# OM 371RTD


- **3 ¾ digit projection**
- **Pt 100/500/1 000, Ni 1 000/10 000**
- **-99,9° ... 399,9° C**
- **Dual comparator**
- **Digital filter**
- **Size of DIN 96 x 48 mm**
- **Power supply 230 VAC**

## Options

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

## Description

The OM 371RTD model is a 3 ¾ digit panel programmable thermometer for sensors Pt 100/500/1 000, Ni 1 000/10 000.
The instrument is based on an 8-bit controller with precise A/D converter, that secures high accuracy, stability and easy operation of the instrument.

## Standard functions

**Programmable input**

| | |
|---|---|
| Type | Pt 100/500/1 000, Ni 1 000/10 000 |
| Projection | -99.9°...399.9°C |

**Compensation**

| | |
|---|---|
| Conduct | for 2-wire connection |
| Probes | internal connection (conduct resistance in the measuring head) |

**Digital filters**

| | |
|---|---|
| Radius of insensitiv. | band of suppressed change of measured value |

**External control**

| | |
|---|---|
| Hold | display/instrument blocking |
| Lock | control keys blocking |

**Output**

| | |
|---|---|
| Limits | 2 relays with switching contact, The limits have both adjustable hysteresis and optional delay of the switch-on. Reaching the limits is signalled by LED and at the same time by the switch-on of the relevant relay. |

## Operation

The instrument is set and controlled by five control keys located on the front panel. All programmable settings of the instrument are realised in two adjusting modes.

| | |
|---|---|
| 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 display shows the measured units (°C).

## Options

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

## Technical data

**MEASURING RANGE**

| | |
|---|---|
| Pt | -99,9°...399,9°C |
| Ni | -30°...250°C |
| Type: | Pt 100/500/1 000 - 3 860 ppm/°C (EU)<br>Pt 100 - 3 920 ppm/°C (US)<br>Ni 1 000/10 000 - 5 000 ppm/°C<br>Ni 1 000/10 000 - 6 180 ppm/°C |
| Connection: | 2, 3 or 4 wire |

**PROJECTION**

| | |
|---|---|
| Display: | -999...3999, red or green 14-segment LED, digit height 14 mm |
| Decimal point: | fixed |
| Brightness: | adjustable - in Configuration/User menu |

**INSTRUMENT ACCURACY**

| | |
|---|---|
| Tempco: | 60 ppm/°C |
| Accuracy: | ±0,2 % of range |
| Rate: | 1,3 - 2,5 - 5 - 10 - 20 - 40 measurements/s |
| Resolution: | 0,1°C |
| Watch-dog: | reset after 1,2 s |
| Function: | Hold - stop measuring (upon contact)<br>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 | -999...3999 |
| Hysteresis: | 0...999 |
| Delay: | 0...99,9 s |
| Outputs: | 2 relays with switch-on (switch-off) contact (250 VAC/30 VDC, 3 A)<br>- the relay function is adjustable in Configuration menu<br>*upon request SSR (250 VAC, 1 A) or open collector may be fitted* |

**DATA OUTPUTS**

| | |
|---|---|
| Data format: | rate 600...115 200 Baud<br>7 bit + even parity + 1 stop bit (DIN MessBus)<br>8 bit + no parity + 1 stop bit (ASCII) |
| RS 232 | isolated |
| RS 485 | isolated, addressing (max. 31 instruments) |

**ANALOGUE OUTPUTS**

| | |
|---|---|
| Type: | isolated, programmable with resolution max. 10 000 points, analogue 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/0/4...20 mA (compensation of conduct up to 600 Ohm) |

**POWER SUPPLY**

24/110/230 VAC, 50/60 Hz, ±10 %, 5 VA
10...30 VDC/max. 300 mA, (24 VDC/110 mA), isolated
- power supply is protected by a fuse inside the instruments

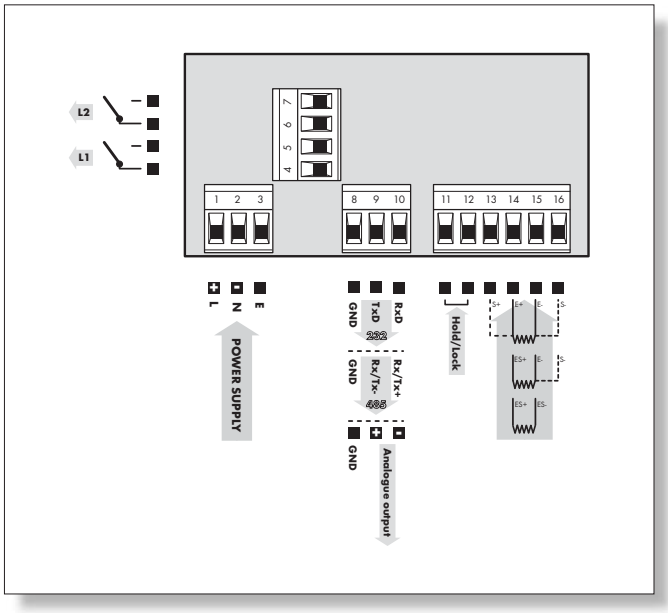
**MECHANIC PROPERTIES**

| | |
|---|---|
| Material: | Noryl GFN2 SE1, incombustible UL 94 V-I |
| Dimensions: | 96 x 48 x 120 mm |
| Panel cut: | 90,5 x 45 mm |

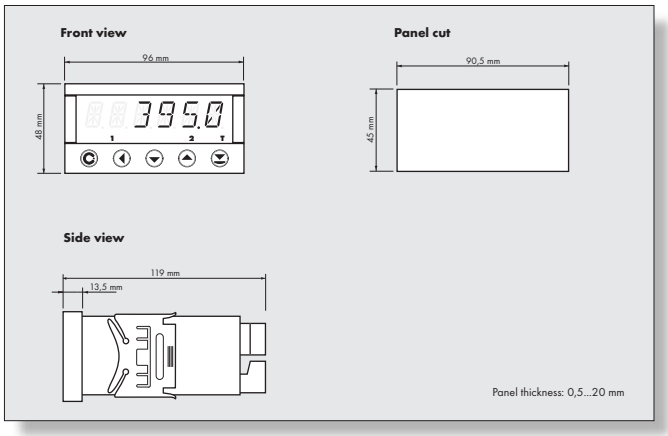
**OPERATING CONDITIONS**

| | |
|---|---|
| Connection: | connector terminal board, conductor section up to 1,5/2,5 mm² |
| Stabilization period: | within 15 minutes after switch-on |
| Working temperature: | 0°...60°C |
| Storage temperature: | -10°...85°C |
| Covering: | IP65 (front panel only) |
| Construction: | safety class I |
| Electrical safety: | EN 61010-1, A2 |
| Overvoltage category: | for pollution degree II<br>III. - instrument power supply, relay outputs (300 V)<br>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




## Dimensions




## Order code

**OM 371RTD - xxxx**

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

***Input***
1: Pt 100
2: Pt 500
3: Pt 1 000/Ni 1 000
4: Ni 10 000
5: Pt 100 - (US - 3920 ppm/°C)

***Display color***
1: red
2: green

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

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