

Programmable Process Indicator TC67U

- ◆ Low cost
- ◆ Large LED display up to 45 mm high
- ◆ Universal input for 4 RTDs, 6 T/Cs, and 3 linear types
- ◆ 2 alarm relay outputs
- ◆ Software input line and 'cold junction' correction
- ◆ Self-testing and self-calibration
- ◆ RS485 serial interface available



TC67U is designed for wide range of control applications. It is equipped with a large LED display and 2 programmable relay alarm outputs. TC67U has a universal input accepting signals from Pt100, Pt1000, PTC, 6 thermocouple types as well as linear current and voltage signals from external transmitters. This device also has a built-in circuit for self-testing and self-calibration, manual measurement offset setting, and automatic software compensation of line resistance and cold junction temperature. The display-to-input correspondence (in case of linear input), decimal point position, temperature measurement unit, and offset value are also programmable through the convenient keyboard. Thanks to its large display, universal input, serial interface, and excellent price-to-performance ratio, TC67U is exceptionally widely applicable device.

Technical specifications

Input	(programmable)
Pt100 (w=1.385); 3-wire	-100...850 °C
Pt1000 (w=1.385); 3-wire	-100...600 °C
PTC (1k at 25 °C); 3-wire	-50...150 °C
PTC (2k at 25 °C); 3-wire	-50...150 °C
Thermocouple "T"	-40...400 °C
Thermocouple "J"	-20...1000 °C
Thermocouple "K"	-20...1300 °C ⁽¹⁾
Thermocouple "S"	0...1700 °C ⁽¹⁾
Thermocouple "R"	0...1700 °C ⁽¹⁾
Thermocouple "B"	100...1800 °C ⁽¹⁾
Linear voltage 0...10 V	-1999...9999 ⁽²⁾ , programmable
Linear current 0(4)...20 mA	-1999...9999 ⁽²⁾ , programmable
Custom linear (option) ⁽³⁾	-1999...9999 ⁽²⁾ , programmable
Two-wire external transmitter	4...20 mA ⁽⁴⁾
Manual input offset	programmable
Input type selection	programmable
Decimal point selection	programmable
Temperature measurement unit	°C or °F, programmable
Outputs	(up to 2 relay outputs)
Relay electromechanical	5A/250V w/ NO/NC contact
Solid state relay	1A/250VAC
MOS gate	0.1A/60V, optically isolated
Output for external SSR	5...24 V, 30 mA
Control algorithm	ON/OFF
Set point	within input range limits
Alarms	programmable
Serial interface	RS485, isolated

⁽¹⁾ Up to 1000 °C for case 'D3'

⁽²⁾ -199...999 for case 'D3'

⁽³⁾ Instead of linear current

Accuracy

Measurement error	0.3% from span
Temperature drift	0.02% from span for 1 °C
Cold junction compensation	automatic, -10...80 °C
RTD line compensation	automatic, up to 2 x 25 Ω

Power supply

Mains supply voltage	230 VAC or 115 VAC
SMPS voltage	90...250 VAC/DC
Isolated low voltage	12...24 VAC/DC or 24 VAC
Non-isolated low voltage	12...24 VAC/DC
Consumption	max. 2 VA

Indication and controls

Digital display	3 or 4 LED indicators
LEDs	2 LEDs for output state
Keyboard	3 membrane keys

Operating conditions

Operating temperature	-10...65 °C
Operating humidity	0...85 %RH

Design and materials

	'H'	'D3'	'D4'
Front dimensions [mm]	96x48	144x72	144x72
Mounting	panel	panel	panel
Panel cutout [mm]	90x42	136x66	136x66
Mounting depth [mm]	98	92	92
Display digits	4	3	4
Display digit height [mm]	20	45	32
Maximum weight [g]	400	600	600
Protection, front/terminals	IP54/20	IP54/20	IP54/20
Increased front IP (option)	IP65 ⁽⁵⁾	-	-
Case material	plastic	plastic	plastic
Wiring (terminals)	plug-in	plug-in	plug-in

⁽⁴⁾ Provides loop supply voltage - 24 VDC (only w/ isolated power supply)

⁽⁵⁾ Double front panel sealing!

⁽⁶⁾ Available ONLY for case 'H'

Ordering code TC67U - G0.G1.G5G5.G9'9" - #1.#2

Code	Feature or option	Code values
G0	Case (front size)	H - 96x48 mm, D3 - 144x72 mm w/ 3-digit display, D4 - 144x72 mm w/ 4-digit display
G1	Power supply	A - 230 VAC, B - 115 VAC, C - 90...250 V, P - 12...24 V, non-isolated, Q - 12...24 V, isolated, R - 24 VAC
G5	Relay output	X - none, C - relay NO/NC, D - SSR, J - for external SSR, M - isolated MOS gate
G9'	Serial interface	X - none, B - RS485
G9"	Protocol	A - ASCII, C - ASCII for "PolyMonitor"
#1	Increased front protection	X - none, P - IP65 front protection ⁽⁶⁾
#2	Customer specified input signal	X - none, Z - custom linear signal (specify!) ⁽³⁾