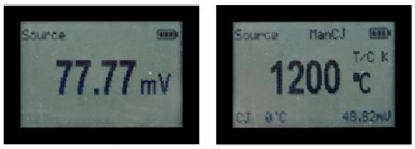
T/C Simulator
(DigiSim 38517)

The T/C Simulator (DigiSim 38517) is a micro-controller based portable, battery-operated, precision instrument designed for sourcing and measuring mV & T/C signals. A graphical (128x64) LCD with backlight gives excellent user interface. It is designed to calibrate instruments taking either T/Cs or mV as an input and retain its precision & repeatability over long periods in worst environmental conditions. An exceptionally stable voltage source provides continuously variable precision output signals with two ten-turn potentiometers.



mV T/Cs

Features

- Simulates & measures mV & T/Cs
- High precision, accuracy, reliability & longevity
- Graphical(128x64) LCD with backlight for excellent UI
- Simultaneous display of temperature & mV
- Auto or Manual cold junction compensation (CJC)
- Continuous indication of cold junction temperature
- 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 T/Cs with Auto/Manual CJC
- Calibrates temperature indicators with T/C input
- Works as voltage(mV) source
- Calibrates temperature controllers and transmitters

Code	Function, Range & Resolution	
	DC milliVolts	T/Cs[1]
E	-10.00 to 80.00 mV	Type J -210.0 to 1200.0°C Type K -200.0 to 1372.0°C Type N -200.0 to 1300.0°C Type T -200.0 to 400.0°C Type E -200.0 to 1000.0°C Type R -50 to 1768°C Type S -50 to 1768°C Type B 250 to 1820°C
	10 µV	0.1/1 °C
G	User specified requirements[2]	

[1] T/Cs conform to IEC584/ITS-90 standard.

[2] Contact us with your specific requirements.

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Technical Specifications $22 \le T_A \le 32°C$; $V_S=V_{LOBAT}$; 1yr of calibration validity unless otherwise noted

Display Specifications	Display	Graphical (128x64) LCD with backlight	
	Function	mV	T/Cs
	Resolution	10µV	0.1/1°C
	Accuracy	±0.02% of rdg ± 3dgt	±0.05% of rdg ± 5dgt (J,K,N,T,E) ±0.05% of rdg ± 3dgt (R,S,B)
	Self-check	77.77 ± 2 digits	Not Applicable
Input Impedance		> 1MΩ	
Output Impedance		< 0.05Ω	
CJ Compensation		Automatic and Manual CJ compensation	
CJ Error		1°C for $5 \le T_A \le 55°C$	
Effect of leads		1°C for lead resistance of 100Ω per lead	
Battery	Type	9V Ni-Mh battery with longer life for field use	
	Life[1]	10 - 12 hours in continuous use	
	Status	Displays battery level using status bars and “LoBAT”	
Mains Operation		Power jack for AC/DC adapter/charger ($230V_{AC}$,50Hz to $10.5V_{DC}$,100mA)	
Input Protection		I/O terminals are protected upto 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 $22 \le T_A \le 32°C$	
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, SP3, screw driver, leather case, AC/DC adapter	[3] 
	Optional	9V Ni-Mh battery, external battery charger, wooden case	
Documentation	Included	Warranty certificate[1], Calibration certificate[2], User manual, T/C temperature tables	
	Optional	NABL Calibration certificate	

Ordering Information

Model No.	Code
38517	X (As specified in the table)
Example	Specify 38517D to order the T/C Simulator using graphical (128x64) LCD with backlight for ranges of -10 to 80mV and 8 T/Cs with Auto/Manual CJC.

[1] Valid for 2 years against mfg defects. [2] Traceable to NABL, India. [3] Some accessories in the picture are optional.

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