

ISOLATORS-EX Series



SWITCHES DISCONNECTORS



ISOLATORS-EX is a range of load-break switches/disconnectors with a switching and isolating functions, built in accordance with the standard EN 60947-3. Able to satisfy all installation needs, they are available in two versions in terms of the material used for the enclosure: thermoplastic or aluminium. They have a category of use up to AC-3 and are available in different versions for general use (handle in black) or for emergency control (high-visibility handle in red/yellow). It is possible to install auxiliary contacts, to be purchased separately, without losing the certification.

VERSIONS



Switch disconnectors
Aluminium enclosure



Switch disconnectors
Thermoplastic enclosure

TECHNICAL CHARACTERISTICS

Protection degree:	IP65 (aluminium) IP66 (thermoplastic)
Ambient temperature:	-25°C ≤ Ta ≤ +60°C
Glow wire test:	650°C (thermoplastic)
Material:	Aluminium Thermoplastic
Colour:	Satin-finished (aluminium) Grey RAL 7016 (thermoplastic)
Polarity:	2P - 3P - 4P
Rated current:	20A-32A-40A-63A (aluminium) 20A-32A-40A (thermoplastic)

REFERENCE STANDARDS

ATEX	EN 60079-0 Electrical apparatus for potentially explosive atmospheres. <i>Part 0: General requirements.</i>
ATEX	EN 60079-31 Electrical apparatus for potentially explosive atmospheres. <i>Part 31: Protection by enclosures "t".</i>
LVD	EN 60309-1 Plugs, socket outlets and couplers for industrial purposes. <i>Part 1: general requirements.</i>
LVD	EN 60947-3 Low-voltage switchgear and controlgear. <i>Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units.</i>

Ex CHARACTERISTICS

ATEX Category:	Ex II 2D
Ex Protection type	
Thermoplastic:	Ex tb IIIC T80°C Db (-25°C ≤ Ta ≤ +40°C) Ex tb IIIC T90°C Db (-25°C ≤ Ta ≤ +60°C)
Aluminium:	Ex tb IIIC T80°C Db (-25°C ≤ Ta ≤ +40°C) Ex tb IIIC T90°C Db (-25°C ≤ Ta ≤ +60°C)
Surface temperature class DUST:	T90°C
Certificate:	TÜV IT 14 ATEX 006 (aluminium) TÜV IT 14 ATEX 005 (thermoplastic)

■ BEHAVIOUR WITH CHEMICAL AND ATMOSPHERIC AGENTS - ALUMINIUM

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

■ BEHAVIOUR WITH CHEMICAL AND ATMOSPHERIC AGENTS - THERMOPLASTIC

Saline solution	Acids		Bases		Solvents				Mineral oil	UV rays
	Concentrated	Diluted	Concentrated	Diluted	Hexane	Benzol	Acetone	Alcohol		
Resistant	Limited Resistance	Resistant	Limited Resistance	Limited Resistance	Resistant	Limited Resistance	Limited Resistance	Resistant	Limited Resistance	Resistant

Resistance values to chemical agents have to be considered indicative.

For further information and specific substances, contact the technical service.

APPLICATION EXAMPLES



ISOLATORS-EX Series

 Ex II 2D aluminium enclosure

ELECTRICAL CHARACTERISTICS OF THE SWITCH DISCONNECTORS

Rated current Ith		20A	32A	40A	63A
Insulating voltage Ui	VAC	690	690	690	690
AC22A Mixed resistive and inductive loads, including moderate overloads	415V	20A	32A	40A	63A
	690V	20A	32A	32A	63A
AC23A Rated operational power (°)	415V	20A	32A	35A	63A
	690V	20A	25A	25A	30A
AC3 Squirrel-cage motor: starting, switching off motor during running (3 phase / 3 pole)	400V	18A	25A	28,5A	40A
	690V	12A	18A	20A	25A
Nominal frequency	Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz

(°) This values are given for guidance and may vary according to the specifics provided by the motor manufacturer.

TECHNICAL DATA OF POWER / EARTH TERMINALS

POWER TERMINALS - CONNECTABLE WIRES AND TIGHTENING TORQUES		
Power terminal version	Cable section to be used (rigid or flexible) mm ²	Tightening torque (Nm)
20A	4	0.8
32A	6	0.8
40A	6	0.8
63A	10	3.6
Earth terminal	Maximum section 10	2

CABLE GLANDS / CABLE ENTRIES

Versions	Number of cable entries	Maximum cable inlet temperature
590.XHGE200X – 20A 590.XHEM200X – 20A	2xM25 + 1XM20 (high)	-
590.XHGE320X – 32A 590.XHEM320X – 32A 590.XHGE400X – 40A 590.XHEM400X – 40A	2xM25 + 1XM20 (high)	95° C
590.XHGE630X - 63A 590.XHEM630X - 63A	2xM32 + 1XM20 (high)	110° C

ELECTRICAL PARAMETERS - AUXILIARY CONTACT

ELECTRICAL PARAMETERS AUXILIARY CONTACT SERIES 590.PL00400X		
Auxiliary contacts	Maximum Current	Note
1NC or 1NO	Max 2A	With 1 Auxiliary contacts the maximum current is 2A
1NC or 1NO	Max 2A	
2NC or 2NO	Max 1A	With 2 Auxiliary contacts the maximum current is 1A each
2NC or 2NO	Max 1A	

ELECTRICAL CHARACTERISTICS OF THE SWITCH DISCONNECTORS

Rated current Ith		20A	32A	40A
Insulating voltage Ui	VAC	690	690	690
AC22A Mixed resistive and inductive loads, including moderate overloads	415V	20A	32A	40A
	690V	20A	32A	32A
AC23A Rated operational power (°)	415V	20A	32A	35A
	690V	20A	25A	25A
AC3 Squirrel-cage motor: starting, switching off motor during running (3 phase / 3 pole)	400V	18A	25A	28,5A
	690V	12A	18A	20A
Nominal frequency	Hz	50/60	50/60	50/60

(°) This values are given for guidance and may vary according to the specifics provided by the motor manufacturer.

TECHNICAL DATA OF POWER / EARTH TERMINALS

POWER TERMINALS - CONNECTABLE WIRES AND TIGHTENING TORQUES		
Power terminal version	Cable section to be used (rigid or flexible) mm ²	Tightening torque (Nm)
20A	4	0.8
32A	6	0.8
40A	10	0.8
Earth terminal	Maximum section 10	2

CABLE GLANDS / CABLE ENTRIES

Versions	Number of cable entries	Maximum cable inlet temperature
590.XGE200X - 20A	2xM25 + 1xM20	-
590.XEM200X - 20A		
590.XGE320X - 32A	2xM32 + 1xM20	95° C
590.XEM320X - 32A		
590.XGE400X - 40A		
590.XEM400X - 40A		

The safety switch hereby in the following table will be equipped with cable glands and stopping plug suitable for use in areas at risk of explosion, suitable for the category 2D, zone 21 and 22.

LOCKING TORQUES

Threaded hole	Maximum tightening torque (Nm)
M20	10
M25	12
M32	14

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Auxiliary contacts	Maximun Current	Note
1NC or 1NO	Max 2A	With 1 Auxiliary contacts the maximum current is 2A
1NC or 1NO	Max 2A	
2NC or 2NO	Max 1A	With 2 Auxiliary contacts the maximum current is 1A each
2NC or 2NO	Max 1A	

ISOLATORS-EX Series



ALUMINIUM SWITCHES DISCONNECTORS - IP65



Current	Poles	Cable inlets	Dimensions (mm)		GENERAL USE	EMERGENCY CONTROL
20A	2	2xM25 + 1xM20 (high)	105x150x82	1/12	590.XHGE2002	590.XHEM2002
	3		105x150x82	1/12	590.XHGE2003	590.XHEM2003
	4		105x150x82	1/12	590.XHGE2004	590.XHEM2004
32A	2	2xM25 + 1xM20 (high)	105x150x82	1/12	590.XHGE3202	590.XHEM3202
	3		105x150x82	1/12	590.XHGE3203	590.XHEM3203
	4		105x150x82	1/12	590.XHGE3204	590.XHEM3204
40A	2	2xM25 1xM20 (high)	105x150x82	1/12	590.XHGE4002	590.XHEM4002
	3		105x150x82	1/12	590.XHGE4003	590.XHEM4003
	4		105x150x82	1/12	590.XHGE4004	590.XHEM4004
63A	2	2xM32 + 1xM20 (high)	150x210x107	1/5	590.XHGE6302	590.XHEM6302
	3		150x210x107	1/5	590.XHGE6303	590.XHEM6303
	4		150x210x107	1/5	590.XHGE6304	590.XHEM6304

- 1xM20 (top): on request

Package/Bulk Pack.

THERMOPLASTIC SWITCHES DISCONNECTORS - IP66



Current	Poles	Cable inlets	Dimensions (mm)		GENERAL USE	EMERGENCY CONTROL
20A	2	2xM25 + 1xM20	115x190x128	1/12	590.XGE2002	590.XEM2002
	3		115x190x128	1/12	590.XGE2003	590.XEM2003
	4		115x190x128	1/12	590.XGE2004	590.XEM2004
32A	2	2xM32 + 1xM20	115x190x128	1/12	590.XGE3202	590.XEM3202
	3		115x190x128	1/12	590.XGE3203	590.XEM3203
	4		115x190x128	1/12	590.XGE3204	590.XEM3204
40A	2	2xM32 + 1xM20	115x190x128	1/12	590.XGE4002	590.XEM4002
	3		115x190x128	1/12	590.XGE4003	590.XEM4003
	4		115x190x128	1/12	590.XGE4004	590.XEM4004

Package/Bulk Pack.

- Auxiliary contacts:

NC 16A-32A: 590.PL004001

NC 63A: 590.PL004003

NO 16A-32A: 590.PL004002

NO 63A: 590.PL004004

See table page 115.

Padlockable handle in two positions (ON/OFF).
OFF position = 3 padlocks
ON position = 1 padlock