

RTD Simulator (DigiSim 38505)



The RTD Simulator (DigiSim 38505) is a portable, battery-operated, precision instrument designed for sourcing as well as measuring RTD signals. A 4½ digit LCD provides excellent resolution with high contrast ratio. It is designed to calibrate instruments taking RTD as an input and retain its precision & repeatability over long periods in worst environmental conditions. An exceptionally stable resistance source provides continuously variable precision output signals with two ten-turn potentiometers.



Features

- ▶ Simulates & measures one RTD
- ▶ High precision, accuracy, reliability & longevity
- ▶ 4½ digit (8mm) LCD for high resolution
- ▶ Automatic lead compensation for 3-wire RTDs
- ▶ Eliminates the need of decade resistance boxes
- ▶ Compact in size and built for toughest environments
- ▶ Unique self-check facility ensures reliable operations
- ▶ Powered by AC/DC adapter or 9V Ni-Mh battery

Applications

- ▶ Simulates & measures one RTD (2-wire/3-wire)
- ▶ Calibrates temperature indicators with RTD input
- ▶ Works as ohms source
- ▶ Calibrates temperature controllers and transmitters

| Code | Function, Range & Resolution | | |
|------|--|---------------|------------------|
| | RTDs ^[1] | | Self-Check |
| P0 | Pt46 | -200 to 850°C | 555.5 ± 2 digits |
| P1 | Pt100 | -200 to 850°C | 555.5 ± 2 digits |
| P2 | Pt200 | -200 to 850°C | 555.5 ± 2 digits |
| C | Cu53 | -50 to 180°C | 177.7 ± 1 digit |
| N | Ni100 | -60 to 180°C | 177.7 ± 1 digit |
| | 0.1 °C | | |
| G | User specified requirements ^[2] | | |


[1] RTDs conform to IEC751/DIN43760 standard .

[2] Contact us with your specific requirements.

Technical Specifications $22 \leq T_A \leq 32^\circ\text{C}$; $V_S = V_{\text{LOBAT}}$; 1yr of calibration validity unless otherwise noted

| | | |
|------------------------|---------------------|---|
| Display Specifications | Display | 4½ digit (8mm) 7-segment LCD with high contrast ratio |
| | Function | RTDs |
| | Resolution | 0.1 °C |
| | Accuracy | $\pm 0.05\% \text{ rdg} \pm 0.05\% \text{ FS} \pm 1 \text{ dgt}$ |
| | Self-check | As specified in the table |
| Bridge Current | | 0.1 to 1 mA depending on range |
| Effect of leads | | 1°C for 10% of nominal resistance per lead for 3-wire RTDs. |
| Battery | Type | 9V Ni-Mh battery with longer life for field use |
| | Life ^[1] | 10 - 12 hours in continuous use |
| | Status | Displays battery status using "Low Battery" |
| Mains Operation | | Power jack for AC/DC adapter/charger (230V _{AC} , 50Hz to 10.5V _{DC} , 100mA) |
| Input Protection | | I/O terminals are protected up to 24 V _{DC} |
| Storage Temperature | | 0 to 70°C w/o batteries and accessories |
| Humidity | | Less than 90% Rh (Non-condensing) |
| Operating Temperature | | 5 to 55°C |
| Zero Drift | | < 1dgt per 10°C outside the range of $22 \leq T_A \leq 32^\circ\text{C}$ |
| Span Drift | | < 0.0015% of rdg per °C |
| Enclosure Dimension | | 75(W) x 150(H) x 55(D) mm |
| Enclosure Finish | | Powder coated |
| Weight | | 600g w/o batteries |

Standard Accessories

| | | | |
|---------------|----------|--|--|
| Accessories | Included | BS-5(4mm) probes, crocodile clips, screw driver, leather case, AC/DC adapter |  <p>[3]</p> |
| | Optional | 9V Ni-Mh battery, external battery charger, wooden case | |
| Documentation | Included | Warranty certificate ^[1] , Calibration certificate ^[2] , User manual, RTD temperature tables | |
| | Optional | NABL Calibration certificate | |

Ordering Information

| | |
|-----------|---|
| Model No. | Code |
| 38515 | X (As specified in the table) |
| Example | Specify 38505P1 to order the RTD Simulator using 4½ digit LCD for Pt100 with a range of -200 to 850 °C. |

[1] Valid for 2 years against mfg defects.

[2] Traceable to NABL, India.

[3] Some accessories in the picture are optional.