OMD 201T/C

2003 - 3 - en

- **4/6 digit programmable projection**
- **Digit height 57; 100; 125 mm**
- **J/K/T/E/B/S/R/N**
- **Aut. compensation of cold junctions**
- **Digital filter**
- **Power supply 230 VAC**

Options

Comparators • Data output • Universal analog output • Power supply 24 VAC, 110 VAC, 10...30 VDC

Description

The OMD 201T/C model is a 4 or 6 digit large display > thermometer for thermocouples J, K, T, E, B, S, R and N.
The instrument is based on an 8-bit processor with very precise A/D converter, that secures high accuracy, stability and easy operation of the instrument. Given the IP64 cover the display is construed also for outdoor application. Connection is executed through cable bushings and also the connector for control keyboard has the necessary protection.
A holder for wall mounting applications may be supplied upon request to large display.

Standard functions

Programmable input

Type	J, K, T, E, B, S, R and N

Compensation of cold junctions

Type	manual or automatic also performed in „CM“ may be the selection of the type of thermocouple and compensation of cold junctions, which is adjustable (0...99 °C) according to temperature in the compensation box or automatic, according to temperature at the input brackets of the instrument

Digital filter

Radius of insensitiv.	band of suppressed change of measured value

External control

Hold	display/instrument blocking
Lock	control keys blocking
Instrument setting	4 keybutton keyboard with 5 meter cable

Operation

The instrument is set and controlled by four control keys located on an individual box, which is connected with a 5 m cable. All programmable settings of the instrument are realised in two adjusting regimes.

Configuration menu	(hereinafter referred to as CM) is protected by an optional number code and contains complete instrument setting
User menu	may contain arbitrary programming settings defined in „CM“ with another selective restriction (see, change))

All programmable parameters are stored in the EEPROM memory (they hold even after the instrument is switched off). The measured units may be projected on the 6-digit display.

Options

Comparators are assigned to monitor one or two limit values with relay output. The limits have adjustable hysteresis within the full range of the display as well as selectable delay of the switch-on in the range of 0...99,9 s. Reaching the preset limits is signalled by LED and simultaneously by the switch-on of the relevant relay.

Data outputs are for their rate and accuracy suitable for transmission of the measured data for further projection or directly into the control systems. We offer an isolated RS232 and RS485 with the DIN MessBus/ASCII protocol.

Analog outputs will find their place in applications where further evaluating or processing of measured data is required in external devices. We offer universal analog output with the option of selection of the type of output - voltage/current. The value of analog output corresponds with the displayed data and its type and range are selectable in CM.

Technical data

MEASURING RANGE

Type:	J (Fe-CuNi)	0°...900°C
	K (NiCr-Ni)	0°...1 300°C
	T (Cu-CuNi)	0°...400°C
	E (NiCr-CuNi)	0°...690°C
	B (PtRh30-PtRh6)	300°...1 820°C
	S (PtRh10-Pt)	0°...1 760°C
	R (Pt13Rh-Pt)	0°...1 740°C
	N (Omegalloy)	0°... 1300°C

The instrument measures from the pre-set temperature of cold junction.

PROJECTION

Display:	4 (100/125 mm) or 6 digit (57/100/125 mm) red/green/orange 7-segment LED, digit height 57, 100 or 125 mm
Decimal point:	adjustable - in Configuration menu
Brightness:	adjustable - in Configuration/User menu

INSTRUMENT ACCURACY

Tempco:	60 ppm/°C
Accuracy:	±0,2 % of range + 1 digit - for range: -999...3999
Rate:	1,3 - 2,5 - 5 - 10 - 20 - 40 measurements/s
Comp.of cold junc.:	adjustable 0°...99°C or automatic
Resolution:	1°C
Watch-dog:	reset after 1,2 s
Setting:	external keyboard with 5 m cable
Function:	Hold - stop measuring (upon contact) Lock - control keys blocking (upon contact), not simultaneously with Hold function Digital filter - adjustable in Configuration menu
Calibration:	at 25°C and 40 % r.h.

COMPARATOR

Type:	digital, adjustable in programming mode, contact switch-on < 30 ms
Limit 1 and 2	999999, the limits setting depends on the used input section
Hysteresis:	0...99999
Delay:	0...99,9 s
Outputs:	2 relays with switching contact (250 VAC/50 VDC, 3 A)

DATA OUTPUTS

Data format:	rate 600...115 200 Baud, 8 bit + no parity + 1 stop bit (ASCII)
RS 232	isolated
RS 485	isolated, addressing (max. 31 instruments)

ANALOG OUTPUTS

Type:	isolated, programmable with resolution max. 10 000 points, analog output corresponds with the displayed data, output type and range are selectable in CM
Non-linearity:	0,2 % of range
Tempco:	100 ppm/°C
Rate:	response to change of value < 40 ms
Voltage:	0...2 V/5 V/10 V
Current:	0...5 mA/20 mA/4...20 mA (compensation of conduct up to 600 Ohm)

POWER SUPPLY

24; 110; 230 VAC, 50/60 Hz, ±10 %, 15 VA
10...30 VDC/max. 2 A, (24 VDC/0,7 A), isolated
- power supply is protected by a fuse inside the instrument

MECHANIC PROPERTIES

Material:	anodized aluminium, black
Dimensions:	see dimensions
Panel cut:	see dimensions

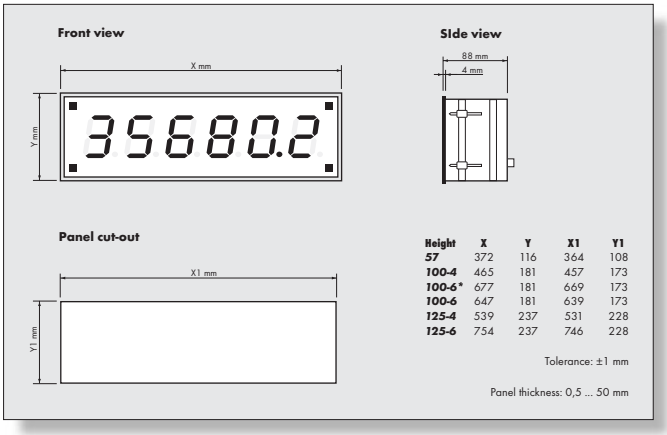
OPERATING CONDITIONS

Connection:	cable bushings, terminal board inside, conductor section up to 2,5 mm^2
Stabilization period:	within 15 minutes after switch-on
Working temperature:	0°...60°C , (storage temperature: -10°...85°C)
Covering:	IP64
Construction:	safety class I
Electrical safety:	EN 61010-1, A2
Overvoltage category:	for pollution degree II III. - instrument power supply, relay output (300 V) II. - input, output (300 V)
EMC:	EN 61000-3-2+A12; EN 61000-4-2, 3, 4, 5, 8, 11; EN 550222, A1, A2

Connection

To maintain the IP65 covering the display connection is realised through bushings directly on the terminal board inside the instrument.
The cable from control keyboard ends by a connector with IP64 covering.

Dimensions



Height	X	Y	X1	Y1
57	372	116	364	108
100-4	465	181	457	173
100-6*	677	181	669	173
100-6	647	181	639	173
125-4	539	237	531	228
125-6	754	237	746	228

Tolerance: ±1 mm

Panel thickness: 0,5 ... 50 mm

Order code

OMD 201T/C - xxxxxx

Power supply
0: 24 VAC/50 Hz
1: 230 VAC/50 Hz
3: 110 VAC/50 Hz
4: 10...30 VDC, isolated

Comparators
0: no
1: yes

Output
0: no
1: Analogue
2: Data - RS 232
3: Data - RS 485

Display color
1: red
2: green

Number of digits
1: 4 digits (100/125 mm)
3: 6 digits

Digit height
1: 57 mm
2: 100 mm
3: 125 mm

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