

SRI ... / 16 T

Voltage controller



Nominal voltage	220 V
Nominal current	0,3 - 16 A
Max. pulse current	40 A
Setpoint adjustment	0 - 100 %
Switching capacity	220 V~
Male multipoint connector	32- pole
Time base	approx. 2 sec.

Voltage controller

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Voltage controller

The voltage controller provides power adjustment of heaters as well as determination and monitoring of the effective current.

Input Y- signal optionally also intrinsically safe

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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 this operating manual at a place accessible to all users at any time.

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

Please contact us for technical queries!
TELEPHONE: +49 (0)611 761 393
TELEFAX: +49 (0)611 711 462
E-Mail: erichott@gmx.de



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, concerning the switching element, not possible. All other repairs may only be carried out 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

- Effective value display
- Constant current output
- Easy installation



The voltage controller provides power adjustment of heatings as well as determination and monitoring of the effective current. The device consists of two completely separate functional units:

Power controller

- Temperature compensated time-relay control (full-wave control)
- Constant time base
- On and Off switch via optocoupler
- Galvanically isolated from the rest of the device

Measuring transducer alternating current in direct current

- Real effective value creator. When operated without current transformer the continuous current components are also measured.
- Any desired shape of curve
- Time base when switching 2 seconds
- Effective value display in % with regard to 1 A display with exchangeable scale
- Constant current output 0 ... 20 mA
- Measuring range changeover switch 1:3
- Min- and max.- switching stage, setting range 0 ... 100 %
- Signalling conditions for the monitoring stages next to the settings

Adjusting aid:

Minimum resistance of the heating

- 220 V~ ≥ 5,5 Ω
- 380 V~ ≥ 9,5 Ω

$I_{\text{eff}} = I_k \times \sqrt{ED/100}$ (I_k = Short circuit current given by supply voltage divided by heating conductor resistance)

Indication in %

$\% = I_k \times 100 / U \times \sqrt{ED/100}$ (\ddot{U} = transformation ratio of the current transformer, pri./ sec.)

3.0 TECHNICAL DATA

Nominal voltage	220/ 380V~, 50/ 60 Hz
Nominal current	0,3 - 16 A
Max. pulse current	40 A
Setpoint adjustment	0 - 100 %
Switching capacity	220 V~ 4 (3) A
Ambient temperature range short-time	0 - 70°C
Ambient temperature range longtime	0 - 60°C
Male multipoint connector	32- pole DIN 41612, Form F
Dimensions	
Width/ Height	18 TE/ 3 HE
Board	160 x 100
Time base	ca. 2 sec.
ED	3 - 100 %
Adjustment stability	≤ +/- 1 solid shaft
Measuring range	0 - 1 A => 0 - 100 %
Measuring output	0 - 20 mA, Ri = 0 - 400 Ω

* when 4 mA is not equivalent to 0 v, an according switching-off must be provided for the heating

Output current 0 - 20 mA

$$I = I_k \times 20 / \ddot{U} \times \sqrt{ED/100} \quad I = \text{output current in mA}$$

Nominal load of the heating cable per meter

$$n = I_n^2 \times ED / 100 \times r_1 \quad r_1 = \text{resistance of the heat conductor in } \Omega/\text{m}$$

$$ED = n \times 100 / I_k^2 \times r_1 \quad n = \text{capacity in W/m}$$

Adjustment values below 10 % ED are not recommendable for limited current values (e.g.: for 3 % ED, error at +/- 1 solid shaft, 15 % current or rather capacity changes by 33 %)

2.0 PRODUCTION NUMBER

By means of the continuous serial number the in-house quality management can, in the case of repair, find out production month and year. Each device is individually tested and a separate test record is provided. The serial number can be found on the back of the front panel.

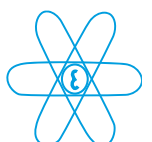
2.1 TYPE CODE

SRI 1 / 16 T

1	220	Nominal voltage 220 V~
	380	Nominal voltage 380 V~

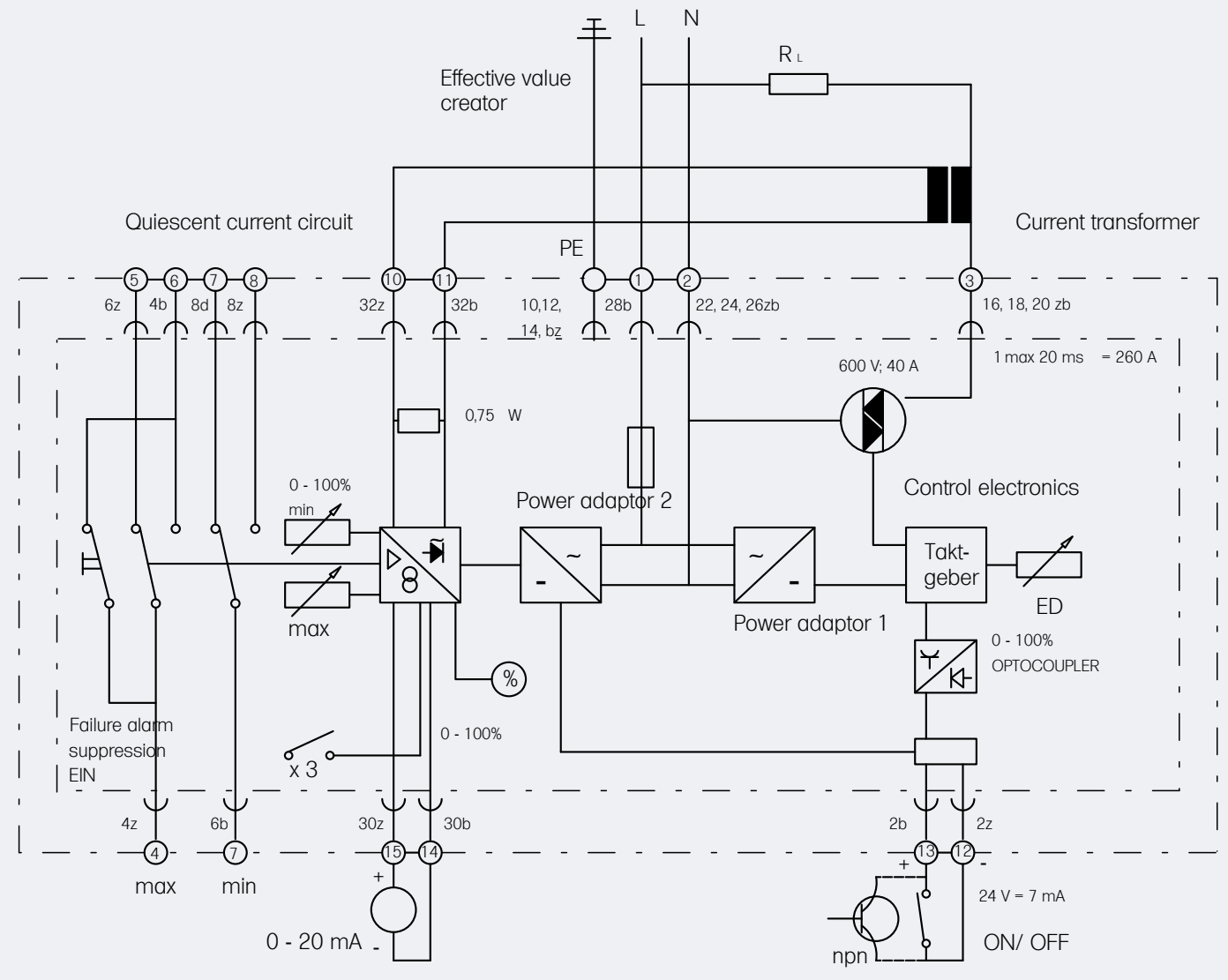
Example: Nominal voltage 220 V:

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4.0 CONNECTION DIAGRAM



Elektronische Geräte
Inh. Barica Ott

D- 65189 Wiesbaden
Rüdigerstrasse 15
Telephone +49 (0) 611 - 76 13 93
Telefax +49 (0) 611 - 71 14 62

mail erichott@gmx.de
web www.erich-ott.de