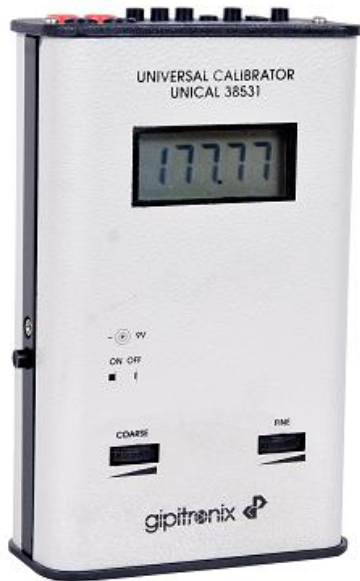


Universal Calibrator (UniCal 38531)



The Universal Calibrator (UniCal 38531) is a micro-controller based portable, battery-operated, precision instrument designed for sourcing and measuring Ohm, mA, mV and V signals. A 5-digit LCD provides excellent resolution with high contrast ratio and large viewing area. It is designed to calibrate a broad spectrum of instruments and retain its precision and repeatability over long periods in worst environmental conditions. An exceptionally stable voltage/current source provides continuously variable precision output signals with two ten-turn potentiometers.



Features

- ☛ Sources & measures Ohms, mA, mV, V
- ☛ High precision, accuracy, reliability & longevity
- ☛ 5 digit (15mm) LCD for excellent resolution
- ☛ Compact in size and built for toughest environments
- ☛ Unique self-check facility ensures reliable operations
- ☛ Powered by AC/DC adapter or 6 AA Ni-Mh batteries

Applications

- ☛ Powers (24V_{DC}) & calibrates 2-wire transmitter
- ☛ Simulates transmitter (with 24V_{DC} loop power)
- ☛ Simulates & measures T/Cs (mV mode) using temp tables
- ☛ Simulates & measures RTDs (Ohms mode) using temp tables
- ☛ Works as voltage and current regulator or source
- ☛ Powers (24V_{DC}) and calibrates control valve positioner
- ☛ Calibrates various temperature and process indicators

Code	Function, Range & Resolution			
	Resistance	DC Current ^[1]	DC milliVolts	DC Volts
D	0-2000 Ω	0 to 20 mA	-10 to 200 mV	0 to 20 V
F	0-2500 Ω	0 to 25 mA	-10 to 250 mV	0 to 25 V
	0.1 Ω	1 μA	10 μV	1 mV
G	User specified requirements ^[2]			


[1] The current loop power supply is 24V DC.

[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	5-digit (15mm) 7-segment LCD with high contrast ratio			
	Function	Ω	mA	mV	V
	Resolution	0.1 Ω	1 μA	10 μV	1mV
	Accuracy	$\pm 0.02\%$ rdg $\pm 0.01\%$ FS ± 2 dgt			
	Self-check	17777 ± 2 digits			
Input Impedance	Voltage	$> 1\text{M}\Omega$			
	Current	1 or 10 Ω depending on range			
	Resistance	Bridge current of 0.1 to 1 mA depending on range			
Output Impedance	Voltage	$< 0.05\Omega$			
	Current	$> 1\text{M}\Omega$			
Source Capability	Voltage	Up to 15V in 600 Ω or 20V in 2000 Ω			
	Current	Up to 25 mA in 600 Ω or 20mA in 800 Ω			
	Resistance	Up to the maximum specified range			
Battery	Type	6 AA sized Ni-Mh batteries with longer life for field use			
	Life	10 - 12 Hrs. @ 12 mA output current			
	Status	Displays battery status using "LOBAT"			
Mains Operation	Power jack for AC/DC adapter/charger (230V _{AC} , 50Hz to 9V _{DC} , 200mA)				
Input Protection	I/O terminals are protected up to 24 V _{DC} for Ω /V and 48 V _{DC} for mA				
Storage Temperature	0 to 70°C w/o batteries				
Humidity	Less than 90% Rh (Non-condensing)				
Operating Temperature	5 to 55°C				
Zero Drift	< 1 dgt 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	125(W) x 200(H) x 55(D) mm				
Enclosure Finish	Powder coated				
Weight	1 Kg w/o batteries				

Standard Accessories

Accessories	Included	BS-5(4mm) probes, crocodile clips, DP2, SP3, screw driver, leather case, AC/DC adapter	 <p>[3]</p>
	Optional	6 AA sized Ni-Mh batteries, external battery charger(s), wooden case	
Documentation	Included	Warranty certificate ^[1] , Calibration certificate ^[2] , User manual, RTD & T/C temperature tables	
	Optional	NABL Calibration certificate	

Ordering Information

Model No.	Code
38531	X (As specified in the table)
Example	Specify 38531D to order the Universal Calibrator using 5-digit (15mm) LCD with high contrast ratio for ranges of 2000 Ω , 20mA, 200mV and 20V.

[1] Valid for 2 years against mfg defects.

[2] Traceable to NABL, India.

[3] Some accessories in the picture are optional.