ISOMAG®
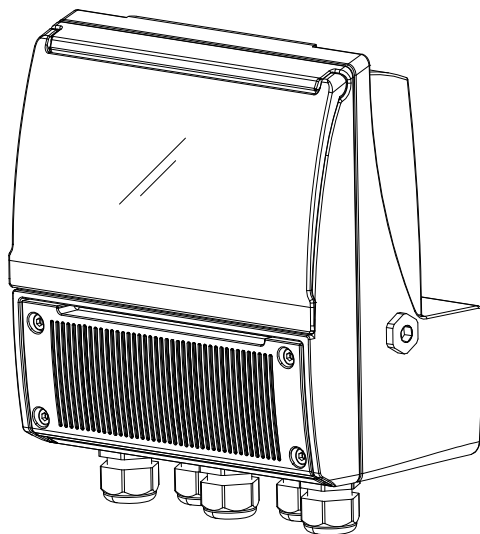
The friendly magmeter

OPERATING MANUAL

MV110

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

XXXXXXXXXXXXXXXXXX

CE

ISOIL
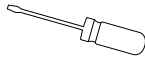INDUSTRIA

TECHNICAL CHARACTERISTICS

Converter classification: class I, IP67/68 for aluminum/PA6 housing, installation category (overvoltage) II, rated pollution degree 2.

Power supply versions	Power supply voltage	Power supply frequency	Min Power	Max power
HV	100-240V~	45-66HZ	1,5 W (Sensor only)	5 W (all Loads)
LV	24-36V ---	45-66HZ		
	24-36V~	45-66HZ		
LLV	12-48V ---	//		

❑ 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 ---).

TORQUES

To guarantee the housing's IP degree the following torques are required:
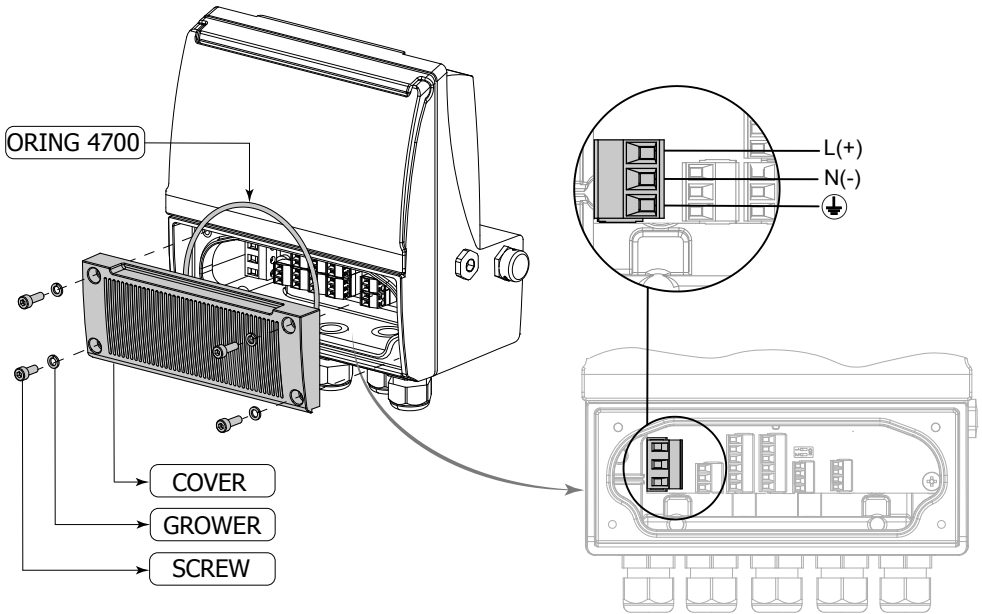
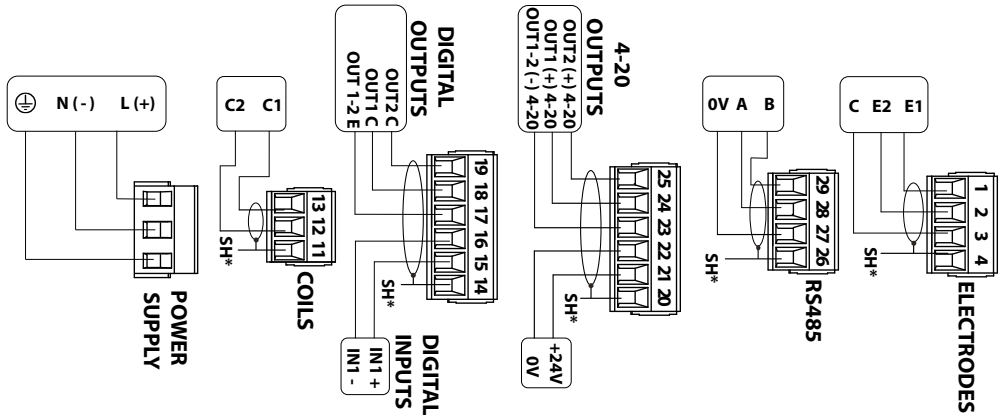|	Housing screw (1)	Srew cover terminal block (2)	Version CUP (3)	Cable Glands (4)	Cup USB-B (5)
ALLUMINIUM HOUSING	6 Nm	5.5 Nm	8 Nm	4 Nm	4 Nm
PA6 HOUSING	2 Nm	2 Nm	7 Nm	4 Nm	4 Nm
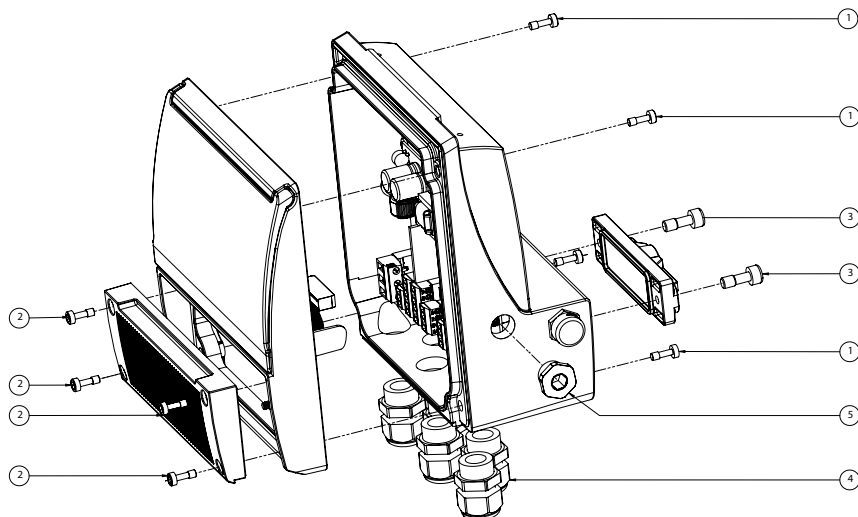
ELECTRICAL CONNECTION AND GROUNDING INSTRUCTIONS

⚠️ Always ensure that the converter and the sensor are grounded (earthed) correctly. The grounding of the sensor and converter **must** ensures that the instrument and liquid are equipotential.
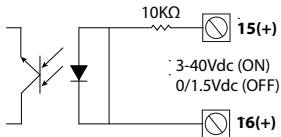
The manufacturer guarantees only English text available on our web site www.isoil.com

ORING 4700

L(+)
N(-)
⏚

COVER
GROWER
SCREW

*SH = SHIELD OF CABLE internally connected to ground.

⏚ N (-) L (+)

C2 C1

DIGITAL OUTPUTS
OUT2 C
OUT1 C
OUT 1-2 E

4-20 OUTPUTS
OUT2 (+) 4-20
OUT1 (+) 4-20
OUT1-2 (-) 4-20

0V A B

C E2 E1

POWER SUPPLY

13 12 11
SH*
COILS

19 18 17 16 15 14
SH*
IN1 +
IN1 -
DIGITAL INPUTS

25 24 23 22 21 20
SH*
+24V
0V

29 28 27 26
SH*
RS485

1 2 3 4
SH*
ELECTRODES

ISOIL
INDUSTRIA

ON/OFF INPUT

EXTERNAL POWER SUPPLY

10KΩ

15(+)

3-40Vdc (ON)
0/1.5Vdc (OFF)

16(+)

INTERNAL POWER SUPPLY

+24

21

10KΩ

15

16

-0

22
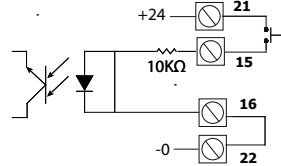
OUTPUTS

DIGITAL OUTPUT

18 OUT 1(+)
19 OUT 2(+)

17 (COM. OUT 1-2)
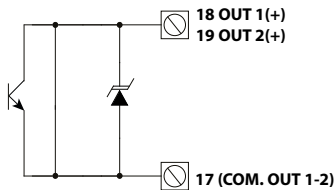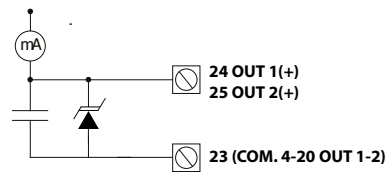
❑ Opto-insulated output with floating collector and emitter terminals freely connectable

❑ Maximum switching voltage: 40V ---

❑ Maximum switching current: 150mA

❑ Maximum saturation voltage between collector and emitter @150mA: 1.2V

❑ Maximum switching frequency (load on the collector or emitter, RL=470, VOUT=24V ---): 1250Hz

❑ Maximum reverse current bearable on the input during and accidental polarity reversion (VEC): 100mA

❑ Insulation from other secondary circuits: 500V ---

ANALOG OUTPUT

mA

24 OUT 1(+)
25 OUT 2(+)

23 (COM. 4-20 OUT 1-2)

❑ Opto-insulated output

❑ Maximum load: 1000Ω

❑ Maximum voltage without load: 27V

❑ Refresh frequency is the same of the sample frequency of the connected sensor

❑ Protected against persistent over voltages to maximum 30V

CONVERTER ACCESS CODE

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

Access Level 1-2-3-4-5-6 are freely programmable by user

ACCESS CODE SET : MENU 13 - SYSTEM

```
SYSTEM
Dayl.saving=   ON
Time zone=h+01.00
2016/04/04-16:07
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
```

```
SYSTEM
L1  code=********
L2  code=********
L3  code=********
L4  code=********
L5  code=********
L6  code=********
        0◄►99999999
```
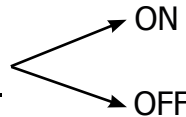
The CODE is Settable by keyboard or MCP interface. Depending on the level of access will be visualize display functions.These access levels interact with the "Restricted access"

RESTRICTED ACCESS SET MENU SYSTEM 13

```
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; Exemple: If the operator has a code of access level 3, after having set it, he will can change only the functions provided for a access level 3.

Restict = OFF: It enables to change functions for the selected level and ALL the functions with lower access level. Exemple: If the operator has the code of level 3, after having set it, he will can change all the functions at level 3 and those at lower level.

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:

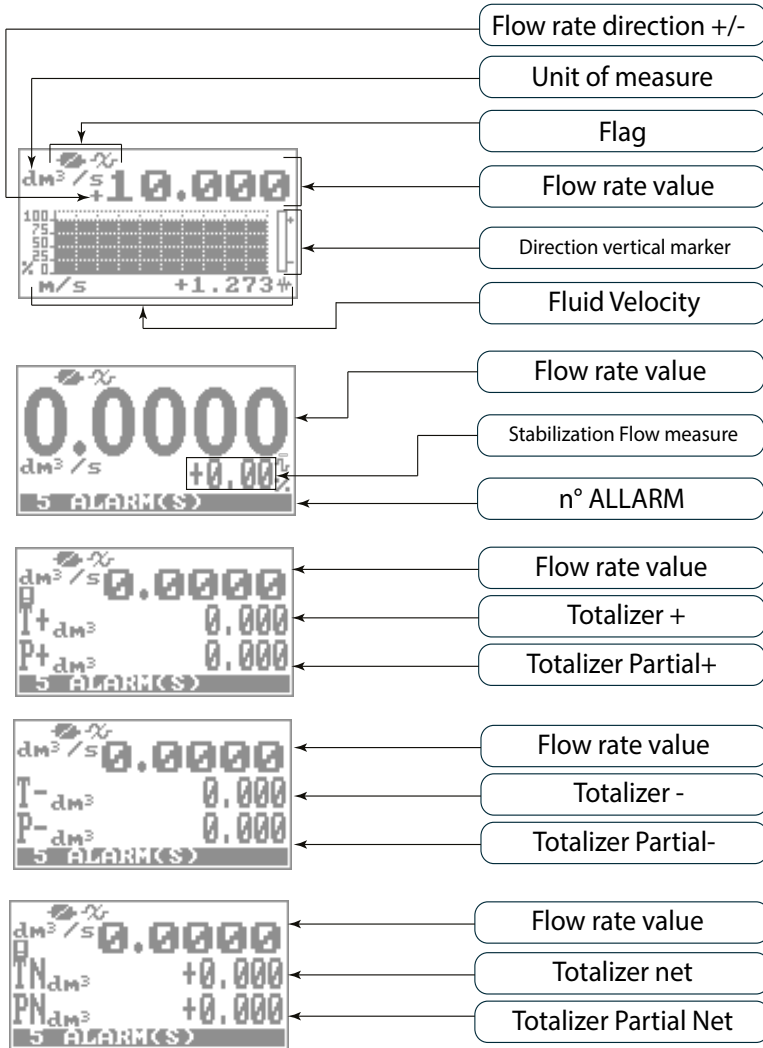|	
❑ **L1: 10000000**	❑ **L4: 40000000**
❑ **L2: 20000000**	❑ **L5: 57291624**
❑ **L3: 30000000**	❑ **L6: 65940123**

ISOIL INDUSTRIA

START VISUALIZATION PAGES

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.

Push to change visualization

Display	Label
	Flow rate direction +/-
	Unit of measure
	Flag
dm³/s +10.000	Flow rate value
100. 75. 50. 25. % 0.	Direction vertical marker
m/s +1.273	Fluid Velocity

Display	Label
0.0000 dm³/s	Flow rate value
+0.00%	Stabilization Flow measure
5 ALARM(S)	n° ALLARM

Display	Label
dm³/s 0.0000	Flow rate value
T+dm³ 0.000	Totalizer +
P+dm³ 0.000	Totalizer Partial+
5 ALARM(S)	

Display	Label
dm³/s 0.0000	Flow rate value
T-dm³ 0.000	Totalizer -
P-dm³ 0.000	Totalizer Partial-
5 ALARM(S)	

Display	Label
dm³/s 0.0000	Flow rate value
TNdm³ +0.000	Totalizer net
PNdm³ +0.000	Totalizer Partial Net
5 ALARM(S)	

Above are shown few visualization pages available of the converter. For the fully list of display pages see the full operating and maintenance manual.

ISOMAG
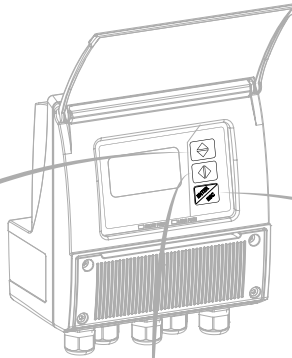
SHORT PRESSING (< 1 SECOND):
Increases the numeric figure or the parameter selected by the cursor
Returns to the previous subject on the menu.
LONG PRESSING (> 1 SECOND):
Decreases the numeric figure or the parameter selected by the cursor. Proceeds to the next subject on the menu.

SHORT PRESSING (< 1 SECOND):
Moves/positions the cursor rightward on the input field. Proceeds to the following subject of the menu. Change the display of the process data
LONG PRESSING (> 1 SECOND):
Moves/positions the cursor leftward on the input field. Returns to the previous subject on the menu

SHORT PRESSING (< 1 SECOND):
Enter /leave the selected function
Enables the main menu for the instrument configuration Cancels the selected function under progress
LONG PRESSING (> 1 SECOND):
Leaves the current menu
Enables the totalizer reset request (when enabled) Confirms the selected function.

1-7-1-MANUALE MV110_QUICK

ISOIL
INDUSTRIA

ISOIL INDUSTRIA S.p.A.

HEAD OFFICE	SERVICE
Via Fratelli Gracchi, 27 20092 Cinisello Balsamo (MI) Tel +39 02 66027.1 Fax +39 02 6123202 vendite@isoil.it	isomagservice@isoil.it

If you want to find the complete list of our distributors access at the following link:
http://www.isoil.com/u_vendita.asp

BEFORE returning any material, please contact our SERVICE at the e-mail adress:
isomagservice@isoil.com

Due to the constant technical development and improvement of its products, the manufacturer reserves the right to make changes and/ or modify the information contained in this document without notice.

ISOIL
INDUSTRIA
The solutions that count