Manual

Power relay

SR853

Product types SR853.8.x.x, Rev. 1

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The symbols WARNING, CAUTION, NOTE

 **Warning**	This symbol warns of a serious hazard. Failure to observe this warning may result in death or the destruction of property.
 **Caution**	This symbol warns of a possible failure. Failure to observe this caution may result in the total failure of the device or the system or plant to which it is connected.
 **Note**	This symbol highlights important information.
	Protective grounding

Safety Measures: to read and to comply

 **Warning**	Warning! Extreme caution is advised when handling this device. High electrical discharge is possible and can be fatal. Work on electrical installations and apparatus in operation is generally forbidden in hazardous locations, with the exception of intrinsically safe circuits. In special cases work can be done on non-intrinsically safe circuits, on the condition that during the duration of such work no explosive atmosphere exists. Only explosion protected certified measuring instruments may be used to ensure that the apparatus is voltage-free. Grounding and short-circuiting may only be carried out, if there is no explosion hazard at the grounding or short circuit connection.

Safety Guidelines for explosion proof devices

Application and Standards

This instruction manual applies to explosion protected control systems of protection types below. This apparatus is only to be used as defined and meets requirements of EN 60079 particularly EN 60079-14 "electrical apparatus for potentiality explosive atmospheres".

It can be used in hazardous locations which are hazardous due to gases and vapours according to the explosion group and temperature class as stipulated on the type label. When installing and operating the explosion protected device as well as its periphery, the respective nationally valid regulations and requirements have to be observed.

General Instructions

Work on electrical installations and apparatus in operation is generally forbidden in hazardous locations, with the exception of intrinsically safe circuits. In special cases, work can be done on non-intrinsically safe circuits, on the condition that during the duration of such work no explosive atmosphere exists. Only explosion protected certified measuring instruments may be used to ensure that the apparatus is voltage-free. Grounding and short circuiting may only be carried out, if there is no explosion hazard at the grounding or short circuit connection.

The control unit has to have a back-up fuse as stipulated. The mains connection must have a sufficient short circuit current to ensure safe breaking of the fuse. To achieve an impeccable and safety device operation, please take care for adept transportation, storage and mounting, as well as accurate service and maintenance. Operation on this device should only be implemented by authorised persons and in strict accordance with local safety standards.

The electrical data on the type label and if applicable, the "special conditions" of the test certificate *TÜV 02 ATEX 1824* is to be observed.

For outdoor installation it is recommended to protect the explosion protected distribution and control system against direct climatic influence, e.g. with a protective roof. The maximum ambient temperature is 140°F (60°C) at T4, if not stipulated otherwise (please note temperature classes of hazardous area and refer to EC- type certificate)

Terminal compartment in Increased Safety

When closing, it is to be ensured that the gaskets of the terminal compartment remain effective, thus maintaining degree of protection IP 64 to DIN 40 050. Unused entries are to be closed off by impact proof stopping plugs, which are secured against self-loosening and turning.

Maintenance Work

The gaskets of all parts of the housings have to be checked for damages and replaced, if required. Terminals have to be tightened correctly. Possible changes in colour point to increased temperature. Cable glands, stopping plugs and flanges have to be tested for tightness and secure fitting.

Description

The power relay SR853 serves the **separation from** not intrinsically safe **supply lines** directly in the ex range in connection with an overpressure casing system.

In addition it possesses **4 electrically isolated switching contacts**, which open during disconnection of the control voltage. Opening of these contacts is guaranteed by two, from each other independent contact relays switched into row. By high contact rating **(420 V, 16 A, 4 KW)** also **three-phase alternating current feeders** can be de-energized.

By the double clamps 1/2 and 12/13 on the control port can be cascaded as many as desired power relays.

The SR853 is in an option also available as module to the installation in a separately certified Ex e housing, alternatively for the assembly on 35 mm of mounting rail (EN 50022).

Conformity with standards

The explosion proof power relay SR853 meets requirements of listed standards in the attachment (Declaration of conformity). They were developed, manufactured and tested in accordance with state-of-the-art engineering practice and ISO9001:2008.

Transport, Storing, Repairs and Disposal

Transport	Vibration-free in origin package, do not pitch, handle carefully.
Storing	Store the device dry, inside of the origin package.
Disposal	When the explosion proof multipurpose distribution, switching and control units are eventually disposed of, the national regulations governing the disposal of waste materials in the country concerned must be rigorously observed.
Repairs	Defective parts may only be replaced by the Manufacturer or by personnel specially trained and supervised by the Manufacturer. Only genuine spare parts from the Manufacturer may be fitted.

Mounting

Power relay SR853

The power relay SR853 could be used in hazardous area Zone 1 and Zone 21. It could be mounted anywhere in the hazardous area (in The Ex p housing, or outside). The device has 4 drillings on the backside for mounting.

Please fulfill the following Standard of Compliance: Local installation standards and the regulative EN 60079-14 or IEC 60079-14.

Connection hints.

The following items have to be observed.

Warning

LINE VOLTAGE !
Extreme caution is advised when handling this device. High electrical discharge is possible and can be fatal.

Caution

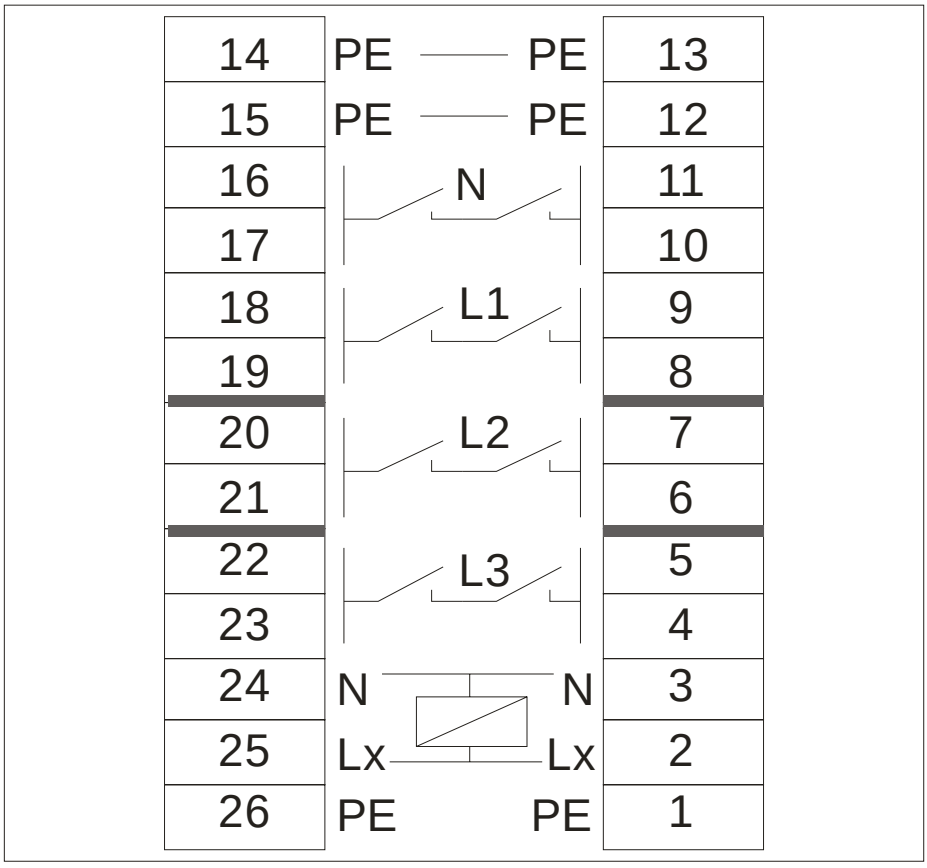
Take note the regulative EN 60079-14 or IEC 60079-14 and the EC type examination certificate TÜV 02 ATEX 1824 or IECEx TUN 14.0029.

Do not exceed terminal safety limits of each terminal.
See limits in technical details or declarations of conformity.

Terminals

Clamp	Characterisation
12,13,14,15	PE
10,11,16,17	N
8,9,18,19	L1
6,7,20,21	L2
4,5,22,23	L3
3,24	N
2,25	Lx
1,26	PE

Block diagram



Appendix

Technical details

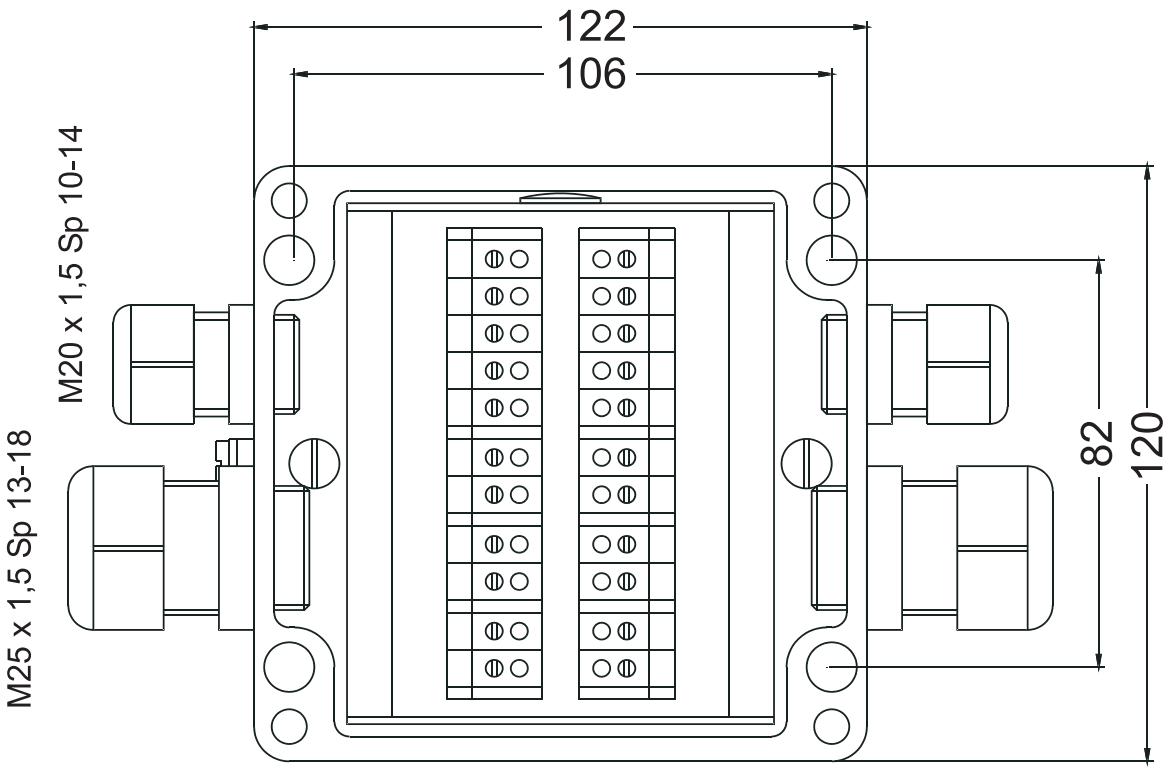
Mains [V]	24V AC/DC... 230 V AC AC: 48 ..62 Hz
Ex-protection	Ex e q IIC T4 Gb Ex tb IIIC T108°C
Device group	II 2 G II 2 D
EC type certificate	TÜV 02 ATEX 1824
IECEx	IECEx TUN 14.0029
Assembly	within Ex range
Ambient temperature	Typ SR853.8.x.0: -20°C .. max. 50°C Typ SR853.8.x.1: -20°C .. max. 70°C
Relay contacts Typ SR853.8.x.0	AC: max. 400V, 16 A, 30A/4s oder 80A/20ms DC: max. 28V, 16 A 4000 VA
Relay contacts Typ SR853.8.x.1	AC: max. 400V, 16 A, 30A/4s DC: max. 28 V, 16 A 4000 VA
Max. cable diameter	6 mm²
Power consumption	ca. 5 W
Protection class	IP65 (SR853.x.0.x)
Dimensions Housing: Module:	 120 x122 x 90 mm 85 x 116 x 45 mm
Housing material	Aluminium, powder coated, RAL 7035

For further data see type examination certificate.

Cable diameters

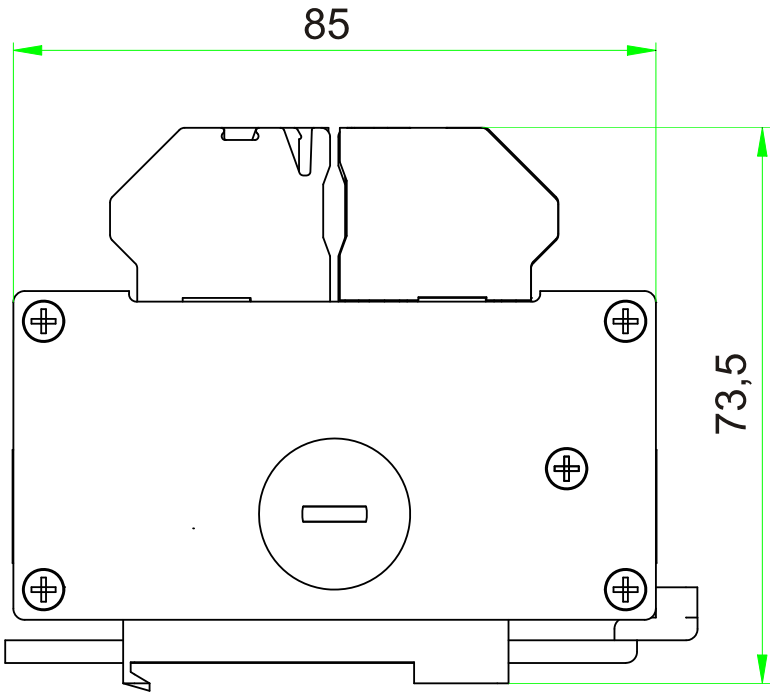
Cable type	Max. cable diameter
single wire	6 mm²
fine wire without end splice	6 mm²
fine wire with end splice	4 mm²

Dimensions SR853.8.0.x



Height: 90 mm

Dimensions module SR853.8.2.x



Depth 106 mm

Type code

Power relay	SR 853	.	.	.
Mains:		.8		
24 DC… 230 V AC				
Housing:				
In Ex e- housing			.0	
without Ex e- housing with 2 screw mountings M6			.1	
without Ex e- housing, with mounting rail owner			.2	
Ambient temperature and inrush current:				
- 20°C .. 50°C / 30A/4s bzw. 80A/20ms				.0
- 20°C .. 70°C / 30A/4s				.1