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

CROUSE-HINDS SERIES

AGP17

Stainless steel panelboards

Safe. Reliable. Efficient.

EATON
Powering Business Worldwide

AGP17 stainless steel 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 enclosure ensures maximum performance and corrosion resistance. A wide range of internal encapsulated components are available to meet any custom requirement.

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

316L stainless steel 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 stainless steel 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

- Ⓔx II 2 G Ex db eb ia/ib mb [ia/ib] IIC T4~T6 Gb
- Ⓔx 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)

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.

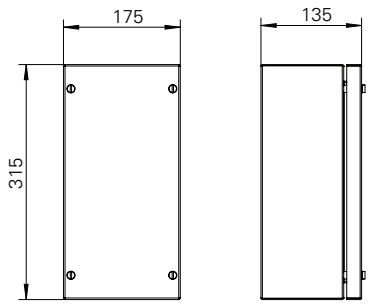
Materials and finishes

- Enclosure material: SS316L (standard), SS304 (optional)
- Enclosure finish: Electro-polish (standard), mechanical brush (optional) , Painting or powder coating are also available
- Material thickness:1.5mm (standard), 2mm (optional)

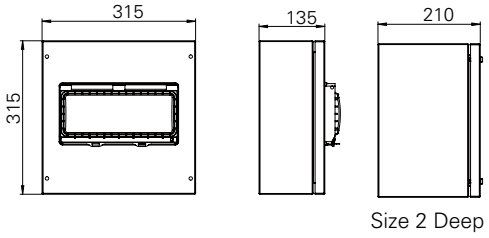
Electrical Ratings

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

316L enclosure with dimension for panelboard

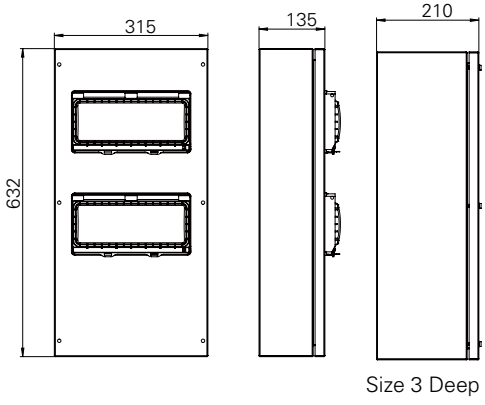


Size 1



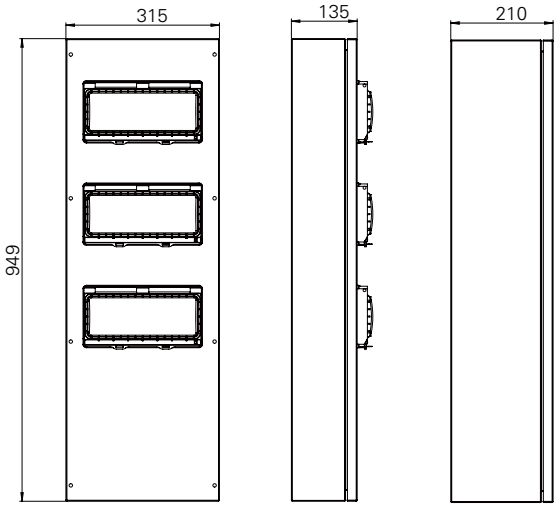
Size 2 Deep

Size 2 & Size 2 deep



Size 3 Deep

Size 3 & Size 3 deep



Size 4 Deep

Size 4 & Size 4 deep

Dimensions in mm

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 .

Ex-d built-in components - MCB Modules


Size 1


Size 2


Size 3

MCB 0.5A to 63A

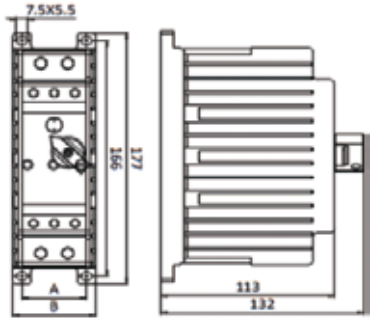
Certifications and Compliances		
Marking accd. to ATEX/IECEx		Ex db eb IIC Gb
Application temperature		-40°C up to +64°C / -20°C up to +64°C
Electrical Ratings		
Rated voltage	Main contact	max. 440 V AC
	Auxiliary contact	max. 250 V AC
Rated current	Main contact	0.5A to 63A
	Auxiliary contact	max. 5 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 postion

MCB Ordering Logic

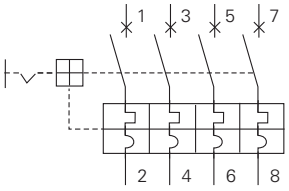
CPD161	-2	-1	1	2	-C	630	10	-1	2	1	1	N
Product Group	**Enclosure size**	**Internal components code**	**Internal MCB**	**MCB size**	**Tripping characteristic**	**Rated current**	**Rated switching capacity**	**Aux. contact**	**Signal contact**	**Shutting release**	**Undervoltage release**	**Tamb**
CPD161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

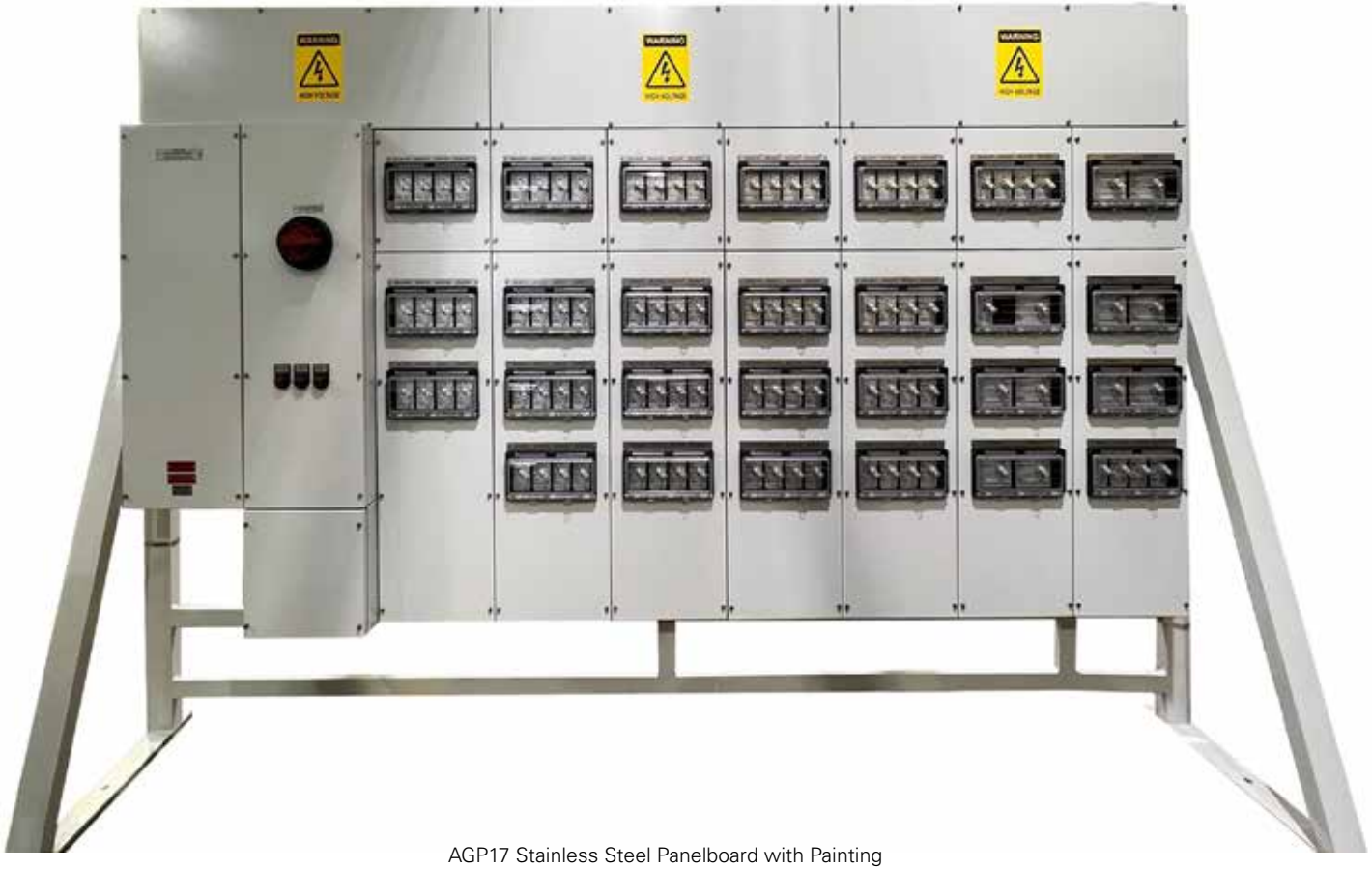
[1)] FAZ only
Contact Eaton for other configuration

Dimension drawing (mm) / Connection diagram



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





AGP17 Stainless Steel Panelboard with Painting

Ex-d built-in components - MCCB Modules

GHG 6277

MCCB 20A to 250A

Certifications and Compliances		
Marking accd. to 2014/34/EU		D II 2 G Ex de IIB/IIC Gb
Marking accd. to IECEx		Ex de IIB/IIC Gb
Functional temperature		-20°C up to +70°C
Application temperature[1)]		-20°C up to +55°C (IIC / IIB based on AGP17)
Limits of service temperature		-20°C up to +110°C (IIC / IIB)
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 y	10 kA/0.25 or 25 kA
	500VDC	10 kA
Rated current In	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 In
Short current protection		Ii = 10 x In
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 mm² up to 1 x 185 mm²
Rated voltage aux. contact		max. 500 V AC
Rated current aux contact	AC15 Ie (up to 230 V) / DC13 Ie (up to 24 V)	4 A / 3 A
	AC15 Ie (up to 400 V) / DC13 Ie (up to 60 V)	2 A / 1.2 A
	AC15 Ie (up to 500 V) / DC13 Ie (up to 110 V)	1 A / 0.8 A
	DC13 Ie (up to 220 V)	0.3 A
Connecting terminals aux./signal contact		1.0 mm² up to 4.0 mm² fine stranded
Total opening delay on short circuit		< 10 ms
Additional Specifications		
Weight		10.5 kg - 4-pole / 10 kg - 3-pole
Enclosure material		Polyamide
Built-in position		Vertical and rotated 90 deg in all directions
Release system		Thermomagnetic release

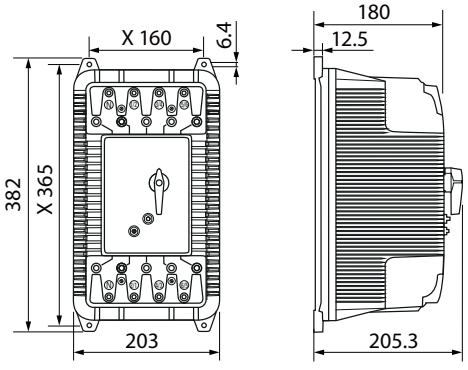
[1)] The limits of the operating temperature range and the max. permissible temperature rise of the components (functional temperature) have to be taken into account.

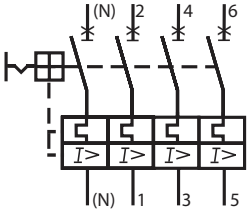
MCCB Ordering Logic

GHG 6277	0		01		R0		1		3		2	
Product Group	**Configuration**		**Accessories**		**Version**		**# of poles**		**shortcircuit current**		**Rated current**	
GHG6277	0	MCCB only	00	MCCB only	R0	E-series (standard)	1	3 Pole	3	IEC 10 kA@ 440V	1	20 A[1]
	1	MCCB + 1NO	01	Shunt trip 24V AC/DC + early make 1NO	R1	A-series (@ 10 kAonly)	2	4 Pole	4	IEC 25 kA@ 440V AC 10kA@500V DC	2	25 A[1]
	2	MCCB + 1NC	02	Shunt trip 110V-130V AC/DC + early make 1NO	R2	E-series (Low current)					3	32 A[1]
	3	MCCB + trip indicator 1NO	03	Shunt trip 208V-250V AC/DC + early make 1NO							4	40 A[1]
			04	Shunt trip 380V-440VAC/DC + early make 1NO							2	63 A
	4	MCCB + 1NO/1NC + trip indicator 1NC	05	Uv release 24V 50/60Hz + early make 1NO							3	80 A
			06	Uv release 110V-130V 50/60Hz + early make 1NO							4	100 A
	5	MCCB + 2NO 5	07	Uv release 208V-240V 50/60Hz + early make 1NO							5	125 A
	6	MCCB + 2NC 6	08	Uv release 380V-440V 50/60Hz + early make 1NO							6	160 A
	7	MCCB + 2NO + trip indicator 1NO	09	Uv release 480V-525V 50/60Hz + early make 1NO							7	200 A
			10	Shunt trip 24V AC/DC							9	250 A
	8	MCCB + 2NC + trip indicator 1NO	11	Shunt trip 110V-130V AC/DC								
			12	Shunt trip 208V-250V AC/DC								
	9	MCCB + 1NO + 1NC + trip indicator 1NO	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 24V DC								

[1] Available for R2 E-series only

Dimension drawing (mm) / Connection diagram





A/E series

Ex-d built-in components - RCD modules


Size 1


Size 2


Size 3

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

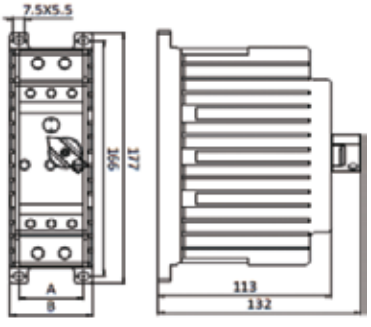
Certifications and Compliances		
Marking accd. to ATEX/IECEx		Ex db eb IIC Gb
Application temperature		-25°C up to +55°C / -20°C up to +55°C
Electrical Ratings		
Rated voltage	Main contact	max. 415 V AC
	Auxiliary contact	max. 250 V AC
Rated current	Main contact	16A to 63A
	Auxiliary contact	max. 5 A
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 postion

RCD Ordering Logic

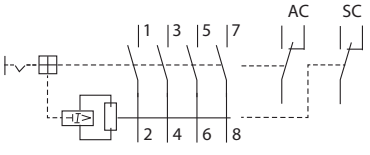
Product Group	Enclosure size	Internal components code	Internal RCD	Internal industrial RCD size	Rated current	Rated residual operating current	Aux. contact	Signal contact	Tamb
CPD161	**2** Size 1 **3** Size 2 **4** Size 3	**2** RCD	**1** Eaton / PFIM / 2P or 4P / (230V/400V) / 50Hz / 55°C[3] **2** Eaton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

[1] FRCmM-A only
[2] Not available for FRCmM-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


Size 1


Size 2


Size 3

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

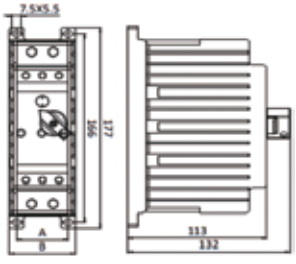
Certifications and Compliances		
Marking accd. to ATEX/IECEx		Ex db eb IIC Gb
Application temperature		-25˚C up to +55˚C / -20˚C up to +55˚C
Electrical Ratings		
Rated voltage	Main contact	max. 400 V AC
	Auxiliary contact	max. 250 V AC
Rated current	Main contact	6A to 63A
	Auxiliary contact	max. 5 A
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 postion

RCBO Ordering Logic

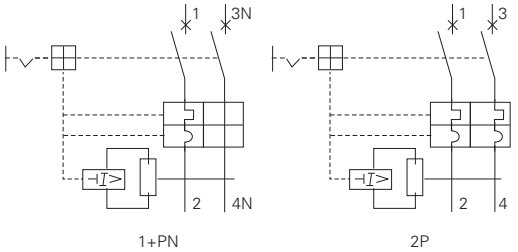
Product Group	Enclosure size	Internal components code	Internal RCBO	RCBO size	Tripping characteristic	Rated current	Rated switching capacity	Rated residual operating current	Aux. contact	Signal contact	Tamb
CPD161	**2** Size 1	**3** RCBO	**1** Eaton / PLD10 / 1P+N / 230V / 50Hz / 10kA / 55˚C[4] / Electronic	**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 capacity	**100** 10A		**100** 100mA[3]		**2** 2C/O	**TN** -20˚C up to +40˚C
	Enclosure Size 1	1P+N	**4** Eaton / PL10+PBSM / 2P / 230V / 50Hz / 10kA / 55˚C / Electromagnetic[2]			**130** 13A					**T** -25˚C up to +40˚C
		2P	**5** Eaton / FRBmM-B / 2P / 240V / 50Hz or 60Hz / 10kA / 40˚C			**160** 16A					
	Enclosure Size 2	1P+N+Aux. contact(1CO)	**6** Eaton / FRBm6-B / 2P / 240V / 50Hz / 6KA, only 32A or 40A / 40˚C			**200** 20A					
		1P+N+ Sig. contact(1CO or 2CO)	**7** Eaton / FRBmM-C / 2P / 240V / 50Hz / 60Hz / 10kA / 40˚C			**250** 25A					
		2P+ Aux. contact(1CO)	**8** Eaton / FRBm6-C / 2P / 240V / 50Hz / 6KA, only 32A or 40A / 40˚C			**320** 32A					
		2P+ Sig. contact(1CO or 2CO)				**400** 40A					
	Enclosure Size 3	2P+ Aux. contact(1CO)[1]				**500** 50A					
		2P+ Sig. contact(1CO or 2CO)[1]				**630** 63A					

[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

Size 2

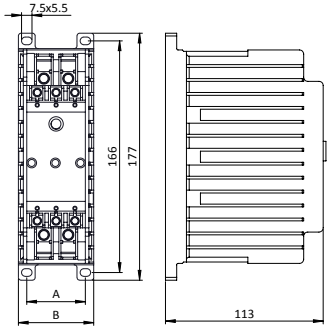
Motor Contactors

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	220/240V	1.5 kW	2.2 kW	3 kW	3 kW
accd. to EN 60947-4-1	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			

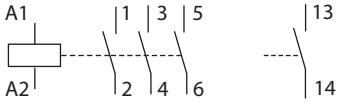
Motor contactor Ordering logic

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	**AC024** AC24 V	**DC012** DC12 V	**0** NA	**0** NA	**N** -20°C up to +50°C
				09 9A	**AC048** AC48 V	**DC024** DC24 V	**1** 1NO	**1** 1NC	**Blank** -25°C up to +50°C
				12 12A	**AC110** AC110 V	**DC048** DC48 V	**2** 2NO	**2** 2NC	
				16 16A	**AC230** AC230 V	**DC060** DC60 V			
					AC240 AC230/240 V	**DC110** DC110 V			
					AC400 AC380/400 V	**DC220** DC220 V			
					AC440 AC440 V				

Dimension drawing (mm) / Connection diagram



Product type	A	B
CPD161-3	60	72



Ex-d built-in components - Installation Contactors


Size 2

Installation Contactors

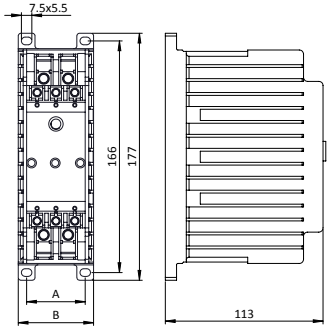
Certifications and Compliances		
Marking accd. to ATEX/IECEx		Ex db eb IIC Gb
Application temperature		-25˚C up to +64˚C / -20˚C up to +64˚C
Electrical Ratings		
Rated voltage	Main contact	max. 415V AC
	Auxiliary contact	max. 415V AC
Rated current	Auxiliary contact	max. 5A
	Main contact	20 A
Rated capacity AC-1	220-240V	7.6 kW
accd. to IEC/EN 60947-4-1	380-415V	13.5 kW
Rated capacity AC-3	220V	2.2 kW
accd. to IEC/EN 60947-4-1	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

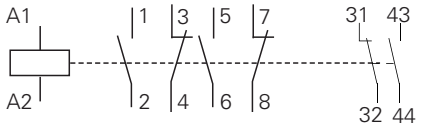
CPD161	-2	-5	1	2	-50	230	-3	1	0	1	N
Product Group	**Enclosure size**	**Internal components code**	**Internal installation contactors**	**Installation contactor Pole number**	**Rated current**	**Control voltage (Coil voltage)**	**Main NO contacts**	**Main NC contacts**	**Aux. NO contacts**	**Aux. NC contacts**	**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


Size 2

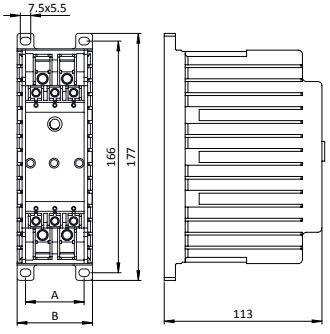
Thermal Relays

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

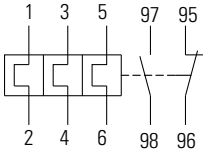
Thermal relay Ordering Logic

CPD161	3	4	1	02	N
Product Group	**Enclosure size**	**Internal components code**	**Rated voltage (production series)**	**Rated current (Triping 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

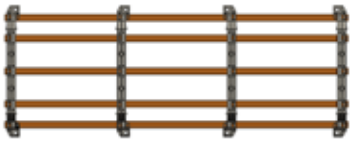
Dimension drawing (mm) / Connection diagram



Product type	A	B
CPD161-3	60	72



Ex e built-in components - Busbar



Busbar system

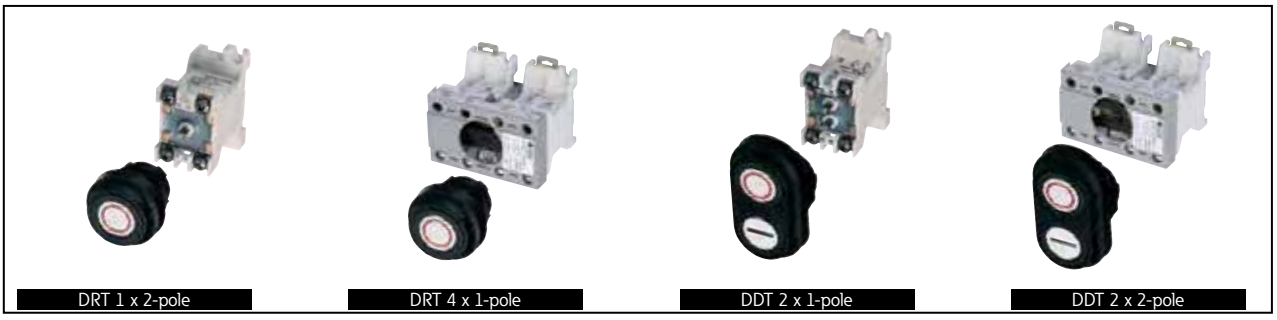
Busbar

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 mm²
Wire cross-section	1.5 mm² up to 185 mm²
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 mm²
Wire cross-section	1.5 mm² up to 185 mm²
Overall length of unit	Up to 6300 mm

Built-in components - Pushbutton



Technical data

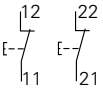
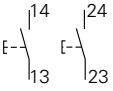
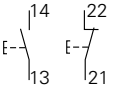
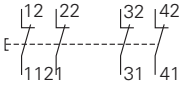
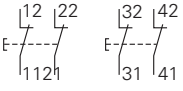
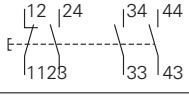
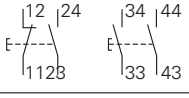
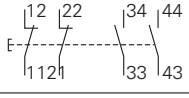
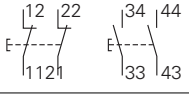
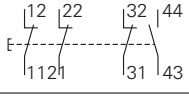
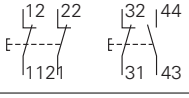
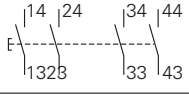
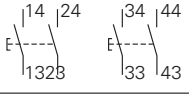
Ex-pushbutton DRT and double pushbutton DDT	
Marking accd. to 2014/34/EU	Ⓔx II 2 G Ex de IIC/IIB Gb / Ⓔx I M2 Ex de I Mb
EC-Type Examination Certificate	IBExU 14 ATEX 1030 U
IECEx Certificate of Conformity	IECEx IBE 14.0005U
Marking accd. to IECEx	Ex de IIC Gb Ex de IIB Gb Ex de I Mb
Operating temperature	–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 version[2)]	
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**

Code	Circuit	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

SLT 1 x 4-pole

SLT 1 x 2-pole

Technical data

Ex-key-operated pushbutton SLT	
Marking accd. to 2014/34/EU	Ⓔx II 2 G Ex de IIC/IIB Gb / Ⓔx 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 wil be in the middle of the two mounting areas.

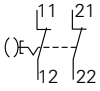
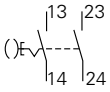
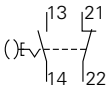
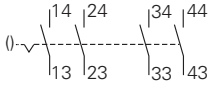
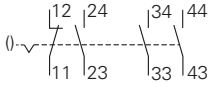
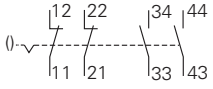
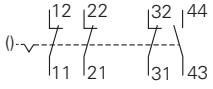
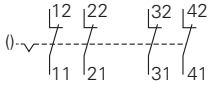
Ordering code for component (Code 2)

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

SLS 1 x 2-pole

SLS 1 x 4-pole

Technical data

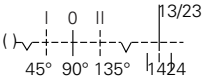
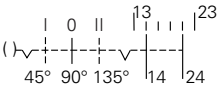
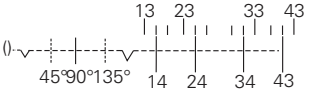
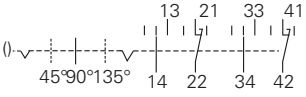
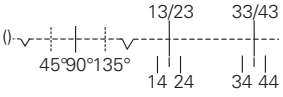
Key-operated switch SLS	
Marking accd. to 2014/34/EU	Ⓔx II 2 G Ex de IIC/IIB Gb / Ⓔx I M2 Ex de I Mb
EC-Type Examination Certificate	IBExU 14 ATEX 1030 U
IECEx Certificate of Conformity	IECEx IBE 14.0005U
Marking accd. to IECEx	Ex de IIC Gb Ex de IIB Gb Ex de I Mb
Operating temperature range	–45 °C up 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**

Code	Circuit	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

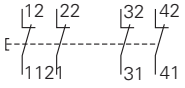
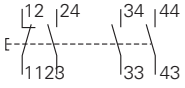
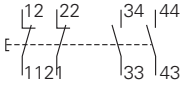
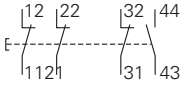
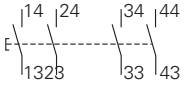
Ex-mushroom-head pushbutton (emergency stop „SGTE“ and normal version „SGT”)	
Marking accd. to 2014/34/EU	Ⓔx II 2 G Ex de IIC/IIB Gb / Ⓔx I M2 Ex de I Mb
EC-Type Examination Certificate	IBExU 14 ATEX 1030 U
IECEx Certificate of Conformity	IECEx IBE 14.0005U
Marking accd. to IECEx	Ex de IIC Gb Ex de IIB 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**

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

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

SCT 1 x 2-pole

SCT 1 x 4-pole

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.

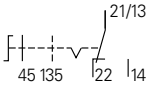
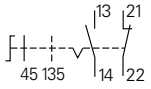
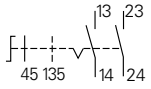
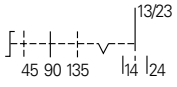
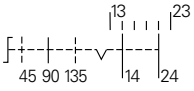
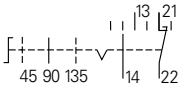
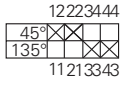
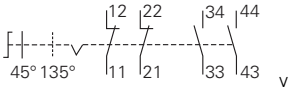
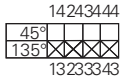
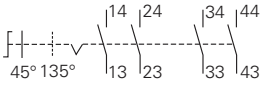
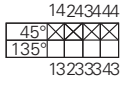
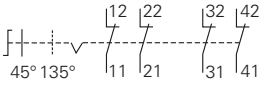
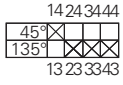
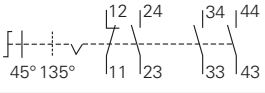
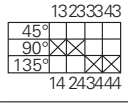
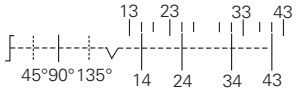
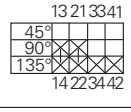
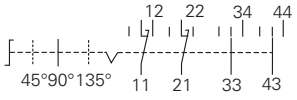
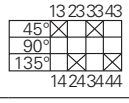
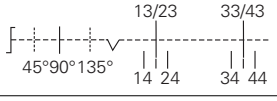
Built-in components - Mini-control Switch

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
	 v	 v	22	32
	 v		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	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

Other lables on request

Example for ordering code (Code 2)

Circuit	Switching system	Contacts	Ordering code			
		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

Potentiometer

Technical data

Ex-potentiometer POT	
Marking accd. to 2014/34/EU	Ⓔx II 2 G Ex de IIC/IIB Gb / Ⓔx 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 Potentiometer 1 W 25 % tolerance	Code
0 - 100 Ohm	POT 01
0 - 470 Ohm	POT 03
0 - 4700 Ohm	POT 05

Built-in components - Signal Lamp

Signal lamp

Technical data

Ex-signal lamp SIL	
Marking accd. to 2014/34/EU	Ⓔx II 2 G Ex d e IIC/IIB Gb / Ⓔx 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) (Ex d ia IIC) (Ex ed IIC)	20 V up to 254 V AC/DC 10 V up to 30 V DC 12 V up to 24 V AC/DC
Rated current 20 V to 254 V 10 V up to 30 V (Ex d ia IIC) 12 V up to 24 V	approx. 4 - 15 mA max. 25 mA max. 24 mA
Max. values for Ex ia	Ui = 30 V DC, Ii = 100 mA, Pi = 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: Uo = 20 V - 18 V DC with Ri = 200 Ω- 500 Ω or Uo = 10 V - 18 V DC with Ri = 100 Ω - 200 Ω
No effective Ci and Li 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 45/AM 72

AM 45

AM 72

Technical data

Ex-measuring instrument AM 45/AM 72	Moving iron	Moving coil
Marking accd. to 2014/34/EU	Ⓔx II 2 G Ex e II / D II 2 G Ex e mb II	Ⓔx II 2 G Ex ib IIC
	Ⓔx I M 2 Ex e I	Ⓔx 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 420 V (AM 45)	
	up to 750 V (AM 72)	
Power consumption (VA)	max. 0.31 A	
Overload range	10 fold - 25 sec.	10 fold - 5 sec.
	25 fold - 4 sec.	
	50 fold - 1 sec.	
	indicated 1 : 1.5, optional 1:6, 1:10	
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	40 x 40 mm (AM 45)	
	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 45/AM 72

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

Code	Component	Code
A	Measuring instrument AM 45	**AM45**
	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)

Movement Measuring instrument AM 45 Version with direct connection	Measuring range	Ordering code A	C	D
Direct (moving iron)	0 - 1 / 1.5 A	AM45	1	02
Direct (moving iron)	0 - 10 / 15 A	AM45	1	05
0 - 20 / 24 mA (moving coil)	0-100% / 120%	AM45	5	33
4 - 20 / 24 mA (moving coil)	0-100% / 120%	AM45	6	33
Moving iron measuring instrument AM 72 Version with CT connection n/1A				
Converter n / 1A	0 - 100% / 150%	AM72	2	33
Moving-coil measuring instrument AM 45 (Ex-i application only) Version with direct connection				
0 - 20 / 24 mA	0-100% / 120%	AM45	7	33
4 - 20 / 24 mA	0-100% / 120%	AM45	8	33

Built-in components - Control Switch Ex 23

Ex 23

Technical data

Ex-Built-in components for individual control stations Control switch Ex 23		Ex 23
Marking accd. to 2014/34/EU		Ⓔx I M2 Ex d e I Mb
		Ⓔx II 2G Ex d e IIB/IIC Gb
		Ⓔx 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 / Ie 6 A
accd. EN 60947-5-1		U_e 500 V / Ie 4 A
		DC-13: U_e 24 V / Ie 6 A
		U_e 230 V / Ie 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

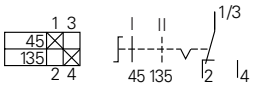
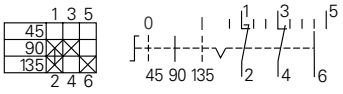
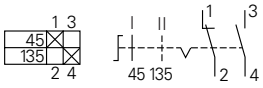
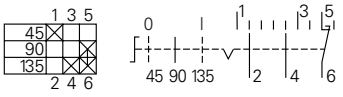
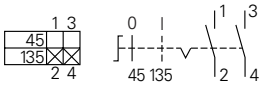
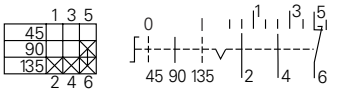
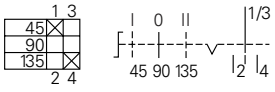
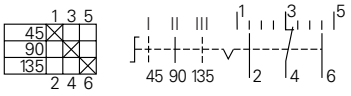
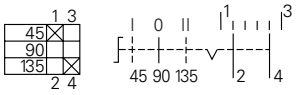
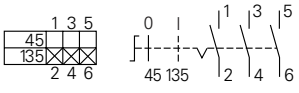
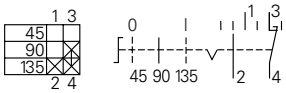
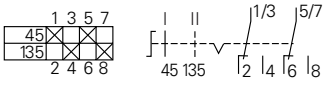
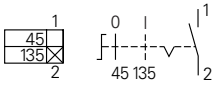
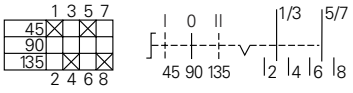
[1] The limits of the operating temperature range and the max. permissible temperature rise of the components have to be taken into account.
[2] min. cross section of used cable ≥ 12 A: 2.5 mm^2

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.

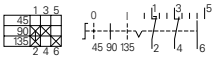
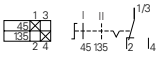
Built-in components - Control Switch Ex 23

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		Label		Padlocking facility		Ordering code				
A	Switching system B	C	Code	D	Code	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

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