Programmable Process Indicator TC660

♦ **Universal programmable input**
♦ **2 programmable alarm outputs**
♦ **Programmable digital filter**
♦ **Calibration and self-calibration**
♦ **Isolated current output**
♦ **RS485 serial interface available**

TC660 is a multifunctional programmable process indicator with a 4-digit 20 mm programmable display that provides excellent visibility in many applications. The device has a universal input for the most common thermoresistances, thermocouples, and linear signals. The input has a built-in automatic software compensation of line resistance and cold junction temperature as well as automatic software compensation of temperature drift, and can be calibrated manually. A programmable input filter and various options for access restriction are available. TC660 can also have up to 2 programmable alarm outputs (2 relays or 1 relay and 1 analog output) and can be equipped with an isolated RS485 serial interface.

Technical specifications

Input
	(programmable)
Pt100 (w=1.385, 1.391); 3-wire	-100...600 °C
Cu100 (w=1.426, 1.428); 3-wire	-50...200 °C
Thermocouple "J"	0...1000 °C
Thermocouple "K"	0...1300 °C
Thermocouple "S"	0...1700 °C
Thermocouple "R"	0...1700 °C
Thermocouple "B"	100...1800 °C
Thermocouple "C"	0...2300 °C
Thermocouple "L - GOST"	0...600 °C
Linear voltage 0...50 mV [1]	-1999...9999, programmable
Linear current 0...20 mA	-1999...9999, programmable
Linear current 4...20 mA	-1999...9999, programmable [2]
Input type selection	programmable
Decimal point selection	programmable
Digital filter	programmable
Input calibration	programmable

Outputs
	(up to 2 outputs)
Relay electromechanical	5A/250V w/ NO/NC contact
Solid state relay [5]	1A/250VAC
MOS gate [5]	0.1A/60V, optically isolated
Output for external SSR	5…24 V, 30 mA
Operation modes	manual and automatic
Control algorithms	ON/OFF, PID-pulse, and PID for motor valves, programmable
Auto-tuning	programmable
Alarms	programmable
Other control features	BUMPLESS and ANTI-WINDUP
Analog output [3]	4(0)...20 mA or 0...10 V, isolated
Serial interface	RS485, isolated

Accuracy
Measurement error	0.3% [4] from span
Temperature drift	0.01% from span for 1 °C
Self-calibration	automatic software
Cold junction compensation	automatic software
RTD line compensation	automatic software

Power supply
Mains supply voltage	230 VAC or 115 VAC
SMPS voltage	90…250 V
Isolated low voltage	12…24 V or 24 VAC
Non-isolated low voltage	12…24 V
Consumption	max. 5 VA

Indication and controls
Digital display	4 LED indicators, 20 mm
LEDs	2 LEDs for output state
Keyboard	3 membrane keys

Operating conditions
Ambient temperature	-10...55 °C
Ambient humidity	0...85 %RH

Design and materials
Case material	plastic
Mounting	in 90x42 mm panel cut-out
Wiring	plug-in terminals
Dimensions	96x48(front)x107 mm
Mounting depth	98 mm
Weight	max. 400 g
Protection, front/terminals	IP54 / IP20
Increased front IP *(option)*	IP65

[1] Other voltage ranges can be obtained by the means of 2 external resistors.
[2] Provides loop supply voltage - 24 VDC (only w/ isolated power supply)
[3] Instead of 1st relay! If mounted, it can be programmed as control or retransmission!
[4] 0.5% for T/Cs "S", "R", "B", and "C"

Ordering code   TC660 - G1.G5G5.G9'9".G11 - #1

Code	Feature or option	Code values
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 [5], **J** - for external SSR, **M** - isolated MOS gate [5]
G9'	Serial interface	**X** - none, **B** - RS485
G9"	Protocol	**A** - ASCII, **C** - ASCII for "PolyMonitor"
G11	Analog output [3]	**X** - none, **E** - 0…20 mA, **F** - 4…20 mA, **K** - 0…10 V
#1	Increased front protection	**X** - none, **P** - IP65 front protection

[5] Ask for availability!