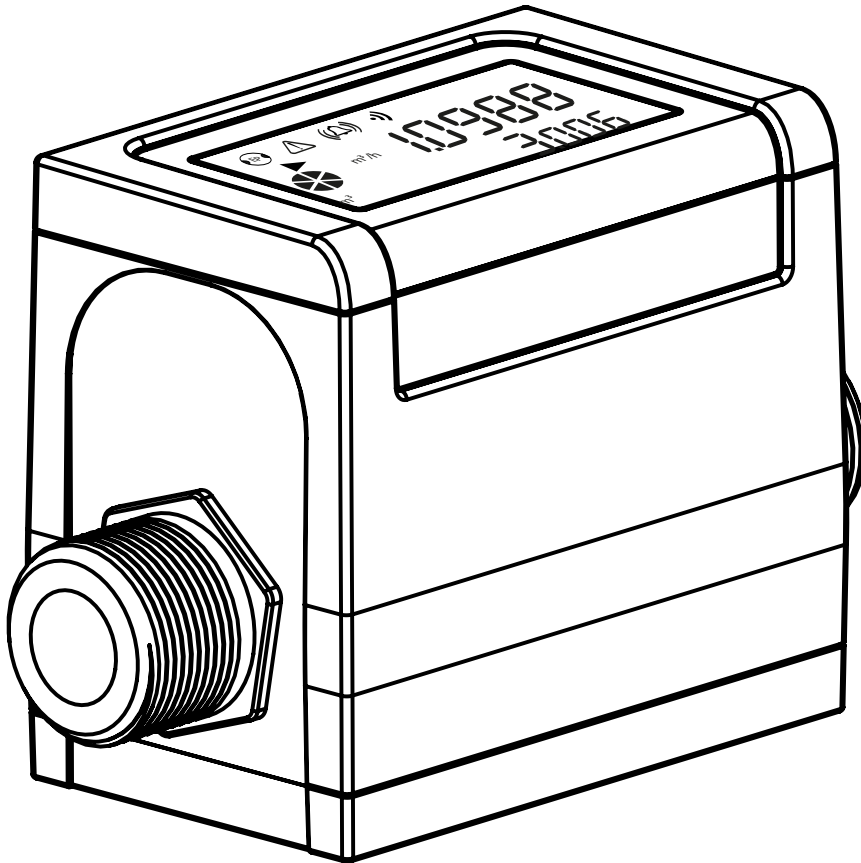# ISOMAG

The friendly magmeter

OPERATING AND MAINTENANCE MANUAL

CS8100

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

XXXXXXXXXXXXXXXXX

CE

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I N D U S T R I A

Release number: **8100_QUICK_EN_IT_IS_R0_1.0X** -

The characters of file name in bolt type indicate the software version which the manual refers to; it is visualized at the instrument start up, or by specific function on DIAGNOSTIC menu.

SAFETY CONVENTION

DANGER ELECTRIC SHOCK	WARNING	PRECAUTIONS	ATTENTION

ELECTRIC CHARACTERISTICS

Converter classification: class I, IP67/IP68 for noryl housing, installation category (overvoltage) II, rated pollution degree 2.

Power supply versions	Power supply voltage	Power
LV	18-30V ⎓	1W

- ❑ Voltage variations must not exceed ±10% of the nominal one.
- ❑ Input/output insulated up to 500V.
- ❑ The output 4-20mA (optional) is electrically connected to the ON/OFF outputs and the output power supply (24V ⎓).

ENVIRONMENTAL USE CONDITIONS

- ❑ The converter can be installed internally or externally
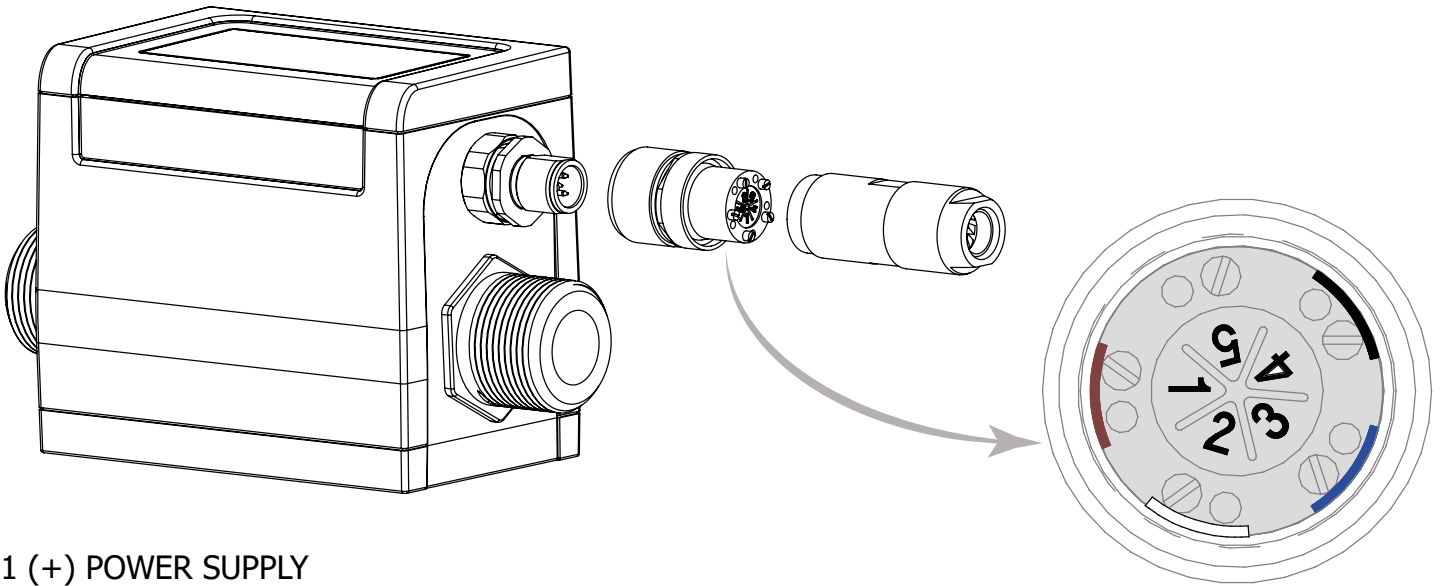- ❑ Altitude: from −200m to 2000m (from -656 to 6560 feet)
- ❑ Humidity range: 100%

AMBIENT TEMPERATURE	Min*	Max
°C	-10	50
°F	14	122

LIQUID TEMPERATURE	Min*	Max
°C	-20	85
°F	-4	185

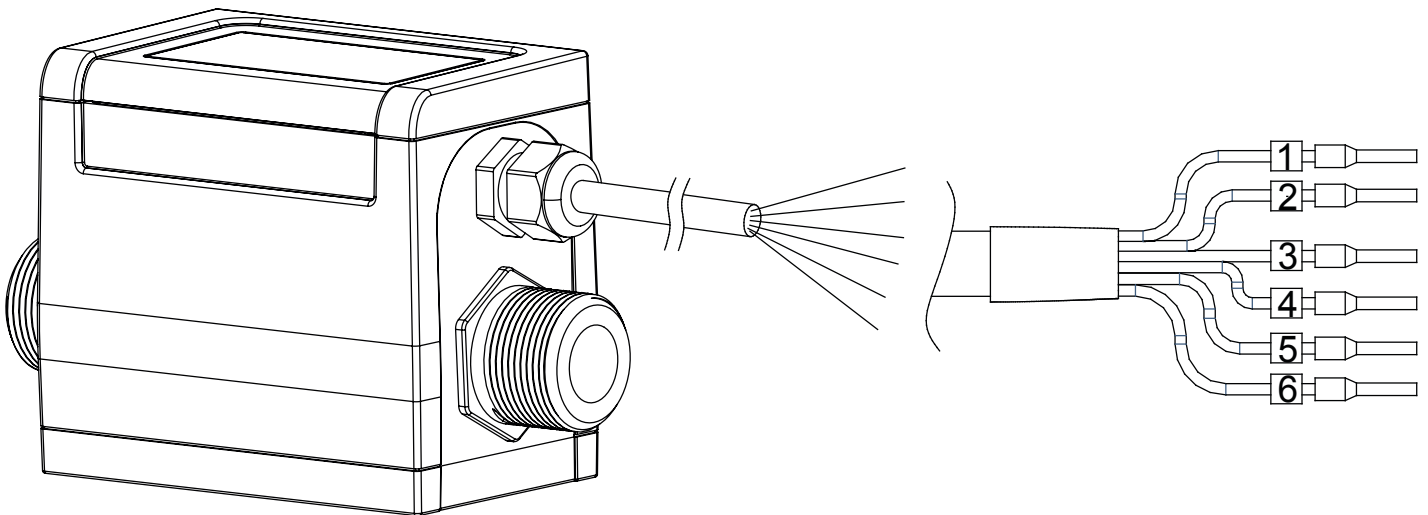* For discontinuous use, a thermostat heat source installation may be necessary

ELECTRICAL CONNECTIONS

INPUT/OUTPUT WITH CONNETCTOR

1 (+) POWER SUPPLY

2 (+) OUTPUT 1 / INPUT

3 (+) OUTPUT 2 (OPTIONAL)\

4 (+) 4-20mA OUTPUT

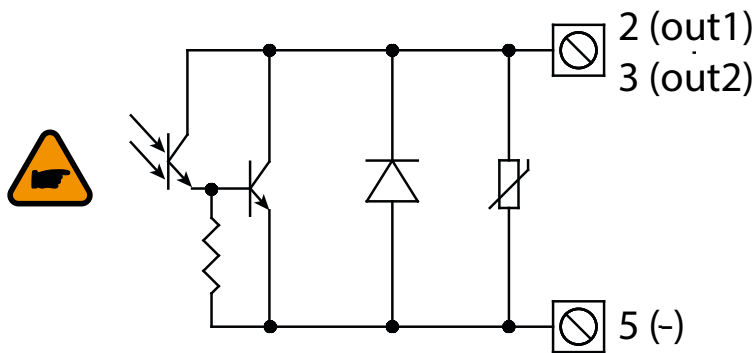5 (-) POWER SUPPLY / OUTPUTS / INPUT

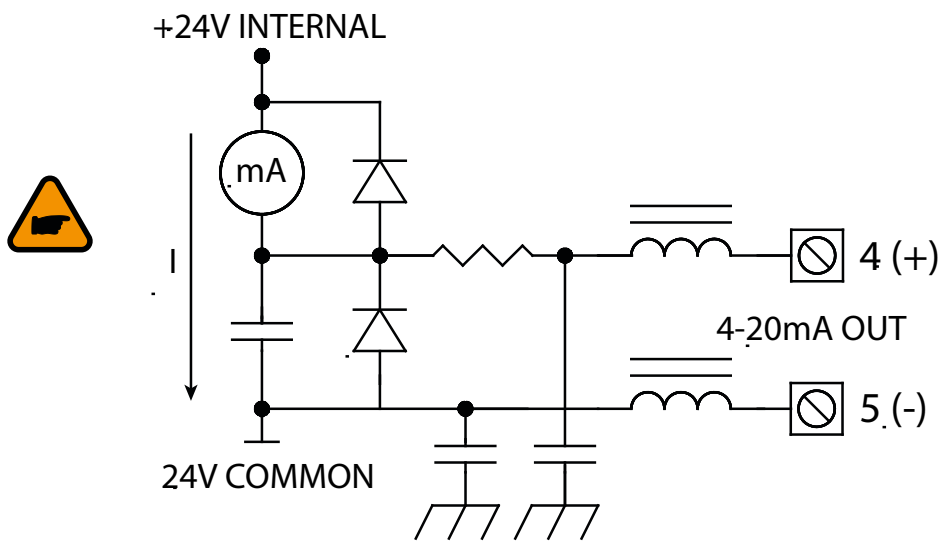**PIN 5 TO BE CONNECT TO THE GROUND**

INPUT/OUTPUT WITH CABLE

1 (+) POWER SUPPLY

2 (+) OUTPUT 1 / INPUT

3 (+) OUTPUT 2 (OPTIONAL)

4 (+) 4-20mA OUTPUT

5 (-) POWER SUPPLY / OUTPUTS / INPUT

6 (SH) SHIELD

PIN 5-6 TO BE CONNECT TO THE GROUND

The manufacturer guarantees only English text available on our web site www.isoil.com

8100_QUICK_EN_IT_IS_R0_1.0X

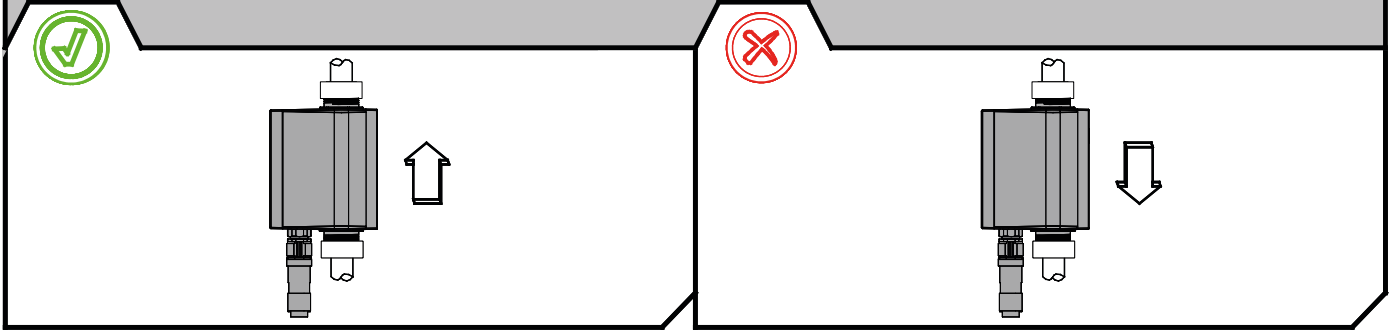**OUTPUTS WIRING**

2 (out1)
3 (out2)

DIGITAL OUTPUTS

5 (-)

+24V INTERNAL

mA

I

ANALOG OUTPUT

4 (+)

4-20mA OUT

5 (-)

24V COMMON

NOTE: shielded cables are recommended for input and output wiring

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SHREWDNESS AND PRECAUTIONS

In vertical installations an ascending flow is preferable. For vertical installations with descending flow direction contact the manufacturer

For installations in long pipe lines, please use anti vibration joints

ANTIVIBRATION

LONG PIPE
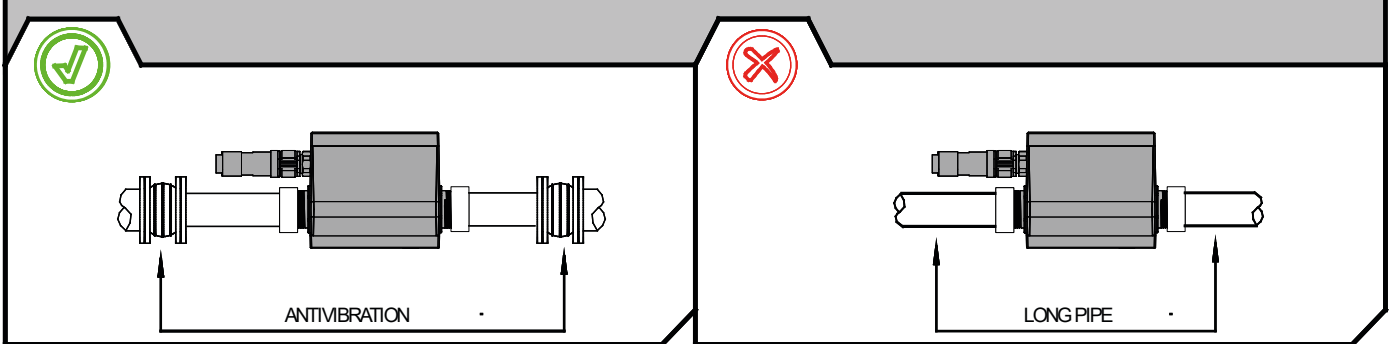
Avoid a partially empty pipe, during operation the pipe must be either completely full of liquid or completely empty
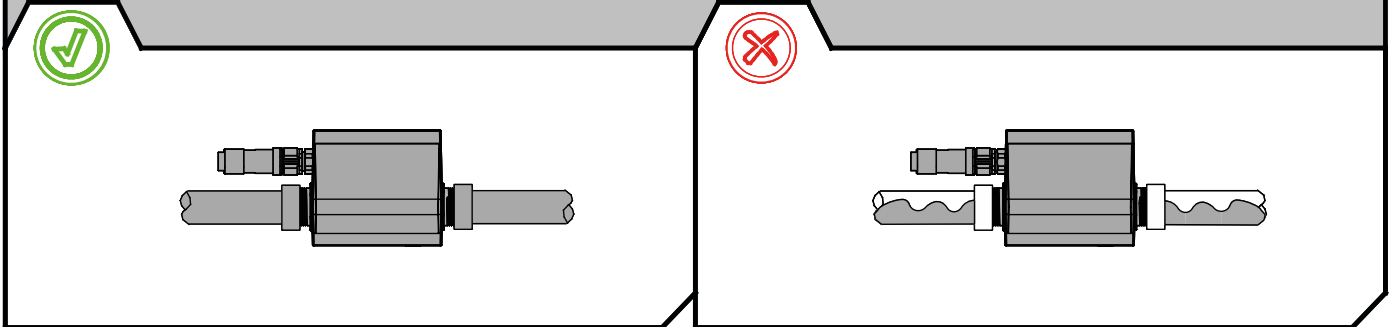
Install the sensor away from bends and hydraulic accessories

3 X DN

2 X DN

8100_QUICK_EN_IT_IS_R0_1.0X

TIGHTENING TORQUE

❑ Tightening torque: **20Nm**

❑ Do not approach the fittings pipe by SCREWING

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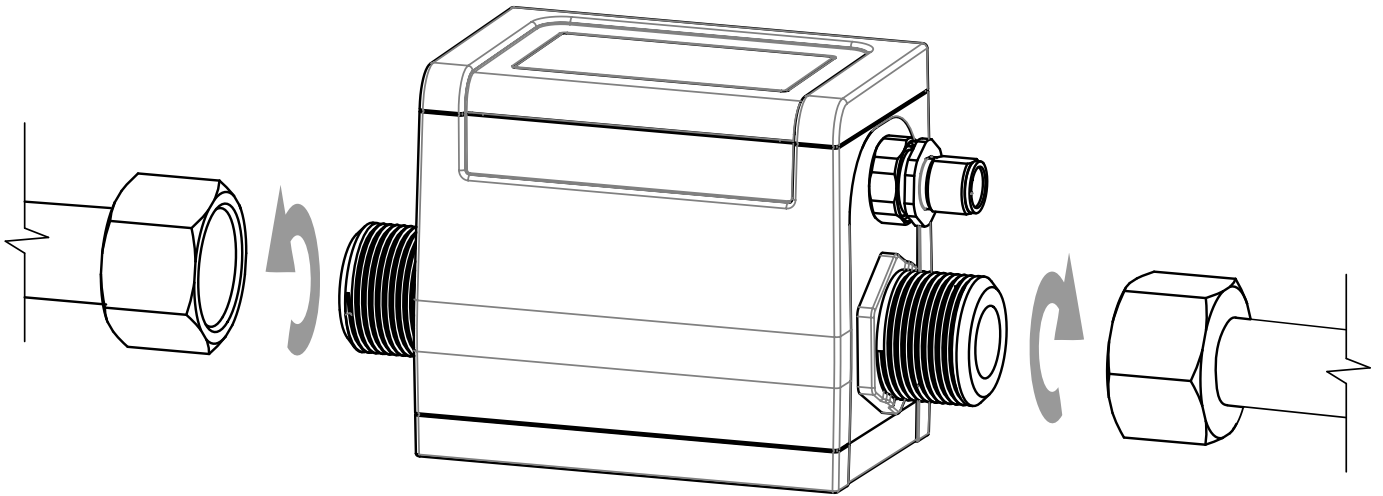The direct exposure of the converter to the solar rays, could damage the liquid crystal display. The visualization pages can be change according to instrument's setup.
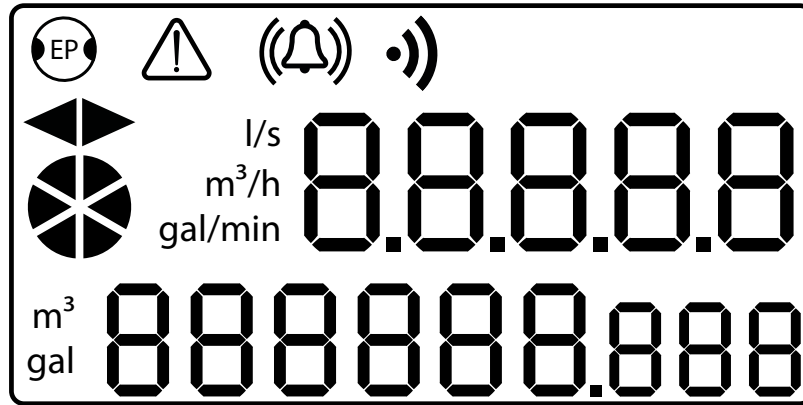
Symbol	Description
EP	EMPTY PIPE WARNING
⚠	ALARM WARNING
((🔔))	PROCESS ALLARM
•))	DATA TRASMISSION
◄►	FLOW DIRECTION
✳	ACTIVE FLOW RATE
l/s m³/h gal/min	FLOW RATE MEASURE UNIT
m³ gal	TOTALIZER MEASURE UNIT

8100_QUICK_EN_IT_IS_R0_1.0X

USER INTERFACE

You can access the drive configuration menu only by MCP interface for CS8100. 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 .
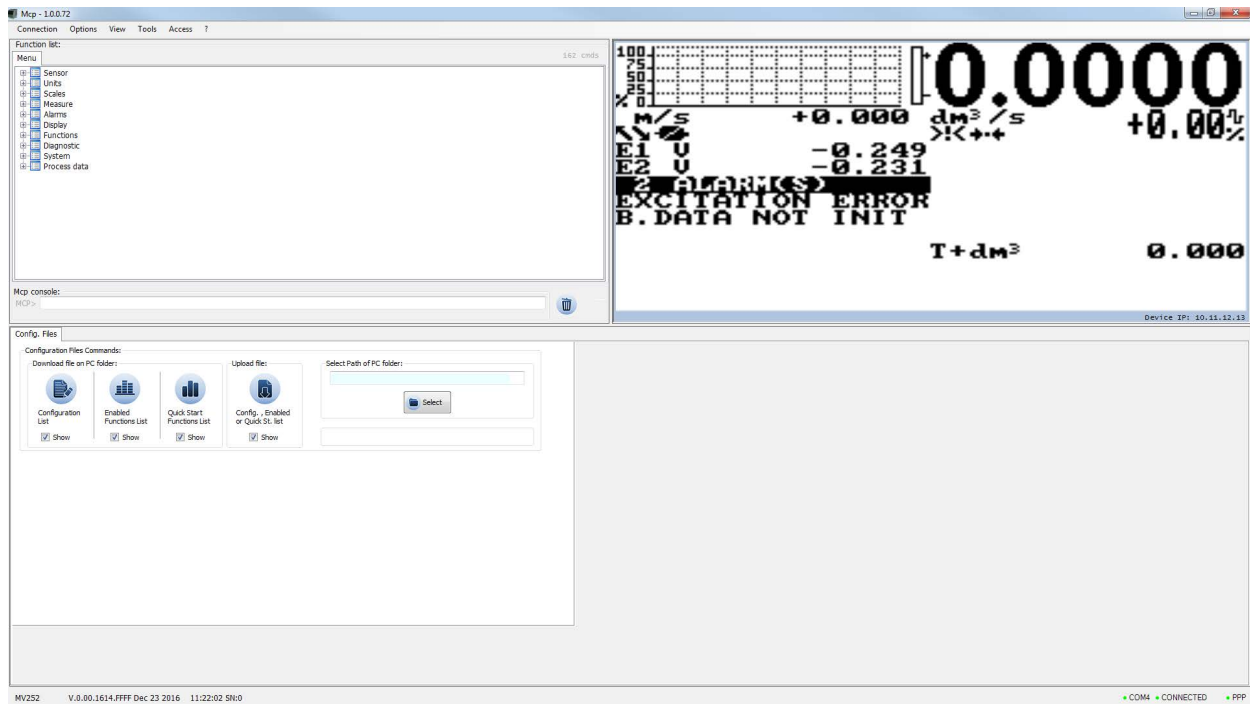
Make the USB connection as shown in the following figure.

Electrode 2 resistance

Electrode 1 resistance

Video term. connected

Flow speed

Flow rate graph

Flow rate trand

% full scale

Flow rate value

```
100
 75
 50
 25
X  0        M/s     +0.209
E1 V            1.261
E2 V           -1.252
NO ALARMS
```

```
0.0164
1/s
 1        +2.06%
```

```
P+ m³     11.092
P- m³     13.070
T+ m³     11.092
T- m³     13.070
TN m³     -1.978
PN m³     -1.978
```

Alarms list page

Partial net totalizer

Total net totalizer

Reverse total totalizer

Direct total totalizer

Reverse partial totalizer

Direct partial totalizer

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 1-2-3-4-5-6 Freely programmable by user

ACCESS CODE SET : MENU 13 SYSTEM

```
11-Functions
12-Diagnostic
13-System
SYSTEM
L1 code=********
L2 code=********
L3 code=********
L4 code=********
L5 code=********
L6 code=********
Restr.access=OFF
Device IP addr=
Client IP addr=
Network mask=
KT=        1.01218
KS=        1.00000
KR=        1.00000
DAC2 out 4mA cal
DAC1 4mA=1.02382
DAC1 20mA= 10050
FW update
```

```
SYSTEM
L1 code=********5]
L2 code=********
L3 code=********
L4 code=********
L5 code=********
L6 code=********
     0◄►99999999
```

The CODE is Settable by MCP interface.
Depending on the level of access different display functions will be visible. (See section "FUNCTIONS DESCRIPTION" page 19)
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
```

Settable 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.

Restict = 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	**L4: 40000000**
L2: 20000000	**L5: 57291624**
L3: 30000000	**L6: 65940123**

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MANUAL REVIEWS

REVIEW	DATE	DESCRIPTION
8100_QUICK_EN_IT_R0_1.00.0	08/01/2018	First edition

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.com/u_vendita.asp

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isomagservice@isoil.com

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