8-channel Programmable Indicator TC800

♦ **8 inputs, 8 outputs, and 16 alarms**
♦ **2 displays — for measured value and for channel number**
♦ **Programmable ranges and alarms**
♦ **Self-testing and system-failure alarm**
♦ **RS485 serial interface available**

The TC800 indicator is designed for multi-point control of technological variables. With its compact design, 8 inputs and outputs, TC800 successfully performs all the tasks of indicating, monitoring, and signaling the level of several channels. With the proper programming, any of the channels may be turned into a 2-or 3-state ON/OFF controller and even into a multistage controller. Motorized actuators may be controlled by using 2 relay outputs. The device input accepts thermoresistances, thermocouples, or standard current and voltage signals. Additional discrete inputs are available for remote channel switching and tampering protection. TC800 performs digital compensation for RTD sensor line resistance as well as thermocouple cold-junction compensation, and constantly monitors sensor and sensor-lead state. A rich set of parameters allows programming every aspect of controller operation and an RS485 serial interface allows network operation or connection to operator station.

Technical specifications

Analog inputs *(2...8 inputs)*

Pt10…1000 (w=1.385, 1.391)	-100(-200)...200(850) °C [1]
Cu50…100 (w=1.426, 1.428)	-50(0)...200 °C [1]
Other RTD [1]	min. -200...max. 850 °C
Thermocouple "J"	0...800 °C
Thermocouple "K"	0...1200 °C
Thermocouple "S"	0...1600 °C
Thermocouple "R"	0...1600 °C
Thermocouple "B"	200...1800 °C
Thermocouple "L"	0...1200 °C
Thermocouple "L - GOST"	0...600 °C
Thermocouple "E"	0...1000 °C
Thermocouple "T"	0...400 °C
Thermocouple "U"	0...600 °C
Other thermocouple [1]	min. 0...max. 2400 °C
Linear voltage 0...1/ 2/ 5/ 10 V	-999...9999, programmable
Linear current 0(4)...20 mA	-999...9999, programmable
Custom linear voltage; max. 40 V [1]	min. -999...max. 9999, programmable
Custom linear current; max. 50 mA [1]	min. -999...max. 9999, programmable

Discrete inputs *(up to 2 inputs)*

Input signal type	contact, TTL, NPN, or PNP
Input 1 function	remote channel selection
Input 2 function	ext. programmed parameter protection

Outputs *(up to 9 relay outputs)* [2]

Relay electromechanical	3A/250V w/ NO [3] contact
Solid state relay	1A/250VAC
MOS gate	0.1A/60V, optically isolated
Output for external SSR	5…24 V, 30 mA
Alarms	up to 16, programmable
System-failure alarm	activates SPDT EMR output No 9
Serial interface	RS485, isolated [4]

[1] Custom; specify range within the limits stated.
[2] Relay No 9 is for system-failure alarm only (G10)!
[3] NO/NC for relay No 1
[4] With ASCII protocol, the outputs may be controlled only through the interface, and with binary protocol – only through the hardware!

Accuracy

Measurement error	0.4% from span
Temperature drift	0.005% from span for 1 °C
Cold junction compensation	± 1 °C, automatic software
RTD line compensation	software

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
Consumption	max. 4 VA

Indication and controls

Channel-number display	2 green LED indicators, 14 mm
Measured-value display	4 red LED indicators, 14 mm
LEDs	8 LEDs for output state and 16 LEDs for alarm state
Keyboard	8 membrane keys

Operating conditions

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

Design and materials

Case material	plastic
Mounting	in 90x90 mm panel cut-out
Wiring	plug-in terminals
Dimensions	96x96(front)x107 mm
Mounting depth	98 mm
Weight	max. 650 g
Protection, front/terminals	IP54 / IP20
Increased front IP (option)	IP65

Ordering code TC800 - G1.G5—G5.G6'6"—G6'6".G7G7.G9'9".G10 - #1

Code	Feature or option		Code values
G1	Power supply		**A** - 230 VAC, **B** - 115 VAC, **C** - 90…250 V, **Q** - 12…24 V, isolated, **R** - 24 VAC
G5	Relay output		**X** - none, **A** - relay NO [3], **D** - SSR, **J** - for external SSR, **M** - isolated MOS gate
G6'	Input signal		**B** - thermoresistance, **C** - thermocouple, **D** - linear, **Z** - other on request
G6"	Sensor	RTD	**B** - Pt50, **D** - Pt100, **F** - Pt500, **G** - Pt1000, **H** - Cu50, **K** - Cu100, **Z** - other [1]
		T/C	**B** - "B", **E** - "E", **J** - "J", **K** - "K", **L** - "L", **M** - "L-GOST", **S** - "S", **R** - "R", **T** - "T", **U** - "U", **Z** - other [1]
		linear	**B** - 0…20 mA, **C** - 4…20 mA, **H** - 0…1 V, **I** - 0…2 V, **J** - 0…5 V, **K** - 0…10 V, **Z** - other [1]
G7	Discrete input		**X** - none, **A** - contact, **E** - NPN, **F** - PNP, **G** - TTL
G9'	Serial interface		**X** - none, **B** - RS485
G9"	Protocol		**A** - ASCII, **B** - binary, **C** - ASCII for "PolyMonitor", **D** - binary for "PolyMonitor"
G10	System alarm		**X** - none, **S** - system-failure alarm relay
#1	Increased front protection		**X** - none, **P** - IP65 front protection

COMECO reserves the right of changing specifications without prior notice!