

OPERATING MANUAL

TS125 / TS225

Switch amplifier



umn_fam_tsx25_vs1.11_en
07/2025



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1 Intended use (areas of application)

Note

Refer to the chapter 2 Product description for detailed specifications for the area of application. The operational safety of the device is only assured when used as intended in accordance with the specifications in the operating manual. Intervention beyond the actions described in the operating manual may only be carried out by personnel authorised by the manufacturer for safety and warranty reasons.

Conversions or modifications made on one's own authority are expressly prohibited.



Danger!

- Only device versions TS125L-Ex, TS125LP-Ex, TS125M-Ex and TS225M-Ex are permitted for use as operating equipment for connection of intrinsically safe sensors, installed in Zones 0 or 1 and/or 20 or 21.
- All safety-relevant characteristic data must be observed in this connection. (see 0 Table 12 Technical data Safety-related key values).

The approval for all intrinsically safe operating equipment is voided if it has been previously connected to non-intrinsically safe power circuit, because compliance with the safety-relevant characteristic data cannot be 100% guaranteed there.

Therefore, a safety test must be conducted by the manufacturer before later use as an intrinsically safe operating device.

- The device TS125L TS125LP can be installed in the explosion-prone Zone 2 under the following conditions:
 - Installation in a clean environment in a conductive, earthed control cabinet with a minimum protection rating of IP54 (see 3 Assembly and installation).
 - At the relay outputs, overvoltage transients (with the switching contact open) must not be higher than 500V.
 - Disconnection of connecting terminals only takes place in the de-energised state.
- Standards: EN60079-0, EN60079-7 and EN60079-15.

General safety instructions, use

This operating manual must be kept in a location such that qualified personnel can refer to it at all times. Any processes described in this operating manual may only be carried out by trained, qualified personnel who are authorised by the owner and wearing protective clothing. All rights reserved.

1.1 Safety signs and symbols

Warning notices are identified in this document as described below:



This symbol warns of imminent danger which can result in death, severe bodily injury, or severe property damage in case of non-observance.



This symbol warns of potential dangers or harmful situations which can cause damage to the device or to the environment in case of non-observance.

Note

Blue underlining indicates processes which can have a direct influence on operation or can trigger an unforeseen reaction in case of non-observance.

1.2 Safety instructions



Read the product description before commissioning the device. Ensure that there are no limitations for use of the product for the relevant applications. The owner is responsible for ensuring the fault-free operation of the device. The owner is obligated to ensure compliance and to observe the required work and safety measures of the current applicable regulations for the entire duration of use.

1.3 Product liability and warranty

Exclusion of liability:

The contents of the operating manual have been checked to ensure conformity with the described device. However, deviations cannot be entirely ruled out. Therefore, we cannot assume any guarantee for complete conformity. The specifications in this document are checked regularly and any necessary corrections are incorporated into subsequent versions. This document is subject to technical changes. In addition, all claims are based on the valid 'Standard Terms for the Supply of Products and Services of the Electrical Industry'.

Note

Senseca Germany cannot inspect or repair any devices without the required form having been filled in completely (see [10 Returns](#)).

2 Product description

Isolating amplifiers of the TS125 and TS225 series are used in control cabinets for the conversion and separation of digital switching signals, optionally also from hazardous areas.

The devices are available in single or dual channel versions. In addition, a single-channel with a second relay is available which can be used as a parallel relay or fault relay.

All passive encoders, such as switching contacts, Namur initiators according to DIN EN 60947-5-6 or passive electronic outputs of third-party devices can be connected to the optional intrinsically safe inputs.

The TS125 series in the 12.5mm wide DIN rail housing offers relay outputs with closing function.

The TS225 series in the 22.5mm wide DIN rail housing offers relay outputs with changeover function.

The TS125L(P) versions may also be used in potentially explosive zone 2 if they are mounted in a suitable housing.

It can also be used in systems with SIL2 functional safety.

2.1 Scope of Delivery

- TS125 or TS225, according to ordering code
- Power Rail DIN rail adapter (available for LP version, only)
- this operating manual
- further document if applicable

2.2 Principle of operation

Depending on the status of the measurement inputs, the output relays and the LEDs on the front of the device are controlled.

A voltage of max. 8V is applied to a connected Namur sensor via the input terminals. The sensor must limit the flowing current according to the Namur specification to two threshold values. A current less than 1.2mA indicates the sensor as inactive, a current greater than 2.1mA indicates the sensor as active. The range between 1.2mA and 2.1mA is considered hysteresis.

Alternatively, a switching contact can be connected. In this case no current flows in the open state, in the closed state there is a current flow about approx. 8mA, whereby the aforementioned requirements are also fulfilled.

DIP switches on the front can be used to select whether the input state is transmitted directly or inverted to the associated output relay.

Furthermore, the devices offer the possibility to monitor the input lines for short circuit or wire break via corresponding DIP switch settings.

A current flow of less than 0.2mA is considered a wire break, a current flow of more than 7mA is considered a short circuit. When monitoring function is activated, the relays open in case of error and the front LEDs flashes red. When connecting a simple switching contact, the error monitoring must of course not be activated, since the error conditions are always fulfilled in principle.

In order to also monitor the connection cables for a mechanical switching contact, resistors can be connected at the inputs according to the connection diagram below. This ensures that the error thresholds detected by the device are really only exceeded or undercut in the event of an error.

2.3 Layout of the measuring system

	①	Terminals for auxiliary voltage switching output Channel CH2 switching output Channel CH1
	②	Power-LED
	③	State Relay A1 / A2
	④	Type label / connection diagram
	⑤	DIP-switches for output configuration
	⑥	Terminals for Input Channel CH 2 Input Channel CH 1

Figure 1 Switch amplifier TS225L

2.4 Block circuit diagram

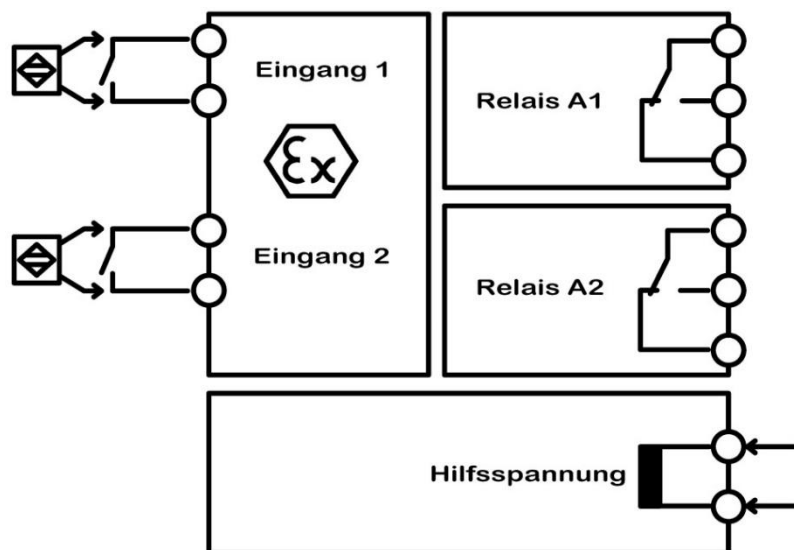


Figure 2 Block circuit diagram TS225M-2 / -F

2.5 Type Label

The type plate contains the most important identification data:

- Manufacturer
- Type and article description
- Technical specifications
- Serial number / barcode



Attention!

F-Type does not include terminals 51,52 or 51-54.

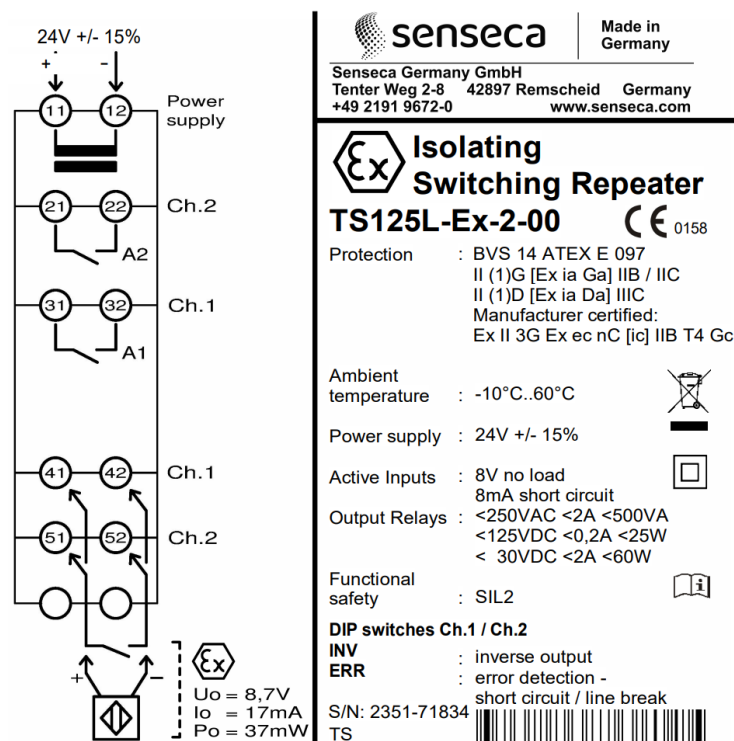
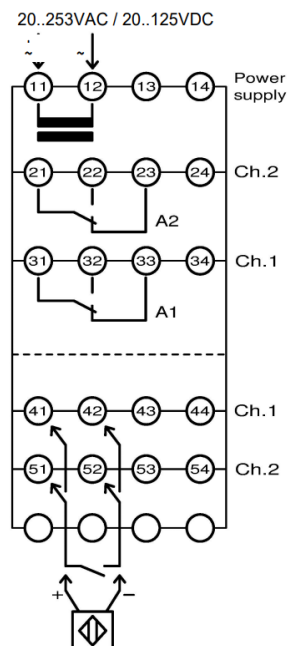


Figure 3 Type label TS125M-XX-2-XX



senseca

Made in
Germany

Senseca Germany GmbH
Tenter Weg 2-8 42897 Remscheid Germany
+49 2191 9672-0 www.senseca.com

Isolating Switching Repeater TS225M-00-2-00



Ambient
temperature : -10°C..60°C

Power supply : 20..253VAC / 20..125VDC

Active Inputs : 8V no load
8mA short circuit



Output Relays : <250VAC <2A <500VA
<125VDC <0.2A <25W
< 30VDC <2A <60W



Functional
safety : SIL2

DIP switches Ch.1 / Ch.2

INV : inverse output
ERR : error detection -
short circuit / line break



S/N: 2351-71835
TS



Figure 4 Type label TS225M-XX-2-XX

2.6 Power Rail

The supply of multiple devices can be combined and simplified via a bus system in the carrier rail (TH35). A corresponding version is available for the entire LP series of our rail devices in a housing with 12.5 mm width.

A bus adapter compatible with series connection is clamped on the carrier rail before installation of the device to be supplied with power. An adapter is required for each device. The bus power supply is provided via a plug-type terminal strip PRVK.

The power supply terminals 11 and 12 on the upper device side are omitted in device version TS125LP.

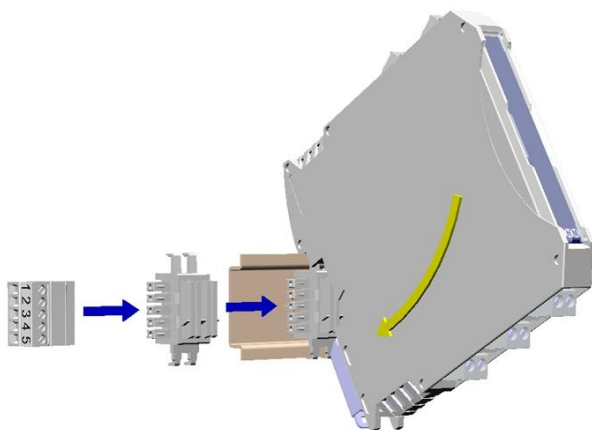


Figure 5 Example: TS125LP with DIN rail connector and supply terminal PRVK (optional accessories)

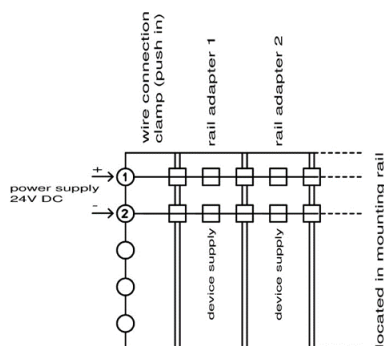


Figure 6 Terminal assignment PRVK

3 Assembly and installation

3.1 Mechanical assembly

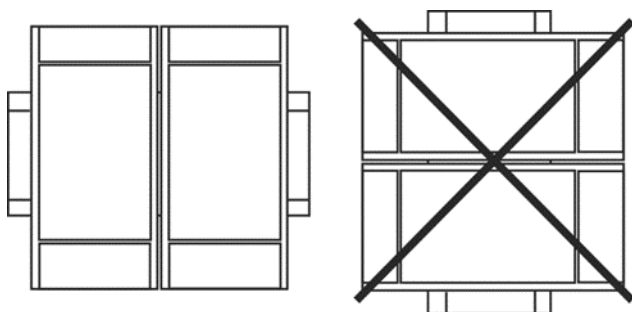


Figure 7 Rail mounting TH35

The installation of multiple devices without spacing is only permitted with a horizontally mounted DIN rail.

The device versions TS125L(P) may be installed in hazardous areas zone 2 within a grounded, conductive control cabinet with protection class IP54 and a maximum degree of contamination 2.

3.2 Electrical Installation



Danger!

The device may only be installed by a qualified electrician. The national and international regulations for the installation of electrical systems of the respective operator country apply.

Note

SIL 2 requires an EMC-adequate installation, according to EN 60204-1 (for example).

- The auxiliary voltage is connected to terminals 11 and 12 of the pluggable terminal block or terminals 1 and 2 of the PRVK terminal at TS125LP.
- The input signal(s) (depending on the version) are placed on terminals 41/42 (CH1) or 51/52 (CH2).
- The switching outputs (depending on the version) are located at terminals 31,32,33 (A1) or 21,22,23 (A2).
- Four DIP switches are available in the front panel for configuring the output range.

- This is used to set the assignment of the switching function CH1, CH2, error to the relays A1/A2, as well as their mode of action.

Electrical Connections

Terminal	TSx25x-xx-1 / - 2	TSx25x-xx-F
11	Supply voltage ~/+	Supply voltage ~/+
12	Supply voltage ~/-	Supply voltage ~/-
21	COM A2 Relay	COM A2 Relay
22	NO A2 Relay	NO A2 Relay
23	NC A2 Relay (TS225 only)	NC A2 Relay (TS225 only)
31	COM A1 Relay	COM A1 Relay
32	NO A1 Relay	NO A1 Relay
33	NC A1 Relay (TS225 only)	NC A1 Relay (TS225 only)
41	Namur- initiators + (CH1) / switch contact	Namur- initiators + / switch contact (CH1)
42	Namur- initiators – (CH1) / switch contact	Namur- initiators – / switch contact (CH1)
51	Namur- initiators + / switch contact (CH2)	-
52	Namur- initiators – / switch contact (CH2)	-

Table 2 Electrical connections

3.3 Connection Diagram

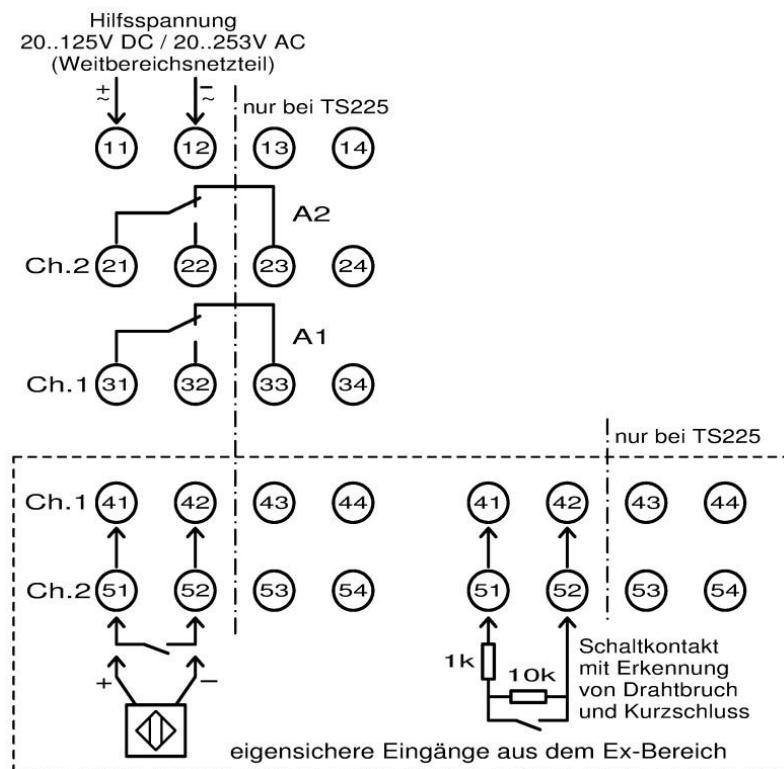


Figure 8 Connection diagram TS125L(P)-1, TS225M-1

4 Operating steps, functional description, output

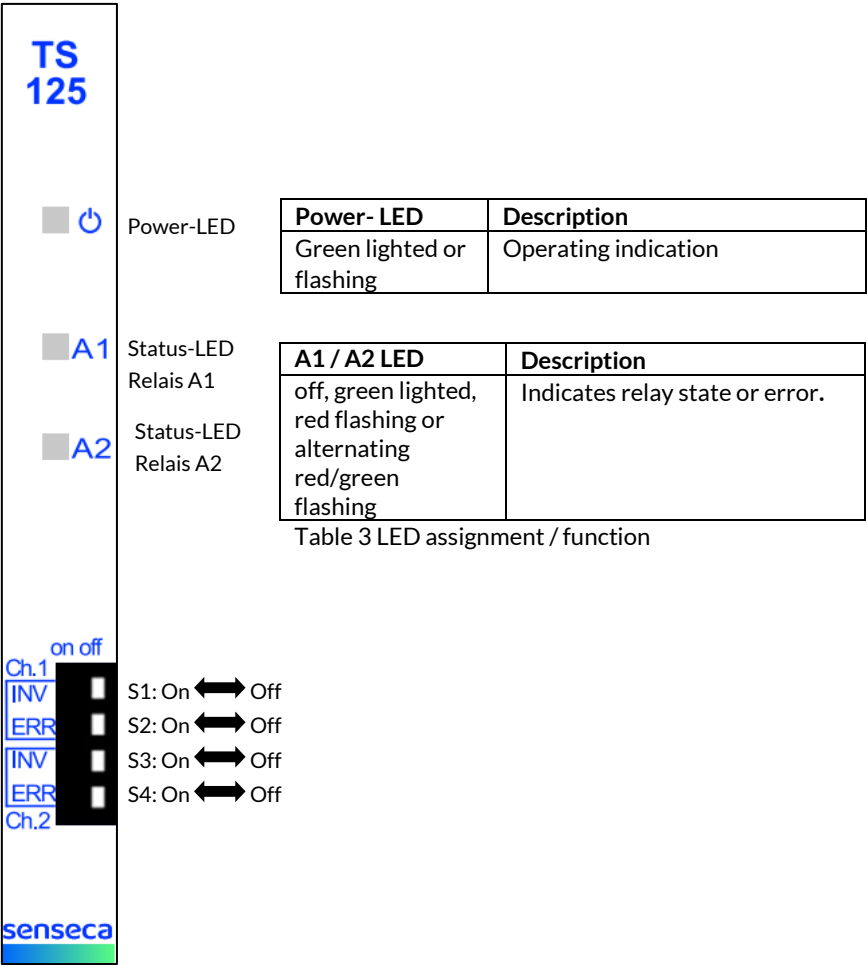


Figure 9 Front plate TS125M

4.1 Configuration and LED states A1/A2

DIP- Switch	On	Off
„INV“	Active Input Turns relay off (Inverted operation).	Active Input Turns relay on (Direct operation).
„ERR“	Error monitoring active Short circuit or broken circuit Turns relay off	Error monitoring inactive.

Table 4 DIP-switches TSX25X-XX-1/-2

4.1.1 1-/ 2- Chanel type TSX25X-XX-1 / -2

Configuration

The following table shows the switching behaviour of the relays A1 and A2 depending on the configuration of the switches "INV" and "ERR" (CH1 or CH2) as well as the state of the input signal CH1/CH2.

DIP-Switch		State Input CH1 / CH2					Note
INV	ERR		open open circuit <0,2mA	Inactive 0,4...1,2mA	Active 2,1...6mA	Short circuit >7mA	
OFF	OFF	Relay A1/A2	Inactive		Active		Default
OFF	ON		Inactive		Active	Inactive	SIL
ON	OFF		Active		Inactive		
ON	ON		Inactive	Active	Inactive		SIL

Table 5 Switching behaviour TSX25X-XX-1/-2

LED- states

A1/ A2 LED	Description
Off	Relay inactive
Green lighted	Relay is active
Red flashing	Short or broken circuit (If ERR=ON, only)

Table 6 LED states TSX25X-XX-1/-2



Attention!

Required configuration for functional safety applications:

Err-Ch.1/2 = ON

4.1.2 1-channel type with fault- or parallel- relay TSX25X-XX-F

1-channel isolating amplifier with additional fault relay or parallel relay. The use of output A2 as a parallel relay allows e.g. the simulation of a changeover contact in a narrow TS125-housing.

Configuration

The following table shows the switching behaviour of relay A1 depending on the configuration of the switches "INV" and "ERR" as well as the state of the input signal CH1.

DIP-Switch		State Input CH1					
INV CH1	ERR CH1		open open circuit 0,2 mA	Inactive 0,4...1,2mA	Active 2,1...6mA	Short circuit >7mA	Note
OFF	OFF	Relay A1	Inactive		Active		Default
OFF	ON		Inactive		Active	Inactive	
ON	OFF		Active		Inactive		
ON	ON		Inactive	Active	Inactive		

Table 7 Switching behaviour TSX25X-XX-F, Relay A1

The following table shows the switching behaviours of relay A2 depending on the configuration of the switches "INV CH2" and "ERR CH2" as well as the state of the input signal CH1.

DIP-Switch		State Input CH1					Note
INV CH2	ERR CH2		open open circuit <0,2 mA	Inactive 0,4...1,2mA	Active 2,1...6mA	Short circuit >7mA	
OFF	OFF	Relay A2	Inactive		Active		Default
OFF	ON		Active	Inactive		Active	
ON	OFF		Active		Inactive		
ON	ON		Inactive	Active	Active	Inactive	

Table 8 Switching behaviour TSX25X-XX-F, Relay A2

LED-states

A1/ A2 LED	Description
Green lighted	Relay is active
Red flashing	Short or broken circuit (If ERR=ON, only)
A2 LED	Description
Red/green flashing	Relay A2 active and Short- or broken circuit (If ERR CH2=ON and INV CH2=OFF, only)

Table 9 LED states A1/A2TSX25X-XX-F



Attention!

Required configuration for functional safety applications:

INV-Ch.2 = ON

Err-Ch.2 = ON

Changeover-Contact with Relay A1, A2

(Note that when the device is switched off, both contacts are open)

Inv-Ch.1 = OFF

Inv-Ch.2 = ON

Err-Ch.2 = OFF

4.2 Power-LED states

In error-free operation, the front Power LED lights up green.

An error condition is indicated by flashing the LED.

Error range	Power LED		Cause
	Lighted	Flashing	
Operation	1	0	
System	0	0	No auxiliary voltage or electronics defective
Power supply	0	1	Auxiliary voltage too low

Table 10 Power LED states

5 Commissioning, maintenance and service

5.1 Commissioning

- 1 Ensure that the connections have been made as indicated in the connection diagram and the auxiliary voltage is correct.
- 2 When connecting operating equipment from explosion-prone areas, ensure that the device version has the appropriate approval.
- 3 When installing the isolating amplifier in Zone 2, the device must be installed in a switch cabinet with protection rating IP54.
- 4 Make sure that the terminals are firmly screwed in.
- 5 After switching on the auxiliary power, check to ensure the correct configuration.

Note

After the auxiliary voltage is connected, a check of the device function takes place according to the requirement for functional safety.

The device is ready for operation after approx. 3 seconds.

The functional test also includes a load test of the auxiliary voltage. For a period of 2 seconds, the device consumes about as much power as at maximum load, i.e. 2 shorted inputs and 2 relays tightened.

The load is only simulated, i.e. the relays do not switch during this phase.

5.2 Maintenance

Housing

When used as intended, no cleaning or maintenance is required.

5.3 Service

Note

Service of the device is only possible in the factory.

5.4 Error and system messages

Error	Cause	Remedy
Status-LED not illuminated	Plug-in terminal strip of the auxiliary voltage input not plugged in.	► Check the plug-in terminal strip for firm seating.
	Electronics defective.	► Failure of the unit, please return to manufacturer!
Red LED flashing	Auxiliary voltage < 18 V.	► Check auxiliary voltage at Terminal 11 and 12.
A1/A2-LED flashing red or alternating red/green	Short- or broken circuit	► Fault monitoring "ERR" activated. ► Check input wiring..

Table 11 Error and system messages

6 Technical data

Power Supply	
Supply Voltage TS125M, TS225M TS125L, TS125LP	20...125V DC oder 20...253V AC (47...63 Hz) 24V DC +/- 15 %
Power consumption TS125M, TS225M TS125L, TS125LP	< 1,5 VA < 1,5 W
Data for all device types	
Rated voltage U_m	253V AC/DC degree of contamination 2, overvoltage category II, safe separation with increased isolation
Ex-ia-operation	253V AC / 125V DC
Test voltage	3 kV AC (Input / Relay contacts / Supply voltage)
Ambient conditions	
Working temperature	-10...60 °C
Storage temperature	-20...80 °C
Air humidity, relative	10...90 %
Condensation	Not allowed
Maximum operating height above sea level	≤ 2000m
Conformity	CE
Functional safety	EN61508; SN29500
Input signals (acc. to EN60947-5-6 Namur)	
Short circuit voltage	approx. 8V
Short circuit current	approx. 8mA
Switching points	Inactive ≤ 1,2mA Active ≥ 2,1mA, hysteresis >0,5mA
Fault detection	Open circuit <0,2mA Short circuit >7mA
Relay outputs (Contacts SPST (TS125), Contacts SPDT (TS225))	
Quantity	1 or 2

Switching voltage	<250V AC <2A <500VA <125V DC <0,2A <25W <30V DC <2A <60W
Switching frequency	5Hz (0.1Hz recommended for continuous operation)
Switching delay	30ms, max.
Housing	
Material	Polyamide (PA) 6.6, UL94V-0
Colour	Light grey
Installation width	TS125 12,5 mm TS225 22,5 mm
Dimensions (HxT)	108 x 114 mm
Weight	TS125 120g TS225 140g
Protection rating	Housing IP 30, terminals IP 20 BGV A3
Connection type	
Screw terminals	0,2...2,5 mm ² , AWG 24..14, removable, coded. Wire stripping length: 8mm Tightening torque: 0,5...0,6 Nm
Push-In-terminals (spring loaded)	0,5..1,5 mm ² , AWG 25..16, double connection (12A between connections), removable, coded.
Power Rail	8A over the entire bus system (Supply via removable terminals) 0,2..2,5 mm ² , AWG 24..14)
Mounting	DIN Rail mounted, TH35

Table 12 Technical data

6.1 Safety-related key values

Functional safety SIL2 (parameters acc. to EN61508 and SN29500)

Level	SIL 2
Device type	B
HFT	0 (1001)
Reaction time	
Standard mode → error	30 ms
Error → Standard mode	2 s (self resetting)

MTBF- calculation acc. to SN29500

Device	TSx25M-1	TSx25M-2/-F	TS125L(P)-1	TS125L(P)-2/-F
λ_{SD} [FIT]	99	102	101	104
λ_{SU} [FIT]	243	293	212	262
λ_{DD} [FIT]	101	111	88	98
λ_{DU} [FIT]	19	29	18	28
SFF [%]	95,9	94,6	95,6	94,3
DC [%]	84,0	79,3	82,6	77,6
PFH [1/h]	1,91E-08	2,88E-08	1,85E-08	2,82E-08
Medium probability of a hazardous failure when requested, PFDavg with a check interval of:				
1 years	8,38E-05	1,26E-04	8,10E-05	1,23E-04
2 years	1,68E-04	2,53E-04	1,62E-04	2,47E-04
2,5 years	4,19E-04	6,31E-04	4,05E-04	6,17E-04

Table 13 MTBF key values

Technical data for use in potentially explosive atmospheres

Marking, explosion protection: Devices with intrinsically safe input, zone 0/1							
Device type Certificate BVS 14 ATEX E 079		TS125L(P)-EX, TS125M-EX, TS225M-EX Ignition type „ia“ Gas : II (1)G [Ex ia Ga] IIC/IIB Dust : II (1)D [Ex ia Da] IIIC					
Manufacturer´s certificate		Ignition type „ic“ II 3 G Ex ec nC [ic] IIB T4 Gc See <u>1 Intended use (areas of application)</u>					
Marking, explosion protection: Devices without intrinsically safe input							
Device type Manufacturer´s certificate		TS125L(P)-00 Ignition type „ec“ II 3G Ex ec nC IIB T4 Gc See <u>1 Intended use (areas of application)</u>					
Rated voltage Um		253V AC, 125V DC					
ATEX limit value input circuit (input) Terminals 41(+) and 42(-) resp. 51(+) and 52(-)							
		TSx25M			TS125L(P)		
Output-voltage	Uo [V]	8,7			8,7		
Output-current	Io [mA]	19			17		
Output-power	Po [mW]	42			37		
Max. internal capacity	Ci [nF]	10			10		
Max. internal inductivity	Li [µH]	20			20		
Gr. IIB / IIIC	Lo	100µH	1mH	100mH	100µH	1mH	100mH
	Co [µF]	12,9	7,3	2,8	13,9	7,3	2,9
Gr.IIC	Lo	100µH	1mH	100mH	100µH	1mH	100mH
	Co [µF]	2,2	1,2	0,4	2,2	1,3	0,4

Table 14 Technical data potential explosive atmospheres

6.2 Mechanical design / dimensions

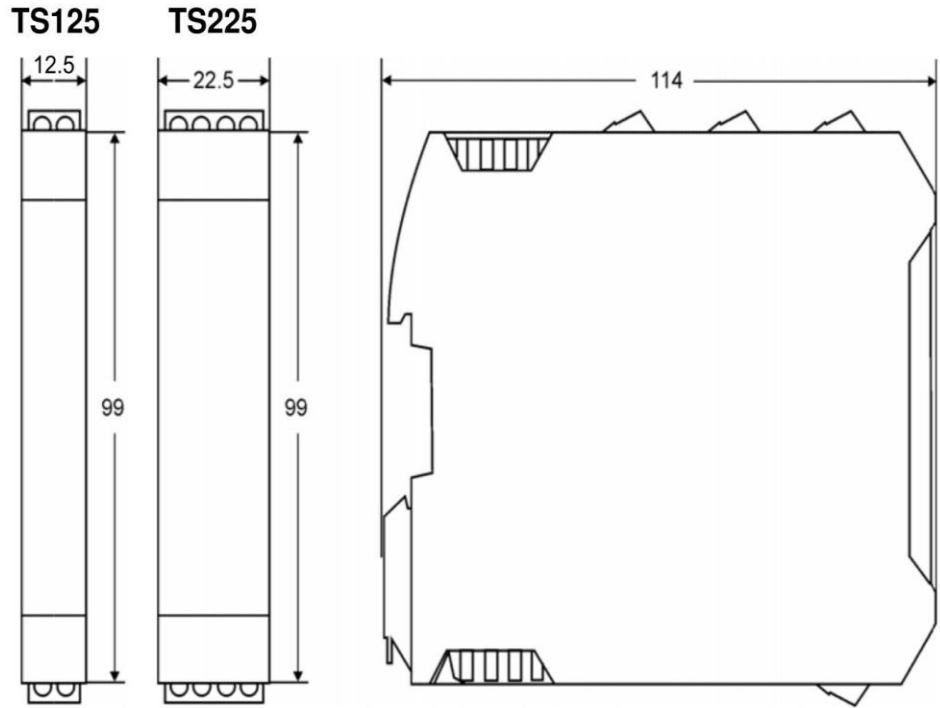


Figure 10 Dimensions

7 Accessories and replacement

Ordering code	Description
PRVK	Power Rail, power connecting terminal Side of installation: left

8 Order code

1. - 2. - 3. - 4.

1.	Device Type	
	TS125L	Relay SPST Power supply 24 V DC +/- 15 %
	TS125LP	Relay SPST Power supply 24 V DC +/- 15 % via rail mounted connecting terminal (Power Rail)
	TS125M	Relay SPST Wide-range power supply 20..125 V DC / 85..253 V AC
	TS225M	Relay SPDT Power supply 24 V DC +/- 15 % Wide-range power supply 20..125 V DC / 85..253 V AC
2.	Explosion protection	
	00	No intrinsically safe input and no intrinsically safe transmitter power supply. The devices TS125L and TS125LP may be installed in Zone 2 acc. to ATEX-ignition type "ec" and "nC"
	Ex	Input intrinsically safe in accordance to ignition protection type "ia" for zones 0 and 20. The devices TS125L and TS125LP may be installed in Zone 2 acc. to ATEX-ignition type "ic", "ec" and "nC".
3.	Input	
	1	1-Channel
	2	2-Channel
	F	1-Channel+Fault- or Parallel-Relay
4.	Options	
	00	Without options
	01	Push-in terminals (plug-in)

9 Device transport and storage

Gentle and tension-free packaging of the housing must be ensured for transport (no machine wrapping of the package). The device must be stored in the environmental conditions specified in the technical data.

10 Returns



Danger!

The legal regulations for environmental protection and our personnel require that devices which are sent back which have come into contact with liquid are handled without risk to people or the environment..

If you send a device back to us for inspection or repair, we must request that you strictly observe the following requirements:

On the Senseca Germany homepage a return shipment form can be downloaded.

The repair can be performed quickly and without call-back questions if:

- 1 a filled-in form is provided for each device,
- 2 the device has been cleaned and packaging which prevents damage to the device is used.

11 Disposal



Separation by material and recycling of device components and packaging must take place when the device is disposed of. The valid legal regulations and directives applicable at the time must be observed.

The device may not be disposed of with household waste. If the device should be disposed of, return it to us with the return shipment form filled in under section 8. We will then arrange for the proper disposal.

12 EU-Konformitätserklärung


EU-KONFORMITÄTSERKLÄRUNG
EU-DECLARATION OF CONFORMITY
Senseca | Senseca Germany GmbH | Tenter Weg 2-8 | 42897 Remscheid | GERMANY

Dokument-Nr. / Monat.Jahr: **2044 / 01.2024**
Document-No. / Month. Year:

Wir erklären hiermit unter alleiniger Verantwortung, dass die folgenden Produkte konform sind mit den Schutzziele der Richtlinie des Europäischen Parlaments:

We declare herewith under our sole responsibility that the following products are in compliance with the protection requirements defined in the European Council directives:

Produktbezeichnung: **TS125L-00 / TS125LP-00 / TS125M-00**
Product identifier: **TS225L-00 / TS225M-00**

Produktbeschreibung: **Trennschaltverstärker**
Product description: **Isolating switching repeater**

Die Produkte entsprechen den folgenden Europäischen Richtlinien:

The products conforms to following European directives:

Richtlinien / Directives	
2014/30/EU	EMV-Richtlinie / EMC directive
2014/35/EU	Niederspannungsrichtlinie / Low Voltage Directive
2011/65/EU	RoHS / RoHS

Angewandte harmonisierte Normen oder angeführte technische Normen:

Applied harmonized standards or mentioned technical specifications:

Harmonisierte Normen / harmonized standards	
EN 61326-1:2013	Allgemeine EMV-Anforderungen / General EMC requirements
EN IEC 60664-1:2020	Allgemeine Isolationsanforderungen / General isolating requirements
EN IEC 63000:2018	Beschränkung der gefährlichen Stoffe / Restriction of hazardous substances

Diese Erklärung wird verantwortlich für den Hersteller abgegeben durch:

The manufacturer is responsible for the declaration released by:

Walter Vogelsberger
Senior Director Research & Development

Remscheid, 02. Januar 2024

Diese Erklärung bescheinigt die Übereinstimmung mit den genannten Harmonisierungsrechtsvorschriften, beinhaltet jedoch keine Zusicherung von Eigenschaften

This declaration certifies the agreement with the harmonization legislation mentioned, contained however no warranty of characteristics.



EU-KONFORMITÄTSERKLÄRUNG EU-DECLARATION OF CONFORMITY

Senseca | Senseca Germany GmbH | Tenter Weg 2-8 | 42897 Remscheid | GERMANY

Dokument-Nr. / Monat.Jahr: **2046 / 01.2024**
Document-No. / Month. Year:

Wir erklären hiermit unter alleiniger Verantwortung, dass die folgenden Produkte konform sind mit den Schutzziele der Richtlinie des Europäischen Parlaments:

We declare herewith under our sole responsibility that the following products are in compliance with the protection requirements defined in the European Council directives:

Produktbezeichnung: **TS125L-Ex / TS125LP-Ex / TS125M-Ex**
Product identifier: **TS225L-Ex / TS225M-Ex**

Produktbeschreibung: **Trennschaltverstärker**
Product description: **Isolating switching repeater**

Die Produkte entsprechen den folgenden Europäischen Richtlinien:

The products conforms to following European directives:

Richtlinien / Directives	
2014/30/EU	EMV-Richtlinie / <i>EMC directive</i>
2014/34/EU	ATEX-Richtlinie / <i>ATEX Directive</i>
2014/35/EU	Niederspannungsrichtlinie / <i>Low Voltage Directive</i>
2011/65/EU	RoHS / <i>RoHS</i>

Angewandte harmonisierte Normen oder angeführte technische Normen:

Applied harmonized standards or mentioned technical specifications:

Harmonisierte Normen / <i>harmonized standards</i>	
EN 61326-1:2013	Allgemeine EMV-Anforderungen / <i>General EMC requirements</i>
EN IEC 60079-0:2018	Allgemeine Anforderungen / <i>General requirements</i>
EN 60079-7:2015	Geräteschutz durch erhöhte Sicherheit / <i>Protection by increased safety</i>
EN 60079-11:2012	Geräteschutz durch Eigensicherheit / <i>Protection by intrinsic safety</i>
EN IEC 60079-15:2019	Geräteschutz durch Zündschutzart "n" / <i>Protection by type of protection "n"</i>
EN 60664-1:2007	Allgemeine Isolationsanforderungen / <i>General isolating requirements</i>
EN IEC 63000:2018	Beschränkung der gefährlichen Stoffe / <i>Restriction of hazardous substances</i>

EG-Baumusterprüfbescheinigung / ausgestellt von: **BVS 14 ATEX E 097** / DEKRA Exam GmbH
EC Type Examination Certificate / issued by: (Reg.No. 0158)
Qualitätssicherung / *quality assurance:* DEKRA Testing and Certification GmbH (Reg.No. 0158)

Diese Erklärung wird verantwortlich für den Hersteller abgegeben durch:

The manufacturer is responsible for the declaration released by:

Walter Vogelsberger
Senior Director Research & Development

Remscheid, 02. Januar 2024

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