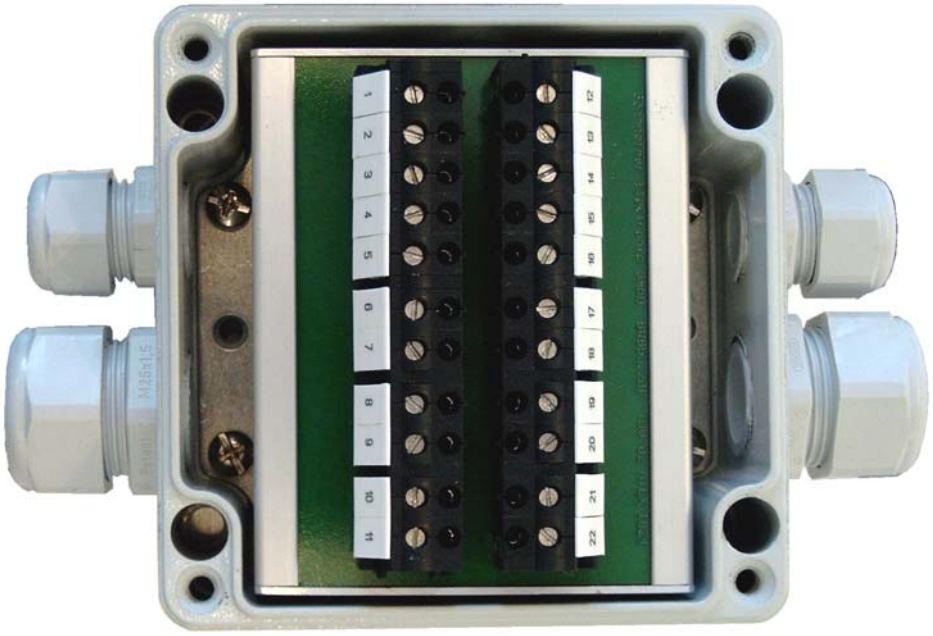
Manual

Power relay

SR853



Rev. 0

Gönnheimer Elektronic GmbH

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Zertifiziertes Qualitäts-Managementsystem nach DIN EN ISO 9001

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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 60 079 particularly EN60 079-14 "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 54 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.

Intrinsically Safe Circuits

Installation instructions in the testing certificates of intrinsically safe apparatus have to be observed. The electrical safety values stipulated on the type plate must not be exceeded. This is also important at the intrinsically safe circuits. When interconnecting intrinsically safe circuits it is to be tested, whether a voltage and/or current addition occurs. The intrinsic safety of interconnected circuits is to be ensured!

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 (EN 954-1, Kat. 3). 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 EEx e housing, alternatively for the assembly on 35 mm of mounting rail (EN 50022).

Appendix

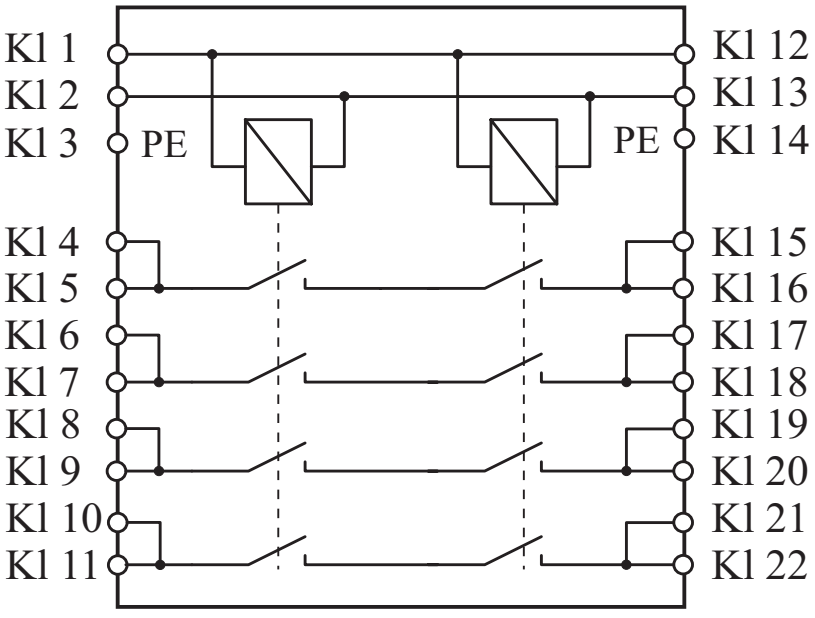
Technical data and clamp limit values

Mains voltage [V]	AC:110V, 120V, 220V, 230V; 48.,62 cycles per second DC: 24V
Kind of explosion protection	EEx e q II T4
Group of equipment	II 2 G
EEC Baumusterprüfb.	TÜV 02 ATEX 1824
Assembly	within ex range
Ambient temperature	- 20°C… 60°C
Relay contacts	AC: max. 420 V, 16 A DC: max. 28 V, 16 A 4000 VA (cos φ = 0,7)
Max. cable diameter	4 mm ²
Capacity	approx. 5 W
Housing enclosure	IP65 (SR853.X.0)
Dimensions Housing: Module:	 120 x122 x 90 mm 85 x 116 x 45 mm
Encasing material	Aluminum, powder-coats, ral 7035

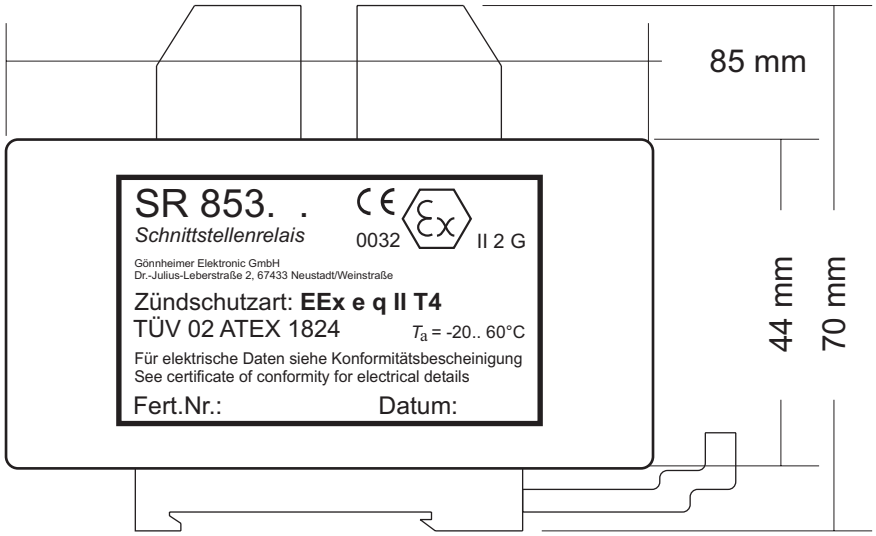
Min. and max. clamping torque	min. 0,3 Nm max. 0,4 Nm
Min. and Max. wire cross- section	steep: 0,2 – 4 mm² flexible: 0,2 – 4 mm²

For further data see design inspection certificate

Block diagram

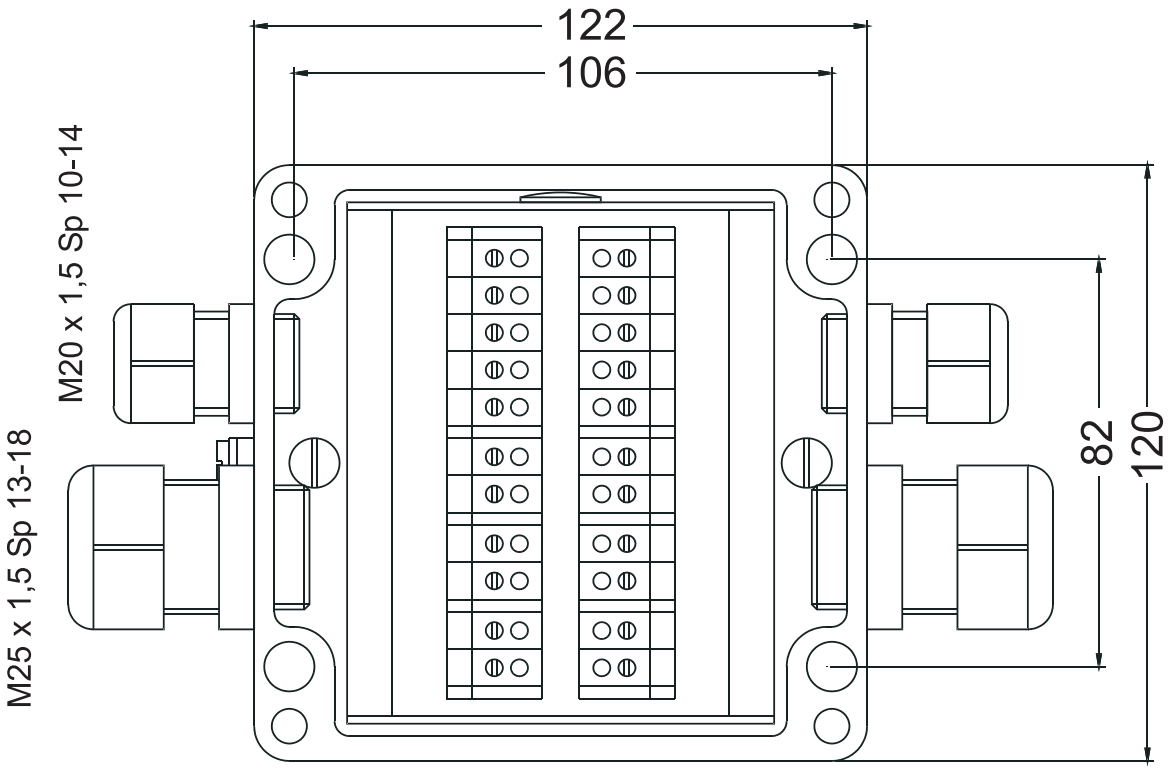


Dimensional drawing module SR853.X.2



Module depth 106 mm

Dimensional drawing SR853.X.0



Housing height: 90 mm

Model code

Power relay SR 853	.	.
Mains voltage 230 V AC	.0	
24V AC and DC	.6	
Housing:		
In the ex e housing installs		.0
without ex e housing with 2 screw mountings M6		.1
without ex e housing, with mounting rail owner		.2

Further tensions on request

(1) # EC- TYPE- EXAMINATION CERTIFICATE

(Translation)

(2) Equipment and protective systems intended for use in potential explosive Atmospheres – **Directive 94/9/EC**

(3) EC- type- examination Certificate number

TÜV 02 ATEX 1824

(4) Equipment: Disconnector unit type SR853...

(5) Manufacturer: Gönnheimer Elektronic GmbH

(6) Address: D-Neustadt/Weinstraße, Dr. Julius Leber-Str. 2

(7) This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

(8) The TÜV Hannover/Sachen-Anhalt e.V., TÜV CERT-Zertifizierungsstelle, notified body No. 0032 in accordance with Article 9 of the Council Directive 94/9/EC of March 1994, certifies that equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use potentially explosive atmospheres, given in Annex II to the Directive.

The examination and test results are recorded in the confidential report No. 01 PX 07210

(9) Compliance with to essential Health and Safety Requirements has been assured by compliance with:

EN 50 014:1997 EN 50 017:1998 EN 50 019:2000

(10) If the sign “X” is places after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC- type- examination Certificate relates only to the design and construction of the specified equipment in accordance with Directive 94/9/EC. Further requirements of this Directive apply to the manufacture and supply of this equipment.

(12) The marking of the equipment shall include the following:

Ex II 2 G EEx e q II T4

TÜV Hannover/Sachen-Anhalt e.V.
TÜV CERT-Zertifizierungstelle
Am TÜV 1
D-30519 Hannover

Hannover,03.07.2002

Der Leiter

(13)

SCHEDULE

(14) **EC- TYPE-Examination CERTIFICATE No. TÜV 02 ATEX 1824**

(15) Description of equipment

The disconnector unit type SR853… serves to disconnect non intrinsically safe interface signals. It works together with a pressurized enclosure system. The powder filled enclosure must be mounted in a certified enclosure with protection type increased safety.

The maximum ambient temperature is 60°C.

Electrical details

Supply circuit (Terminal 1,8 to 2, 9)		U ≤ 230 V AC, resp. 24 V DC, acc. to declaration U_m = 253 V , I_m = 16 A	
Relay contacts (Terminals 4 ..7, 11 ..14)	U	AC ≤ 420 V	DC ≤ 28 V
	I	≤ 16 A	≤ 16 A
	Power	≤ 4000 VA (cos φ=0,7)	- - -

(16) Report No. 02 YEX 162744

(17) Special conditions for safe area

None

(18) Essential health and safety requirements

No additional