



ISOLATORS-TP Series

ISOLATORS-TP is a complete range of switch-disconnectors with highly resistant thermoplastic enclosure and is suitable for most industrial and tertiary applications, thanks to the high degree of protection IP66/IP69 which allows it to be installed even in the presence of water jets high pressure and high temperature.

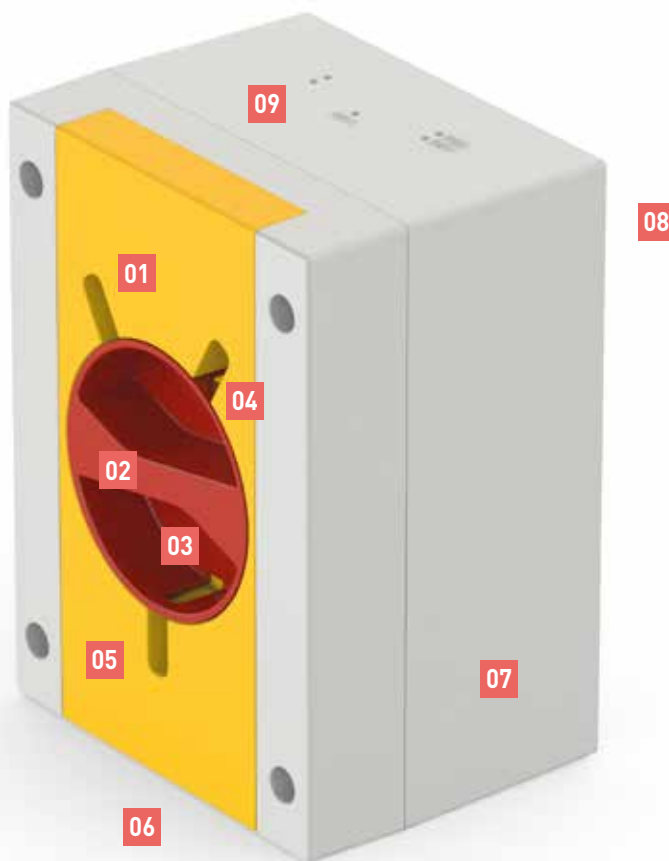
The high-visibility, fully recessed knob of extra large dimensions ensures an always optimal grip and prevents damage caused by any accidental impacts. The base is reversible with threaded inlets or drilling centers.

The large internal wiring space and the external fixing points ensure easy and error-proof installation. The EMC versions are equipped with a metal plate and EMC clips that allow to maintain the electrical continuity of the cable shielding.

technical sheet p. 829

Technical information

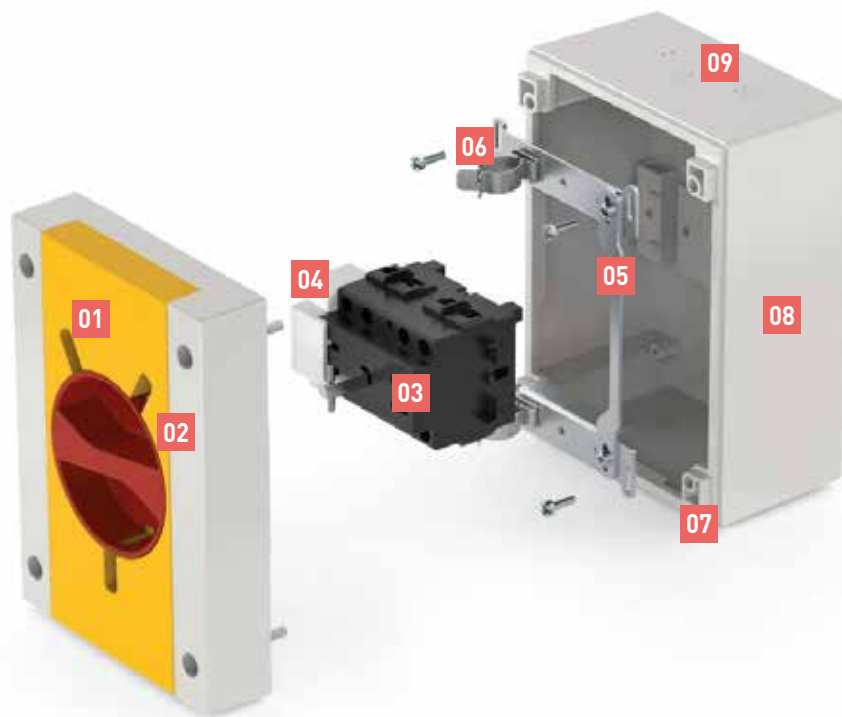
Main characteristics



- | | |
|---|---|
| 01 Door locking with handle in the ON position | 05 High visibility handle and plate |
| 02 Recessed XXL handle to prevent breakage due to accidental impacts | 06 Knockout cable entries |
| 03 AC23 switch with the possibility of double auxiliary contact | 07 Reversible base |
| 04 Handle padlockable in the OFF (emergency use) and ON and OFF (general use) position | 08 External and integrated fixing points |
| | 09 Blank side with drilling point marks |

Technical information

Main characteristics EMC versions



EMC SHIELDING

05

The need to protect the electrical system and all the surrounding electronic devices and instruments is increasing due to the fact that starter and speed control of three-phase motors is becoming more and more common via variable frequency driver (VFD) or variable speed drives (VSD), that can cause strong EMC disturbances.

The inner switch-disconnector is equipped with early break change over auxiliary contacts (NO/NC) which send the command to switched off VFD before the main contacts of the switch open to avoid unwanted overvoltage which can damage the VFD.

- 01** Door locking with handle in the ON position
- 02** Handle padlockable in the OFF (emergency use) and ON and OFF (general use) position
- 03** AC23 switch with the possibility of double auxiliary contact
- 04** Early make auxiliary contacts
- 05** Continuity plate for EMC cable shielding
- 06** EMC clips for connecting the cable shield to the continuity plate
- 07** Knockout cable entries
- 08** Reversible base
- 09** Blank side with drilling point marks

Application examples



Hospital



Industry



SWITCHGEARS

Switch-disconnectors

■ 16A÷40A >> FOR GENERAL USE



Type: GENERAL

Current	Poles	Switch size	IP	Dimensions	Colour	Code	
16A	6P	Y3	IP66/IP69	160x220x115mm		590.GE1606	1/5
	8P	Y3	IP66/IP69	160x220x115mm		590.GE1608	1/5
20A	2P	Y1	IP66/IP69	110x150x87mm		590.GE2012	1/12
	3P	Y1	IP66/IP69	110x150x87mm		590.GE2013	1/12
	4P	Y1	IP66/IP69	110x150x87mm		590.GE2014	1/12
	3P+N	Y1	IP66/IP69	110x150x87mm		590.GE2015	1/12
	1P+SN	Y1	IP66/IP69	110x150x87mm		590.GE2012.SN ¹⁾	1/12
	3P+SN	Y1	IP66/IP69	110x150x87mm		590.GE2015.SN ¹⁾	1/12
	25A	6P	Y3	IP66/IP69	160x220x115mm		590.GE2506
8P		Y3	IP66/IP69	160x220x115mm		590.GE2508	1/5
2P		Y1	IP66/IP69	110x150x87mm		590.GE3212	1/12
3P		Y1	IP66/IP69	110x150x87mm		590.GE3213	1/12
4P		Y1	IP66/IP69	110x150x87mm		590.GE3214	1/12
32A	3P+N	Y1	IP66/IP69	110x150x87mm		590.GE3215	1/12
	6P	Y3	IP66/IP69	160x220x115mm		590.GE3206	1/5
	8P	Y3	IP66/IP69	160x220x115mm		590.GE3208	1/5
	1P+SN	Y1	IP66/IP69	110x150x87mm		590.GE3212.SN ¹⁾	1
	3P+SN	Y1	IP66/IP69	110x150x87mm		590.GE3215.SN ¹⁾	1
	2P	Y1	IP66/IP69	110x150x87mm		590.GE4012	1/12
	3P	Y1	IP66/IP69	110x150x87mm		590.GE4013	1/12
40A	4P	Y1	IP66/IP69	110x150x87mm		590.GE4014	1/12
	3P+N	Y1	IP66/IP69	110x150x87mm		590.GE4015	1/12
	6P	Y3	IP66/IP69	160x220x115mm		590.GE4006	1/5
	8P	Y3	IP66/IP69	160x220x115mm		590.GE4008	1/5
	1P+SN	Y1	IP66/IP69	110x150x87mm		590.GE4012.SN ¹⁾	1
	3P+SN	Y1	IP66/IP69	110x150x87mm		590.GE4015.SN ¹⁾	1

Handle padlockable in OFF (3 padlocks) and ON (1 padlock) position.

Blank side with drilling point marks on top side base.

Break-through cable entries on bottom side base.

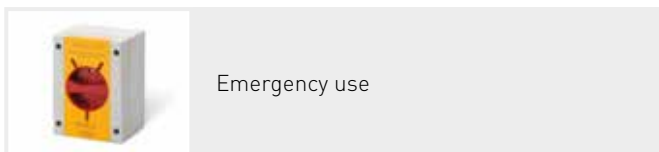
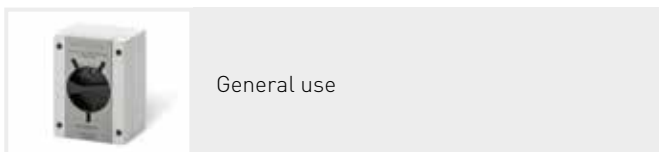
Reversible base.

¹⁾ Unswitched neutral (solid neutral terminal block).

ENCLOSED SWITCH-DISCONNECTORS IN THERMOPLASTIC ENCLOSURE



VERSIONS



REFERENCE STANDARDS

IEC EN 60947-3

EN 60529

MARKINGS AND DIRECTIVES



QUALITY MARKS



TECHNICAL CHARACTERISTICS

Rated current:	16A ¹⁾ - 20A - 25A ¹⁾ - 32A - 40A - 63A 80A - 100A - 125A - 160A
Polarity:	1P+SN, 2P, 3P, 3P+SN, 3P+N, 4P, 6P, 8P
Rated voltage:	690Vac - 600Vdc
Insulating voltage:	690Vac - 600Vdc
Frequency:	50/60Hz - c.c.
Protection degree:	Surface mounting version IP66/IP69 125A-160A 6-8P IP55 Flush mounting version 20A-40A IP55
Installation temperature:	-25°C +60°C
Material:	Thermoplastic
Colour:	Grey RAL 7035
Insulation class:	Class II (double insulation) □
Self extinguishing degree (GWT):	650°C (body) 960°C (switch)
Impact resistance:	20A÷100A IK09 125A÷160A IK08 Flush mounting version 20A-40A IK08
Auxiliary contacts:	Max 2 auxiliary contacts
Handle lock (with padlock):	OFF (3 padlocks) ON (1 padlock) ²⁾
Max diameter of the padlock arch:	20A÷40A 6mm 63A÷160A 8mm

2P, 3P+N and 8P versions with early make late break neutral pole.
1P+SN and 3P+SN versions with unswitched neutral (solid neutral terminal block).

Terminal/threaded bar earth conductor connection.

Equipped with door locking with the switch in ON position.

¹⁾ Only for 6 and 8 poles.

²⁾ Only general use versions.

■ BEHAVIOUR WITH CHEMICAL AND ATMOSPHERIC AGENTS

Saline solution	Acids		Bases		Solvents				Mineral oil	UV rays
	Concentrated	Diluted	Concentrated	Diluted	Hexane	Benzol	Acetone	Alcohol		
Resistant	Limited resistance	Resistant	Limited resistance	Resistant	Limited resistance	Not resistant	Not resistant	Limited resistance	Limited resistance	Resistant

Resistance values to chemical agents have to be considered indicative. For further information and specific substances, contact the technical service.

■ CABLE ENTRIES

Enclosure in thermoplastic insulation material 1P+SN, 2P, 3P, 3P+SN, 3P+N, 4P

Rated current (A)	Nr of poles	Enclosure dimensions (mm)	Cable entries		
			Top/bottom		
20-32-40	1P+SN	82x120x69	Top/bottom	1xM20+1xM25	Knock-outs
			Rear	2xM20	Knock-outs
20-32-40	1P+SN, 2P, 3P, 3P+SN, 3P+N, 4P	110x150x86	Top/bottom	2xM25	Knock-outs/Blank side ¹⁾
			Rear	2xM25	Knock-outs/Blank side
63-80-100	1P+SN, 2P, 3P, 3P+SN, 3P+N, 4P	160x220x114	Top/bottom	2xM32	Knock-outs/Blank side ¹⁾
			Rear	2xM32	Knock-outs/Blank side ¹⁾
100-125-160	3P, 3P+SN, 3P+N	240x340x137	Top	2xm50+1xm16	Knock-outs/Blank side ¹⁾
			Bottom	2xm50+1xm16	Knock-outs/Blank side ¹⁾
			Rear	-	Blank side

Special drillings on request.

¹⁾Reversible base, blank sides with drilling point marks.

■ CABLE ENTRIES

Enclosure in thermoplastic insulation material 6P, 8P

Rated current (A)	Nr of poles	Enclosure dimensions (mm)	Cable entries		
			Top/bottom		
16-25-32-40	6P-8P	160x220x114	Top/bottom	2xM32	Knock-outs o Blank side ¹⁾
			Rear	2xM32	Knock-outs o Blank side ¹⁾
63-80-100-125	6P-8P	240x340x137	Top	-	Blank side
			Bottom	-	Blank side
			Rear	-	Blank side
125-160	6P-8P	308x338x128	Top	-	Blank side
			Bottom	-	Blank side
			Rear	-	Blank side

Special drillings on request.

¹⁾Reversible base, blank sides with drilling point marks.

■ TECHNICAL CHARACTERISTICS 20A-32A 1P+SN

Switch size				Y01			
Rated current		In		20A	32A	40A	
Rated insulation voltage		Ui	VAC	250	250	250	
Rated impulse withstand voltage		Uimp	kV	4	4	4	
Rated thermal current		Ith/Ithe	A	20	32	40	
Rated operational current Ie	AC22A	Mixed resistive and inductive loads, including moderate overloads	250V	A	20	32	40
	AC23A	Switching of motor loads or other highly inductive loads (3 phase/3 pole)	250V	A	20	22	25
Short circuit withstand current		Icw (1s)	A	480	480	480	
Conditional short circuit current			kAeff	10	10	10	
Associate fuse size for conditional short circuit current - type gG			A	20	32	40	
Flexible wires			mm ²	1.5 - 6	1.5 - 6	1.5 - 6	
Rigid wires			mm ²	1.5 - 6	1.5 - 6	1.5 - 6	

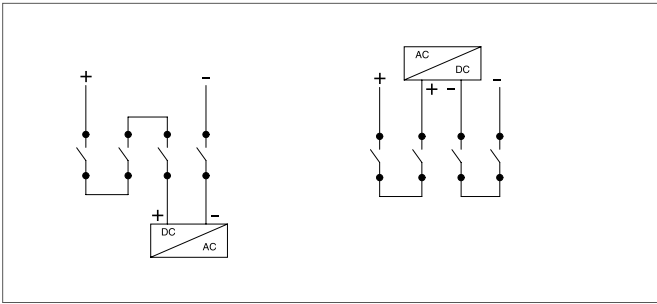
■ TECHNICAL CHARACTERISTICS 20A÷160A 1P+SN 2P, 3P, 3P+SN, 3P+N, 4P

Switch size				Y1			Y2		Y4	Y5		
Rated current		In		20A	32A	40A	63A	80A	100A	125A	160A	
Rated insulation voltage		Ui	VAC	690	690	690	690	690	800	800	800	
Rated impulse withstand voltage		Uimp	kV	4	4	4	4	4	8	8	8	
Thermal current			A	20	32	40	63	80	100	125	160	
Rated operational current Ie	AC21A	Resistive loads, including moderate overloads	415V	A	20	32	40	63	80	100	125	160
			500V	A	20	32	32	63	80	100	125	160
			690V	A	20	32	32	63	80	100	125	160
	AC22A	Mixed resistive and inductive loads, including moderate overloads	415V	A	20	32	40	63	80	100	125	160
			500V	A	20	32	32	63	80	100	125	160
			690V	A	20	32	32	63	80	100	125	160
	AC23A	Switching of motor loads or other highly inductive loads (3 phase/3 pole)	415V	A	20	32	35	63	67	100	125	160
			500V	A	20	25	25	40	67	-	125	125
			690V	A	20	25	25	30	38	-	100	100
	AC23A ¹⁾	Rated operational power	415V	Kw	9	15	18.5	33	37	46	55	69
	AC3	Squirrel-cage motor: starting, switching off motor during running (3 phase / 3 pole)	415V	A	18	25	28.5	40	55	-	-	-
			690V	A	12	18	20	25	32	-	-	-
	DC22A ²⁾	Mixed resistive and inductive loads, including moderate overloads	250V	A	25	32	32	63	-	-	-	-
			600V	A	10	10	10	-	-	-	-	-
Short circuit withstand current		Icw (1s)	A	400	400	400	1500	1500	1500	3000	3000	
Conditional short circuit current			kAeff	10	10	10	10	10	30	50	50	
Associate fuse size for conditional short circuit current - type gG			A	20	32	40	63	80	100	125	125	
Flexible wires			mm ²	1.5-10	1.5-10	1.5-10	10-35	10-35	10-50	10-70	10-70	
Rigid wires			mm ²	1.5-16	1.5-16	1.5-16	10-35	10-35	10-50	10-70	10-70	

¹⁾ This value is provided as an indication considering the most critical inductive load condition and may vary according to the specifications provided by the motor manufacturer.

²⁾ 4P versions with poles in series.

■ 4P VERSIONS POLES CONNECTION IN SERIES FOR USE IN DC



■ TECHNICAL CHARACTERISTICS 16A÷160A 6P, 8P

Switch size			Y3				Y4			Y5			
Rated current	In		16A	25A	32A	40A	63A	80A	100A	125A	160A		
Rated insulation voltage	Ui	VAC	800	800	800	800	800	800	800	800	800		
Rated impulse withstand voltage	Uimp	kV	8	8	8	8	8	8	8	8	8		
Rated thermal current	Ith/Ithe	A	16	25	32	40	63	80	100	125	160		
Rated operational current Ie	AC21A	Resistive loads, including moderate overloads	415V	A	16	25	32	40	63	80	100	125	160
			500V	A	16	25	32	40	63	160	80	125	160
			690V	A	16	25	32	40	63	160	80	125	160
	AC22A	Mixed resistive and inductive loads, including moderate overloads	415V	A	16	25	32	40	63	160	80	125	160
			500V	A	16	25	32	40	63	160	80	125	160
			690V	A	16	25	32	40	40	40	40	125	160
	AC23A	Switching of motor loads or other highly inductive loads (3 phase/3 pole)	415V	A	16	25	32	40	63	80	100	125	160
			500V	A	16	25	32	40	63	63	63	125	125
			690V	A	16	25	25	25	32	32	32	100	100
	AC23A ¹⁾	Rated operational power	415V	kW	7,5	11	15	18,5	35	37	46	55	69
Short circuit withstand current	Icw (1s)	A	1100	1100	1100	1100	1500	1500	1500	3000	3000		
Conditional short circuit current		kAeff	50	50	50	50	50	50	30	50	50		
Associate fuse size for conditional short circuit current - type gG		A	16	25	32	40	63	80	100	125	125		
Flexible wires		mm ²	2.5-16	2.5-16	2.5-16	2.5-16	10-50	10-50	10-50	10-70	10-70		
Rigid wires		mm ²	2.5-16	2.5-16	2.5-16	2.5-16	10-50	10-50	10-50	10-70	10-70		

¹⁾ This value is provided as an indication considering the most critical inductive load condition and may vary according to the specifications provided by the motor manufacturer.

■ AUXILIARY CONTACTS

Code		590.PL004001 590.PL004002	590.PL004005	590.PL004003 590.PL004004	590.PL004006	590.PL005
Switch type		Y1		Y2		Y3-Y4-Y5
Contact type		NC NA	NO/NC	NC NA	NO/NC	NO/NC
Break activation		Simultaneous	Break before main contacts	Simultaneous	Break before main contacts	Break before main contacts
Rated current	250V	16A	16A	16A	16A	16A
Rated operational current AC15	400V	6A	-	6A	-	-
	250V	8A	-	8A	-	-

