

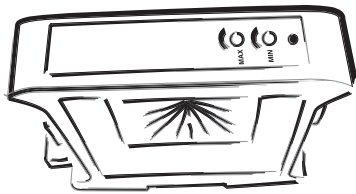
OMX 39

TRANSMITTERS TO DIN RAIL

GUARANTEE 5 YEARS



1. DESCRIPTION



DESCRIPTION

The OMX 39 model series are transmitters to DIN rail, which are manufactured in the following alternatives:

- OMX 39DC DC input ⇔ analog output
- OMX 39AC AC input ⇔ analog output
- OMX 39W Power ⇔ analog output
- OMX 39RTD Pt 100 ⇔ analog output
- OMX 39DU Linear poten. ⇔ analog output
- OMX 39OHM Resistance ⇔ analog output

The instrument is based on a simple analog converter, which secures good accuracy and stability.

The transmitter is in a plastic DIN box with terminal board to rail of 3.5 mm in width.

Transmitter power supply, input and output signal have galvanic separation with isolation voltage 600 V.

OPERATION

The instrument is designed for simple measurement without further control.

CALIBRATION

Contingent corrections may be performed by a trimmer from the front of the instrument within the range of approx ±2 %.

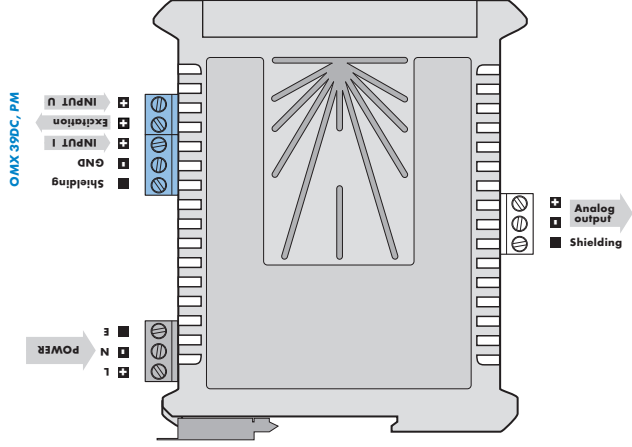
2. CONNECTION

The lead for feeding the instrument should not be in the proximity of the incoming low-potential signals.

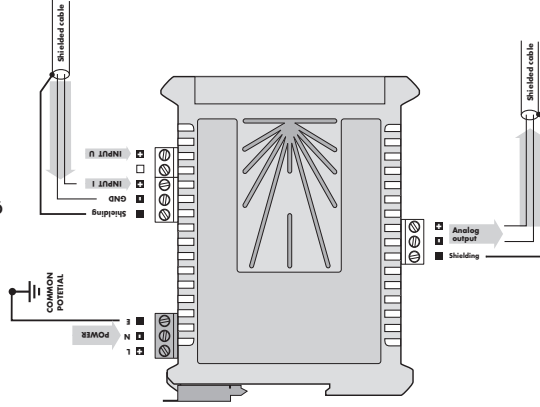
Contactors, motors with larger input power and other efficient elements should not be in the proximity of the instrument.

The lead into the input of the instrument (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.

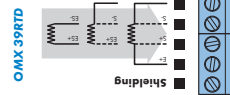
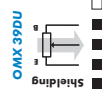
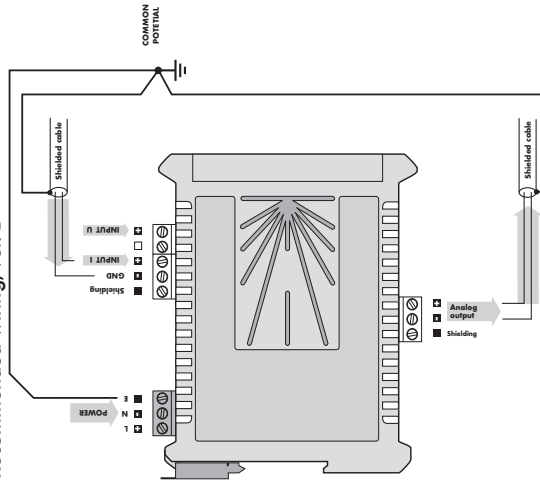
! Grounding on terminal „E“ has to be connected at all times.



Recommended wiring, ver. A



Recommended wiring, ver. B



SAFETY INSTRUCTIONS

Please, read the enclosed safety instructions carefully and observe them!

These instruments should be safeguarded by isolated or common fuses (breakers) with respect to their real demand! For safety information the EN 61 010-1 + A2 standard must be observed.

This instrument is not explosion-safe!

TECHNICAL DATA

Transmitters of the OMX 39 series conform to the European regulation 89/336/EEG and the Ordinance 168/1997 Sb.

They are up to the following European and Czech standards:

- EN 55 022, class B
- EN 61000-4-2, -4, -5, -6, -8, -9, -10, -11

The instrument is applicable for unlimited use in agricultural and industrial areas.

3. TECHNICAL DATA

Measuring range

the range is fixed, according to order
 Input: $\pm 10 \text{ mV} \dots 10 \text{ V}$
 $\pm 10 \dots 450 \text{ V}$
 $\pm 0 \dots 5 \text{ A}$

For larger ranges it is necessary to use external divider or shunt.

the range is fixed, according to order
 Input: $60 \text{ mV} \dots 450 \text{ V}$
 $0 \dots 5 \text{ A}$

Frequency range: $0 \dots 2500 \text{ Hz}$

For larger ranges it is necessary to use external divider or shunt.

the range is fixed, according to order
 Input 2 $0 \dots 2 \text{ V}$
 $0 \dots 5 \text{ V}$
 $0 \dots 10 \text{ V}$
 $0 \dots 5 \text{ mA}$
 $0 \dots 20 \text{ mA}$
 $4 \dots 20 \text{ mA}$

the range is fixed, according to order
 Input: $0 \dots 450 \text{ V}$
 $0 \dots 5 \text{ A}$

Frequency range: $0 \dots 600 \text{ Hz}$, upon request 20 000 Hz

For larger ranges it is necessary to use external divider or shunt.

the range is fixed, according to order
 Range: $-50 \dots 850^\circ\text{C}$

Type: Pt 100 - 3 860 ppm/ $^\circ\text{C}$
 Pt 1 000 - 3 860 ppm/ $^\circ\text{C}$
 Ni 1 000 - 5 000 ppm/ $^\circ\text{C}$

Connection: 2, 3 or 4 wire

the range is fixed, according to order
 Lin. potentiometer: $0 \dots 100 \text{ k}\Omega$
 Pot. power supply: $10 \text{ V} \pm 0,2 \%$

the range is fixed, according to order
 Input: $0,1 \dots 100 \text{ k}\Omega$
 Connection: 2, 3 or 4 wire

Instrument accuracy

Accuracy: $\pm 0,1 \%$ of range
 $\pm 0,3 \%$ of range
 $\pm 0,2 \%$ of range

Rate: continuous measurement

Overload capacity: 2x (long-term) not for 5 A and 300 V
 Calibration: at 23°C and 40 % r.h.

DC
 Input 2
 Input 2
 Input 1

AC
 Input 2
 Input 1

PM
 Input 2
 Input 2
 Input 2
 Input 1
 Input 1
 Input 1

W
 Input U
 Input I

RTD

DU

OHM

DC
AC, W
RTD, OHM

Outputs

Analog: isolated, fixed preset
 TC: 50 ppm/ $^\circ\text{C}$
 Rate: response to change of value $< 1 \text{ ms}$
 $< 1 \text{ s}$
 Voltage: $0 \dots 2 \text{ V}$; 5 V ; 10 V , upon request $\pm 10 \text{ V}$ (max. load 1 k Ω)
 Current: $0/4 \dots 20 \text{ mA}$, upon request $\pm 20 \text{ mA}$, $0 \dots 5 \text{ mA}$
 Corrugation: - compensation of conduit up to 500 Ohm
 5 mV of residual corrugation upon input signal 10 V

Excitation

Adjustable: $5 \dots 24 \text{ VDC}$ /max. 1,2 W

Power supply

$210 \dots 30 \text{ V AC/DC}$, $\pm 10 \%$, max. 5 VA
 $80 \dots 250 \text{ V AC/DC}$, $\pm 10 \%$, max. 5 VA
 - power supply is safeguarded by a fuse inside the instrument

Mechanic properties

Material: PA 665 (UL 94V0), blue
 Dimensions: $113 \times 98 \times 22 \text{ mm}$
 Installation: to DIN rail, width 35 mm

Operating conditions

Connection: connector terminal board - conductor section up to 2,5 mm²
 Stabilization period: within 15 minutes after switch-on
 Working temperature: $0^\circ \dots 60^\circ\text{C}$
 Storage temperature: $-10^\circ \dots 85^\circ\text{C}$
 Cover: IP20

Construction:

safety class II

Dielectric strength:

4 kVAC after 1 min between supply and input
 4 kVAC after 1 min between supply and analog output
 2,5 kVAC after 1 min between supply and analog output

Insulation resistance:

for pollution degree II, measuring cat. III.
 power supply $> 600 \text{ V (PI)}$, 300 V (DI)
 input, output, Exc. $> 500 \text{ V (PI)}$, 250 V (DI)

EMC:

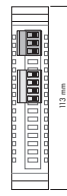
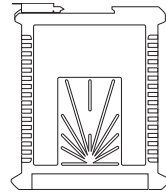
EN 61326-1
 IEC 980: 1993, part. 6

4. INSTRUMENT DIMENSIONS

Front view



Side view



Installation to DIN rail of 35 mm width

Upon installation of the transmitter we recommend to secure airflow along the side walls.

5. DECLARATION OF CONFORMITY

Company:

ORBIT MERRET, spol. s r.o.
 Klánovská 81/141, 142 00 Prague 4
 Czech Republic
 IČO: 00551309

Manufacturer:

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 applicable Czech statutory orders.

Product:

Analog transmitter

Type:

OMX 39

Version:

DC, PM, DU, PWR, OHM, RTD

It has been designed and manufactured in line with requirements of:

- Statutory order no. 17/2003 Coll., on low-voltage electrical equipment (directive no. 73/23/EHS)
- Statutory order no. 18/2003 Coll., on electromagnetic compatibility (directive no. 89/336/EHS)

The product qualities are in conformity with harmonized standard:

El. safety: EN 61010-1

EMC: EN 50131-1, chapter 14 and chapter 15

EN 50130-4, chapter 7 EN 61000-4-11

EN 50130-4, chapter 8 EN 61000-4-11

EN 50130-4, chapter 9 EN 61000-4-2

EN 50130-4, chapter 10 EN 61000-4-3

EN 50130-4, chapter 11 EN 61000-4-6

EN 50130-4, chapter 12 EN 61000-4-4

EN 50130-4, chapter 13 EN 61000-4-5

prEN 50131-2-1, par. 9.3.1

EN 61000-4-8

EN 61000-4-9

EN 61000-3-2 ed. 2:2001

EN 61000-3-3: 1997. Cor. 1:1998, Z1:2002

EN 55022, chapter 5 and chapter 6

The product is furnished with CE label issued in 2008.

As documentation serve the protocols of authorized and

accredited organizations:

MO ČR, Agency for development of informatics, testing lab no.1558, accredited ČIA, in compliance with EN ISO/EIC 17025

In Prague, November 18, 2008

Miroslav Hockl
 the Executive

Assessment of conformity pursuant to §22 of Act no. 22/1997 Coll. and changes as amended by Act no.71/2000 Coll. and 205/2002 Coll

6. CERTIFICATE OF GUARANTEE

Product: OMX 39 DC AC W RTD DU OHM

Type:

Manufact.No.:

Date of sale:

For this instrument applies a guarantee period of 24 months of the date of sale to the user.

Defects occurring during this period due to manufacturing error or due to material faults shall be eliminated free of charge.

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

The guarantee does not apply to defects caused by:

- mechanical damage
- transportation
- intervention of unqualified person including the user
- irreversible event
- other unprofessional interference

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

Stamp, signature



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