

Measuring transducers

VR 400 for resistance

VR 400 are transducers converting measured quantities of resistance into a proportional load independent DC signal.

Versions for potentiometer 3-wire (2-wire) or for temperature Pt 100 3-wire.

The output signal can be connected to one or several receiving instruments such as panel indicators, recorders, controllers etc.

The transducers have galvanic separation between in- and output and auxiliary supply.

The transducers in plastic case are mounted directly on profiled bar 35 EN 50022. Connection to selfopening clamps for max 6 mm² wires. Transducers for mounting in 19" racks can be delivered in different application types (see special leaflet). The rack modules are 8TE wide and in a 19" rack is place for 10 modules.

The transducers are manufactured according to IEC688.

Order facts:

Enclosed for mounting on profiled bar 35 EN 50022	19" rack modul (wide 8 TE)	
Type	Type	
VR 400L-15x	VR 400R-15x	
Replace x with last digit for output according to table below		
Output	External resistance load	Last digit x
0 - 5 ± 5 mA	0-3000 Ω	1
0 -10 ± 10 mA	0-1500 Ω	2
0 -20 ± 20 mA	0- 750 Ω	3
4 -20 mA	0- 750 Ω	4
0 -10 ± 10 V	> 700 Ω	5

Order form:

Measuring transducer for resistance

Type **VR 400L-154**

Measuring range 0-2200 Ω

Output 4-20 mA

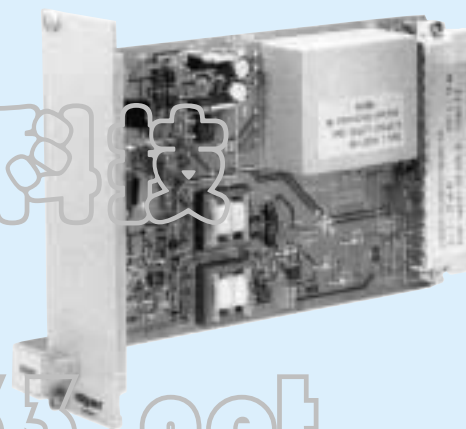
Power supply 230 V, 50 Hz

Mounting on DIN-rail

VR400-FA



VR400-FB



Technical data

Input

Range 0-25 to 0-5000 Ω

Current 2-3 mA

3 wire connection

Output

Current output signal min 0-1 mA, max 0-20 mA

Range 0...5/10/20 mA; 4-20 mA

Load max 15 V

Current limitation < 30 mA

Voltage 0-10 V

Burden > 700 Ω

Ripple < 1% p.p.

General data

Accuracy < ± 0,2%

Linearity error < 0,1%

Response time 0-90% < 80 ms

Temperature influence < 0,1% / 10°C

Temperature range -25...+60°C operation
-40...+70°C storage

Test voltage 3,7 kV, 50 Hz, 1 min

Power supply 24, 110, 230 VAC ± 15%, 47-70 Hz, ca 2 VA
24-130 VDC ± 20%, ca 2,5 W

Weight 0,4 kg

Options on request

Standards

General standards for measuring transducers EN 60688, IEC 688

EMC emission EN 50081-2
immunity EN 50082-2 *

Safety EN 61010-1, IEC 1010-1

Inputs overvoltage cat III

Outputs overvoltage cat II

Pollution degree 2

*) At certain frequencies can minor deviations from class accuracy occur during the disturbance

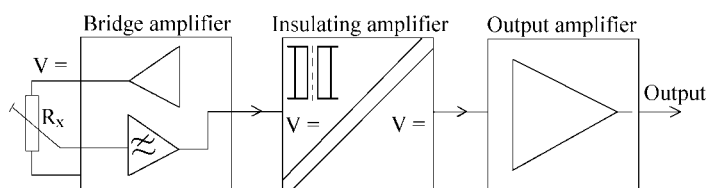
Design

A constant current is driven from the bridge amplifier to the measuring object. The voltage over R_x is amplified to a standard value which is galvanically separated from input in the insulating amplifier.

The galvanically insulated measuring signal is converted to a load independent DC current or voltage in the output amplifier.

The AC power supply comes from a transformer that gives a galvanic separation. Those parts that need separate power get it via a rectifying stage. The DC power comes from a switched unit that gives galvanic separation and covers the span from 24 to 130 VDC.

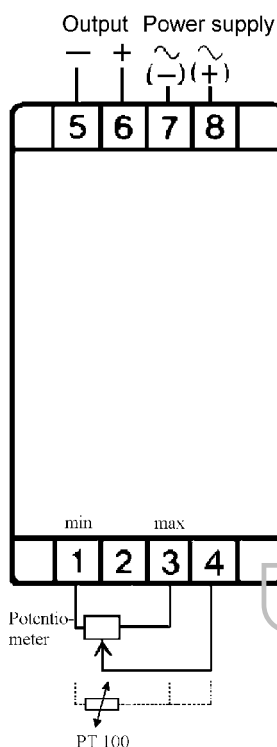
V3400BE



Connecting diagrams

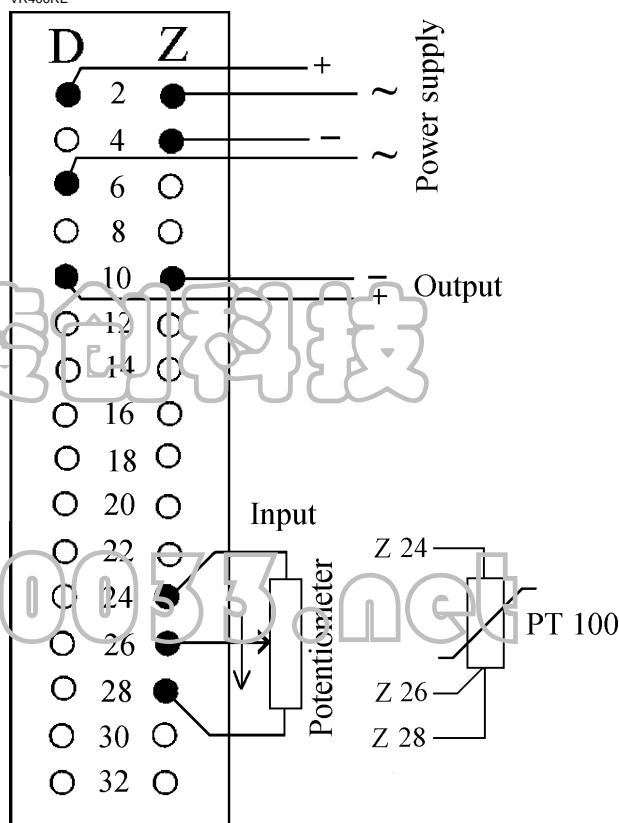
VR 400L

VR400LE



VR 400R

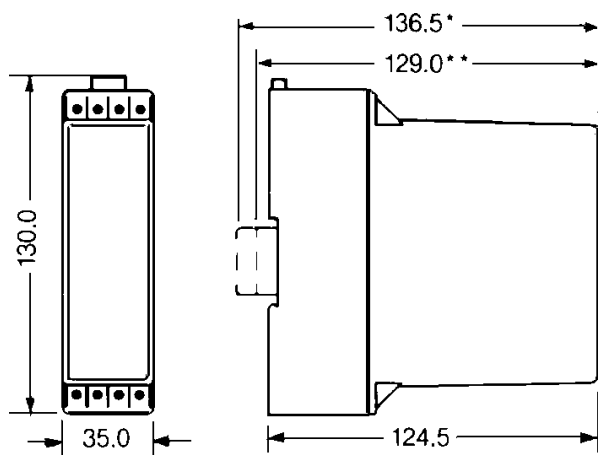
VR400RE



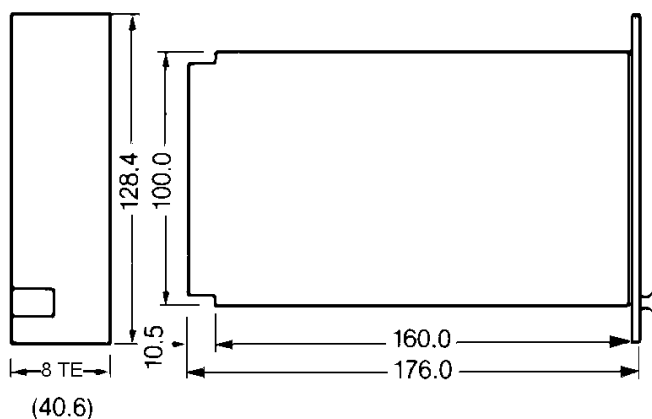
Dimensions (mm)

VR 400L

MATOMVME



VR 400R



*) Profile bar 35 EN 50022, height 15 mm

**) Profile bar 35 EN 50022, height 7,5 mm