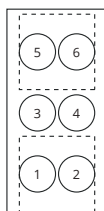
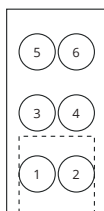
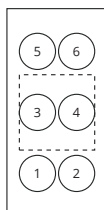
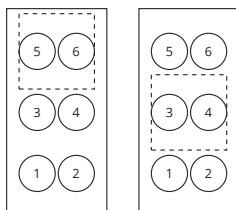
Technical data

Permissible ambient temperature	–20 °C up to +40 °C / –40 °C up to +55 °C (option)
Rated voltage	690 V AC
Rated current	40 A
Connecting terminals	see technical data for built-in components
Degree of protection accd. to IEC 60079	IP66 (standard)
Cable glands/Gland plates/Enclosure drilling	as ordered accd. to manufacturer's specification
Enclosure material	Glass-fiber Reinforced Polyester
Enclosure colour	Black
Assembly with size 1 enclosure	
Connecting terminals	max. 20 terminals UT 4
Dimensions (L x W x H)	271 x 134 x 136 mm
Weight (empty)	About 1.5kg
Components arrangement	6 mounting areas
Assembly with size 2 enclosure	
Connecting terminals	max. 30 terminals UT 4
Dimensions (L x W x H)	271 x 271 x 136 mm
Weight (empty)	About 2.5kg
Components arrangement	distance 40 mm max. 18 mounting areas distance 50 mm max. 15 mounting areas distance 60 mm max. 12 mounting areas
Assembly with size 3 enclosure	
Connecting terminals	max. 60 terminals UT 4
Dimensions (L x W x H)	544 x 271 x 136 mm
Weight (empty)	About 4.5kg
Components arrangement	distance 40 mm max. 36 mounting areas distance 50 mm max. 30 mounting areas distance 60 mm max. 24 mounting areas
Assembly with size 4 enclosure	
Connecting terminals	max. 90 terminals UT 4
Dimensions (L x W x H)	817 x 271 x 136 mm
Weight (empty)	About 6.5kg
Components arrangement	distance 40 mm max. 54 mounting areas distance 50 mm max. 45 mounting areas distance 60 mm max. 36 mounting areas

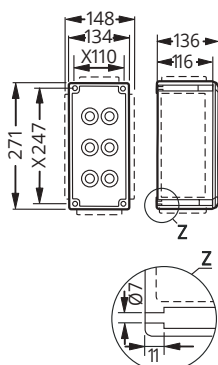
Appendix 2

GRP enclosure for control assembly

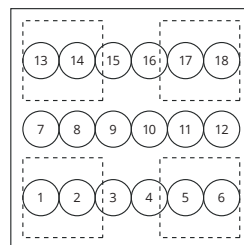
Mounting areas I Dimension drawing



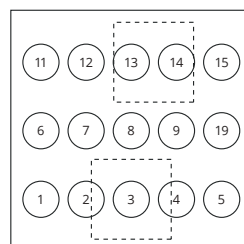
Distance between centers 40, 50 and 60 mm for positioning of built-in components



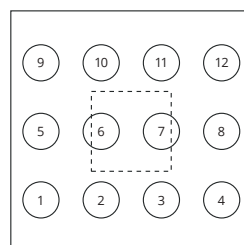
Size 1



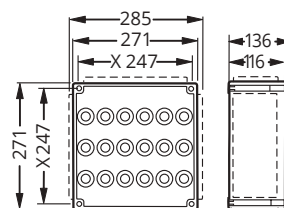
Distance between centers 40 mm



Distance between centers 50 mm



Distance between centers 60 mm



Size 2

X = fixing dimension

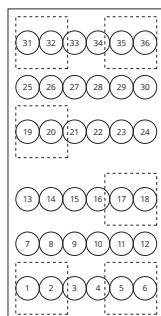
 = mounting space for switch, pushbutton (2-pole) or signal lamp

 = mounting space for switch, pushbutton (4-pole) ampere- or voltmeter

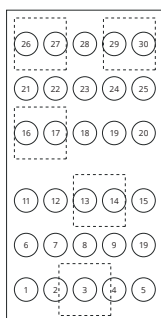
Appendix 2

GRP enclosure for control assembly

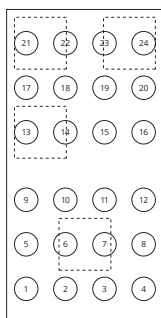
Mounting areas I Dimension drawing



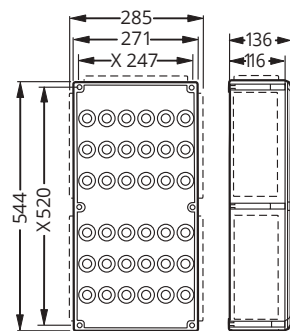
Distance between centers 40 mm



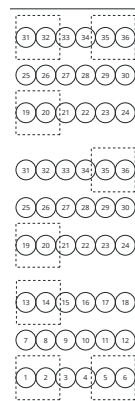
Distance between centers 50 mm



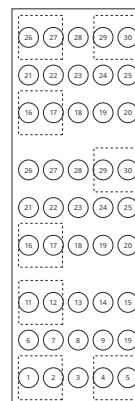
Distance between centers 60 mm



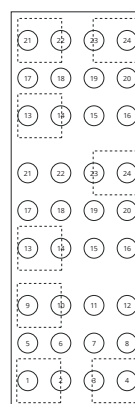
Size 3



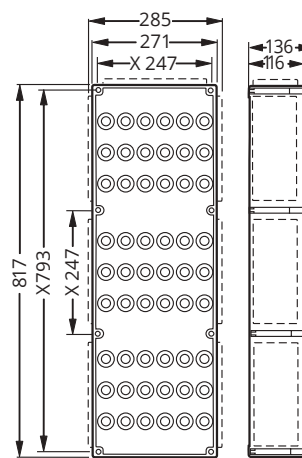
Distance between centers 40 mm



Distance between centers 50 mm



Distance between centers 60 mm



Size 4

X = fixing dimension

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