

**ISOMAG** ™  
*The friendly magmeter*

**DATA SHEET**  
**MV255**



**CE**

**ISOIL**   
I N D U S T R I A

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## TECHNICAL DATA

<b>OVERALL FEATURES</b>	
<b>Suitable For</b>	<input type="checkbox"/> All the ISOMAG® sensors
<b>Minimum Conductivity</b>	<input type="checkbox"/> 5 µS/cm
<b>Altitude</b>	<input type="checkbox"/> -200 m up to 4000 m
<b>Ambient Temperature</b>	<input type="checkbox"/> -20... +60°C / -4... +140 °F - Aluminium housing <input type="checkbox"/> -10... +50°C / -4... +104 °F - Reinforced Nylon
<b>Humidity Range</b>	<input type="checkbox"/> 0÷100%

<b>STANDARD FEATURES</b>	
<b>Version</b>	<input type="checkbox"/> Compact <input type="checkbox"/> Separate
<b>Housing materials</b>	<input type="checkbox"/> Painted Aluminium die casting <input type="checkbox"/> Nylon reinforced with 15% of fiber glass
<b>Protection Rate</b>	<input type="checkbox"/> IP 67
<b>Power supply / consumption</b>	<input type="checkbox"/> Network/Rechargeable Battery / Primary Lithium Batteries / Alkaline Batteries (50mW ... 4W)
<b>Cable Gland</b>	<input type="checkbox"/> N° 5 cable gland PG 11
<b>Full Scale Value</b>	<input type="checkbox"/> 0,4...10m/s
<b>Dig. Input</b>	<input type="checkbox"/> N ° 1, programmable (for example reset totalizers)
<b>Data Storage</b>	<input type="checkbox"/> F-Ram
<b>Galvanic Isolation</b>	<input type="checkbox"/> All analog / digital inputs / outputs are galvanically isolated (500V);
<b>Programming Plug In</b>	<input type="checkbox"/> PC connection via USB (A/ USB MINI B type cable must be used)
<b>Bidirectional</b>	<input type="checkbox"/> YES
<b>Diagnostic Funct.</b>	<input type="checkbox"/> YES
<b>Empty Pipe Detect.</b>	<input type="checkbox"/> YES
<b>Communication Ports</b>	<input type="checkbox"/> Modem 3G <input type="checkbox"/> Modem 4G
<b>Data Logger</b>	<input type="checkbox"/> MicroSD Memory Card 4 GBytes and RTC (Real Time Clock)
<b>CE Certificate</b>	<input type="checkbox"/> YES

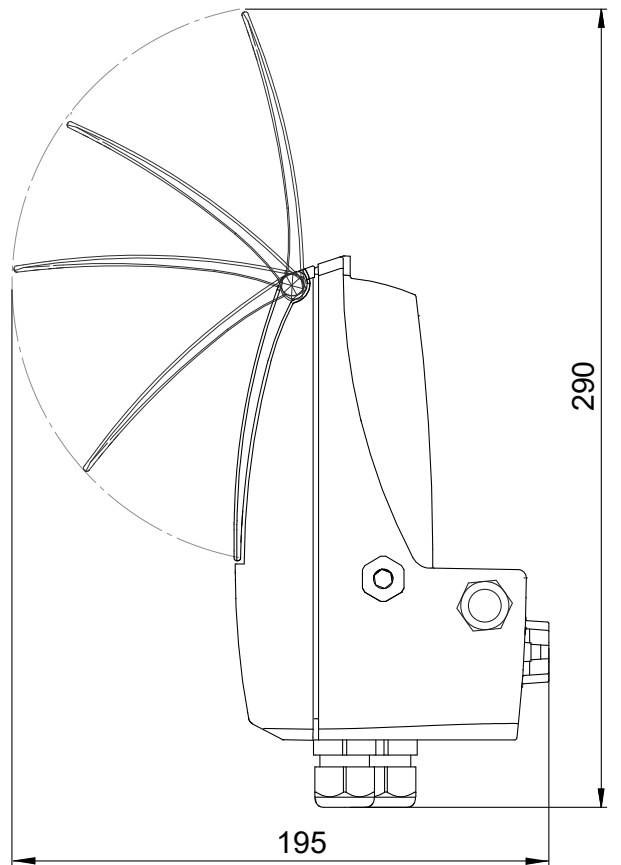
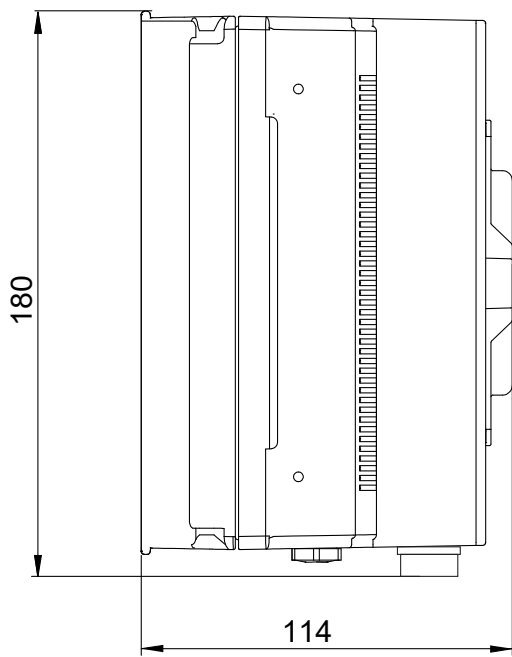
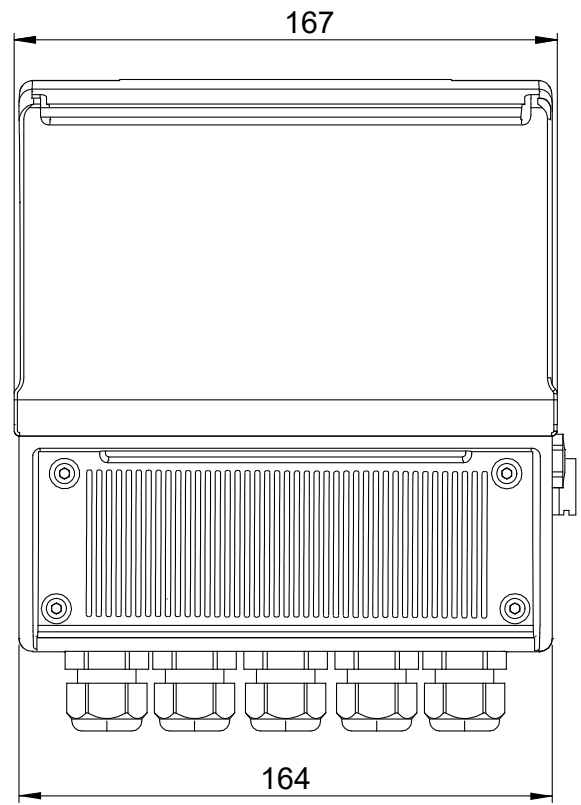
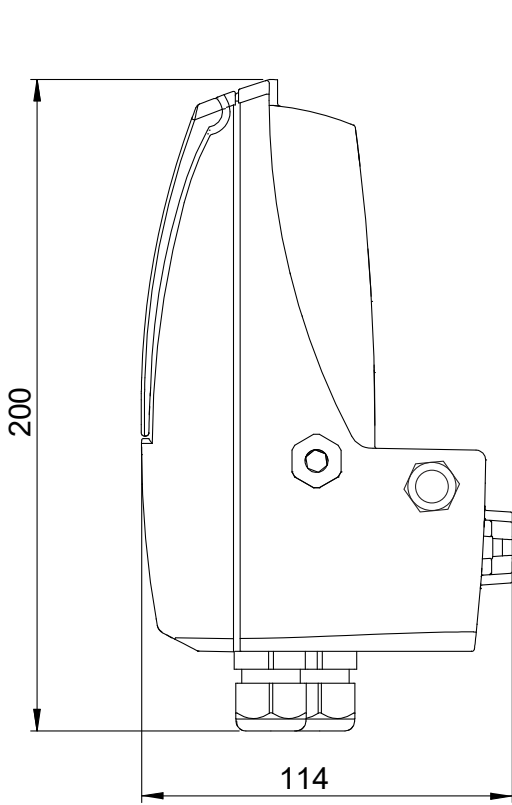
<b>OPTIONAL FEATURES (CHECK HOW TO ORDER, AT LAST PAGE, FOR MORE DETAILS)</b>	
<b>Protection Rate</b>	
<b>Conn. Sensor Cable</b>	<input type="checkbox"/> CABLE C015-C016
<b>LCD Display</b>	<input type="checkbox"/> 128x64 pixel backlit graphic display (Main power version only), with 3 keys for programming
<b>Outputs: Pulses/ Alarm</b>	<input type="checkbox"/> N°2...4 DIGITAL OUTPUT, Max 50 Hz, 100mA, 30 V (AC/DC) <input type="checkbox"/> N°1...3 DIGITAL INPUT
<b>Analog Outputs</b>	<input type="checkbox"/> N ° 1 Analog Output 4 ... 20 mA
<b>Pressure Input</b>	<input type="checkbox"/> N ° 1 ... 2 Input from Pressure Sensor / N ° 1 ... 2 Temperature Input (PT100 / 500/1000)
<b>Data Logger</b>	<input type="checkbox"/> MicroSD Memory 4 GB : Data Logger + RTC (Real Time Clock) + BIV (Built In Verificator) <input type="checkbox"/> MicroSD Memory 4 GB : Data Logger + RTC (Real Time Clock) + Meter Data (Real Time Converter & Sensor Data on SD Memory) <input type="checkbox"/> MicroSD Memory 4 GB : Data Logger + RTC (Real Time Clock) + BIV + Meter Data <input type="checkbox"/> MicroSD Memory Card 4 GBytes
<b>Protocols</b>	<input type="checkbox"/> ModBus RTU (speed ranges that can be set bps: 4800 /9600 / 19200/ 22800/ 38400/ 57600)

**ACCURACY**

<b>Measurements Tolerance</b>	<input type="checkbox"/> Flow rate (volume) = $\pm 0,1\%$ c.r. <input type="checkbox"/> Out 4/20 mA = $\pm 0,2\%$ c.r. <input type="checkbox"/> Frequency Out = $\pm 0,2\%$ c.r.
<b>Accuracy (Whole System Converter+Sensor)</b>	<input type="checkbox"/> See table below

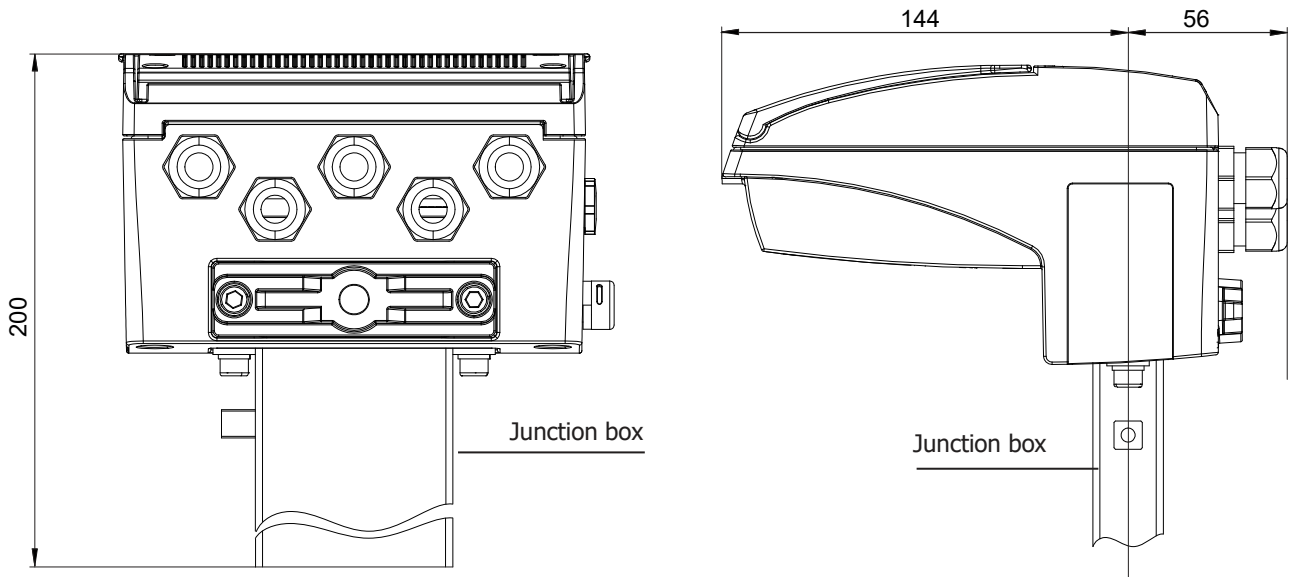
# OVERALL DIMENSIONS

Without battery pack

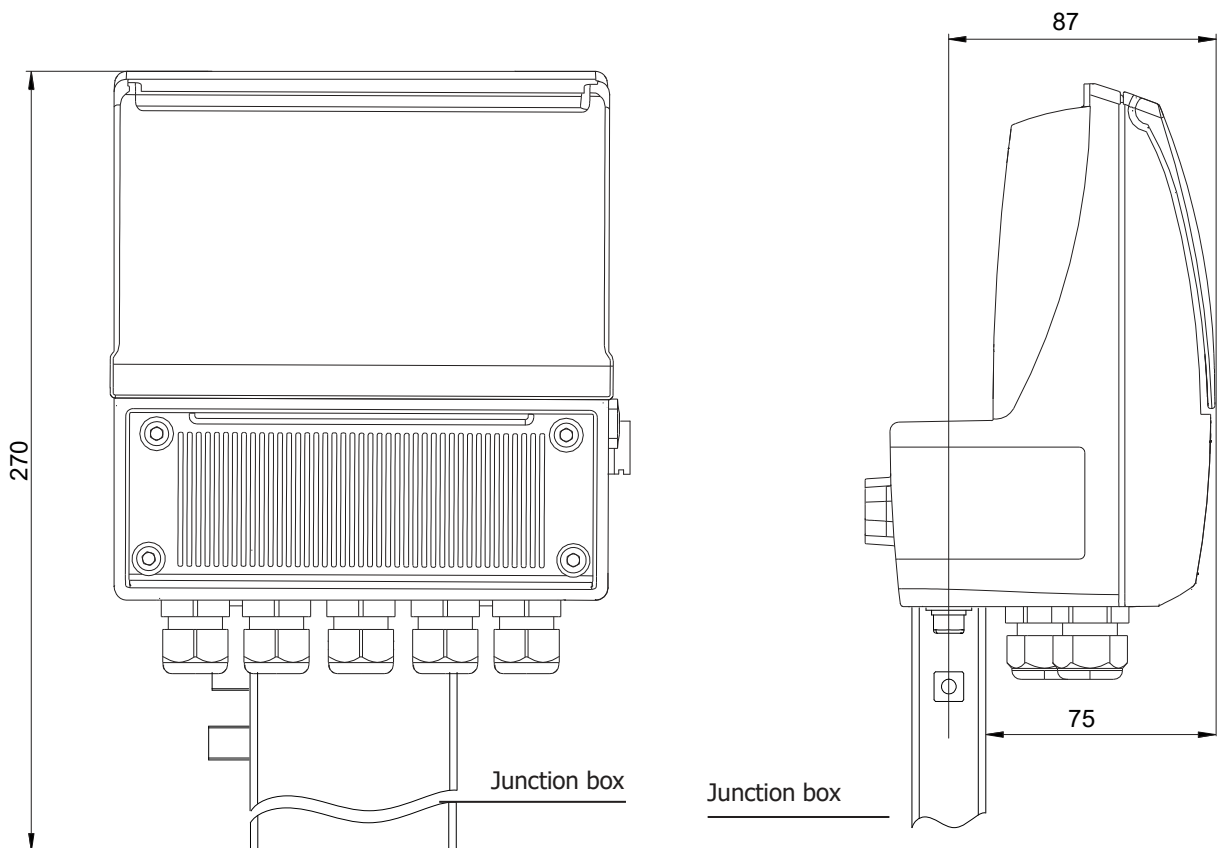


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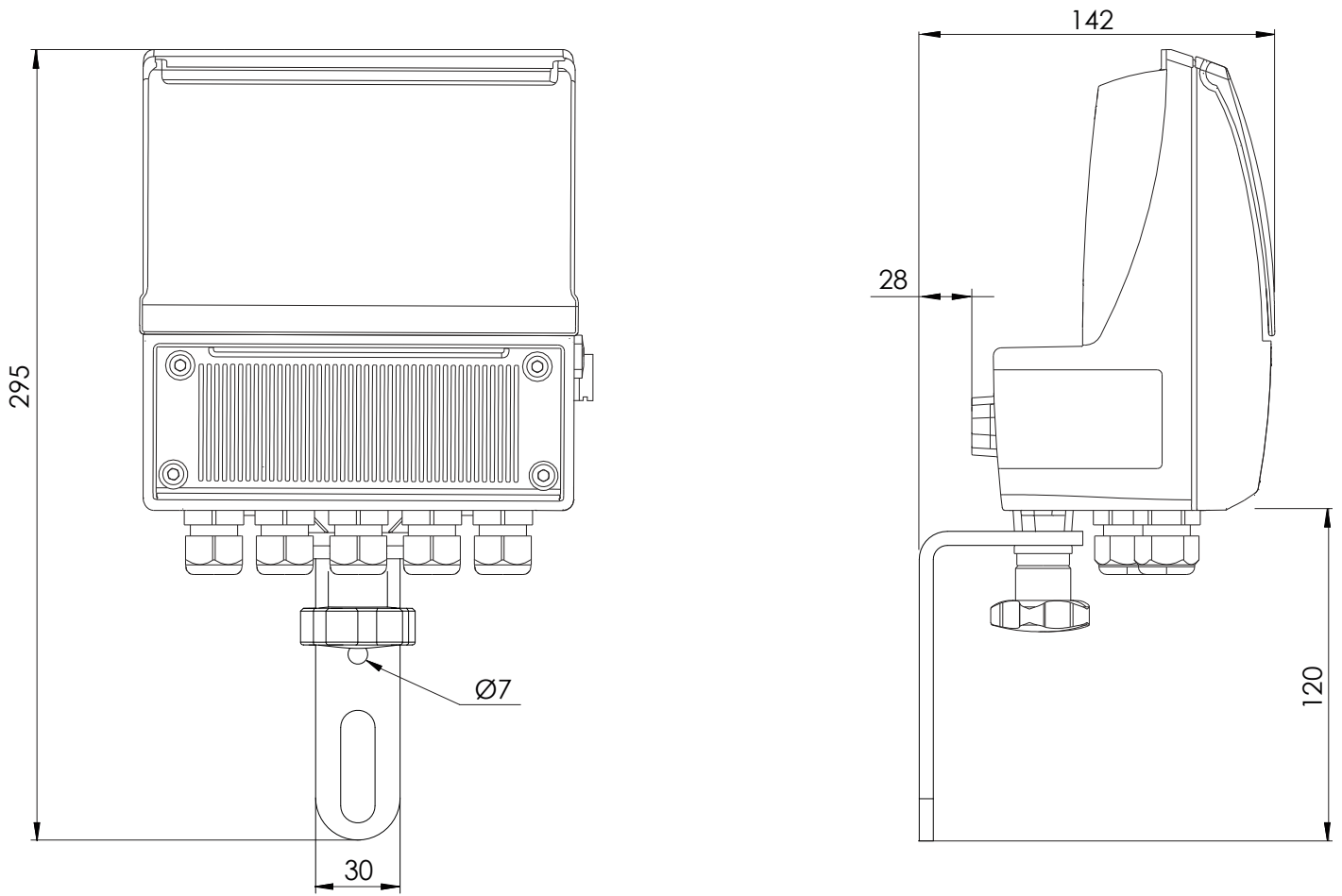
**Horizontal compact version**



**Vertical compact version**

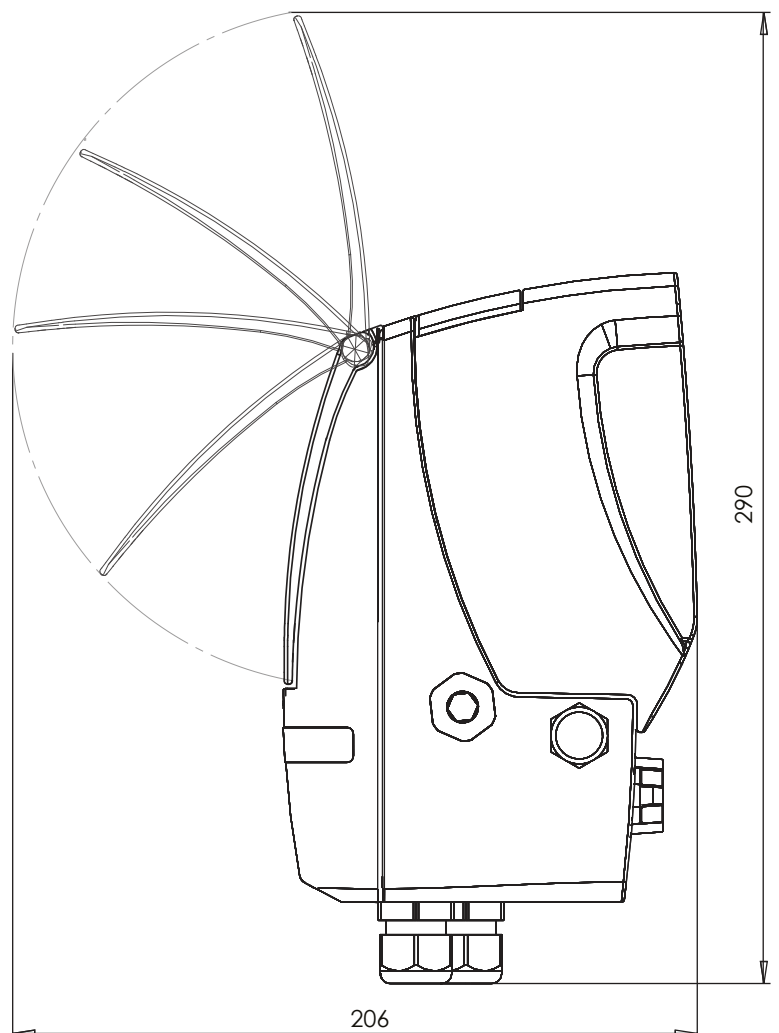
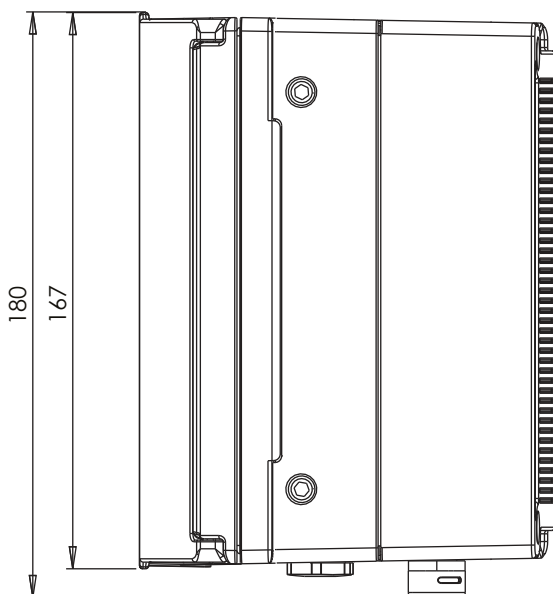
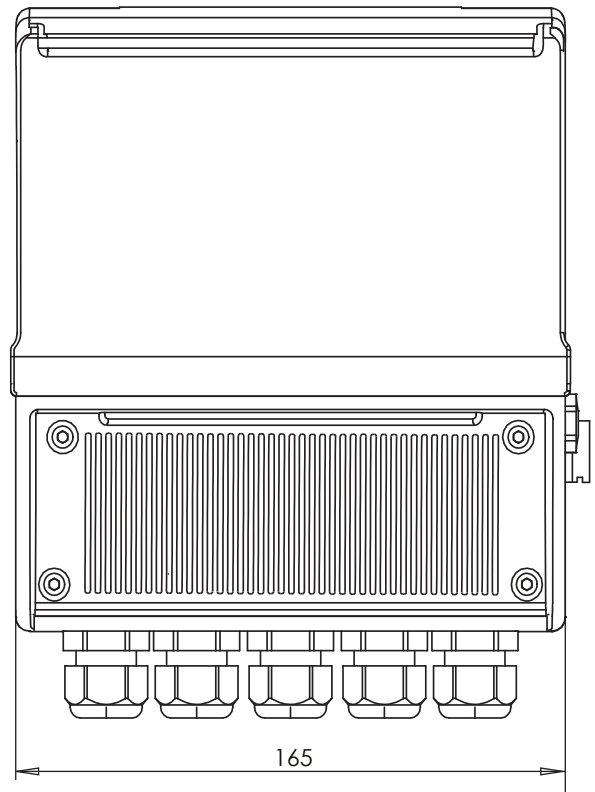
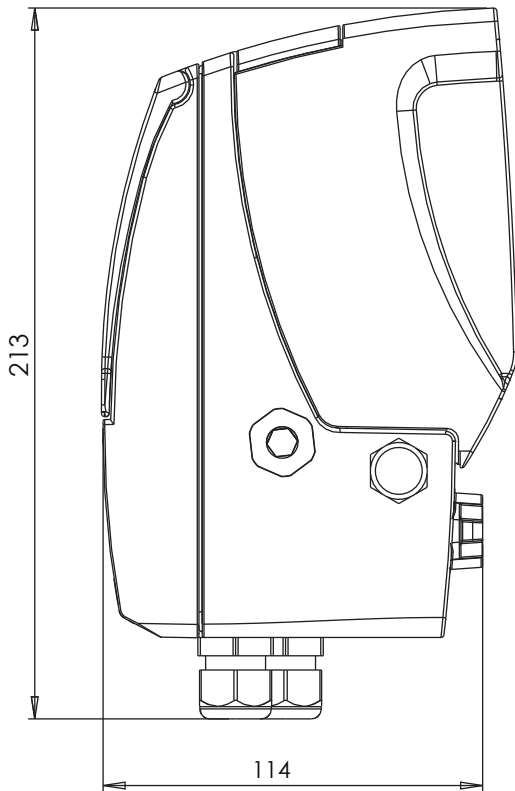


## Separate (wall) version



# OVERALL DIMENSIONS

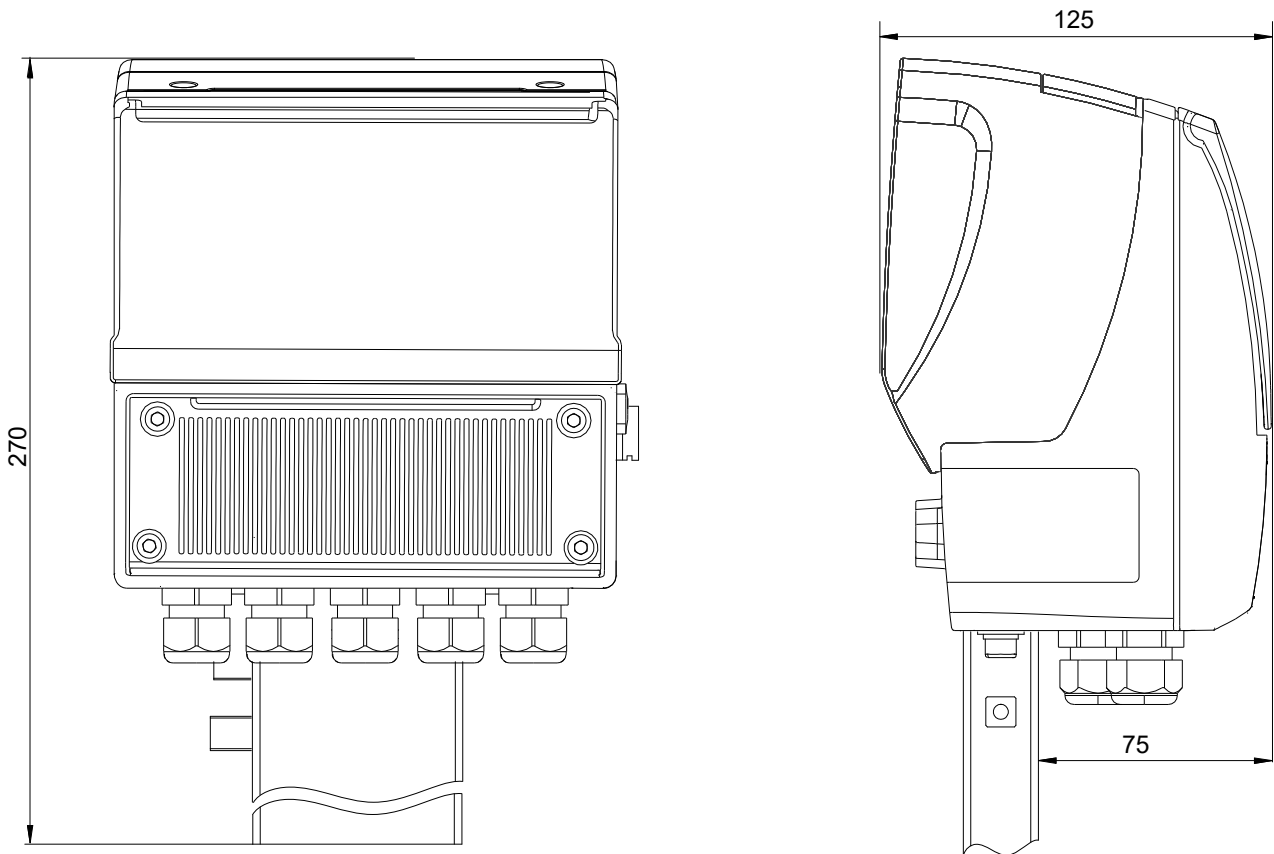
With battery pack



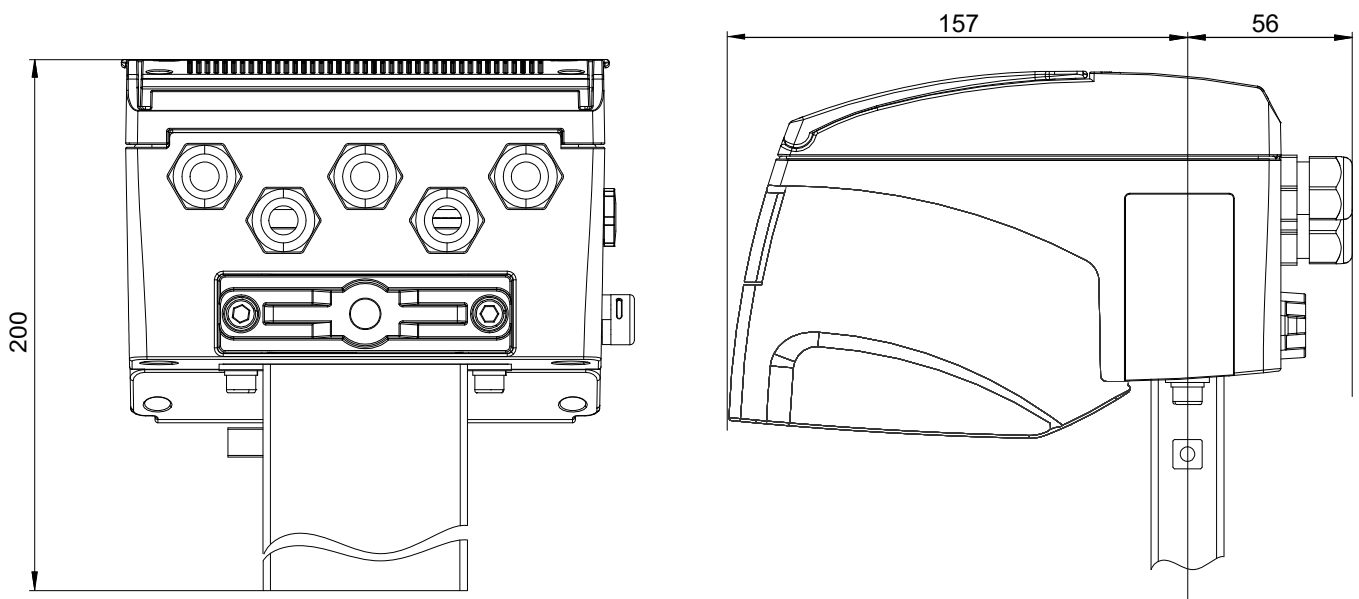
The manufacturer guarantees only English text available on our web site [www.isoli.com](http://www.isoli.com)

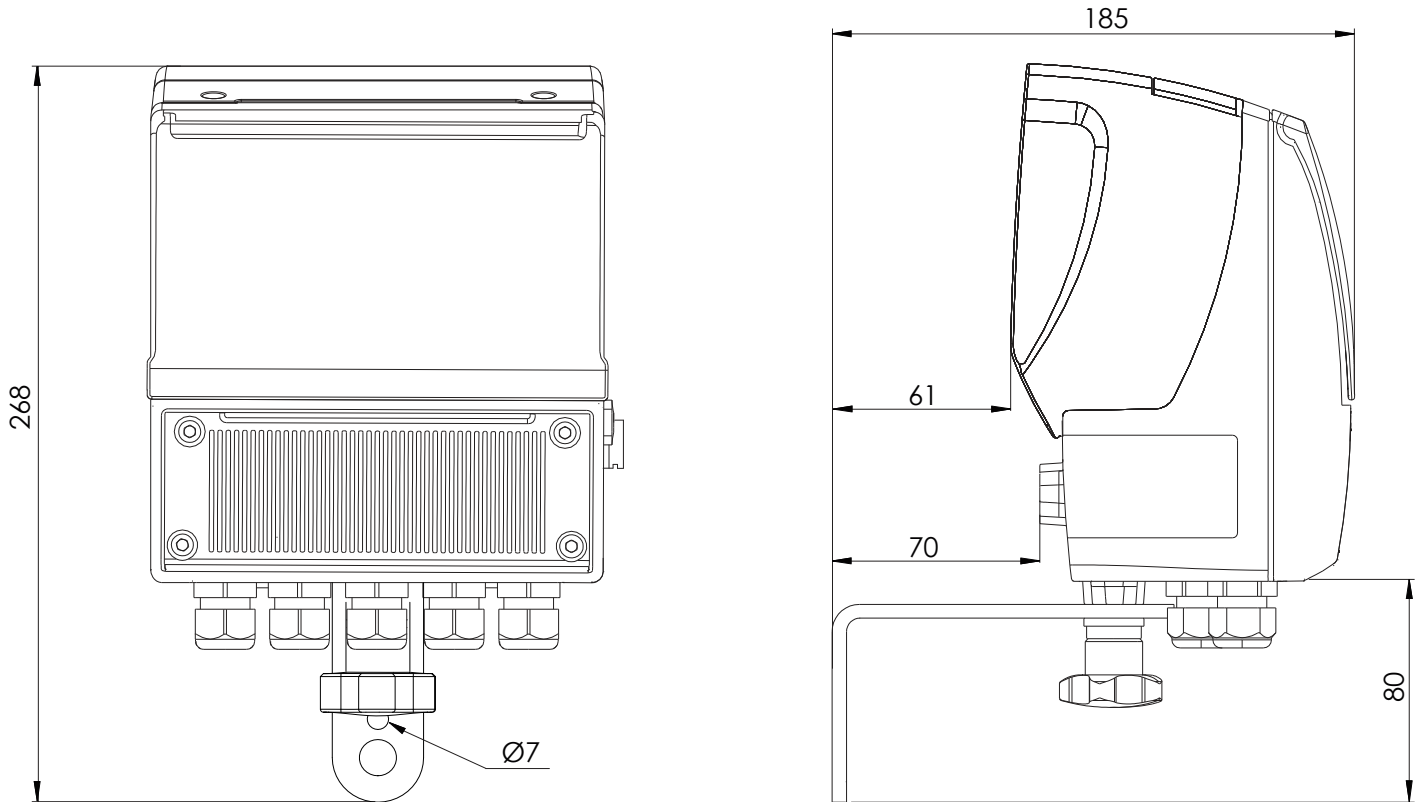


## Horizontal compact version



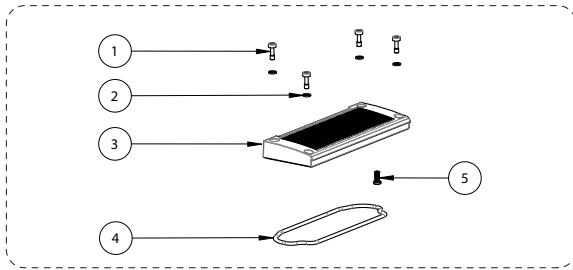
## Vertical compact version



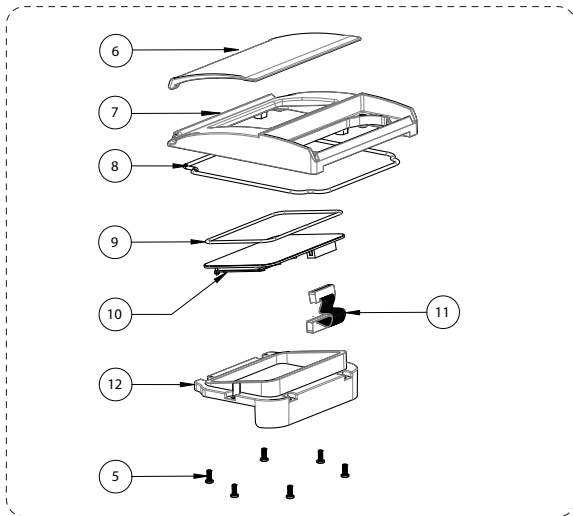
**Separate (wall) version**

# MV255 LAYOUT

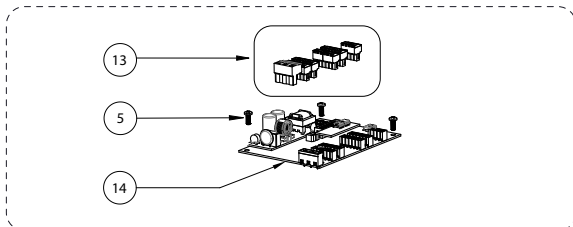
## TERMINAL BLOCK COVER



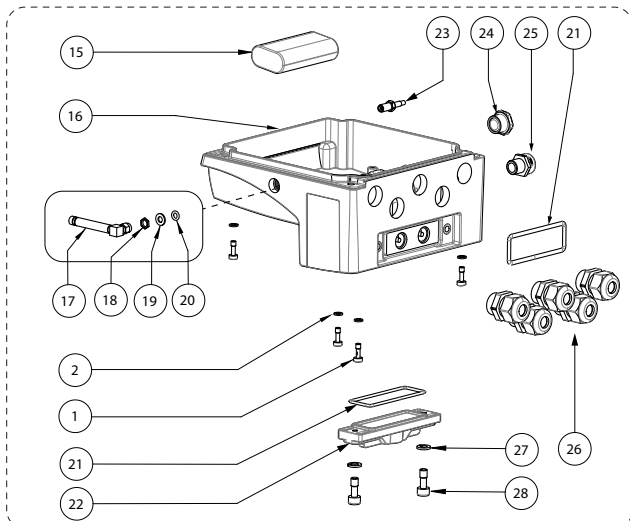
## MAIN HOUSING COVER



## PCB MV255

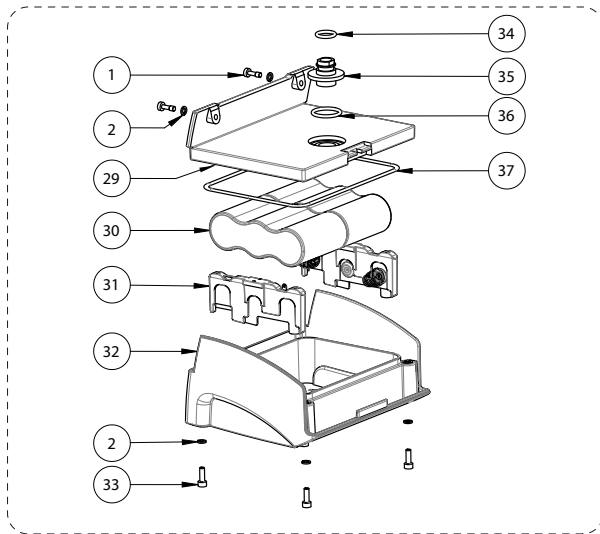


## MAIN HOUSING



POS.	DESCRIPTION	
	PA6 VERSION	ALUMINIUM VERSION
1	SCREW M4x12	SCREW M5x12
2	GROWER WASHER Ø4	GROWER WASHER Ø5
3	TERMINAL BLOCK COVER	TERMINAL BLOCK COVER
4	O-RING-4400	
5	SELF-TAPPING SCREW 4x10	TRILOBO SCREW 4x10
6	PROTECTION COVER	
7	HOUSING COVER	HOUSING COVER
8	ORING-4700	
9	ORING-117x3	
10	DISPLAY	
11	FLAT CABLE DISPLAY	
12	FIXING DISPLAY FRAME (MATERIAL PA06)	
13	TERMINAL BLOCK SOLID WIRE: 26-16 AWG / 0.129-1.31 mm <sup>2</sup> STRANDED WIRE: 26-16 AWG / 0.129-1.31 mm <sup>2</sup> TORQUE: 3.0 Lb.In / 0.34 Nm	
14	PCB MV255	
15	RECHARGEABLE LITHIUM BATTERY	
16	MAIN HOUSING	MAIN HOUSING
17	3G/4G ANTENNA 3G/4G ANTENNA WITH CABLE OF 3m	
18	LOCKING DICE	
19	WASHER Ø 6	
20	O-RING 2018 VITON	
21	O-RING-155	
22	VERSION CAP (MATERIAL PA06))	
23	CABLE ANTENNA 15cm	
24	PG9 CAP	
25	ANTICONDESE CAP	
26	PG11 CABLE GLAND CABLE DIAMETER: Ø5-Ø10mm	
27	GROWER WASHER Ø6	
28	SCREW M6x16	

**BATTERIES HOUSING**

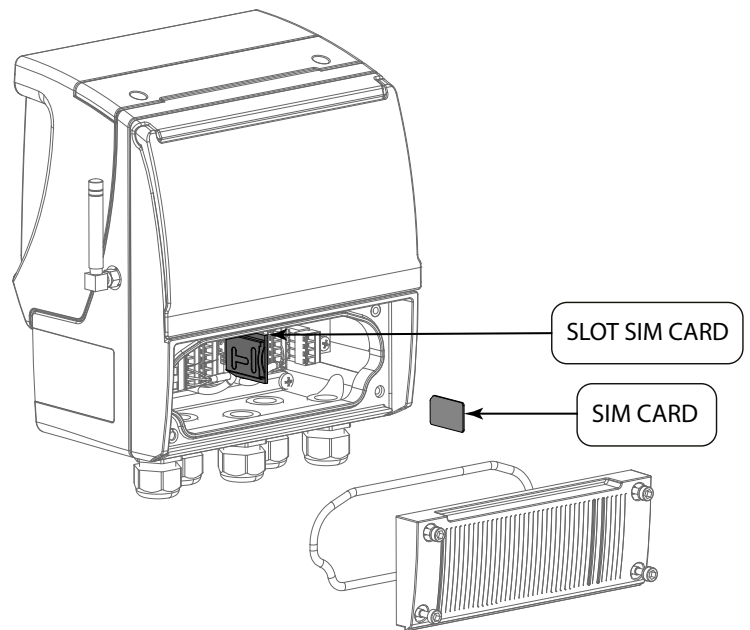


POS.	DESCRIPTION	
	PA6 VERSION	ALUMINIUM VERSION
29	BATTERY HOUSING COVER IN PA6	
30	LITHIUM BATTERY OR ALKALINE	
31	SUPPORT CONTACTS ALKALINE BATTERIES MV	
32	BATTERY HOUSING PA6	
33	SCREW M4X12	
34	O-RING 3050	
35	SEAL BUSH	
36	O-RING 3081	
37	O-RING 4575	

## CONVERTER ACCESS

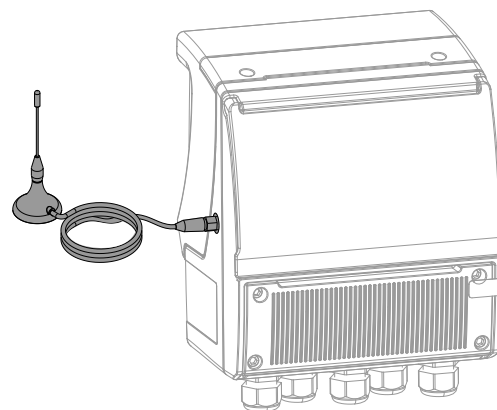
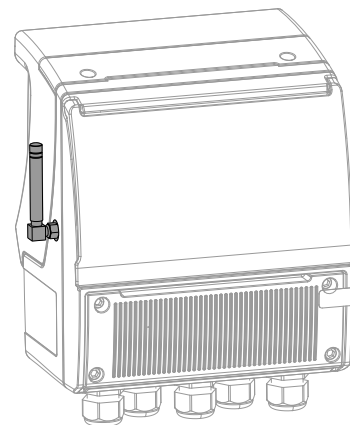
### Slot SIM 3G

- ❑ MV255 is equipped with a modem for 3G/4G wireless communication. Utilizing GPRS technology and data packets transmitted through various layers of protocols and hardware devices.

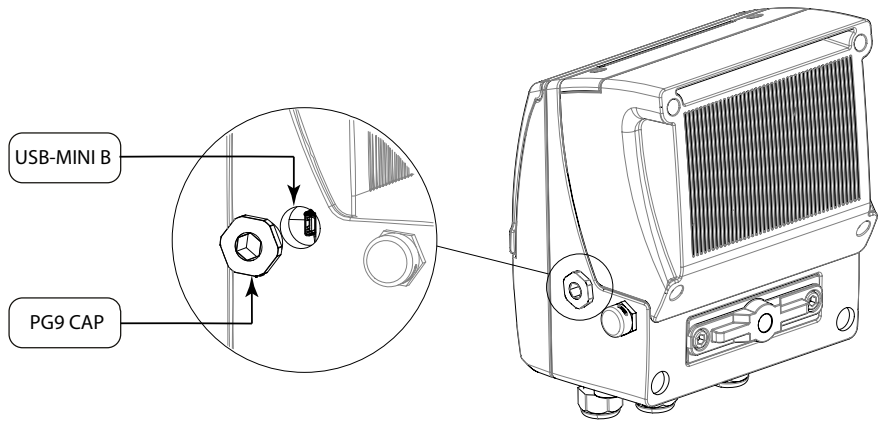


### Antenna types

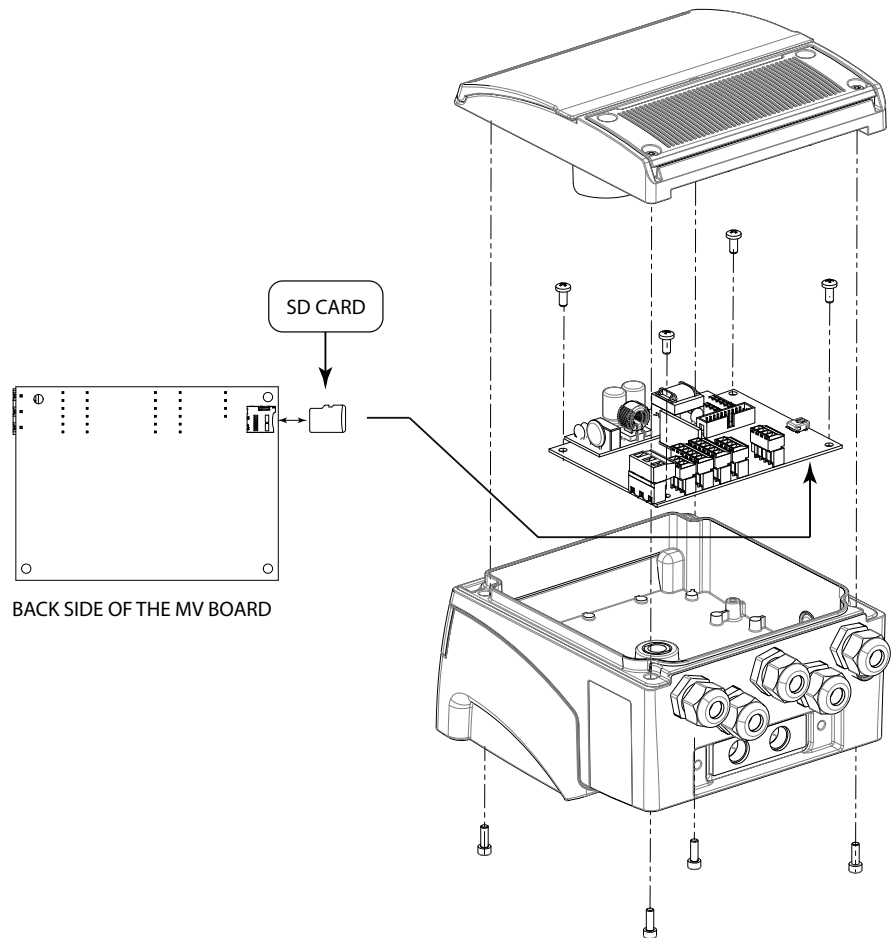
- ❑ It is possible to use two types of antennas depending on the place of installation of the instrument:
  - ❑ 3G/4G antenna installed directly on the housing;
  - ❑ 3G/4G Antenna with magnetic support connected to the converter housing with cable L= 3 meters.



## Connessione USB

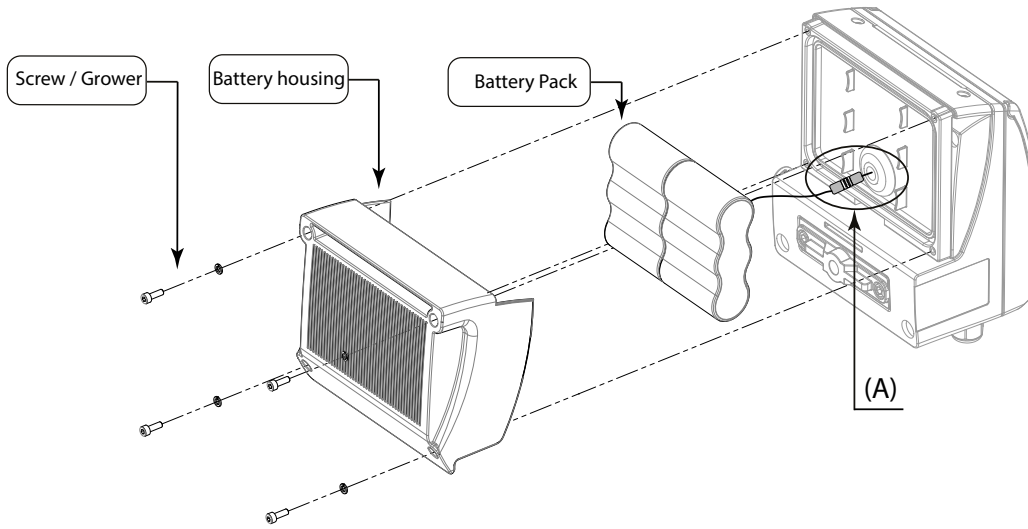


## SD card

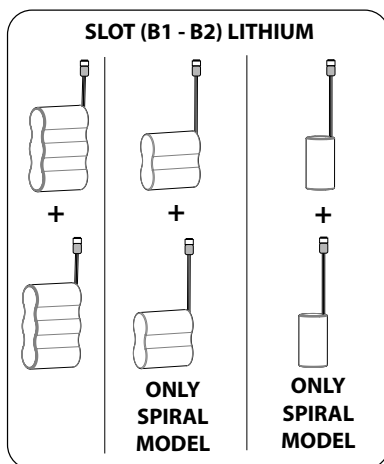


# POWER SUPPLY

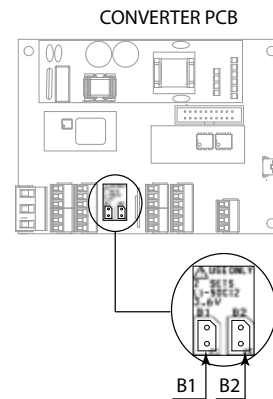
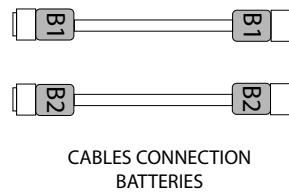
## Batteries configuration



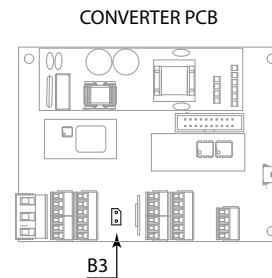
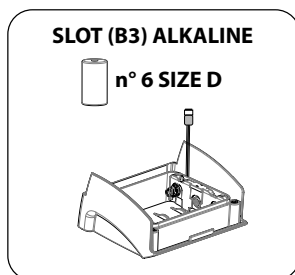
DETAIL (A) BATTERY CONNECTIONS CONVERTER PCB



### LITHIUM BATTERIES

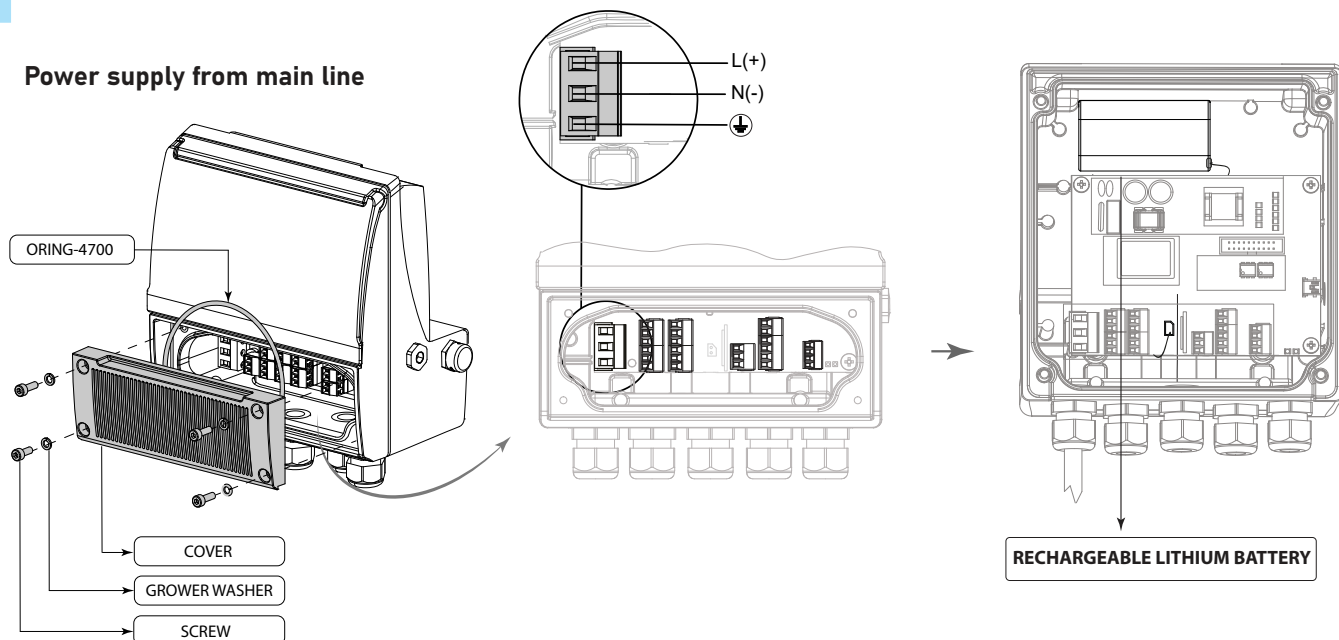


### ALKALINE BATTERIES

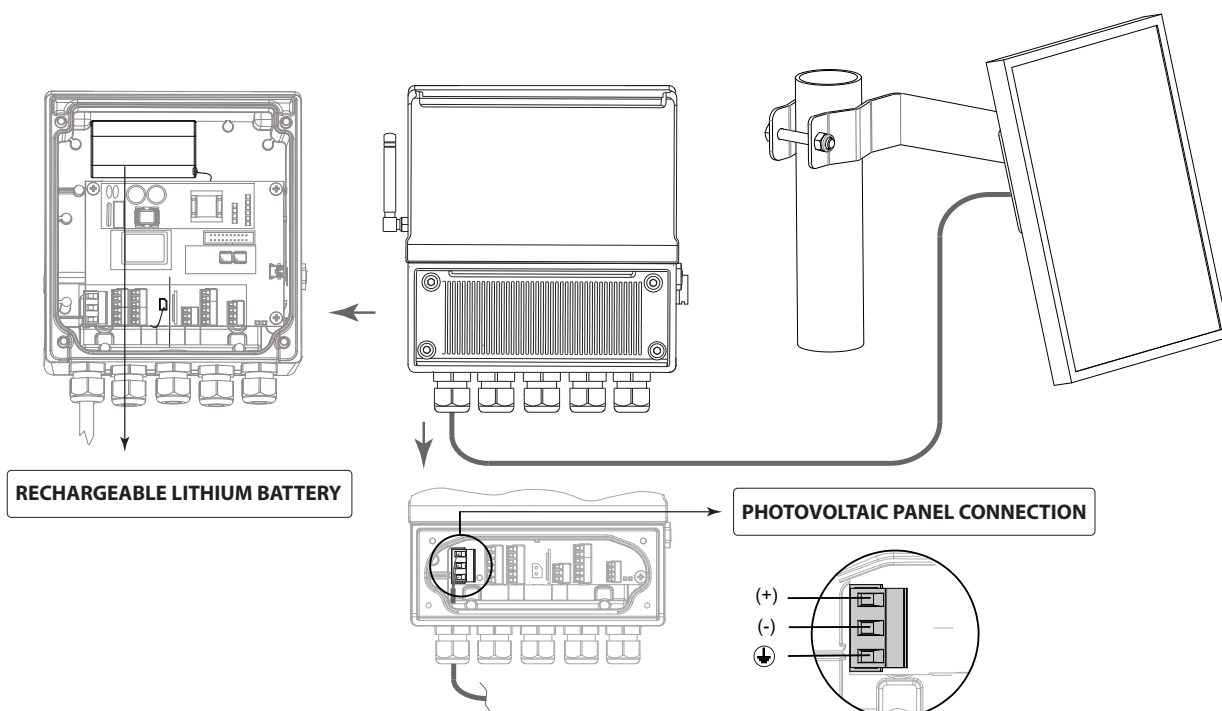


- ❑ The maximum number of batteries allowed in the various configurations is 6 size D batteries
- ❑ Alkaline batteries can also be purchased separately from third parties
- ❑ Lithium batteries are supplied exclusively by the manufacturer and can not be purchased separately from third parties. Furthermore, they are subject to special transport regulations based on the “Dangerous Goods Regulations, UN3090 and UN 3091”. Special documentation is required to observe the regulations.

**Power supply from main line**



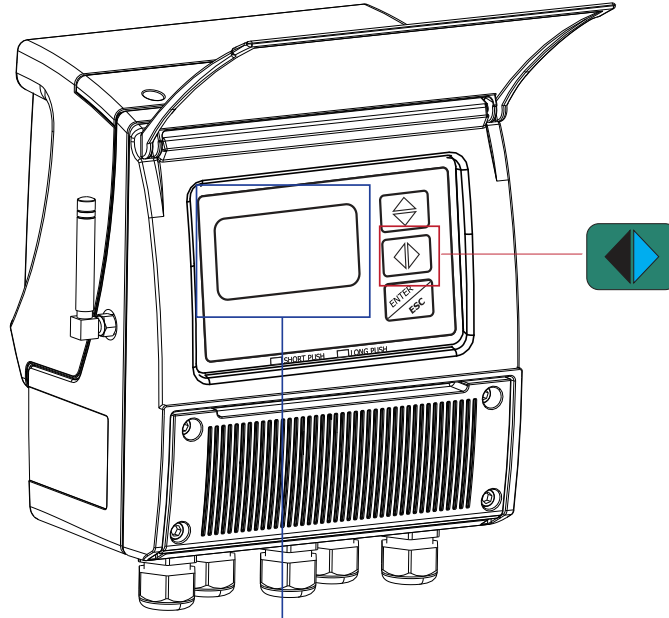
- The mains-powered converter is not supplied with the external battery housing.
- The connections are made with approved cables with flame retardant properties, whose section varies from 0.25mm<sup>2</sup> to 2.50 mm<sup>2</sup>, based on distance / power.
- The wiring can be checked by unscrewing the 4 screws on the terminal cover.
- When the lid is raised, the terminal block is visible. The terminal block shows the wired connection of the converter to external devices, sensor included.
- The rechargeable battery is always present inside the converter with mains power supply.
- It is possible to connect a photovoltaic panel that can be used as an alternative source of mains power supply (LLV power supply) After connecting the photovoltaic panel cable to the MV255 converter connector, the module is recognized and the sampling automatically switches to continuous mode whatever the profile set previously; this mode guarantees accurate measurements (flow rate / pressure) even with continuous and sudden variations.
- For installation consult the manual of the photovoltaic panel. Not supplied by ISOIL.





# MAIN PAGES VISUALIZATION

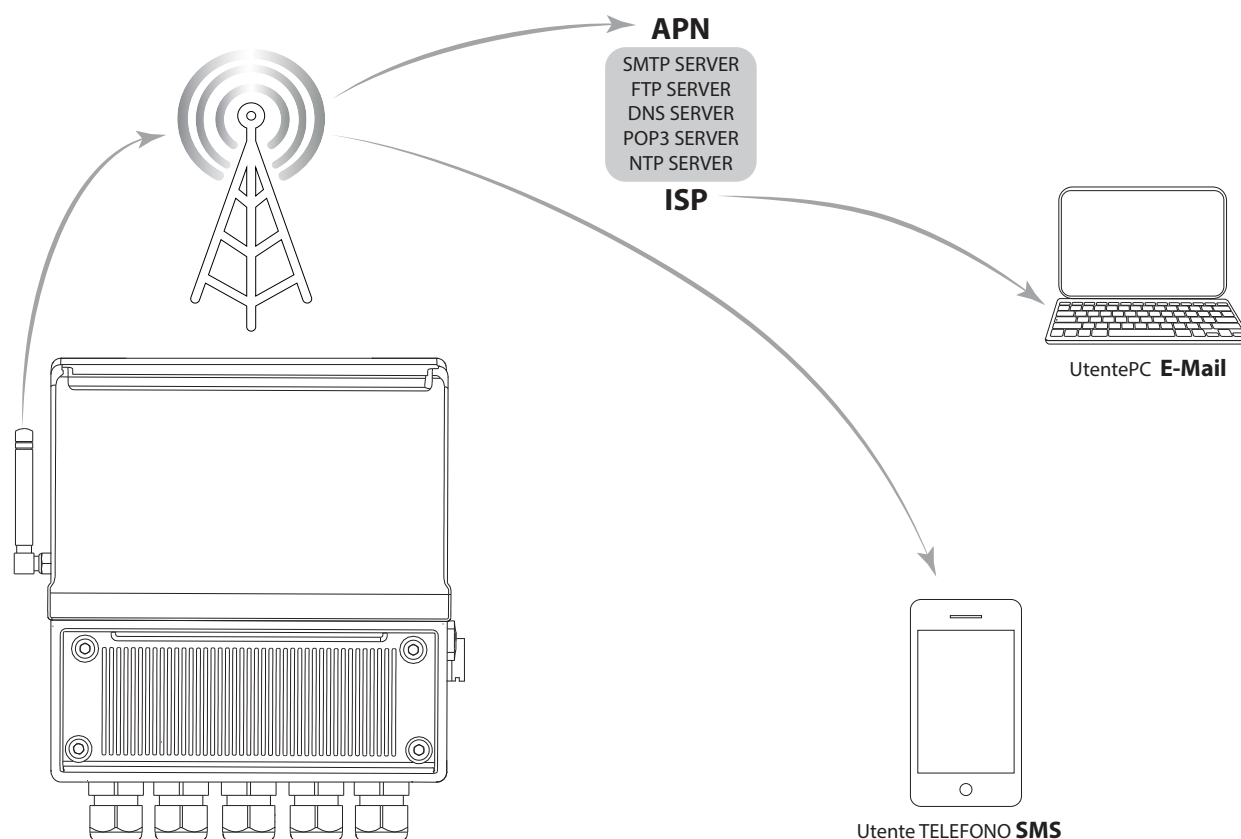
Possible views by simply pressing the button



$\frac{dm^3}{s}$ +10.000 400 75 25 % 0 M/s +1.273+	$\frac{dm^3}{s}$ 0.0000 T+dm <sup>3</sup> 0.000 P+dm <sup>3</sup> 0.000 T-dm <sup>3</sup> 0.000 P-dm <sup>3</sup> 0.000 4 ALARM(S)	
$\frac{dm^3}{s}$ 0.0000 dm <sup>3</sup> /s +0.00% 5 ALARM(S)	$\frac{dm^3}{s}$ 0.0000 T+dm <sup>3</sup> 0.000 P+dm <sup>3</sup> 0.000 T-dm <sup>3</sup> 0.000 P-dm <sup>3</sup> 0.000 4 ALARM(S)	$\frac{dm^3}{s}$ P+dm <sup>3</sup> 233633.381
$\frac{dm^3}{s}$ 0.0000 T+dm <sup>3</sup> 0.000 P+dm <sup>3</sup> 0.000 5 ALARM(S)	4 ALARM(S) CLOCK NOT SET EXCITATION ERROR SIGNAL ERROR FL. SENSOR ERROR 2006/01/01-01:14	$\frac{dm^3}{s}$ T-dm <sup>3</sup> 14617.888
$\frac{dm^3}{s}$ 0.0000 T-dm <sup>3</sup> 0.000 P-dm <sup>3</sup> 0.000 5 ALARM(S)	$\frac{dm^3}{s}$ E1 U 0.001 E2 U 0.001 E1R kΩ 9.6 E2R kΩ 9.6 1 ALARM(S)	$\frac{dm^3}{s}$ P-dm <sup>3</sup> 14617.888
$\frac{dm^3}{s}$ 0.0000 T+dm <sup>3</sup> +0.000 P+dm <sup>3</sup> +0.000 5 ALARM(S)	$\frac{dm^3}{s}$ T+dm <sup>3</sup> 233627.258	

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## 3G NETWORK CONNECTION



- ❑ With the 3G connection it is possible to perform remote checks on the status of the device and the saved loggers.
- ❑ The MV255 converter can send processed and stored data to different devices via SMS and / or email
- ❑ Communication takes place via UMTS / GPRS technology, using data packets conveyed through various layers of protocols and hardware devices, as described below:
- ❑ Data -> Compression (ZIP) -> SMTP/POP3/FTP -> SSL -> TCP/IP -> PPP -> UMTS/GPRS -> RADIO LINK
- ❑ Data compression allows the volume to be reduced to values close to 1% compared to the original size (1000kb can be reduced to 10kb). Compressed files can be read by any operating system without any additional software.

**SMTP and POP3** are protocols for transferring data via email between a client and a server

**FTP** is a protocol for the direct transfer of files between a client (meter) and a server

**SSL** is an intermediate layer dedicated to security that deals with encrypting and authenticating the flow of data so as to make it uneditable and unreadable by a third party who may be listening.

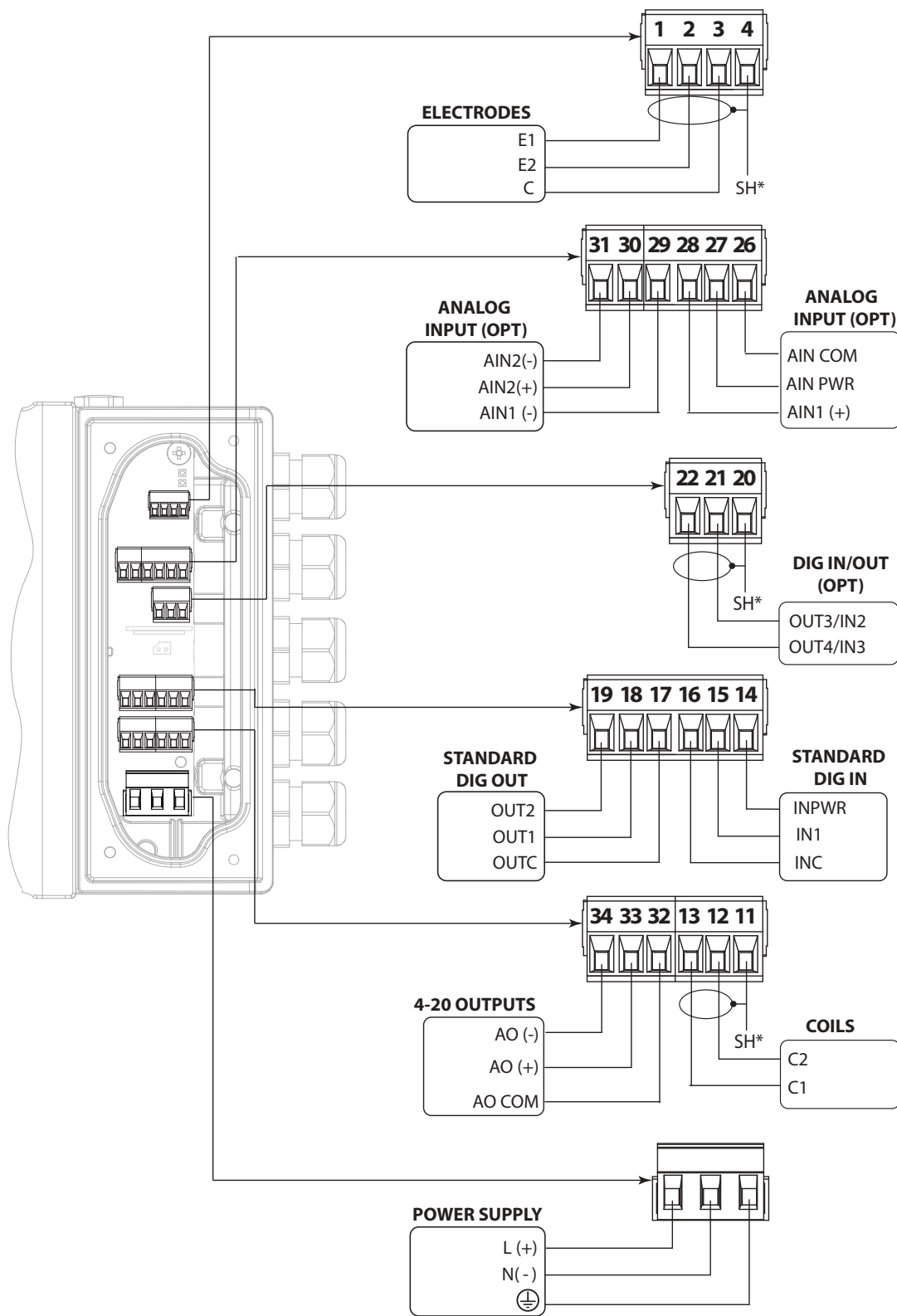
**TCP / IP** is a protocol that guarantees the transport of data with algorithms that control its flow, error control and integrity.

**PPP** is a protocol that allows the transfer of data packets between two points connected with a serial line, guaranteeing their integrity and correct timing.

**UMTS / GPRS** is a technology that allows the exchange of serious data in a multi-user wireless network

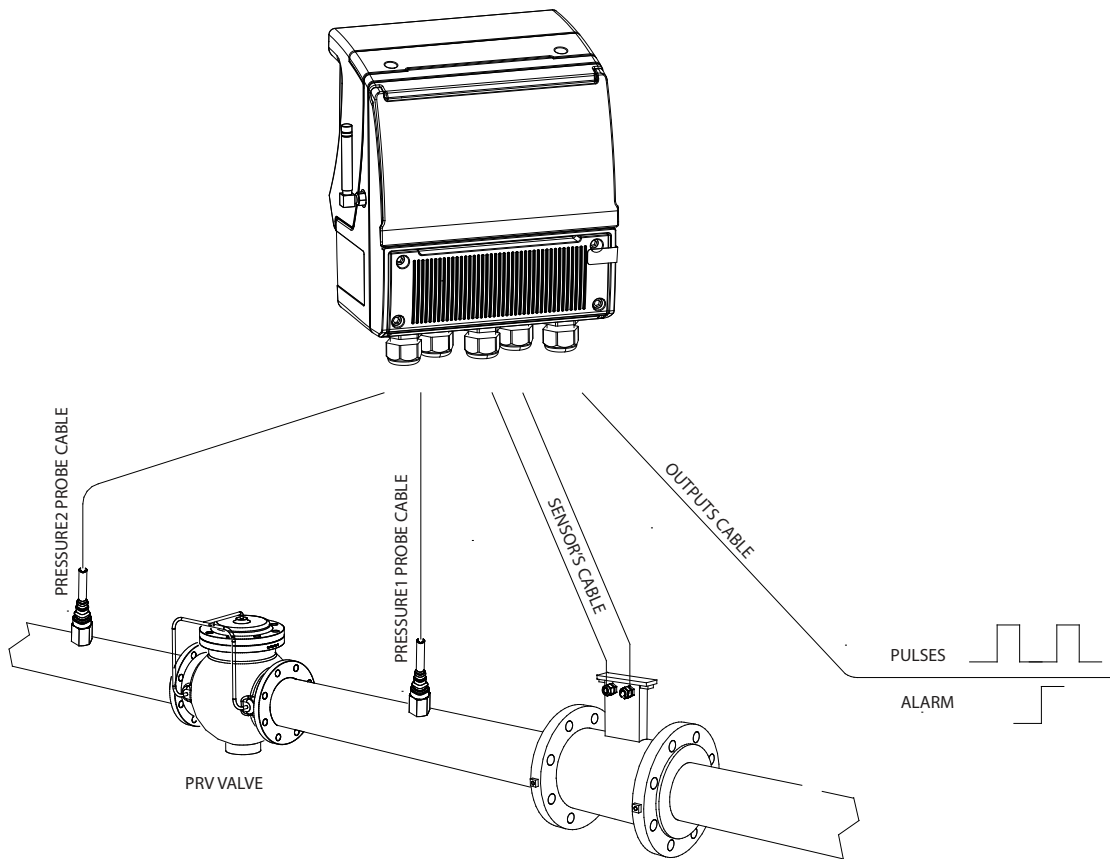
**RADIO LINK** is a hardware data transport system based on wireless transmission and reception

# ELECTRICAL CONNECTIONS

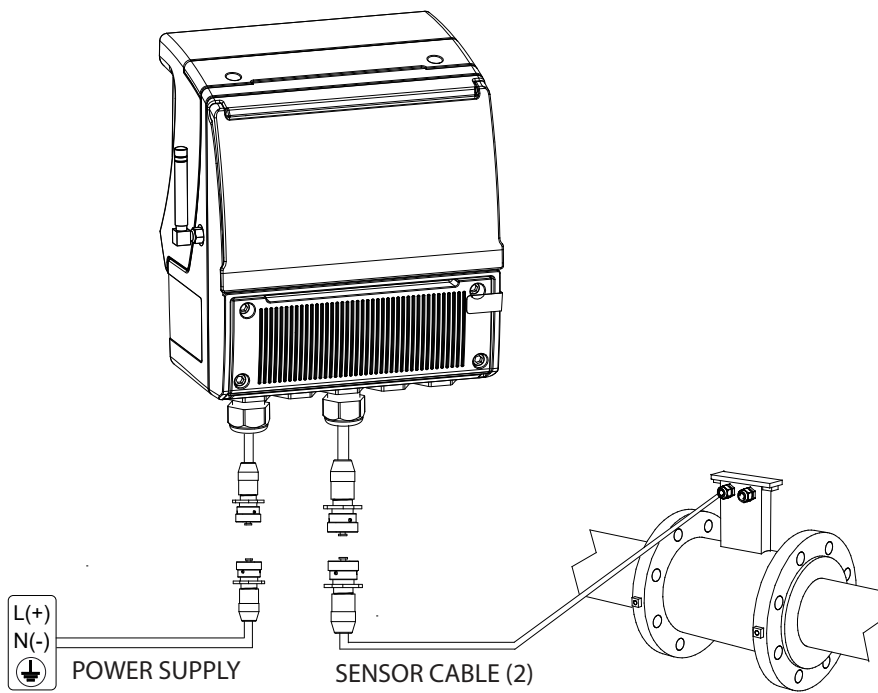


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Pressure / temperature probes

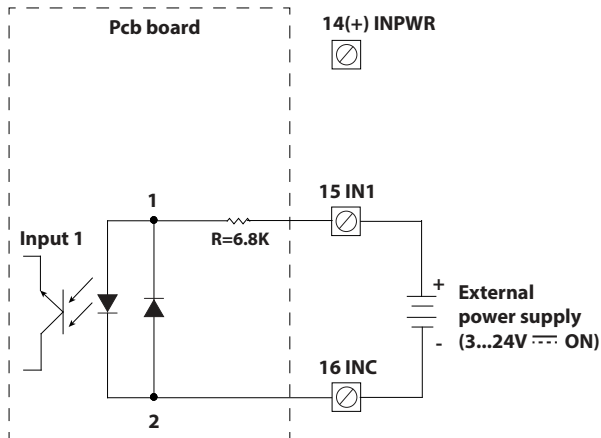


IP68 connection (example installation)

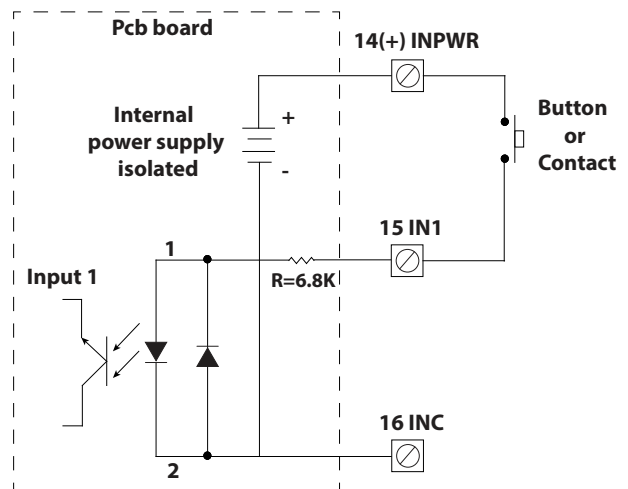


## DIGITAL INPUT

### On/off input (external power supply)

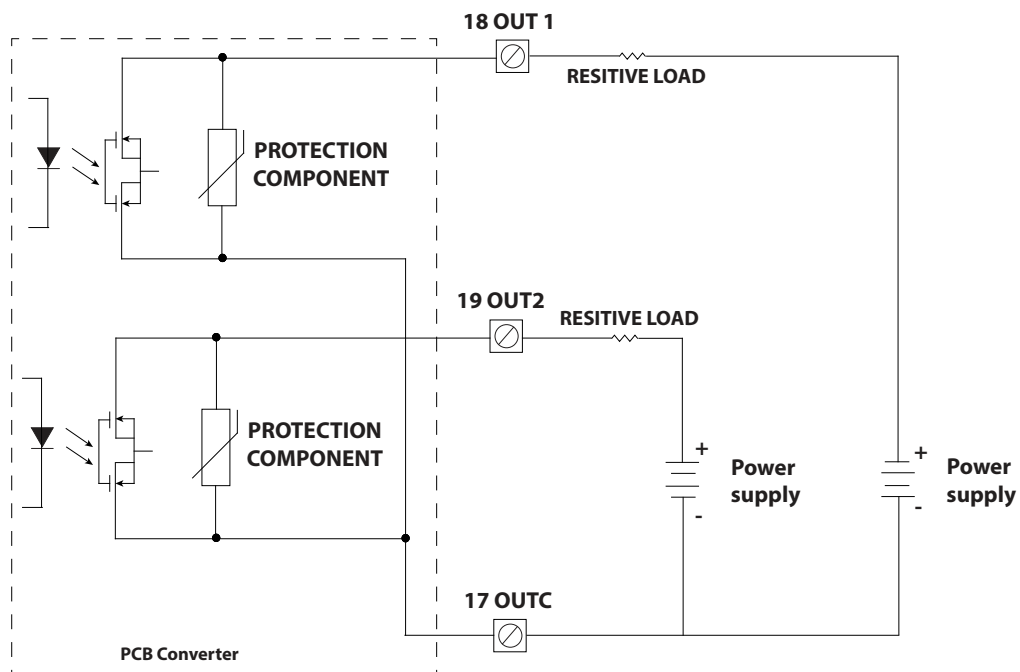


### on/off input (internal power supply)



## DIGITAL OUTPUTS

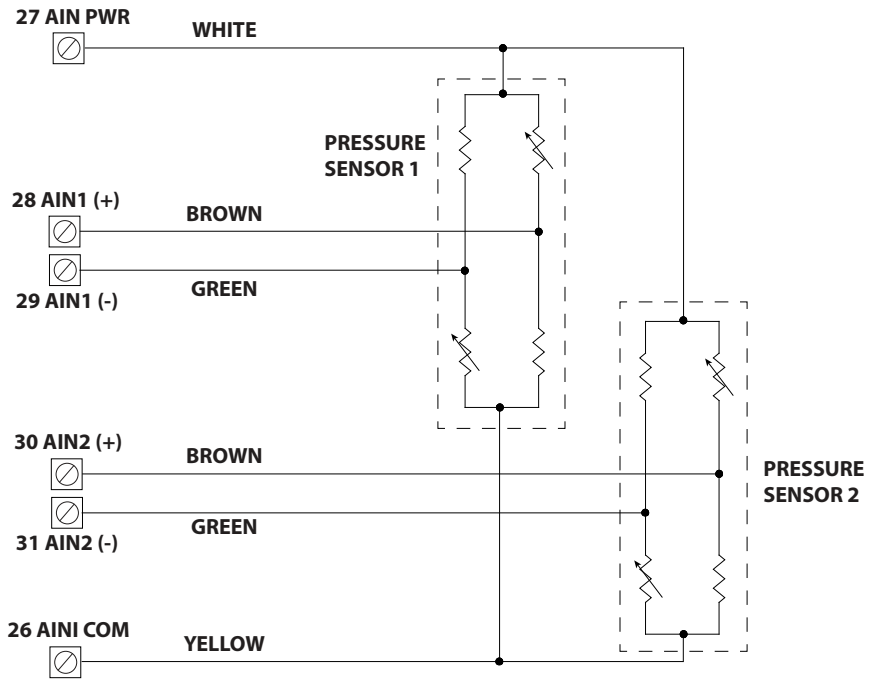
**NOTE:** the outputs are not polarized, so you can adopt schemes for connection to positive or common negative, as in the following electrical scheme.



## AUXILIARY MODULE ANALOG INPUTS

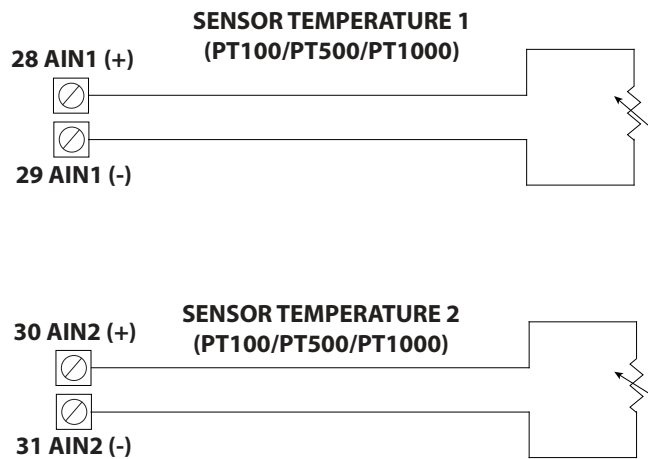
**NOTE:** Two different types of sensors can be connected, for example a pressure sensor connected to input 1 and a temperature sensor connected to input 2, or contrary.

### Connection of pressure sensors



### Connection of Temperature sensors

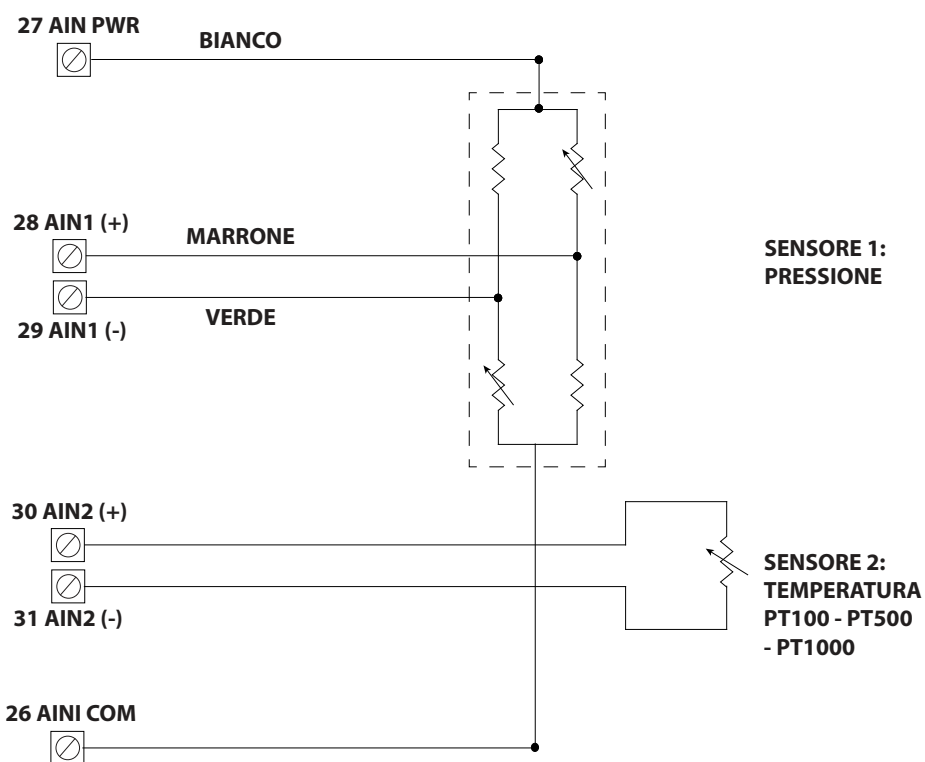
There is no compensation of cable resistance, we recommend the use of PT500 or PT1000 sensors if the cable length is more than one meter. The recognition of the sensor type (PT100 / 500/1000) is automatic.



## Connection of a pressure/temperature sensor

Two different types of sensors can be connected, a pressure sensor and a temperature sensor.

For the temperature sensor, because there is no compensation of cable resistance, we recommend the use of PT500 or PT1000 sensors if the cable length is more than one meter. The recognition of the sensor type (PT100 / 500/1000) is automatic.



**N.B:** the pressure sensor MUST BE connected to input 1 and the temperature sensor MUST BE connected to Input 2!

## OUTPUTS 4÷20 MA

Digital input / output terminal block of the add-on module. (22-OUT4 22-IN2, 21-OUT3 21-IN3, GND):

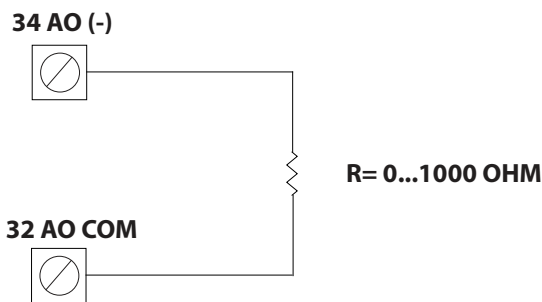
**Passive mode:** power is supplied from an external source.

- Connect the POSITIVE of the external source to the AO + terminal
- Connect the LOAD to the AO- terminal

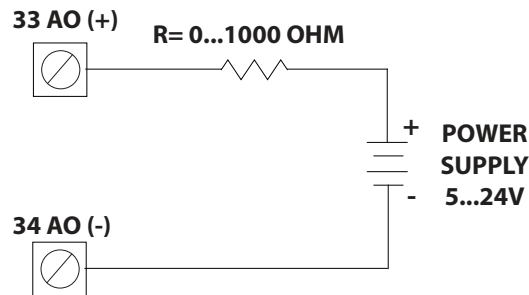
**Active mode:** power is supplied from the board power supply (if fitted).

- Connect the LOAD to the AO- terminal
- Connect the RETURN to the AOC terminal.

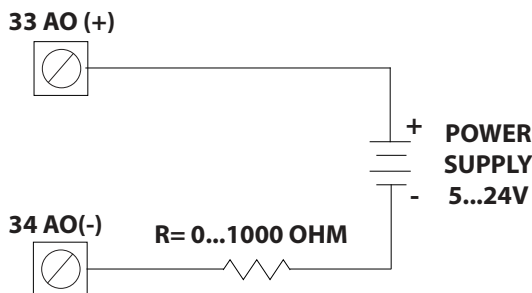
### Active connection



### Passive connection 1



### Passive connection 2





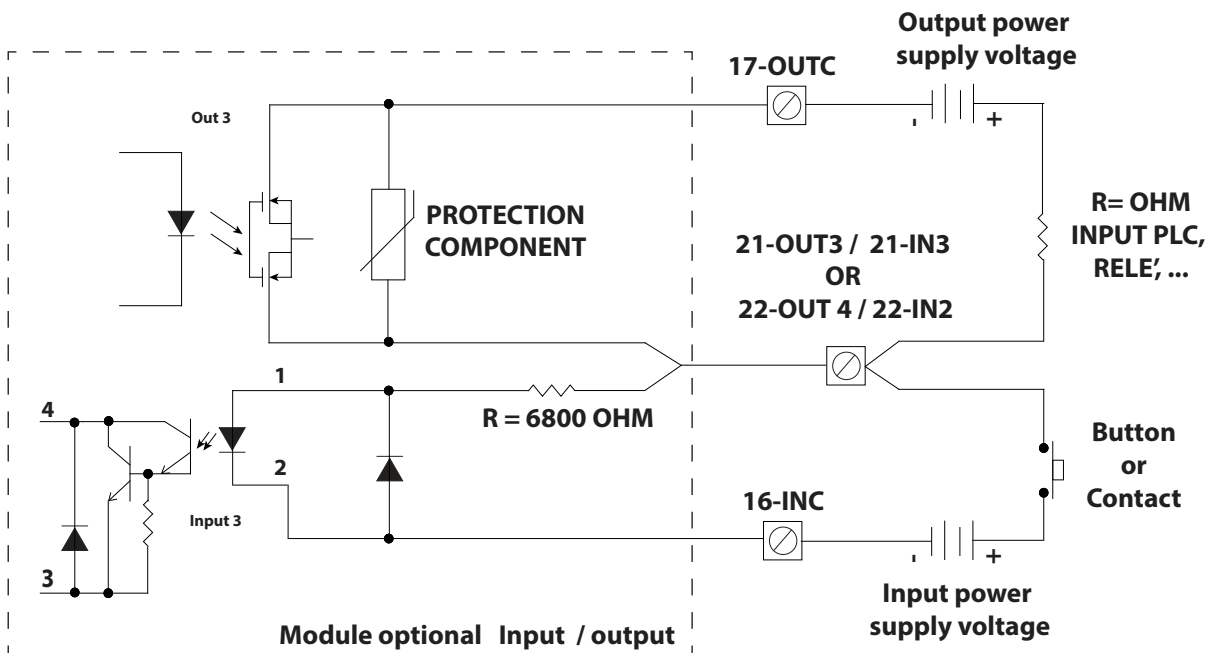
## AUXILIARY MODULE DIGITAL INPUTS/ OUTPUTS

Digital inputs / outputs terminal block of the add-on module (22-OUT4 22-IN2, 21-OUT3 21-IN3, GND):

- ❑ 21-OUT3 21-IN3: digital output OUT 3 / digital input INPUT 3
- ❑ 22-OUT4 22-IN2: digital output OUT 4 / digital input INPUT 2
- ❑ GND: terminal connected to the protective earth (chassis) for connecting cable screens

### NOTE:

- ❑ The digital outputs OUT4 and OUT3 use the 17-OUTC terminal as common.
- ❑ The digital inputs IN2 and IN3 use the 16-INC terminal as common.
- ❑ The digital output OUT4 and the digital input IN2 as well as the digital output OUT3 and the digital input IN3 share the same terminal but have different common, so the input and output circuits can be realized independently on the other hand, as indicated in the following diagram for OUT3 / IN3 (OUT4 / IN2 are equivalent).



# FUNCTIONS MENU

## SENSOR

MAIN MENU	
1-Sensor	
2-Units	
3-Scales	
4-Measure	
5-About	
6-Factory	
7-Exit	
SENSOR	
S.model	0
Lining	UNSPEC.
S.type	FULLBORE
U.type	METRIC
Diam.	700
KA	+00.9637
KA-	-44.904
KZ	-18852
KD	+00.4014
Ins.position	0
KP dynamic	OFF
Ki	10.000
Kp	10.000
KC	100.000
C.Curr.	mA025.0
S.timeI	ms03
Reg.C.T	stp 005
C.R.time	ms03
E.P.Detect	ON
Z max	Hohm 0500
S.err.delay	10
Sens.verify	OFF
KL	00.+000000
Zero point cal.	

- 1.1 Sensors model: Enter the first two characters of the serial number of the sensor
- 1.2 Flow sensor lining material type
- 1.3 Type of sensor: fullbore or insertion
- 1.4 Type of measure units for sensor parameter: metric or imperial
- 1.5 Sensor's nominal/real diameter DN (0-2500)
- 1.6 Sensor coefficient KZ (zero point)
- 1.7 Calibration data of sensor for negative flow
- 1.8 Sensor coefficient KZ (zero point)
- 1.9 Sensor coefficient KD
- 1.10 Insertion position
- 1.11 KP dynamic, coefficient for insertion
- 1.12 Sensor coefficient Ki
- 1.13 Sensor coefficient Kp
- 1.14 Sensor coefficient KC
- 1.15 Sensor excitation current
- 1.16 Current regulator proportional band
- 1.17 Current regulator derivation constant
- 1.18 Measure sampling frequency
- 1.19 Enables the empty pipe detection feature
- 1.20 Empty pipe detection threshold
- 1.21 Signal error delay (n. sample)
- 1.22 Automatic sensor verify enable
- 1.23 Linearization coefficient
- 1.24 Pipe hydraulic zero calibration

## UNITS

MAIN MENU	
1-Sensor	
2-Units	
3-Scales	
4-Measure	
5-About	
6-Factory	
7-Exit	
UNITS	
Diam.	mm
S.cable	m
FR.unit	METRIC
Pls1 u.	METRIC
Pls2 u.	METRIC
T+ unit	METRIC
T+ unit	(m3)
T+ D.P.	4
P+ unit	METRIC
P+ unit	(m3)
P+ D.P.	4
T- unit	METRIC
T- unit	(m3)
T- D.P.	4
P- unit	METRIC
P- unit	(m3)
P- D.P.	4
Temp.unit	°C
Mass units	ON
Sg	(kg/dm3)
AIN1 m.u.	1.107mCPI
AIN2 m.u.	1.107mCPI

- 1.1 Nominal diameter measure unit
- 1.2 Cable length on separate version
- 1.3 Flow rate type measure unit: metric or imperial
- 1.4 Pulse 1 type measure unit: metric or not metric
- 1.5 Pulse 2 type measure unit: metric or not metric
- 1.6 Total direct totalizer measure unit type: metric or imperial
- 1.7 Total direct totalizer measure unit
- 1.8 Total direct totalizer decimal point position
- 1.9 Partial direct totalizer measure unit type: metric or not metric
- 1.10 Partial direct totalizer measure unit
- 1.11 Partial direct totalizer decimal point position
- 1.12 Total reverse totalizer measure unit type: metric or not metric
- 1.13 Total reverse totalizer measure unit
- 1.14 Total reverse totalizer decimal point position
- 1.15 Partial reverse totalizer measure unit type: metric or not metric
- 1.16 Partial reverse totalizer measure unit
- 1.17 Partial reverse totalizer decimal point position
- 1.18 Temperature measure
- 1.19 Enable/disable the selection of mass units on full scale set
- 1.20 Specific gravity coefficient
- 1.21 Unit of measurement for analogue input 1
- 1.22 Unit of measurement for analogue input 2

## SCALES

MAIN MENU	
1-Sensor	
2-Units	
<b>3-Scales</b>	
4-Measure	
5-Alarms	
6-Inputs	
SCALES	
FS1	dm <sup>3</sup> /s 5.00
Pls1	dm <sup>3</sup> 0.15
Tpls1	(ms)
Pls2	dm <sup>3</sup> 0.15
Tpls2	15*(ms)
IAN1	1.107MCPI
IAN2	1.107MCPI

- 3.1 Full scale flow rate 1
- 3.2 Full scale flow rate 2
- 3.3 Duration of the pulse generated on channel 1
- 3.4 Pulse value on channel 2
- 3.5 Duration of the pulse generated on channel 2
- 3.6 Analog input scale 1
- 3.7 Analog input scale 2

## MEASURE

MAIN MENU	
1-Sensor	
2-Units	
3-Scales	
<b>4-Measure</b>	
5-Alarms	
6-Inputs	
MEASURE	
M.Prop.	SMART1
Filt.bypass	ON
Cut-off	00.0(%)
LP Cycle sim.	ON
Cal.verify	ON
H.imm.inp.	ON
Netw. Freq	50 HZ

- 4.1 Measure power profile
- 4.2 Measure filter bypass
- 4.3 Measure cut-off threshold
- 4.4 Low power m.cycle simulation
- 4.5 Automatic calibration verify
- 4.6 High immunity inputs
- 4.7 Network Frequency environment

## ALARMS

MAIN MENU	
1-Sensor	
2-Units	
3-Scales	
4-Measure	
<b>5-Alarms</b>	
6-Inputs	
7-Outputs	
ALARMS	
Max+	dm <sup>3</sup> /s
Max-	dm <sup>3</sup> /s
Min+	dm <sup>3</sup> /s
Min-	dm <sup>3</sup> /s
A1Mx	( )
A1Mn	( )
A2Mx	( )
A2Mn	( )
Hysteresis	%
U.all HZ	%
Cfg.ac.al	ON
All. alimen.	ON

- 5.1 Max.pos.flow r.alarm threshold MAX+
- 5.2 Max.neg.flow r.alarm threshold MAX-
- 5.3 Min.pos.flow r.alarm threshold MIN+
- 5.4 Min.neg.flow r.alarm threshold MIN-
- 5.5 MAX alarm threshold for analog input 1
- 5.6 MIN alarm threshold for analog input 1
- 5.7 MAX alarm threshold for analog input 2
- 5.8 MIN alarm threshold for analog input 2
- 5.9 Hysteresis on alarm thresholds
- 5.10 Output frequency value in alarm
- 5.11 Configuration Access Alarm Enable
- 5.12 Power Supply Loss Alarm Enable

## INPUTS

```

MAIN MENU
1-Sensor
2-Units
3-Scales
4-Measure
5-Alarms
6-Inputs
7-Outputs
8-Communication

```

INPUTS	
T+ reset	OFF
P+ reset	OFF
T- reset	OFF
P- reset	OFF
Count lock	OFF
Meas.lock	OFF
Calibration	OFF
Sys.v.detect	ON
D.In2	SYS.MDL.
D.In3	OFF
D.in p.sup.	ON

6.1	Total direct (positive) flow totalizer reset enable
6.2	Partial direct (positive) flow totalizer reset enable
6.3	Total reverse (negative) flow totalizer reset enable
6.4	Partial reverse (negative) flow totalizer reset enable
6.5	Totalizer counting lock command
6.6	Measure zero lock command
6.7	Calibration external command
6.8	System violation detect
6.9	Digital input 2 function
6.10	Digital input 3 function
6.11	Aux.digital inputs power supply

## OUTPUTS

```

MAIN MENU
1-Sensor
2-Units
3-Scales
4-Measure
5-Alarms
6-Inputs
7-Outputs
8-Communication

```

OUTPUTS	
Out1	F.R.SIGN
Out1 inv.	ON
Out1 pls.	ON
Out2	ANAL.MH/MN
Out2 inv.	ON
Out2 pls.	ON
Out3	MAX.AL+
Out3 inv.	ON
Out3 pls.	ON
Out4	MAX.AL+
Out4 inv.	ON
Out4 pls.	ON
Out mA1	Apr-20
A1S	dm3/s

7.1	Output 1 function selection
7.2	Output 1 inverted status
7.3	Output 1 pulsed status
7.4	Output 2 function selection
7.5	Output 2 inverted status
7.6	Output 2 pulsed status
7.7	Output 3 function selection
7.8	Output 3 inverted status
7.9	Output 3 pulsed status
7.10	Output 4 function selection
7.11	Output 4 inverted status
7.12	Output 4 pulsed status
7.13	Analog current output 1 range
7.14	Full scale value for analog out1



## COMMUNICATIONS

### COMMUNICATIONS

Comm.proc.abort		8.1	Communication process abort
Send status		8.2	Send device status information
Send DL Format		8.3	Send data logger fields format
Send ST Format		8.4	Send s.test data fields format]
Send proc.data		8.5	Send instantaneous process data
Send events		8.6	Send last system logged events
Send alarms		8.7	Send system alarms information
Send l.data		8.8	Send last logged process data
Send s.test		8.9	Send last sensor test data
Send config.		8.10	Send parameters config.data
Send Fn.enable		8.11	Send functions enable status
Send qs.list		8.12	Send quick start func.list]
RTC sync.req.		8.13	Request a RTC synchronization
Check m.box		8.14	Check mail box for new mails
FTP download	ON	8.15	FTP download execute command
Mail send	ON	8.16	Mail send function enable
Mail rec.	ON	8.17	Mail receive function enable
FTP upload	ON	8.18	FTP upload function enable
FTP download	ON	8.19	FTP download function enable
Rmt.op.acl	1	8.20	Remote operations access level
File compr.	ON	8.21	File compression enable status
ZIP password	XXXXXXXX	8.22	Compressed archive password
Conn.test	ON	8.23	Connection test enable
Auto Ev.snd	ON	8.24	Automatic events send on alarms
Access p.name	XXXXXXXX	8.25	Access point name
Auth.type	OFF	8.26	Access point authentication type
User name	XXXXXXXX	8.27	Access point user name
User password	XXXXXXXX	8.28	Access point password
SMTP User	XXXXXXXX	8.29	User name for SMTP service
SMTP psw.	XXXXXXXX	8.30	Password for SMTP email service
POP3 User	XXXXXXXX	8.31	User name for POP3 service
POP3 psw.	XXXXXXXX	8.32	Password for POP3 email service
FTP User	XXXXXXXX	8.33	User name for FTP service
FTP password	XXXXXXXX	8.34	Password for FTP service
Min.sig.thr	ON	8.35	Min.antenna signal threshold
Primary DNS	000.000.000	8.36	Primary Domain Name Server
Secondary DNS	000.000.000	8.37	Secondary Domain Name Server
Retries	3	8.38	Max.number of session retries
Instr.ID	XXXXXXXX	8.39	Instrument identifier string
HELO string	XXXXXXXX	8.40	HELO identification string
Sender addr.	XXXXXXXX	8.41	Email address of sender
Receiver 1	XXXXXXXX	8.42	Email address of receiver 1
Receiver 2	XXXXXXXX	8.43	Email address of receiver 2
SMTP server	XXXXXXXX	8.44	SMTP mail send server name
SMTP sl	OFF	8.45	SMTP secure connection layer
SMTP port	25	8.46	SMTP mail send server port num.
POP3 server	XXXXXXXX	8.47	POP3 mail receive server name
POP3 sl	SSL/TLS	8.48	POP3 Secure connection layer
POP3 port	995	8.49	POP3 mail receive serv.port num.
FTP server	XXXXXXXX	8.50	FTP server name or address
FTP port	21	8.51	FTP server port number
FTP secure	ON	8.52	FTP secure connection enable
FTP data	XXXXXXXX	8.53	FTP root directory for data
FTP events	XXXXXXXX	8.54	FTP root directory for events
FTP commands	XXXXXXXX	8.55	FTP root directory for commands
Cert.check	ON	8.56	Server identity certiff.check
NTP server	XXXXXXXX	8.57	NTP time server name
T.ref	WWW/MM/DD	8.58	Data send time reference
InMsTm	0:00	8.59	Incoming message check time
ProcST	0:00	8.60	Process data send time
LogDST	0:00	8.61	Logger data send time
S.Compl.File	ON	8.62	Send only complete file
Alarm time	0:00	8.63	Alarm minimum send time interval
SMS F.en	ON	8.64	SMS functions global enable
Auth.number	1234	8.65	Authorized incoming phone number
Mess.recv.1	1234	8.66	Short messages receiver 1
Mess.recv.2	1234	8.67	Short messages receiver 2
Mess.recv.3	1234	8.68	Short messages receiver 3

## DISPLAY

DISPLAY	
Language	EN
Disp.time	S
Disp.Fn.	1
Disp.lock	OFF
Part.tot.	ON
Neg.tot.	ON
Net tot.	ON
Disp.date	ON
Quick start	OFF

7-Outputs
8-Communication
9-Display
10-Data logger
11-Functions
12-Diagnostic
13-System

9.1	Impostazione lingua interfaccia
9.2	Tempo visualizz./inattività
9.3	Numero funz.di visualizzazione
9.4	Blocco funzioni visualizzazione
9.5	Abilitazione totalizz.parziali
9.6	Abilitazione totalizzatori negativi
9.7	Abilitazione visual.totalizz.netti
9.8	Abilitazione visualizz.data/ora
9.9	Abilitazione menu quick start

## DATA LOGGER

DATA LOGGER	
D.logger en.	ON
Meas.units	ON
Field separ.	;
Decim.separ.	.
Interv.	0:01:00
Log T+	OFF
Log P+	OFF
Log T-	OFF
Log P-	OFF
Log TN	OFF
Log PN1	OFF
Log Q(UM)	OFF
Log Q(%)	OFF
Log AL.EU	OFF
Log ADM	OFF
Log STR	OFF
Log BTS	OFF
Log IBV	OFF
Log EDC	OFF
Log EAC	OFF
Log EIZ	OFF
Log SCV	OFF

8-Communication
9-Display
10-Data logger
11-Functions
12-Diagnostic
13-System

9.1	Data logger enabling
9.2	Measure unit recording enable
9.3	Field separator character
9.4	Decimal separator character
9.5	Sampling interval
9.6	Totalizer Total Positive Enable T+
9.7	Totalizer Partial Positive Enable P+
9.8	Totalizer Total Negative Enable T-
9.9	Totalizer Partial Net Enable P-
9.10	Totalizer Total Net Enable
9.11	Totalizer Partial Net Enable
9.12	Flow rate in Technical Units Enable
9.13	Flow rate in Percentage Enable
9.14	Alarm Events Enable
9.15	Additional Measures Enable
9.16	Sensor Test Results Enable
9.17	Board TemperatureS Enable
9.18	Internal Board Voltages
9.19	Electrodes DC Voltages Enable
9.20	Electrodes AC voltages Enable
9.21	Electrodes Source Impedance Enable
9.22	Sensor Coils Values Enable

## FUNCTION

FUNCTION	
T+ reset	ON
P+ reset	ON
T- reset	;
P- reset	.
Load Sens.F.def	0:01:00
Load Conv.F.def	OFF
Save Sens.F.def	OFF
Save Conv.F.def	OFF
Calibration	OFF

7-Outputs
8-Communication
9-Display
10-Data logger
11-Functions
12-Diagnostic
13-System

10.1	Volume Totalizer Total Positive Reset
10.2	Volume Totalizer Partial Positive Reset
10.3	Volume Totalizer Total Negative Reset
10.4	Volume Totalizer Partial Negative Reset
10.5	Load Factory Default Sensor Data
10.6	Load Factory Default Converter Data
10.7	Save Factory Default Sensor Data
10.8	Save Factory Default Converter Data
10.9	CALibration Immediate Command

# DIAGNOSTIC

## DIAGNOSTIC

```

Self test
Sens.verify
Flow sim. OFF
Display measures
Disp.comm.vars
SMS test
SMTP conn test
POP3 conn.test
FTP conn.test
Display graphs
SD card info
Firmware info
S/N 0
WT 000:00:00:00
TC 0
  
```

- 11.1 Auto test Immediate Command
- 11.2 Sensor Verify Command
- 11.3 Measure Simulation Enable
- 11.4 Diagnostic Measure VaLues
- 11.5 Diagnostic Communication VaLues
- 11.6 Short Message Test
- 11.7 SMTP Connection Test
- 11.8 POP3 Connection Test
- 11.9 FTP Connection Test
- 11.10 Oscilloscope function
- 11.11 SD memory Status
- 11.12 Model and Software Version
- 11.13 Serial Number
- 11.14 Total Working Time
- 11.15 Total Measure Cycles

```

MP
7-Outputs
8-Communication
9-Display
10-Data logger
11-Functions
12-Diagnostic
13-System
  
```

# SYSTEM

## SYSTEM

```

Dayl.saving ON
Time zone +00.00
Date/time ///00:00:00
L1 code xxxxxxxx
L2 code xxxxxxxx
L3 code xxxxxxxx
L4 code xxxxxxxx
L5 code xxxxxxxx
L6 code xxxxxxxx
Restr.access OFF
Device IP addr 63015504
Client IP addr 11.012.012
Network mask 255.255.254
RT 0.97882
KS 100.000
KR 100.000
DAC1 4mA 2460
DAC1 20mA 11050
AIN1 SS 0
AIN1 FS 20000
AIN2 SS 0
AIN2 FS 20000
Stand-by
FW update
  
```

- 13.1 Daylight Saving Time Enable
- 13.2 Time zone
- 13.3 Date and Time
- 13.4 Level 1 Access CoDe
- 13.5 Level 2 Access CoDe
- 13.6 Level 3 Access CoDe
- 13.7 Level 4 Access CoDe
- 13.8 Level 5 Access CoDe
- 13.9 Level 6 Access CoDe
- 13.10 ReStricted Access Rule Enable
- 13.11 Device IP Address
- 13.12 Client IP Address
- 13.13 Network MaSk
- 13.14 Coefficient KT
- 13.15 Coefficient KS
- 13.16 Coefficient KR
- 13.17 Current output 1 Calibration Point 1
- 13.18 Current output 1 Calibration Point 2
- 13.19 Analog input 1 Calibration Point 1
- 13.20 Analog input 1 Calibration Point 2
- 13.21 Analog input 2 Calibration Point 1
- 13.22 Analog input 2 Calibration Point 2
- 13.23 System StandbY
- 13.24 Firmware update

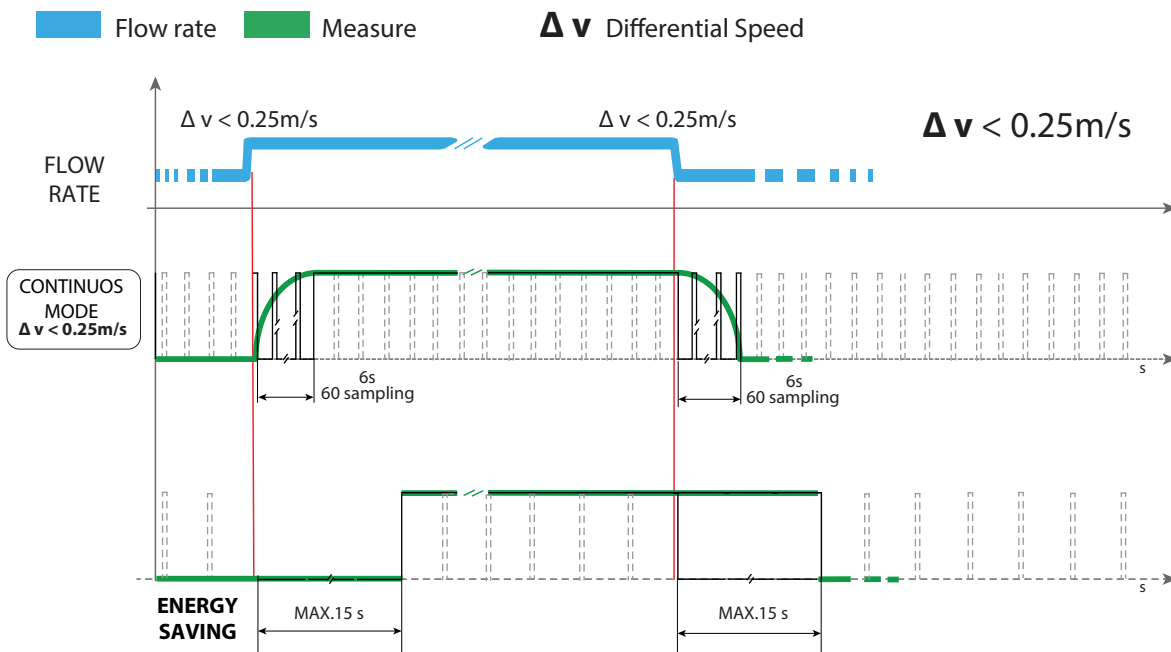
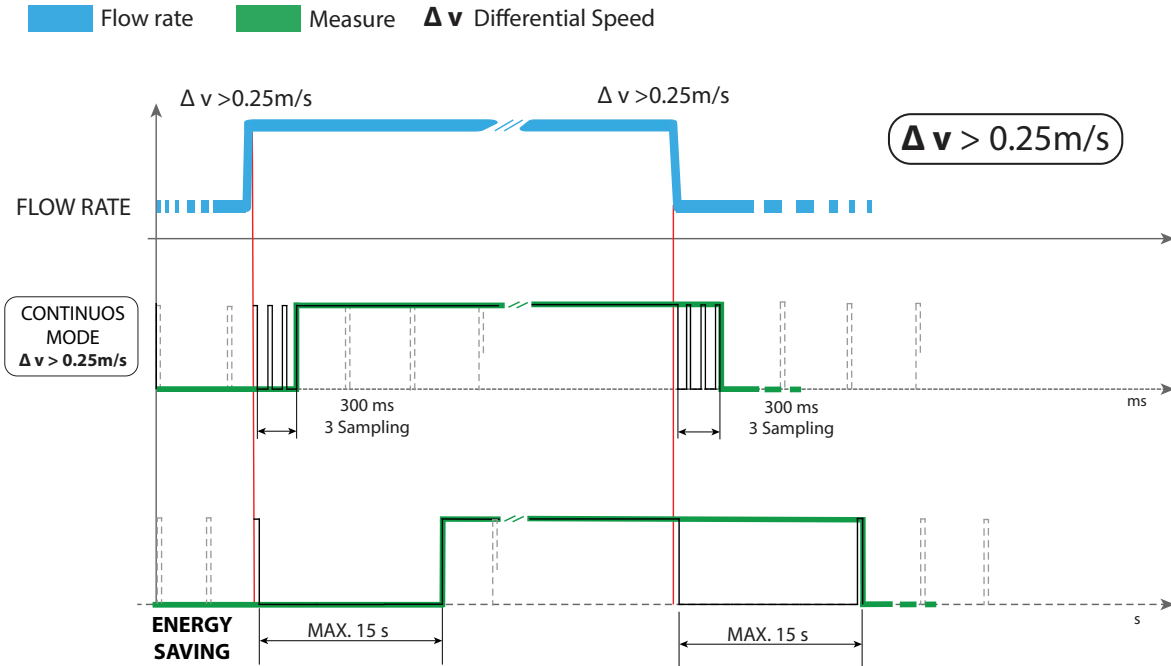
```

MP
7-Outputs
8-Communication
9-Display
10-Data logger
11-Functions
12-Diagnostic
13-System
  
```

## MEASUREMENT SETTINGS

MV255 can be programmed to acquire the measurement in two different ways:

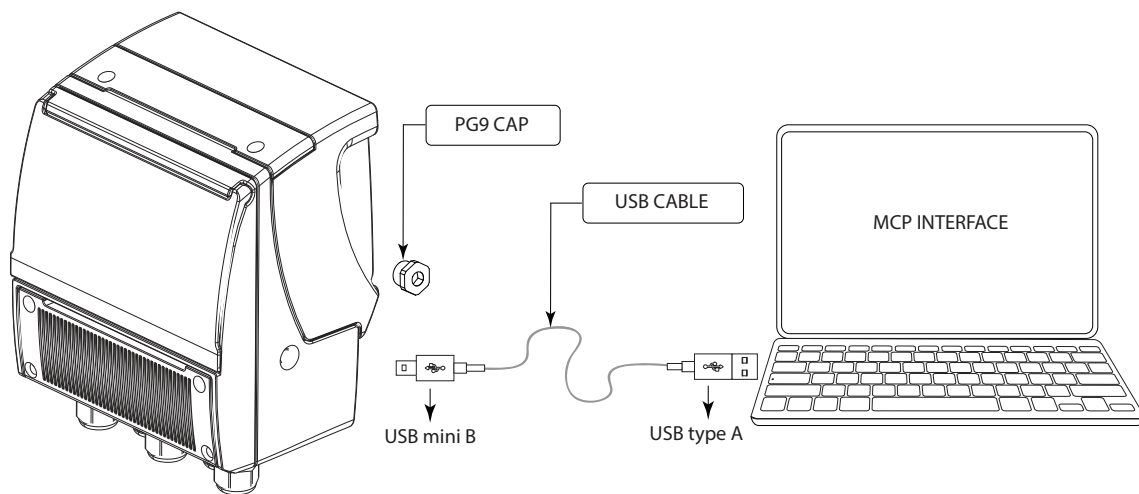
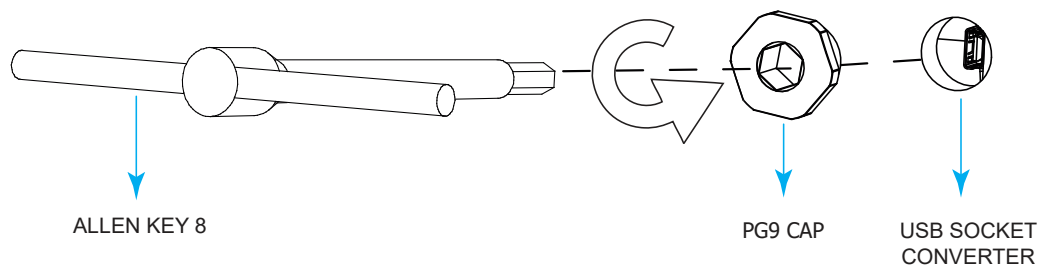
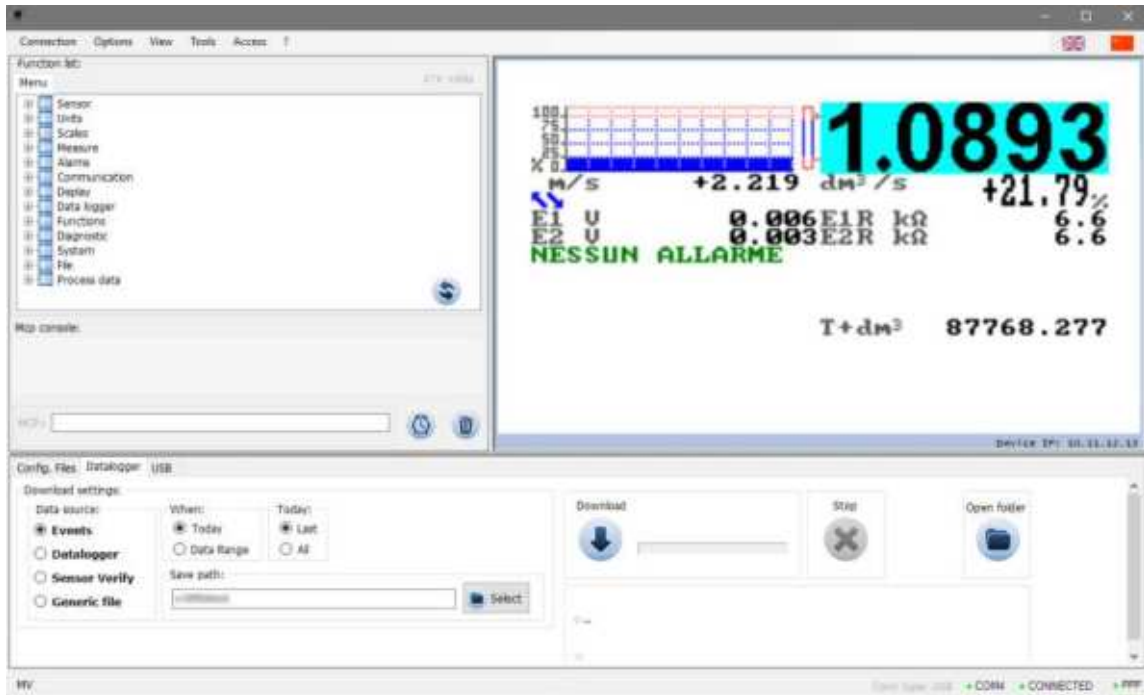
- ENERGY SAVING MODE: Sampling every 15 s.
- CONT. PWR: Continuous power sampling.





# USER INTERFACE

Besides the keyboard, the converter can be programmed by MCP INTERFACE: a real time interface between converter and PC.



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

## DATA LOGGER

Data is stored on micro SD card; the recorded data or the events, can be easily downloaded by the MCP INTERFACE, pressing the relevant key as shown below.

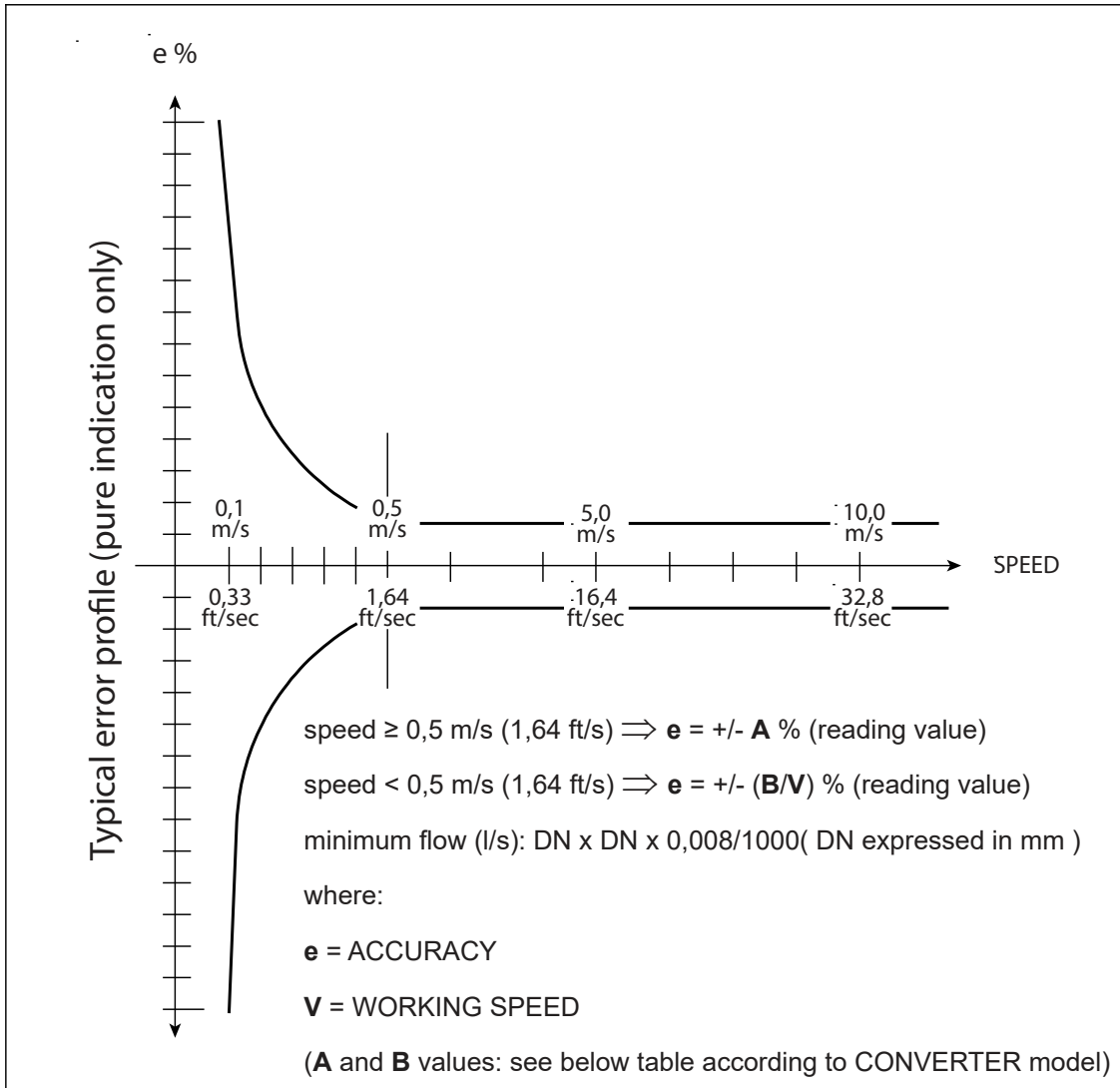


**Note:** to record correctly the data, the date and time shall be properly set.

Example of extrapolation of the data logger file:

K	P-	0 0 0 0 0 0	TOT_P-: value of the partial negative totalizer. Fields present when the sending flag of the P-totalizer is active
J	UM	dm3 dm3 dm3 dm3 dm3	U=xxx: unit of measurement used for the partial negative totalizer. Fields present when the sending flag of the P-totalizer is active
I	T-	0 0 0 0 0 0	TOT_T-: total negative totalizer value. Fields present when the sending flag of the T-totalizer is active
H	UM	dm3 dm3 dm3 dm3 dm3	U=xxx: unit of measurement used for total negative totalizer. Fields present when the sending flag of the T-totalizer is active
G	P+	0 0 0 0 0 0	TOT_P+: value of the positive partial totalizer. Fields present when the sending flag of the totalizer P is active
F	UM	dm3 dm3 dm3 dm3 dm3	U = xxx: unit of measurement used for the positive partial totalizer. Fields present when the sending flag of the P + totalizer is active
E	T+	0 0 0 0 0 0	TOT_T +: total positive totalizer value. Fields present when the sending flag of the T + totalizer is active
D	UM	dm3 dm3 dm3 dm3 dm3	U = xxx: unit of measurement used for total positive totalizer. Fields present when the sending flag of the T + totalizer is active
C	ORA	00:00:00 00:00:00 00:00:00 00:00:00 00:00:00 00:00:00	TIME: Viewing the recording time for each record
B	DATA	dd/mm/yy dd/mm/yy dd/mm/yy dd/mm/yy dd/mm/yy dd/mm/yy	DATE: Display of the recording date for each record.
A	N° RECORD	rr rr rr rr rr rr	RNUM: record number. View the number of recorded records in progression.

# ACCURACY



## Fullbore Sensor

MS501/MS600/MS1000/MS2410/MS2500			MS5000		
A	B(m/s)	B(ft/s)	A	B(m/s)	B(ft/s)
0,4*	0,20	0,66	2	1	3,28

\* = 0,25 ( special velocity > 1 m/s)

## Insertion sensor

See Sensor DATA SHEET.

## Reference conditions below and as per internal testing procedures:

- Constant flow rate during the test
- Pressure: >30 Kpa
- Flow condition : fully developed flow profile
- Zero stability +/- 0,005 %

## MI-001 OIML R49 CLASS1: MV255

The **MS2500** sensor's diameters listed below, coupled with **MV255**, are certified according to European Directive 2014/32/EU category MI-001 (OIML R49)

SIZE		Q3	Q2	Q1	R
mm	inch	m3/h			Q3/Q1
25	1	16	0,32	0,20	<b>80</b>
32	1 ¼	25	0,50	0,31	
40	1 ½	40	0,80	0,50	
50	2	63	1,3	0,79	
65	2 ½	100	2	1,25	
80	3	160	3,2	2	
100	4	250	5,0	3,13	
125	5	400	8,0	5,0	
150	6	630	13	7,88	
200	8	1000	20	12,50	
250	10	1600***	32	20	
300	12	2500**	50	31,25	
350	14	2500**	50	31,25	
400	16	4000**	80	50	
450	18	4000**	80	50	
500	20	6300	126	78,75	
600	24	10000	200	125	
700	28	10000	200	125	
800	32	16000*	320	200	
900	36	16000*	320	200	
1000	42	25000*	500	312,5	

SIZE		Q3	Q2	Q1	R
mm	inch	m3/h			Q3/Q1
25	1	16	0,26	0,16	<b>100</b>
32	1 ¼	25	0,40	0,25	
40	1 ½	40	0,64	0,40	
50	2	63	1,0	0,63	
65	2 ½	100	1,6	1,00	
80	3	160	2,6	1,60	
100	4	250	4,0	2,50	
125	5	400	6,4	4,00	
150	6	630	10	6,30	
200	8	1000	16	10,00	

(\*) : Calibration flowrate 14000 m3/h - as for max rig flowrate L8

(\*\*) : Calibration flowrate 1400 m3/h - as for max test rig flowrate L7

(\*\*\*) Calibration flowrate 1100 m3/h - as for max test rig flowrate L6

## MI-001 OIML R49 CLASS2: MV255

The **MS2500** sensor's diameters listed below, coupled with **MV255**, are certified according to European Directive 2014/32/EU category MI-001 (OIML R49)

SIZE		Q3	Q2	Q1	R
mm	inch	m3/h			Q3/Q1
25	1	16	0,16	0,10	<b>160</b>
32	1 ¼	25	0,25	0,16	
40	1 ½	40	0,40	0,25	
50	2	63	0,63	0,39	
65	2 ½	100	1,0	0,63	
80	3	160	1,6	1,0	
100	4	250	2,5	1,6	
125	5	400	4,0	2,5	
150	6	630	6,3	3,9	
200	8	1000	10	6,3	
250	10	1600***	16	10	
300	12	2500**	25	16	
350	14	2500**	25	16	
400	16	4000**	40	25	
450	18	4000**	40	25	
500	20	6300	63	39	
600	24	10000	100	63	
700	28	10000	100	63	
800	32	16000*	160	100	
900	36	16000*	160	100	
1000	42	25000*	250	156	

SIZE		Q3	Q2	Q1	R
mm	inch	m3/h			Q3/Q1
25	1	16	0,10	0,06	<b>250</b>
32	1 ¼	25	0,16	0,10	
40	1 ½	40	0,26	0,16	
50	2	63	0,40	0,25	
65	2 ½	100	0,64	0,40	
80	3	160	1,0	0,64	
100	4	250	1,6	1,0	
125	5	400	2,6	1,6	
150	6	630	4,0	2,5	
200	8	1000	6,4	4,0	
250	10	1600***	10	6,4	
300	12	2500**	16	10	
350	14	2500**	16	10	
400	16	4000**	26	16	
450	18	4000**	26	16	
500	20	6300	40	25	
600	24	10000	64	40	
700	28	10000	54	40	
800	32	16000*	102	64	
900	36	16000*	102	64	
1000	42	25000*	160	100	

(\*) : Calibration flowrate 14000 m3/h - as for max rig flowrate L8

(\*\*) : Calibration flowrate 1400 m3/h - as for max test rig flowrate L7

(\*\*\*) Calibration flowrate 1100 m3/h - as for max test rig flowrate L6

SIZE		Q3	Q2	Q1	R
mm	inch	m3/h			Q3/Q1
25	1	16	0,06	0,04	<b>400</b>
32	1 ¼	25	0,10	0,063	
40	1 ½	40	0,16	0,10	
50	2	63	0,25	0,16	
65	2 ½	100	0,40	0,25	
80	3	160	0,64	0,40	
100	4	250	1,0	0,63	
125	5	400	1,6	1,0	
150	6	630	2,5	1,6	
200	8	1000	4,0	2,5	
250	10	1600 <sup>***</sup>	6,4	4,0	
300	12	2500 <sup>**</sup>	10	6,3	
350	14	2500 <sup>**</sup>	10	6,3	
400	16	4000 <sup>**</sup>	16	10	
450	18	4000 <sup>**</sup>	16	10	
500	20	6300	25	16	
600	24	10000	40	25	
700	28	10000	40	25	
800	32	16000 <sup>*</sup>	64	40	
900	36	16000 <sup>*</sup>	64	40	
1000	42	25000 <sup>*</sup>	100	63	

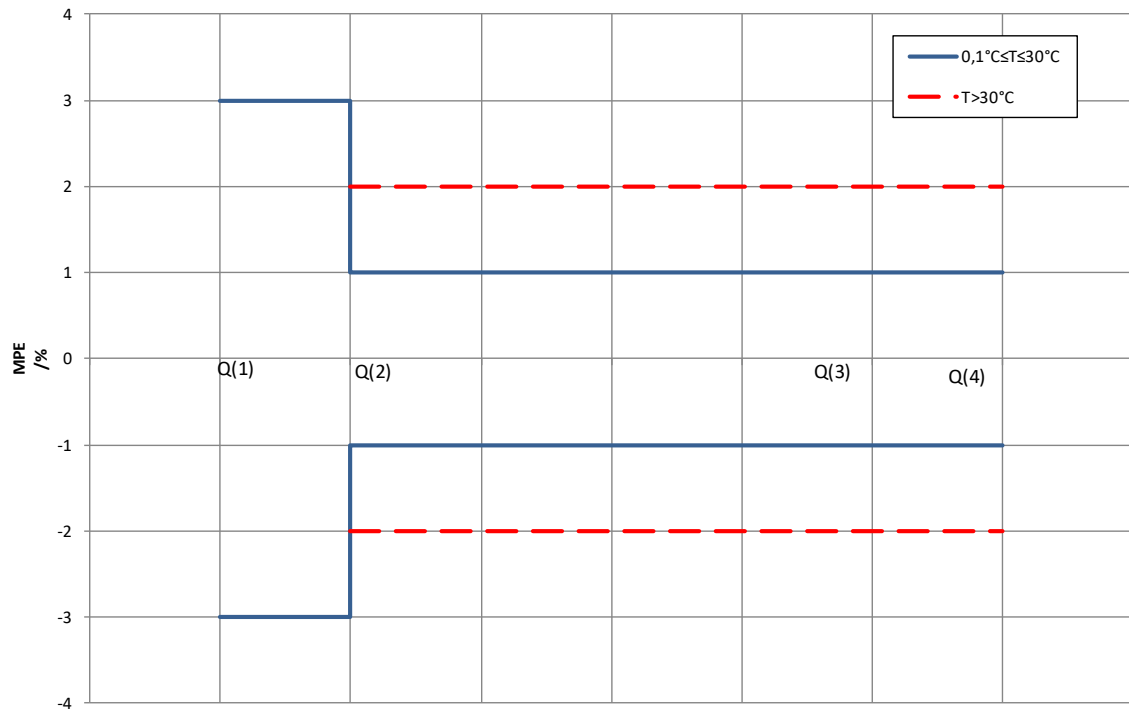
(\*) : Calibration flowrate 14000 m3/h - as for max rig flowrate L8

(\*\*) : Calibration flowrate 1400 m3/h - as for max test rig flowrate L7

(\*\*\*) Calibration flowrate 1100 m3/h - as for max test rig flowrate L6

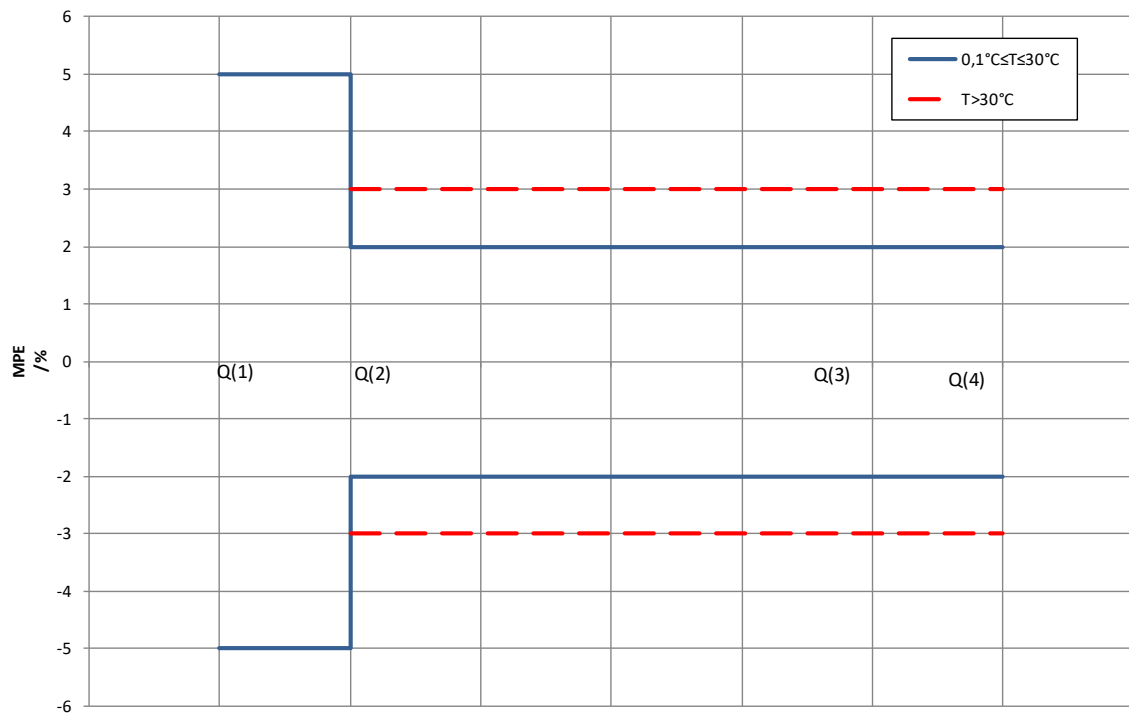
### MPE - MI 001 - OIML R49 ACCURACY CLASS 1

(OIML R 49-1:2013 (E) - ISO4064-1:2017 )



### MPE - MI 001 - OIML R49 ACCURACY CLASS 2

(OIML R 49-1:2013 (E) - ISO4064-1:2017 )



## HOW TO ORDER

CODE/ EXAMPLE	CODE/DESCRIPTION	
<b>Display</b>		
B	A	Blind version (without display and programming keys, USB cable type A / USB Mini B is Required for programming)
	B	Graphic LCD WSTN - B/W-matrix points 128 x 64, 8 line/16 characters and 3 programming keys (mandatory for MI001)
<b>Housing material</b>		
0	0	Nylon PA6 with fiber glass, (IP67 only)
	1	Painted aluminium die casting
<b>Version / Protection rate</b>		
A	A	Compact version with sensor MS - IP67
	B	Separate version for wall monting, complete with Aluminium mounting accessories, (use C015/C016 cable max length 20 m) - IP67
	C	Compact version with display visible from the top -IP67
	D	Compact version - IP68 1,5 meters - ONLY aluminium housing
	E	Compact version with display visible from the top - IP68 1,5 meters - ONLY aluminium housing
	F	Separate version with sensor MS - IP68 1,5 meters - ONLY aluminium housing
<b>Main Power supply (FOR Option 2 is Included the possibility Solar Panel 12-24 VDC)</b>		
0	0	Without Main Power Supply (MANDATORY IF BATTERY ALCALYNE OR LITHIUM ARE SELECTED)
	1	Power supply : 100 ... 240 VAC 45/66 Hz + Rechargeable Battery 3,7 V - 5200 mAh (NOT ALLOWED WITH ALKALINE OR LITHIUM BATTERIES)
	2	Power supply : 12...48 VDC + Rechargeable Battery 3,7 V - 5200 mAh (NOT ALLOWED WITH ALKALINE OR LITHIUM BATTERIES) ALSO FOR SOLAR PANEL
<b>Batteries (THE USE IS NOT ALLOWED IF THE MAIN POWER IS SELECTED)</b>		
A	A	Whithout Batteries (MANDATORY IF MAIN POWER SUPPLY IS SELECTED)
	B	2 Lithium thionyl chloride batteries (n° 1 on slot 1 - n° 1 on slot 2) - ONLY SPIRAL MODEL
	C	4 Lithium thionyl chloride batteries (n° 2 on slot 1 - n° 2 on slot 2) - ONLY SPIRAL MODEL
	D	6 Lithium thionyl chloride batteries (n° 3 on slot 1 - n° 3 on slot 2)
	E	6 Alkaline or NiMh batteries SIZE D (on slot 3)
	F	Board set for Lithium (slot 1-2) (Batteries NOT Supplied)
	G	Board set for Alkaline (slot 3) (Batteries NOT Supplied)
<b>Analog Input/Output</b>		
0	0	Without Analog Input/Output
	1	N° 1 Input for n° 1 pressure sensor (pressure sensor to be ordered separately)
	2	N° 2 Inputs for n° 2 pressure sensors (pressure sensors to be ordered separately)
	3	N° 1 Input for n° 1 PT 100/500/1000 THERMAL PROBE (probe to be ordered separately)
	4	N° 2 Inputs for n° 2 PT 100/500/1000 THERMAL PROBE (probes to be ordered separately)
	5	N° 1 Analog Output (4/20 mA) - Active or Passive (by wiring) if the Main Power is SELECTED ; ONLY PASSIVE if powered by BATTERIES
	6	Option 1 + 5
	7	Option 2 + 5
	8	Option 3 + 5
	9	Option 4 + 5
	a	Option 1 + 3
<b>Digital Input/Output</b>		
A	A	Without Digital Input/Output
	B	N° 2 ON/OFF output (max 50 Hz - max 100 mA ) + N° 1 ON/OFF input
	C	N° 4 ON/OFF output (max 50 Hz - max 100 mA ) + N° 3 ON/OFF input



<b>Communication Gateway&amp; Protocol</b>		
0	0	3G communication module with antenna on the housing
	1	3G communication module with 3 meters cable antenna
	2	3G communication module with antenna on the housing with DNP3 protocol
	3	3G communication module with 3 meters cable antenna with DNP3 protocol
	5	4G communication module with antenna on the housing
	6	4G communication module with 3 meters cable antenna
	7	4G communication module with antenna on the housing with DNP3 protocol
	8	4G communication module with 3 meters cable antenna with DNP3 protocol
	9	Others
<b>Data Logger</b>		
A	A	MicroSD Memory 4 GB : Data Logger + RTC (Real Time Clock)
	B	MicroSD Memory 4 GB : Data Logger + RTC (Real Time Clock) + BIV (Built In Verificator)
	C	MicroSD Memory 4 GB : Data Logger + RTC (Real Time Clock) + Meter Data (Real Time Converter & Sensor Data on SD Memory)
	D	MicroSD Memory 4 GB : Data Logger + RTC (Real Time Clock) + BIV + Meter Data
<b>Special Features</b>		
0	0	None
	1	WITH ANTICONDENSE CAP
<b>Connectors for POWER SUPPLY and CABLES FROM SENSOR ( Separate Version) (Maximum 5 connectors including IN/OUT connectors)</b>		
A	A	NO CONNECTORS
	B	POWER SUPPLY (n° 1 connector)
	C	SEPARATE VERSION (n° 2 connectors)
	D	POWER SUPPLY (n° 1 connector)+ SEPARATE VERSION (n° 2 connectors)
<b>Connectors FOR INPUTS/OUTPUTS</b>		
0	0	NO CONNECTORS
	1	n.1 Pressure or n.1 Temperature (n.1 connector)
	2	n.2 Pressure or n.2 Temperature (n. 2 connector)
	3	n.2 Digital Outputs - n.1 Digital Input (n.1 connector)
	5	n. 2 DIGITAL OUTPUT - n. 1 DIGITAL INPUT (n.1 connector) + n. 1 PRESSURE or N° 1 TEMPERATURE (n.1 connector)
	6	n.2 Digital Outputs + n.1 Output 4-20 mA (n.1 connector)
	7	n.1 Pressure and n.1 Temperature (n. 2 connectors) + n.2 Digital Outputs - n.1 Digital Input (n.1 connector)
<b>MID Approval</b>		
A	A	NONE
	B	MI-001/OIMLR49-CLASS 1
	C	MI-001/OIMLR49-CLASS 2

Example of complete code to order



**MV255-B0A0A0A0A0A0**

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



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