

SRS

Voltage controller



Nominal voltage	230 V (400 V, 500 V) ~
Nominal current	6A
	15 A
	25 A
Setting range voltage	20 .. 220 V (40 .. 380V)
Temperature range	0 .. 55°C
Input signal	4-20 mA
Dimensions	Euroboard 14 TE /3 HE

Voltage controller compact unit

SRS

Voltage controller

This controller is designed for the voltage control of electrical heating systems. Different constructions make the optimal operation in a control cabinet possible. With the optimal mounting enclosure also suitable for the individual use. Variable voltage control or also available as constant voltage transmitter.

Input also as Y- signal

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Warning

The installation, configuration and commissioning may only be carried out by accordingly trained persons. The local installation and safety regulations must be respected.



Read through this operating manual carefully, before you take the device into operation. Keep the operating manual at a place accessible to all users at any time.

Please support us to improve this operating manual. We are grateful for your suggestions.

Please contact us for technical queries!
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Reservation

We reserve the right for technical changes. Aberrations and printing errors do not constitute grounds for any claims to damages. For safety components and systems the relevant standards and regulations as well as the according instruction manual and the assembly instructions should be observed.



Repair

Dismantling takes place in reverse order than the installation. A Repair of the device is not possible concerning the switching element. All other repairs may only take place in the factory of the manufacturer. The basic devices (Inserted parts without terminal box) are, capillaries excluded, irreparable. These may only be changed in the factory. An intervention is not permitted. Changes, that modify the design of the device, will cause that the validity of the certificate and any claim for damage void.

1.0 DESCRIPTION

Characteristics

- Easy installation
- Effective constant current transmitter
- Current transformer output
- Effective value display

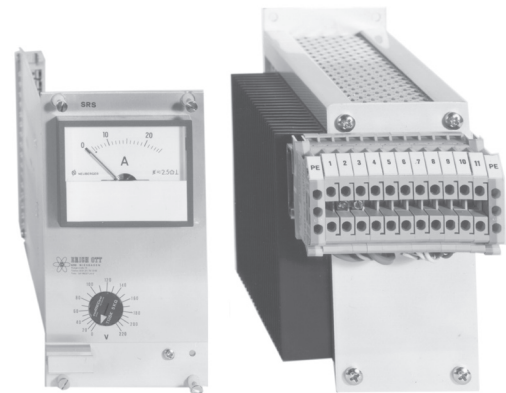
These devices are used for voltage control. By use of the voltage controller the effective current for the heating is adjusted. The adjustment is controlled at the ampèremeter and if necessary monitored at min. current via TRB-Pie.. or rather TRB-PI.

- Constant output voltage by control to the adjusted setpoint value
- Activation and deactivation via optocoupler (VDE 700 - 730)
- Current transformer output (according to VDE 0551)
- Effective value display
- Regulating variable for analog controller (y-input)*
- as effective constant current transmitter*
- for different y-input signals



SRS ... S

SRS ... K

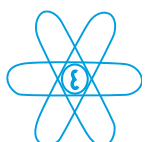


SRS ... Ke

2.0 TECHNICAL DATA

Controller	
Nominal voltage	230 V (400 V, 500 V)~
Nominal current max.	25 A / 15 A / 6 A
Setting range voltage	20 - 220 V~ (40 - 380 V~)*
Max. current load of the heat conductor	0,2 s; 200 mA - 500 A*
Upstreaming fuses	2 X 80 mA
Current transformer output	25/1 A (6/1, 15/1); R _i ...1,5Ω
Input optocoupler	6 - 24 V, R _i 5kΩ; disconnection according to VDE 0700
Auxiliary voltage	-21 V~, R _i = 5kΩ
Dimensions**	Euroboard 100 x 160 mm; 14 TE, 3 HE
Excess length of cooling element***	+ 93 mm
Multipoint connector	DIN 41612 Form F; H***
Cassette** (h x w x d in mm)	150 x 85 x 232
Plug**	D15*
Temperature range	0 - 55 °C (cassette)
Cassette **** (h x b x t in mm)	157 x 93 x 205
Input y- signal	4 - 20 mA; R _i ≤ 20Ω
Ex-i-y-signal	4 - 20 mA; R _i ≤ 20Ω EEx ia IIC Ex-90.C.2029

- * depends on design
- ** only for SRS
- *** only for SRS...S
- **** only for SRS...K



3.0 TECHNICAL DESCRIPTION

Display

Depending on requirements the display device can, for the purpose of improved reading of the operating current, be delivered with measuring range end value 26A, 15 A or 6 A. Current transformer output always 0 - 1 A.

Switching input (Heating off)

The switching input via optocoupler is as standard designed for a voltage of 6 to 24 V~, alternatively for current input 1,5 to 20 mA

Fuses

The voltage controller SRS has two fuses with 80 mA for the internal supply voltage.

Current transformer output

The current transformer output is designed as transmitter for the current input of the temperature controller TRB-P.

y- actuating variable input

Devices, which are equipped with this buffer amplifier, serve as correcting element for analog controllers. The output voltage has to be limited to the desired max. value by use of the potentiometer with voltage scale (serves as overload protection or for the limitation of the overshoots during the adjustment).

* other measuring ranges on request

4.0 TYPE CODE

SRS

-	1
-	2
-	3
-	4
-	5
-	6

1	-	Standard version
	a	Only for contact control
2	6	Measuring range of display (A) 6
	15	Measuring range of display (A) 15
	25	Measuring range of display (A) 25
3	-	Nominal voltage 230 V (20 - 220 V)
	3	Nominal voltage 400 V (35 - 380 V)
	5	Nominal voltage 500 V (40 - 500 V)
4	K	Compact unit
	M	Modular device
	Me	Control panel for modular device
	Mke	Cassette part for modular device
	S	Plug-in unit
5	-	Input optocoupler
	y	Input 4 - 20 mA y- Signal
	xy	Input (0 - 1 V); 0 - 10 V; 0 - 20 mA; 4 - 20 mA
6	-	Standard version
	G	Constant current transmitter

Example:

Standard device, measuring range of display 6 A, nominal voltage 230 V, compact unit, with input optocoupler, without constant current transmitter

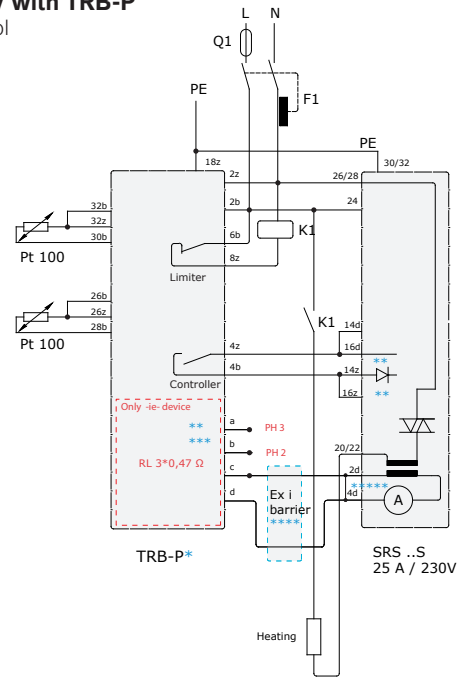
SRS

-	6
-	K
-	-
1	2
3	4
5	6

5.0 CIRCUIT DIAGRAMS SRS... S

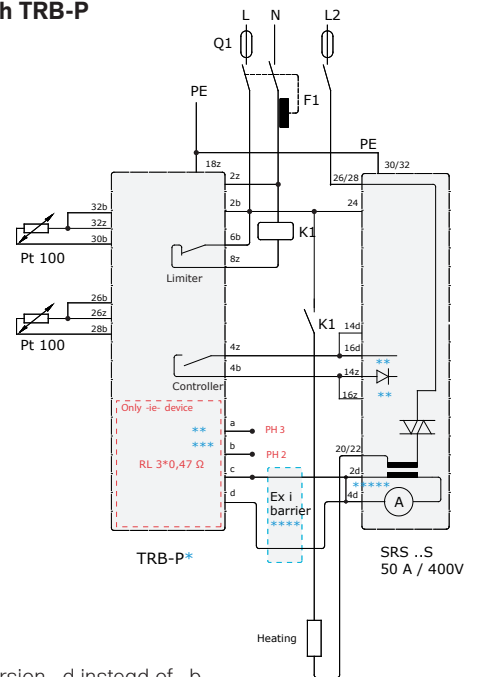
SRS..S 220V with TRB-P

Contact control



SRS..S 380V with TRB-P

Contact control



* for Ex- version ...d instead of ...b

**

	Pin assignment of the current transformer input			Multipoint connector 1
	Multipoint connector 2		Old devices***	
	STB (SIL) BVS 07 ATEX F001	STB (SIL) + [Ex Ib] IIC ZELM 03 ATEX 0140	[Ex Ib] IIC Zelm 03 ATEX 0140	not Ex***
a	22b	22d	8d	22z
b	24b	24d	10d	24z
c	26b	26d	12d	24b
d	22z, 24z, 26z	22z, 24z, 26z	8d, 10d, 12d	28z, 30z

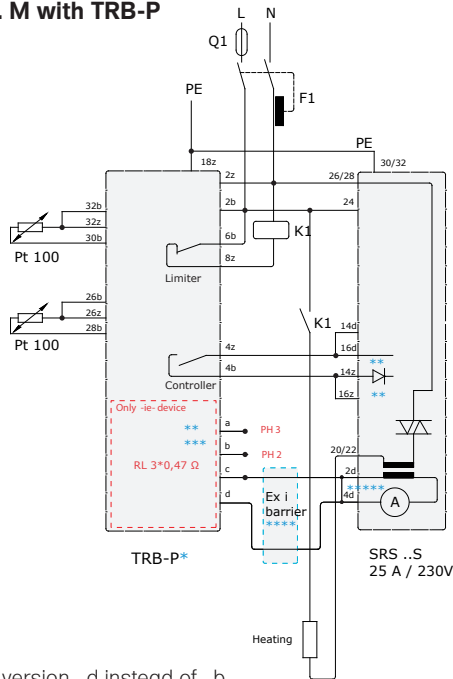
*** for 1-phase-operation bridge a-c (Only for TRB- P.. VDE)

**** only for Ex i devices (TRB-P..ax..)

***** only for TRB-P.. devices without current monitoring

5.1 CIRCUIT DIAGRAM SRS A.

SRSa... M with TRB-P

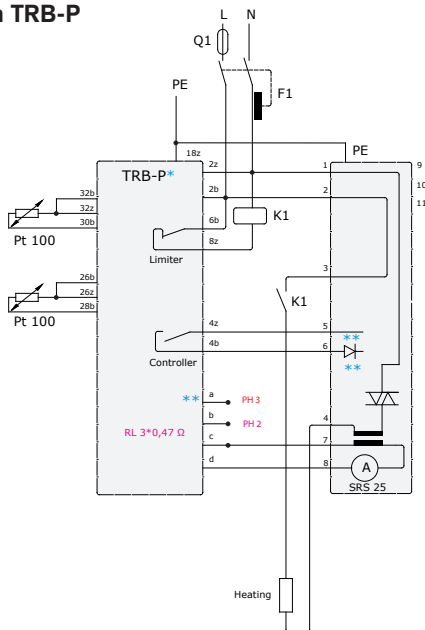


* for Ex- version ...d instead of ...b

**

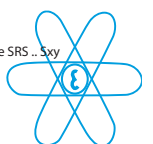
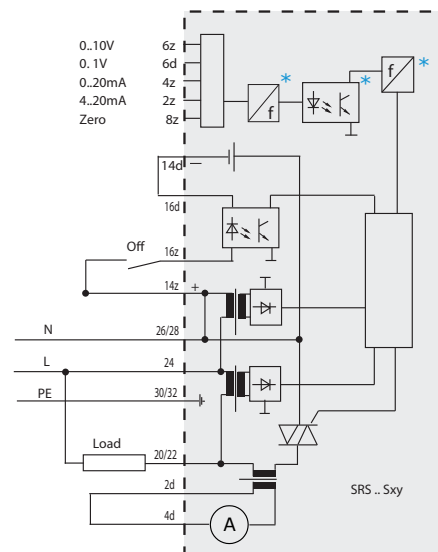
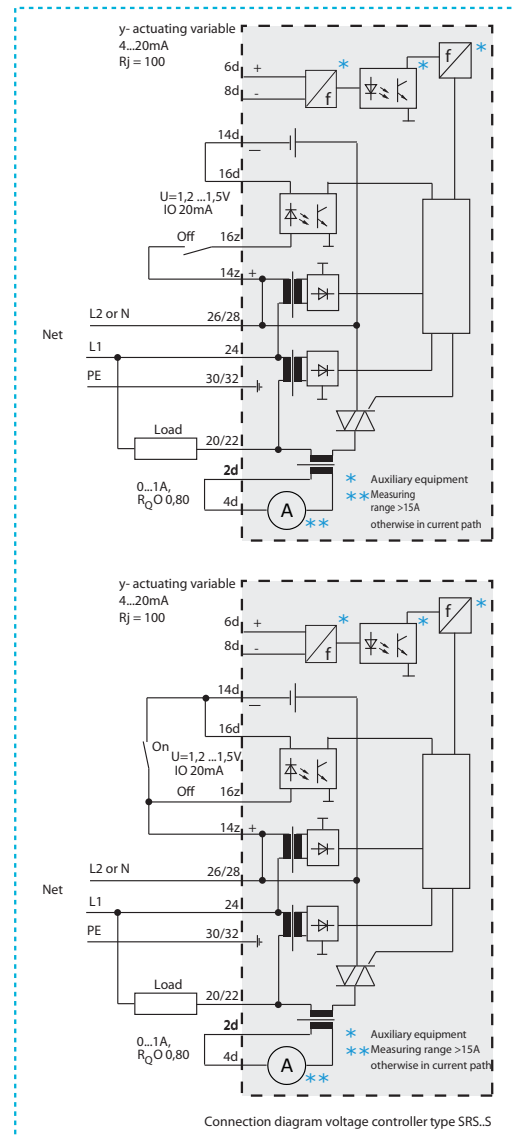
Pin assignment of the current transformer input				
	Multipoint connector 2			Multipoint connector 1
	STB (SIL) BVS 07 ATEX F001	STB (SIL) + [Ex ib] IIC ZELM 03 ATEX 0140	Old devices *** [Ex ib] IIC Zelm 03 ATEX 0140	not Ex***
a	22b	22d	8d	22z
b	24b	24d	10d	24z
c	26b	26d	12d	24b
d	22z, 24z, 26z	22z, 24z, 26z	8d, 10d, 12d	28z, 30z

SRSa...K with TRB-P

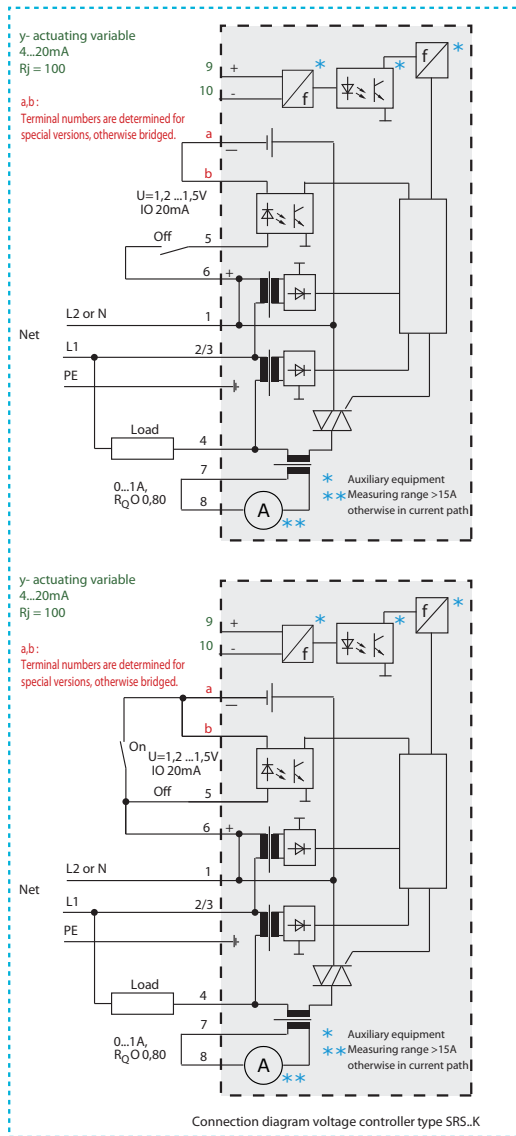


Please make a request for connection diagrams for the special versions, if necessary.

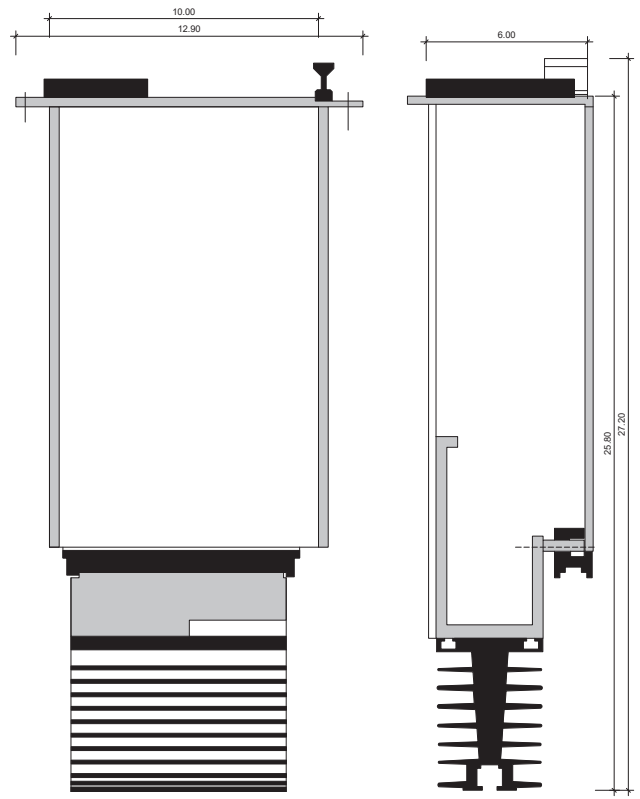
6.0 CONNECTION DIAGRAM SRS ...S



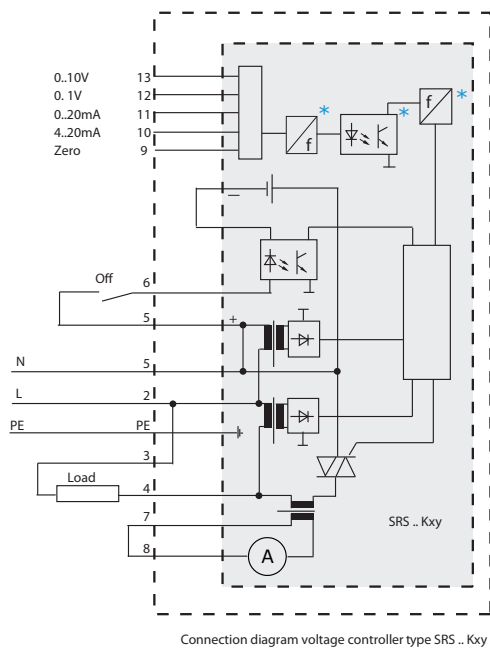
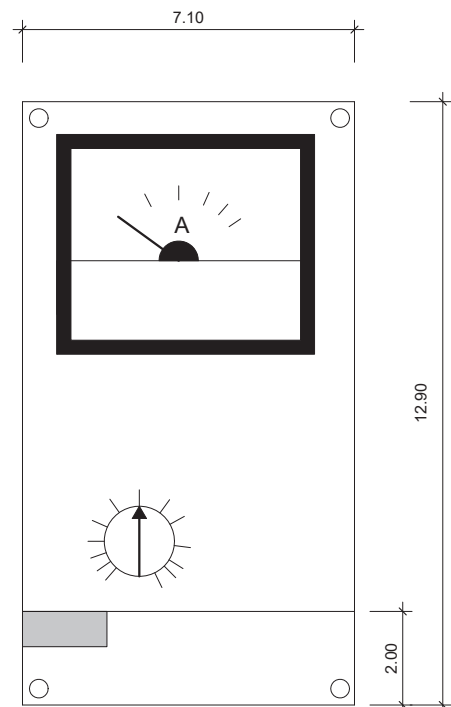
6.1 CONNECTION DIAGRAM SRS ...K



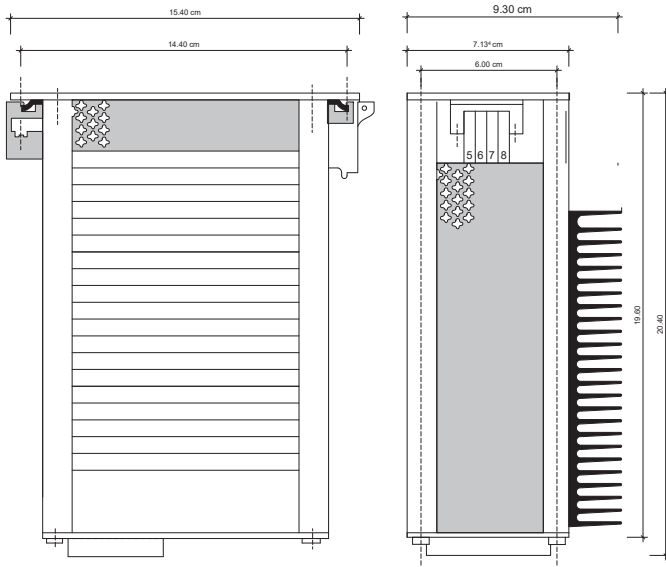
7.0 DIMENSIONS SRS ..S



7.1 DIMENSIONS CONTROL PANEL SRS..S

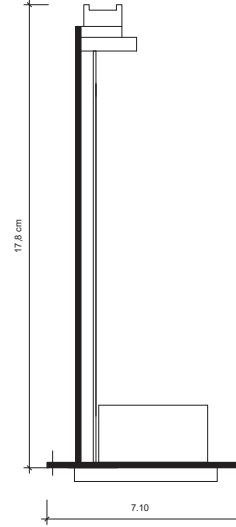


7.2 DIMENSIONS SRS ...K COMPACT UNIT

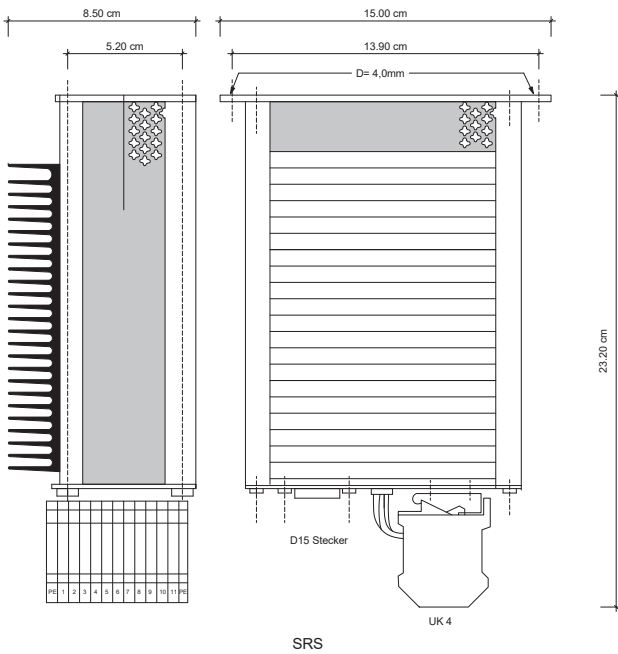


SRS .. K

7.4 DIMENSIONS CONTROL PANEL SRS.. E SUPPLEMENTATION FOR SRS...ME

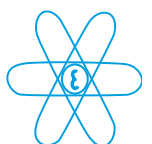


7.3 DIMENSIONS SRS ..MK WITHOUT CONTROL PANEL



SRS

UK 4



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