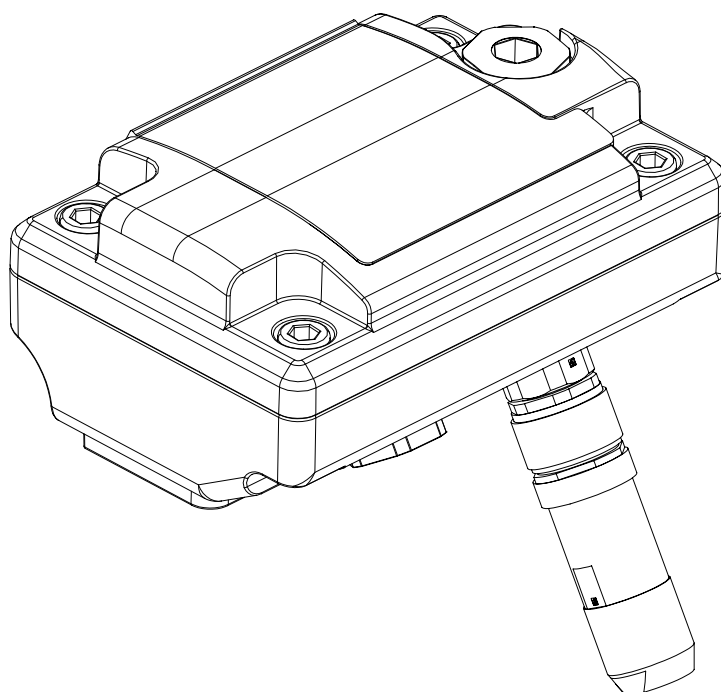




# ISOMAG

*The friendly magmeter*

## OPERATING AND MAINTENANCE MANUAL



**MV800**

**NOTICE:** The complete user manual is available at the following address:

XXXXXXXXXXXXXXXXXXXXX

CE

ISOIL   
I N D U S T R I A

## SAFETY CONVENTION

 DANGER ELECTRIC SHOCK	 WARNING	 PRECAUTIONS	 ATTENTION
------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------

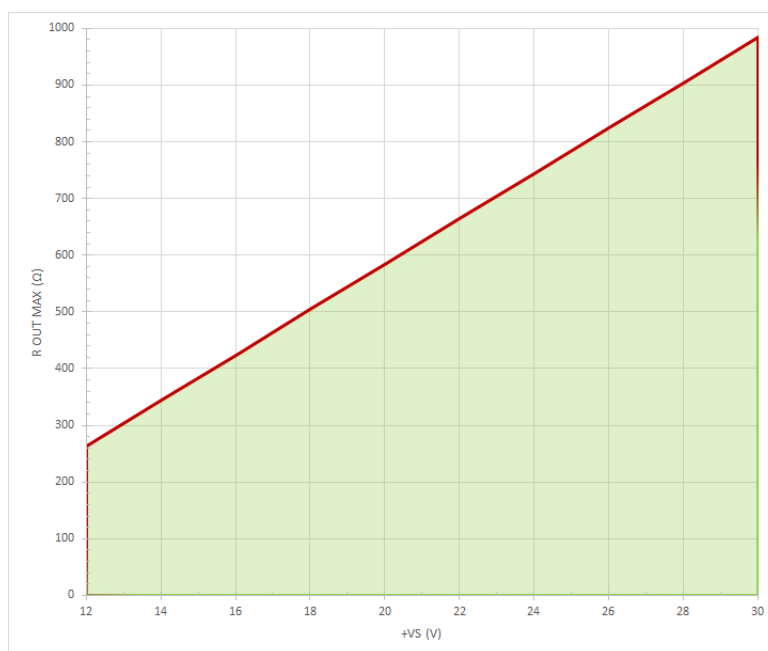
## TECHNICAL CHARACTERISTICS

### ELECTRIC CHARACTERISTICS



Instrument classification: class I, IP67/IP68 installation category II, rated pollution degree 2.

Power supply voltage	Power Max
min10 / 30max V $\overline{=}$	1W



- ❑ Voltage variations must not exceed  $\pm 10\%$  of the nominal one.
- ❑ Digital input/outputs are insulated up to 500V.
- ❑ 4-20mA max load: 500  $\Omega$  output not insulated from power supply.

## ENVIRONMENTAL USE CONDITIONS



- ☐ The instrument can be installed inside or outside buildings
- ☐ Altitude: from –200m to 2000m (from -656 to 5602 feet)
- ☐ Humidity range: 0-100% (IP 67)

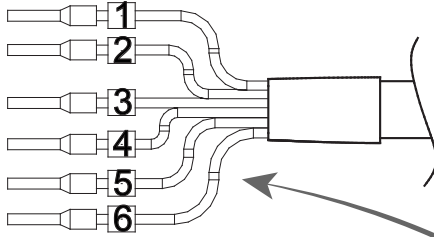
E N V I R O N M E N T A L T E M P E R A T U R E		
	<b>Min. *</b>	<b>Max</b>
<b>°C</b>	-10	60
<b>°F</b>	14	140

LIQUID TEMPERATURE		
	<b>Min. *</b>	<b>Max</b>
<b>°C</b>	-10	100
<b>°F</b>	14	212

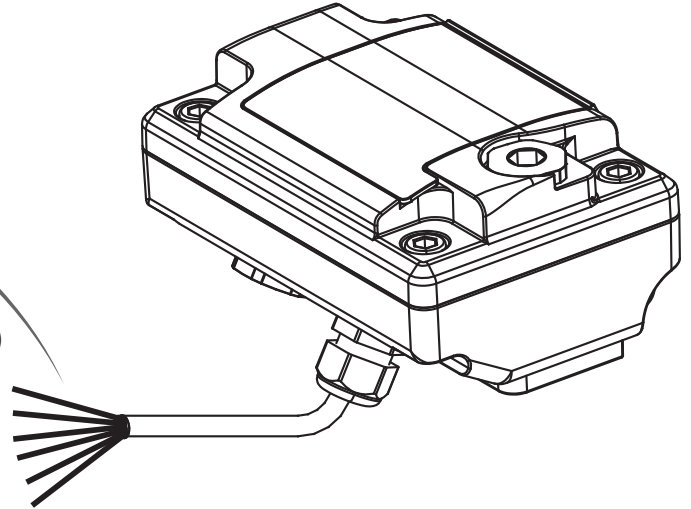
\* For discontinuous use, a thermostat heat source installation may be necessary

## ELECTRICAL CONNECTIONS

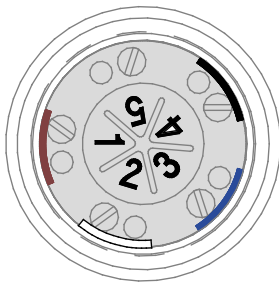
### VERSION WITH CABLE



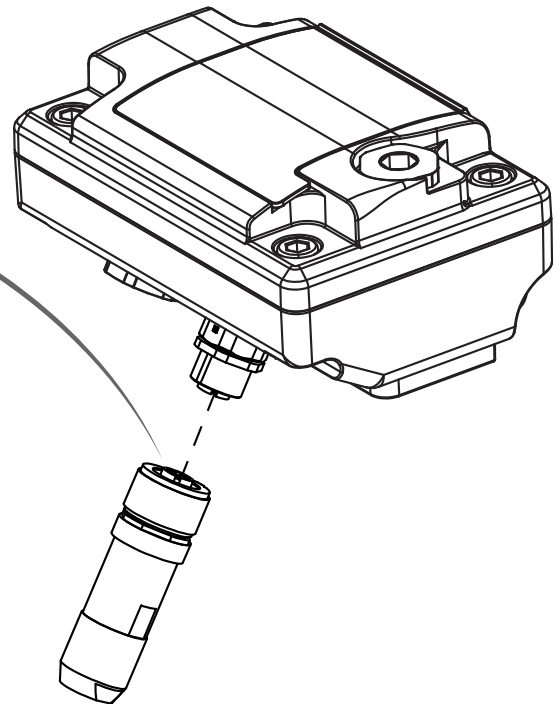
- 1 (+) POWER SUPPLY
  - 2 (+) OUTPUT 1 / INPUT
  - 3 (+) OUTPUT 2 (OPTIONAL)
  - 4 (+) 4-20mA max load: 500  $\Omega$  OUTPUT (OPTIONAL)
  - 5 (-) POWER SUPPLY / OUTPUTS / INPUT
  - 6 SHIELD (CONNECT TO GROUND)
- ⚡ PIN 5-6 TO BE CONNECT TO THE GROUND



### VERSION WITH CONNECTOR



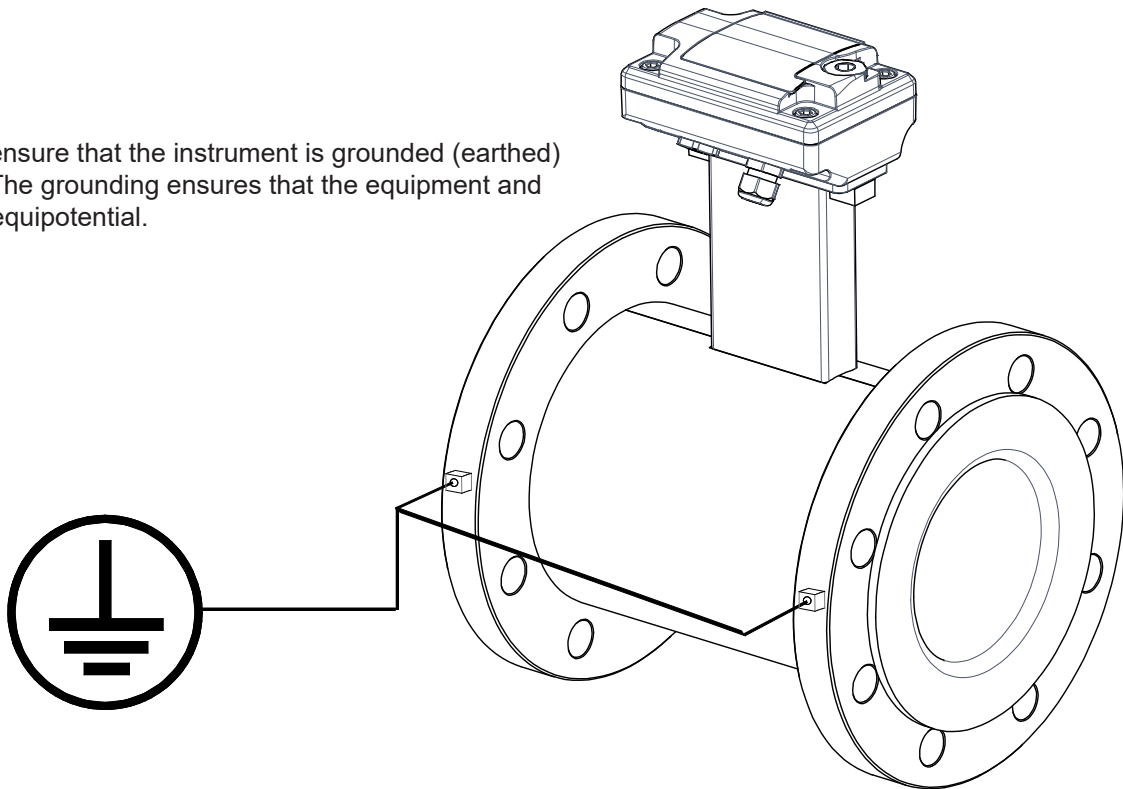
- 1 (+) POWER SUPPLY
  - 2 (+) OUTPUT 1 / INPUT
  - 3 (+) OUTPUT 2 (OPTIONAL)
  - 4 (+) 4-20mA max load: 500  $\Omega$  OUTPUT (OPTIONAL)
  - 5 (-) POWER SUPPLY / OUTPUTS / INPUT
- ⚡ PIN 5 TO BE CONNECT TO THE GROUND



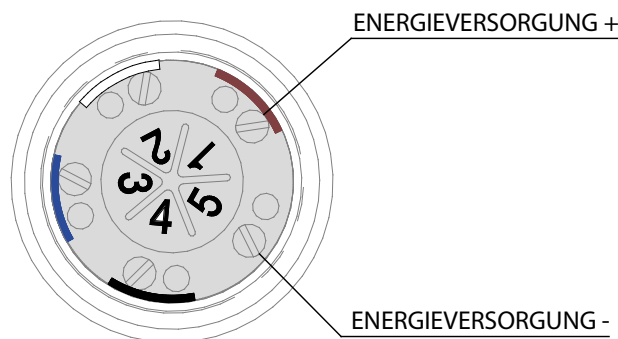
## GROUNDING



ALWAYS ensure that the instrument is grounded (earthed) correctly. The grounding ensures that the equipment and liquid are equipotential.

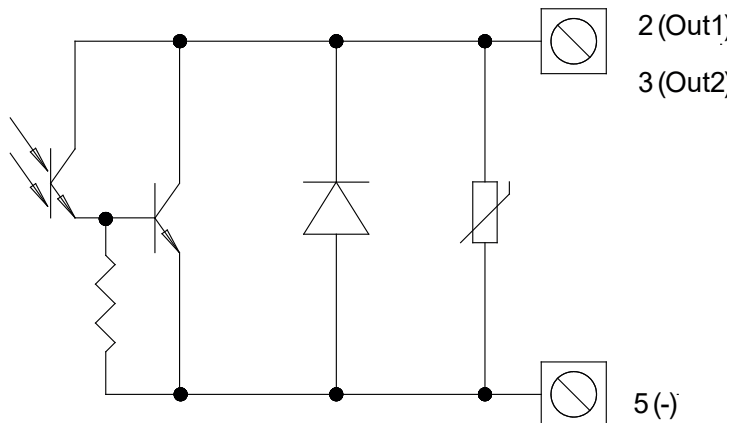


## POWER SUPPLY



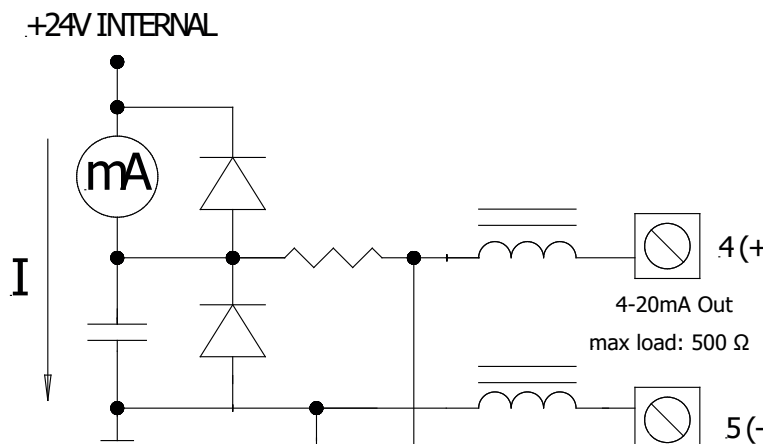
- ☐ Before connecting the power supply, verify that the mains voltage is within the limits indicated on data plate.
- ☐ For the connections use only approved conductors, with fire-proof properties, whose section varies from 0.25mm<sup>2</sup> to 2.50mm<sup>2</sup>, based on distance/power; additionally fix the power supply wires with a additional fastening system located close to the terminal.
- ☐ The power supply line must be equipped with an external protection for overload current (fuse or automatic line breaker).
- ☐ Provide in close proximity the converter a circuit breaker easily accessible for the operator and clearly identified; whose symbols must conform to the electrical safety and local electrical requirements.
- ☐ Ensure that the component complies with the requirements of the standard for electrical safety distance.
- ☐ Check chemical compatibility of materials used in the connection security systems in order to minimize electrochemical corrosion.

## OUTPUTS WIRING



### DIGITAL OUTPUTS

- ☐ Opto-insulated output
- ☐ Maximum switching voltage: 30V ---
- ☐ Maximum switching current: 100mA @ 25 °C
- ☐ Maximum saturation voltage between collector and emitter @100mA: 1.2V ---
- ☐ Maximum switching frequency (load on the collector or emitter,  $R_L=470\Omega$ ,  $V_{OUT}=24V$  --- ): 1250Hz
- ☐ Maximum reverse current bearable on the input during and accidental polarity reversion (VEC): 100mA
- ☐ Insulation from other secondary circuits: 500 V ---



### ANALOG OUTPUT

- ☐ Maximum load 1000Ω
- ☐ Refresh frequency equal to the sample frequency
- ☐ Protected against persistent over voltages up to 30V ---

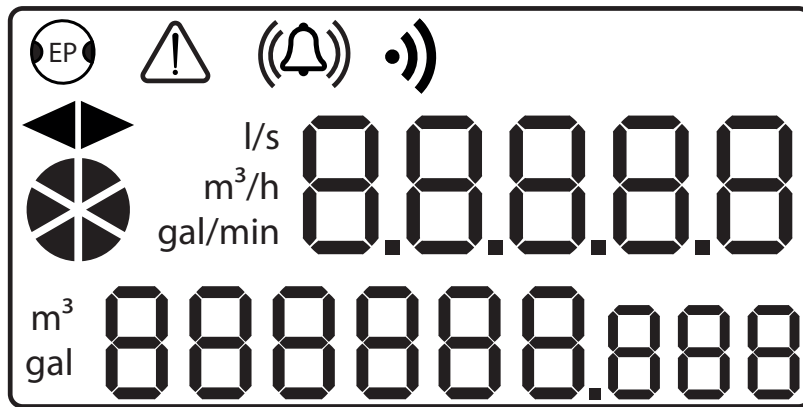
NOTE: shielded cables are recommended for input and output wiring

## DISPLAY VISUALIZATION



The direct exposure of the converter to the solar rays, could damage the liquid crystal display.

No display pages are provided.



EMPTY PIPE WARNING



ALARM WARNING



PROCESS ALARM



DATA TRANSMISSION



FLOW DIRECTION



ACTIVE FLOW RATE

l/s  
m³/h  
gal/min

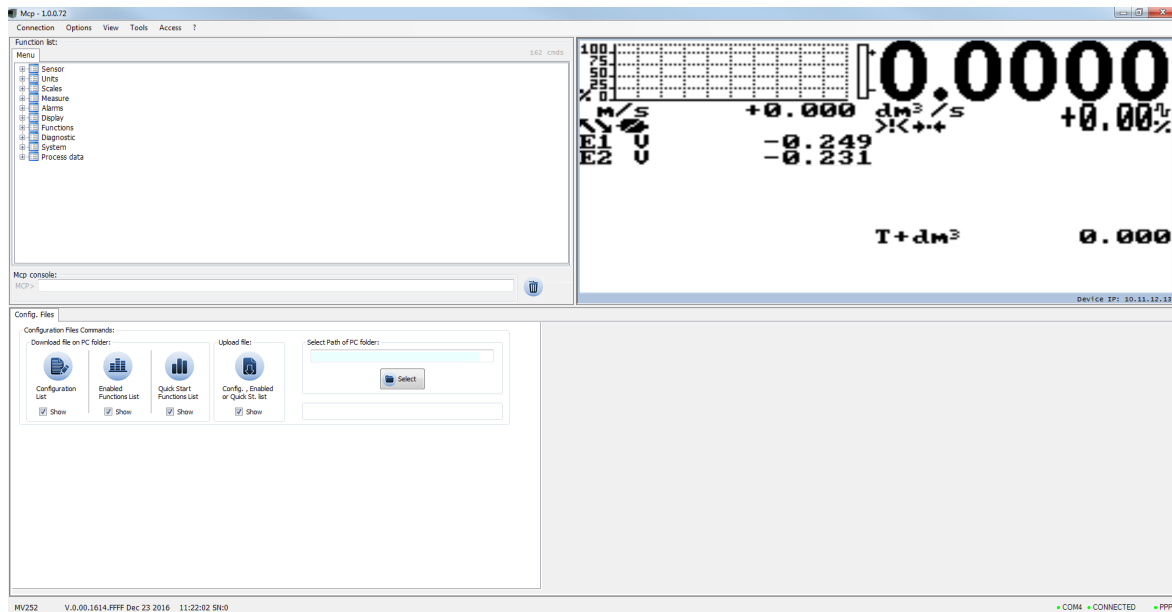
FLOW RATE MEASURE UNIT

m³  
gal

TOTALIZER MEASURE UNIT

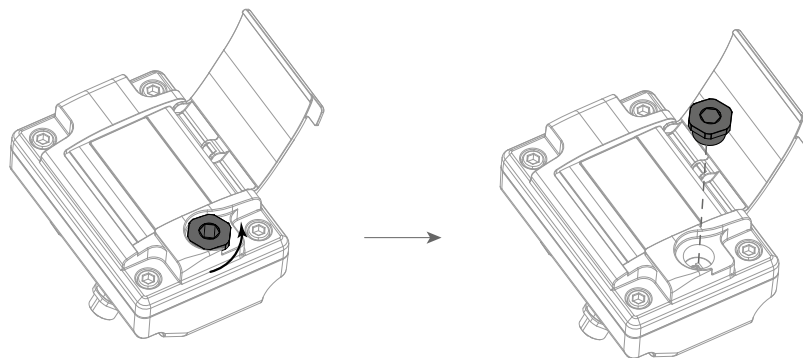
## ACCESS TO THE CONFIGURATION MENU

You can access the drive configuration menu only by MCP interface. It is a software that can be installed on Microsoft Windows® and allows you to set all the functions of the converter and customize the menu. To use the MCP interface, see the user manual .

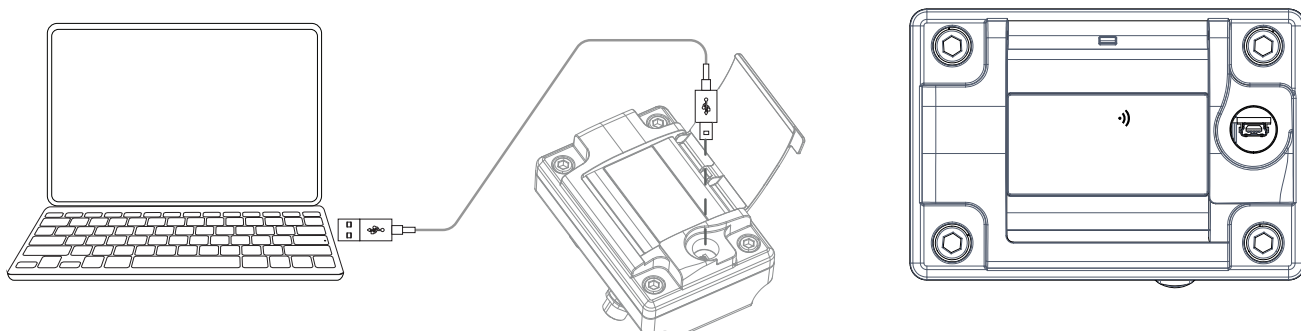


To connect the converter to the computer, connect the USB cable as shown below.

Remove the PG9 cap.



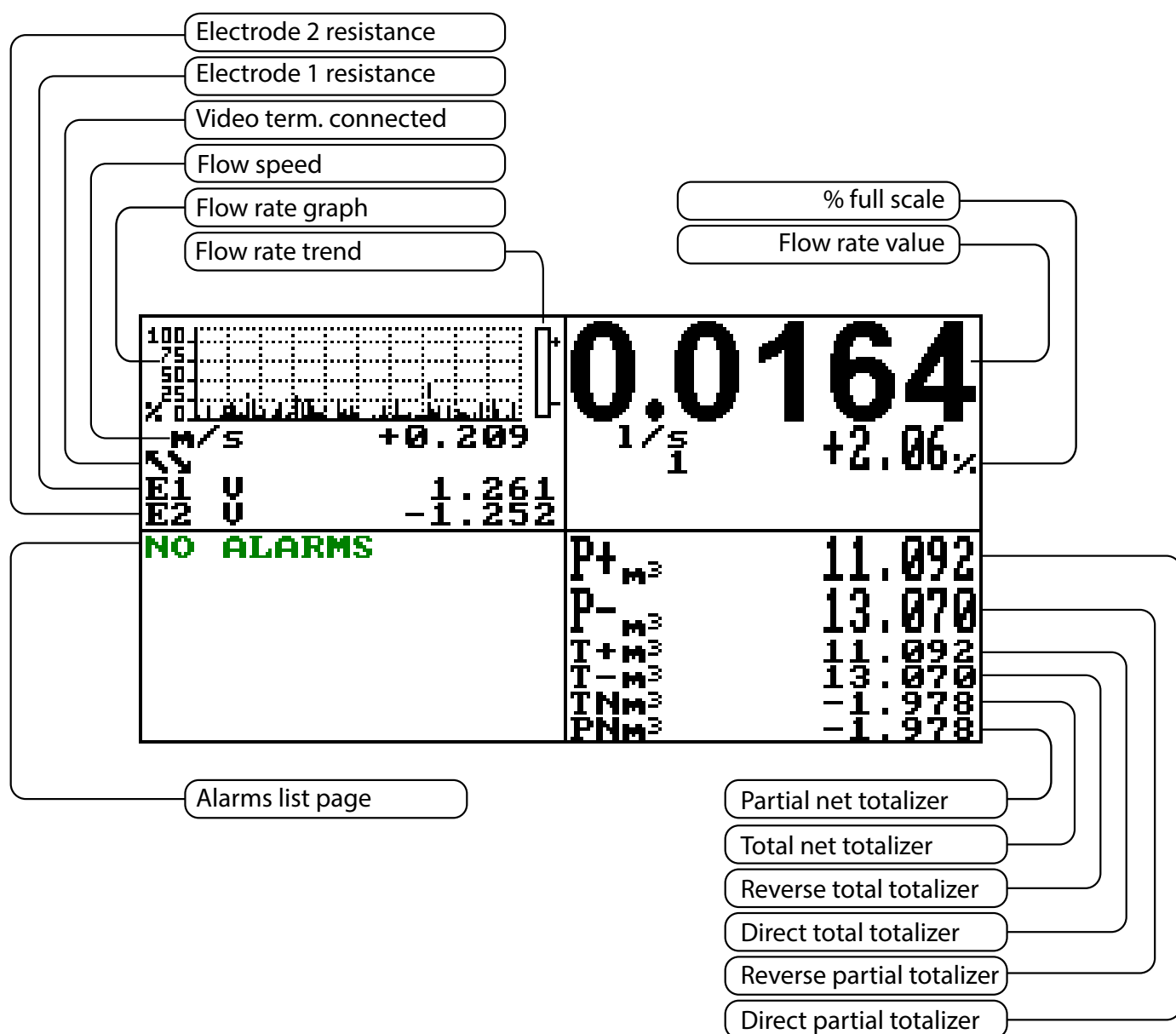
Connect USB cable type mini B. Verify connection by symbol on display.



Data Transmission and MCP  
Link Executed



# START VISUALIZATION PAGES ON MCP INTERFACE



## CONVERTER ACCESS CODE

The access for programming the instrument is regulated by six access levels logically grouped. Every level is protected by a different code.

- ❑ Access Level 1-2-3-4 Freely programmable by user

### Access Code Set : Menu 13 System

```
SYSTEM
L1 code=*****
L2 code=*****
L3 code=*****
L4 code=*****
L5 code=*****
L6 code=*****
Restr.access= ON
010.011.012.013
010.011.012.014
255.255.255.000
KT= 0.96469
KS= 1.00000
KR= 1.00000
DAC1 4mA= 02460
DAC1 20mA= 11050
FW update
13-System
```

```
SYSTEM
L1 code=*****
L2 code=*****
L3 code=*****
L4 code=*****
L5 code=*****
L6 code=*****
0499999999
```

The CODE is inserted by keyboard or MCP interface. Depending on the level of access different display functions will be visible. These access levels interact with the "Restricted access"

### Restricted Access Set : Menu 13 System

```
SYSTEM
L1 code=*****
L2 code=*****
L3 code=*****
L4 code=*****
L5 code=*****
L6 code=*****
Restr.access=OFF
```

Values  
ON  
OFF

**Restrict = ON:** Access permitted only to functions provided for a specific level;

Example: If the operator has a code of access level 3, after having set it, he can change only the functions with level 3 access.

**Restrict = OFF:** It enables to change functions for the selected level and ALL the functions with lower access level.

Example: If the operator has the code of level 3, after having set it, he can change all the functions at level 3 and those at lower levels.

\* **WARNING:** take careful note of the customized code, since there is no way for the user to retrieve or reset it if lost.

Factory preset access codes:

- ❑ L1: 10000000
- ❑ L2: 20000000
- ❑ L3: 30000000
- ❑ L4: 40000000

## MANUAL REVIEWS

REVIEW	DATE	DESCRIPTION
MV800_QUICK_EN_IT_R0_1.00.0	09/10/2017	First edition
MV800_QUICK_EN_IT_R1_1.00.0	02/11/2017	Insert ground reference on electrical wiring
MV800_QUICK_EN_IT_R2_1.02.0	17/07/2020	Software update
MAN_MV800_QUICK_EN_IT_R03_1.04. XXXX	15/04/2021	Manual restored, 4-20 output graph added, graphic update
MAN_MV800_QUICK_EN_IT_R04_1.04. XXXX	08/10/2021	Changes to data relating to digital output



At the end of its lifetime, this product shall be disposed of in full compliance with the environmental regulations of the state in which it is located.

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<http://www.isoil.it/en>



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