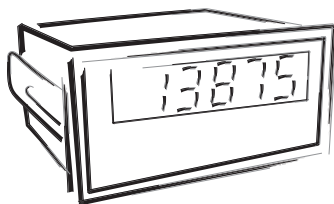




OM 47

4 1/2 DIGIT

DC VOLTMETER / AMMETER
AC VOLTMETER / AMMETER
PROCESS MONITOR
OHMMETER
THERMOMETER FOR PT 100



SAFETY INSTRUCTIONS

Please, read the enclosed safety instructions carefully and observe them!
These instruments should be safeguarded by isolated or common fuses (breakers)!
For safety information the EN 61 010-1 + A2 standard must be observed.
This instrument is not explosion-safe!

TECHNICAL DATA

Measuring instruments of the OM 47 series conform to European regulation 89/336/EWG and Ordinance 168/1997 Coll.

They are up to the following European standards:
EN 55 022, class B
EN 61000-4-2, -4, -5, -6, -8, -9, -10, -11

The instruments are applicable for unlimited use in agricultural and industrial areas.

CONNECTION

Power supply from the main line has to be isolated from the measuring leads.



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2.1 DESCRIPTION

The OM 47 model series are simple 4 1/2 digit panel instruments, which are manufactured in the following alternatives:

OM 47DC	DC voltmeter/ammeter
OM 47AC	AC voltmeter/ammeter
OM 47W	Wattmeter
OM 47PM	Process monitor
OM 47OHM	Ohmmeter
OM 47RTD	Thermometer for sensors Pt 100

2.2 OPERATION

In its basic version is the instrument designed for simple measurement without further control. In the version with dual comparator the comparator is set through two control buttons and potentiometers.

Decimal point location as well as selection of measuring rate are selectable through shorting jumpers under the front panel.

2.3 CALIBRATION

Contingent correction of display projection may be performed by trimmer under the front panel (approx 10 %)

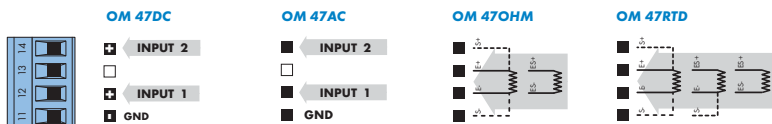
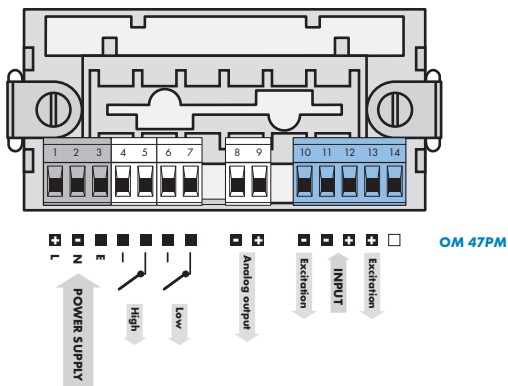
2.4 OPTIONS

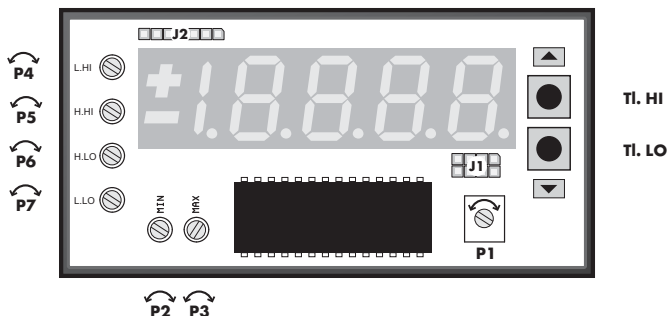
Dual comparator serves for monitoring two limit values with relay output. Limits have adjustable hysteresis. Reaching the set limits (top over/bottom under) is indicated by LED and simultaneously by the switch on of relevant relay.

Excitation is suitable for feeding of sensors and transducers. It has a galvanic isolation with continuously adjustable value in the range of 2...24 VDC.

Analogue outputs will find their place in applications where further evaluating or processing of measured data in external devices is required. We offer several types of current or voltage non-isolated outputs. The value of analogue output corresponds with the input signal.

The supply lead for feeding the instrument should not be in the proximity of low-potential signals. Contactors, motors with larger input and other efficient elements should not be in the proximity of the instrument. The lead into the instrument input (the measured quantity) should be in sufficient distance from all power leads and appliances. Provided this cannot be secured, it is necessary to use shielded leads with connection to ground. The instruments are tested in compliance with standards for use in industrial area, yet, we recommend to abide by the above mentioned principles.



**Jumper J1**

□ □ □ □	1 - 1	X.xxxx
□ □ □ □	2 - 2	XX.xxxx
□ □ □ □	3 - 3	XXX.xx
□ □ □ □	4 - 4	XXXX.x

Jumper J2

□ □ □ □ □ □ □	1 - 2	1,25 meas./s
□ □ □ □ □ □ □	2 - 3	2,5 meas./s
□ □ □ □ □ □ □	5 - 6	5 meas./s
□ □ □ □ □ □ □	6 - 7	10 meas./s

ADJUSTING ELEMENTS

- after removing the top cover frame the following settings are accessible
- decimal point - may be adjusted by shorting links

P1 setting the display brightness

P2 setting the zero

- in the DC and AC types it does not always have to be fixed

- in the RTD and OHM types this trimmer is used for compensation of conduct resistance

P3 setting the full range

P4 setting the comparator - UP

P5 setting the hysteresis - UP

P6 setting the hysteresis - DOWN

P7 setting the comparator - DOWN

J1 setting the decimal point

- by jumper

J2 setting the measuring rate

- by jumper

4.2 Setting the comparator

SETTING THE LIMITS

- accessible from the front of the instrument without withdrawing the front glass
- upon pressing the „HI“ button the required top limit value is set by the P4 trimmer
- upon pressing the „LO“ button the required bottom limit is set by P7 trimmer

DISPLAYING THE SET LIMITS

- by pressing „HI“ the top limit is displayed
- by pressing „LO“ the bottom limit is displayed

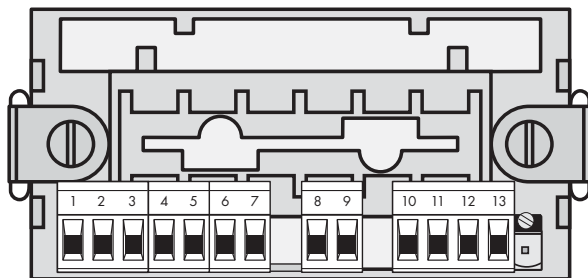
SETTING THE HYSTRESIS

- accessible from the front of the instrument without withdrawing the front glass
- preset from manufacture to minimum, i.e. approx. 10 digits
- hysteresis for the top limit is set by P5 trimmer
- hysteresis for the bottom limit is set by P6 trimmer

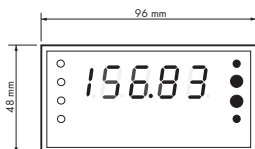
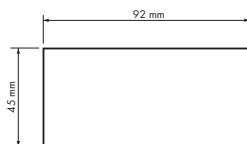
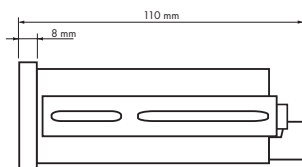
4.2 Setting the excitation

Excitation is, as a standard, set for 24 VDC.

Change in adjustment of the excitation value is performed by trimmer located over the terminal boards of the instrument (see picture).



Excitation

Pohled z předu**Výřez do panelu****Pohled z boku**

Síla panelu: 0,5 ... 8 mm

MEASURING RANGE

the range is fixed, according to order

±199,99 mV	> 1 MOhm
±1,9999 V	1 MOhm
±19,999 V	1 MOhm
±199,99 V	1 MOhm
±300,00 V	1 MOhm
±199,99 µA	< 200 mV
±1,9999 mA	< 200 mV
±19,999 mA	< 200 mV
±199,99 mA	< 200 mV
0...1,9999 A	< 50 mV
0...5,000 A	< 50 mV

DCInput HV
Input HV

the range is fixed, according to order

0...199,99 mV	> 1 MOhm
0...1,9999 V	1 MOhm
0...19,999 V	1 MOhm
0...199,99 V	1 MOhm
0...300,00 V	1 MOhm
0...199,99 µA	< 200 mV
0...1,9999 A	< 200 mV
0...5,000 A	< 50 mV

ACInput HV
Input HV

the range is fixed, according to order

0...5 mA	< 260 mV
0...20 mA	< 260 mV
4...20 mA	< 260 mV
0...2 V	1 MOhm
0...5 V	1 MOhm
0...10 V	1 MOhm

PM

the range is fixed, according to order

0...199,99 Ohm
0...1,9999 kOhm
0...19,999 kOhm
0...199,99 kOhm
5...105 Ohm

OHM

Connection: 2 or 4 wire

Range:	±199,9°C, -200,0°C...850,0°C
Type:	100/500/1 000 Ohm, platinum with $\alpha = 0,003850 \text{ Ohm/Ohm/}^\circ\text{C}$
Connection:	2, 3 or 4 wire

RTD

the range is fixed, according to order

Voltage input:	0...450V
Current input:	0...5 A

W**PROJECTION**

Display:	±19999, red or green LED, digit height 14 mm
Decimal point:	adjustable by jumper
Brightness:	adjustable by potentiometer under the front panel

INSTRUMENT ACCURACY

TC:	100 ppm/°C
Accuracy:	±0,1 % of range ±0,3 % of range (< 100 Hz, crest faktor 1-2) ±0,2 % z range
Resolution:	0,1° or 1°C
Rate:	1,2 - 2,5 - 5 - 10 measurements/s
Overload capacity:	10x (t < 100 ms) - not for 5 A and 300 V 2x (long-term)
Calibration:	at 25°C and 40 % r.h.

**AC
OHM
RTD****COMPARATORS**

Type:	analogue, adjustable by trimers
Limits:	±19999
Hysteresis:	0...999
Output:	2x Relays (2 A/230 VAC)

ANALOGUE OUTPUTS

Type:	non-isolated, the output corresponds with the input signal
Nonlinearity:	0,3 % of range
TC:	100 ppm/°C
Rate:	response to change of value < 100 ms
Voltage:	0...2 V, 0...5 V, 0...10 V
Current:	0...5/20 mA/4...20 mA - compensation of conduct up to 600 Ohm

EXCITATION**PM**

Adjustable:	2...24 VDC/50 mA, isolated
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POWER SUPPLY

24/110/230 VAC, 50/60 Hz, 5 VA, ±10%
10...30 VDC, max. 500 mA, isolated

MECHANIC PROPERTIES

Material:	Noryl GFN2 SE1, incombustible UL 94 V-1
Dimensions:	96 x 48 x 110 mm
Panel cut-out:	92 x 45 mm

OPERATING CONDITIONS

Connection:	con. terminal board, conductor section up to 2,5 mm ²
Stabilization period:	within 15 minutes after switch-on
Working temp.:	0°...50°C
Storage temp.:	-10°...85°C
Shielding:	IP42, upon request IP64 - front panel only
Construction:	safety class I
Overvoltage cat.:	EN 61010-1, A2 III. - instrument power supply (300 V) II. - input, output, excitation (300 V) for pollution degree II
EMC:	EN 61000-3-2+A12; EN 61000-4-2, 3, 4, 5, 8, 11; EN 550222, A1, A2

Product: **OM 47 DC AC W PM OHM RTD**
Type
Manufacturing No.
Date of sale

GUARANTEE

A guarantee period of 24 months from the date of sale to the user applies to this instrument.
Defects occurring during this period due to manufacture error or due to material faults shall be eliminated free of charge.

For instrument quality, function and construction the guarantee shall apply provided that the instrument was connected and used in compliance with the instruction for use.

The guarantee shall not apply for defects caused by:

- mechanic damage
- in transport
- intervention of unqualified person incl. the user
- unavoidable event
- other unprofessional interventions

The manufacturer performs the guarantee and post-guarantee repairs unless provided for otherwise.

YEARS

Stamp, signature