OM 45

4 1/2 DIGIT INSTRUMENT

DC VOLTMETER/AMMETER
PROCESS MONITOR

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 45 series conform to European regulation Nr.. 2014/35/ES and Nr. 2014/30/ES

The instruments are up to the following European standards:
EN 61010-1 Electrical safety
EN 61326-1 Electronic measuring, control and laboratory devices – Requirements for EMC "Industrial use"

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. INSTRUMENT DESCRIPTION

2.1 DESCRIPTION

The OM 45 model series are simple 4 1/2 digit panel instruments, which are manufactured in the following alternatives:

OM 45DC DC voltmeter/ammeter
OM 45PM Process monitor

The instrument is based on a simple converter, which secures high accuracy and stability.
For their dimensions the instruments are suitable for mosaic panels mounting applications.

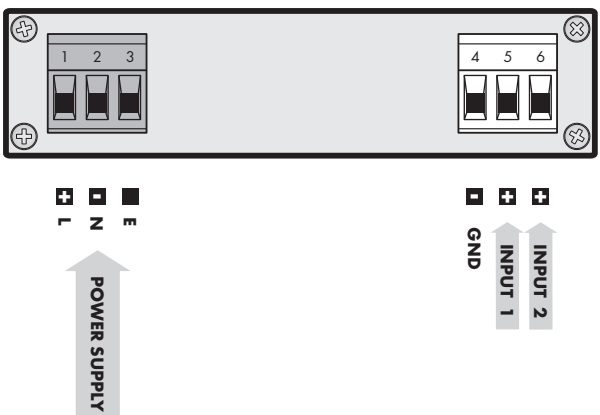
ADJUSTABLE DISPLAY PROJECTION

Setting	by potentiometers under the front panel (in the range of approx. ±10 %)
Projection	±19999

2.2 OPERATION

The instrument is designed for simple measurement without further control.
Placement of the decimal point is selectable by shorting link under the front panel.

The instrument supply leads should not be in proximity of the incoming low-potential signals.
Contactors, motors with larger input power should not be in proximity of the instrument.
The leads into the instrument input (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 (bracket E).
The instruments are tested in compliance with standards for use in industrial area, yet we recommend to abide by the above mentioned principles.



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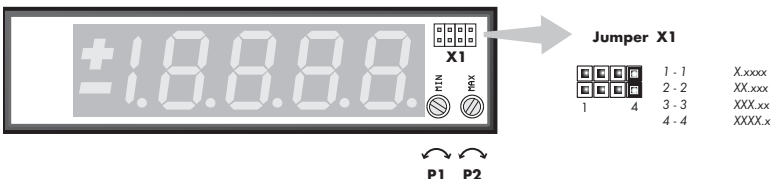
Grounding on terminal „E" has to be connected at all times.

MEASURING RANGES

TYPE	INPUT 1	INPUT 2
OM 45DC - U	±199,99 mV; ±1,9999 V; ±19,999 V	±199,99 V
OM 45DC - I	±1,9999 mA; ±19,999 mA; ±199,99 mA; ±1,9999 A; ±5,00 A	
OM 45PM	0...5 mA; 0...20 mA; 4...20 mA; ±2 V; ±5 V; ±10 V	

4. INSTRUMENT SETTING

The following description contains all settings of the OM 45 product range



ADJUSTING ELEMENTS

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

P1 **setting the zero**
- may not be always present in DC and AC versions

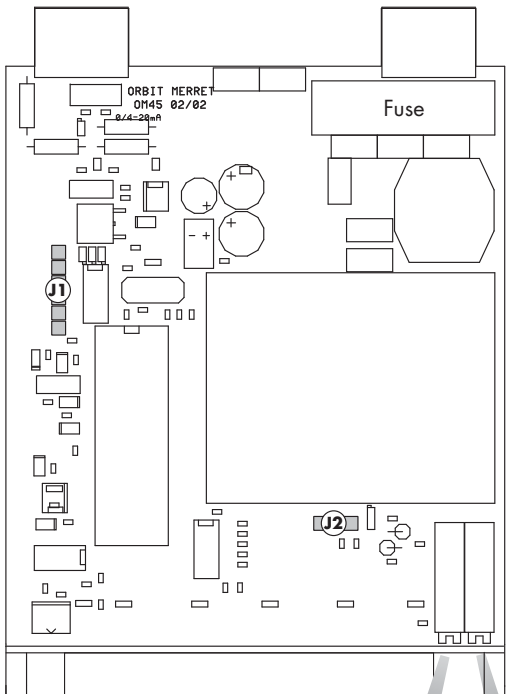
P2 **setting the full range**
- setting display projection (approx. ±10 %)

P3 **setting the display brightness**

X1 **setting the decimal point**
- by jumper

J1 - Measuring rate

1 - 2	10 meas./s
2 - 3	5 meas./s
4 - 5	2,5 meas./s
5 - 6	1,25 meas./s



J2 - Offset

1 - 2	by trimmer
2 - 3	without offset

Full range **Offset**

5. TECHNICKÁ DATA

INPUT

the range is fi xed, according to order			***DC***
	±199,99 mV	1 MOhm	Input 1
	±1,9999 V	1 MOhm	Input 1
	±19,999 V	1 MOhm	Input 1
	±199,99 V	1 MOhm	Input 2
	±199,99 µA	< 500 mV	Input 1
	±1,9999 mA	< 500 mV	Input 1
	±19,999 mA	< 500 mV	Input 1
	±199,99 mA	< 500 mV	Input 1

the range is fi xed, according to order			***PM***
	0...5 mA	< 500 mV	Input 1
	0...20 mA	< 500 mV	Input 1
	4...20 mA	< 500 mV	Input 1
	±2 V	1 MOhm	Input 1
	±5 V	1 MOhm	Input 1
	±10 V	1 MOhm	Input 1

PROJECTION

Displej:	±19999, intensive red or green 7 segment LED, digit height 14 mm
Projection:	±19999
Decimal point:	adjustable by jumper
Brightness:	adjustable by potentiometer under the front panel

INSTRUMENT ACCURACY

TC:	100 ppm/°C
Accuracy:	±0,1% of range + 1 digit
Rate:	1,25 - 2,5 - 5 - 10 measurements/s
Overload capacity:	10x (t < 100 ms), 2x (long-term)
Calibration:	at 25°C and 40 % of r.h.

POWER SUPPLY

Options:	230 VAC, 50/60 Hz, ±10 %, 5 VA 12...24 VDC/max. 150 mA, neizolované Power supply is protected by a fuse inside the instrument, VAC (T 80 mA), VDC (T 630 mA)

MECHANIC PROPERTIES

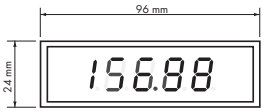
Material:	Noryl GFN2 SE1, incombustible UL 94 V-I
Dimensions::	96 x 48 x 110 mm
Panel cut-out:	92 x 22,5 mm

OPERATING CONDITIONS

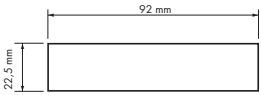
Connection:	connector terminal board, conductor cross-section < 2,5 mm^2
Stabilisation period:	within 15 minutes after switch-on
Working temp.:	0°...60°C
Storage temp.:	-10°...85°C
Cover:	IP40 (front panel only)
Construction:	safety class I
El. safety:	EN 61010-1, A2
Dielectric strength:	2,5 kVAC after 1 min between supply and input
Insulation resist.:	for pollution degree II, measurement cat. III AC power > 600 V (PI), 300 V (DI) DC power, Input > 300 V (PI), 150 (DI)
EMC:	EN 61326-1

PI - Primary insulation, DI - Double insulation

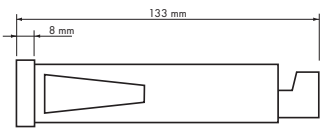
Front view



Panel cut



Side view



Panel thickness: 0,5...20 mm

Product	**OM 45 DC PM**
Type	. . . . .
Manufacturing No.	. . . . .
Date of sale	. . . . .

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

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

The guarantee shall not apply to defects caused by:

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

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

Stamp, signature

ES DECLARATION OF CONFORMITY

Company: **ORBIT MERRET, spol. s r.o.**
Klánova 81/141, 142 00 Prague 4, Czech Republic, IDNo.: 00551309

Manufactured: **ORBIT MERRET, spol. s r.o.**
Vodňanská 675/30, 198 00 Prague 9, Czech Republic

declares at its explicit responsibility that the product presented hereunder meets all technical requirements, is safe for use when utilised under the terms and conditions determined by ORBIT MERRET, spol.s r.o. and that our company has taken all measures to ensure conformity of all products of the types referred-to hereunder, which are being brought out to the market, with technical documentation and requirements of the appurtenant Czech statutory orders.

Product: Panel instrument

Type: **OM 45/47**

Version: DC, PM

Thas been designed and manufactured in line with requirements of:

Low-voltage electrical equipment (directive no. 2014/35/EU)
Electromagnetic compatibility (directive no. 2014/30/EU))

The product qualities are in conformity with harmonized standard:

El. safety EN 61010-1
EMC EN 61326-1
Electronic measuring, control and laboratory devices – Requirements for EMC "Industrial use"
EN 50131-1, chap. 14 and 15, 61000-3-2, prEN 50131-2-1, 61000-3-3, EN 61000-4-2,
EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8,
EN 61000-4-11, EN 55022, chap. 5 and 6, EN 50082-1:1999

The product is furnished with CE label issued in 2002

As documentation serve the protocoles of authorized and accredited organizations:

EMC VTÚ Praha, protocol Nr: 186-27/2002 of 24/10/2002
VTÚ Praha, protocol Nr: 186-30/2002 of 24/10/2002
VTÚ Vyškov, protocol Nr: 730-479/2002 of 15/10/2002
VTÚ Vyškov, protocol Nr: 730-482/2002 of 15/10/2002

Place and date of issue: Prague, 1 April 2016

Miroslav Hackl
General manager