

TENSIOTRON® TS 503

Strain Gauge Measuring Amplifier



The compact measuring amplifier **TENSIOTRON® TS 503** is designed for general-purpose use with most strain gauge-based sensors, esp. for tension measurement.

Best temperature stability, long-term stability and high accuracy are guaranteed by modern technology.

The very compact design, convenient mounting and high quality are the features of the amplifier **TS 503**.

Special features:

- Slim-Line housing for DIN-EN rail mounting - only 12,5mm width
- great noise immunity and service reliability for use in rough industrial operation
- direct input power supply of 24V DC
 - reverse-polarity protected
 - LED indicates power-on status
- provides a well regulated power supply for sensor excitation
- adjustments for zero and amplification setting by trimpot
- connection via screw terminals
- output signal selectable by DIP-switches
 - voltage 0 to $\pm 10V$ or
 - current 0/4 to 20mA, unipolar or bipolar

Technical Data TS 503

| Designation | | Tensiotron® TS 503 |
|--|----------------------|---|
| Design | | DIN-rail housing for convenient snap-in installation |
| Accuracy class | | 0,1 |
| Sensors to be connected: - strain gauge, full bridge | Ω | admissible connection impedance ≥ 150 |
| Bridge excitation voltage | V DC | $10 \pm 0,5 \%$ |
| Nominal gain G_{nom} | | 667 |
| Nominal measuring range U_{sig} | mV | ± 15 |
| Calibration range referenced to G_{nom} | % | 50 to 100 to 500 |
| Adjustment range zero @ G_{nom} | % ¹ | approx. ± 70 |
| Input impedance | Ω | 10^{10} |
| Cut-off frequency (- 3 dB) | Hz | approx. 55 |
| Output signal (selectable by DIP-switch) - voltage output (factory setting) - current output bipolar - current output unipolar - current output unipolar | V mA mA mA | 0 to ± 10 , max. 10 mA 0 to ± 20 , admissible load 0 to 500 Ω 0 to + 20, admissible load 0 to 500 Ω 4 to + 20, admissible load 0 to 500 Ω |
| Nominal temperature range | $^{\circ}C$ | 0 to + 60 |
| Operation temperature range | $^{\circ}C$ | 0 to + 60 |
| Storage temperature range | $^{\circ}C$ | - 25 to + 75 |
| Temperature influence per 10 $^{\circ}C$ - on zero at amplifier output - on calibration | mV % ¹ | < 10 (@ G_{nom}) < 0,05 |
| Supply voltage | V DC | 20 to 28 |
| Power consumption | W | max. 2,5 |
| Amplifier connection | | Screw terminals for flexible cable 0,14 to 2,5 mm ² |
| Dimensions (L x W x H) | mm | 114,5 x 99 x 12,5 |
| Weight | g | approx. 100 |
| Installation | | Snap-in installation on DIN-EN mounting rails |

¹ of final value

Explanation of grammalogue:

G_{nom} \Rightarrow Nominal gain

U_{sig} \Rightarrow Input voltage

Technical execution subject to change without prior notice

Reproduction - in whole, in part or in translation - is prohibited