

THE MOST ACCURATE BATTERY POWERED SYSTEM

ISOMAG ™

THE FRIENDLY MAG METER

Converter ML250

FLOWIZ



Electromagnetic Converter with battery supply (up to 10 years) and universal power supply (10÷400 V AC or DC) or 4/20 mA (Two Wire System); module for pressure measure and GPRS transmission .

Le condizioni di garanzia sono disponibili sul sito:
www.isoil.com solo in inglese

ISOIL 
INDUSTRIA

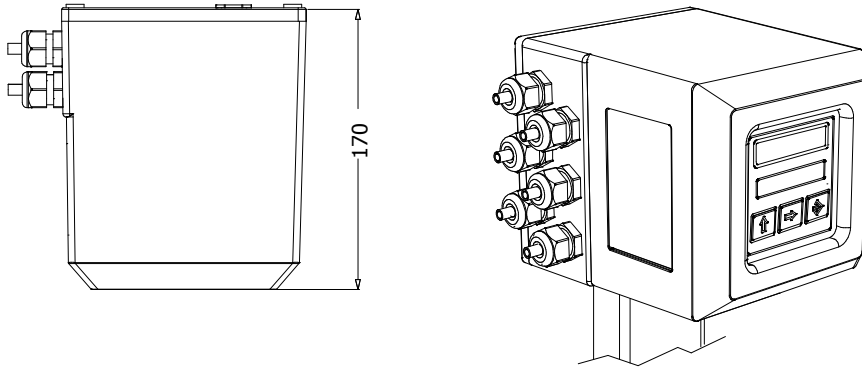
The solutions that count

TECHNICAL DATA

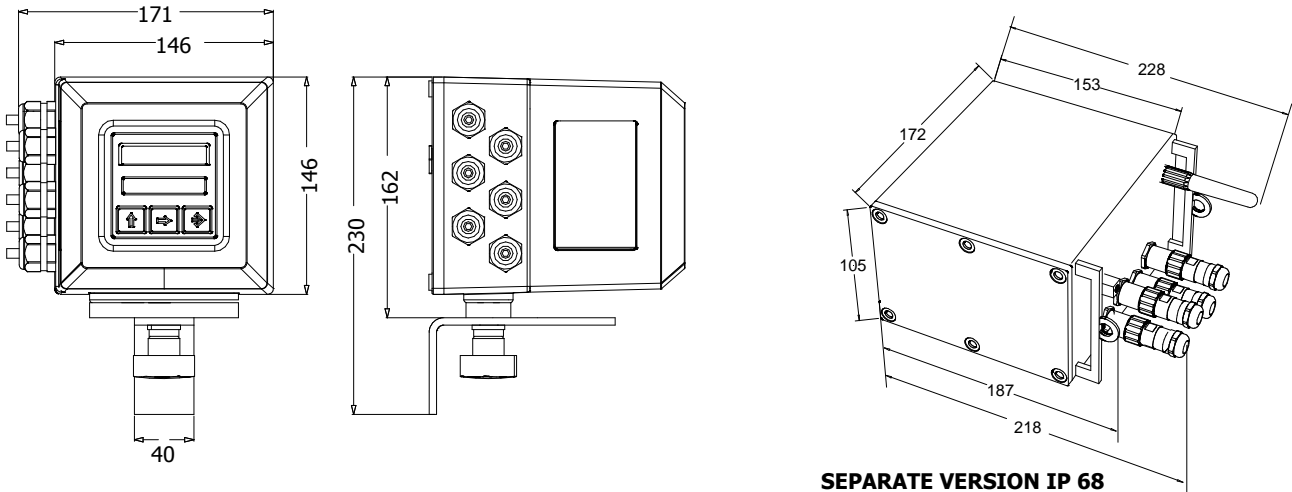
Suitable for	<input type="checkbox"/> All the ISOMAG sensors (EX excluded)
Minimum conductivity	<input type="checkbox"/> 5 mS/cm
Housing materials	<input type="checkbox"/> Wall/Compact: Painted Aluminium die casting (OPT. AISI304) <input type="checkbox"/> Panel version: Noryl UL 94 V-0 Black
Dimensions	<input type="checkbox"/> See Drawing
Protection rate	<input type="checkbox"/> IP 67 (Wall-Compact) – IP 54 (Opt. Ip 65) Panel Version <input type="checkbox"/> IP 68 (Blind in separate version)
Connection sensor cable	<input type="checkbox"/> C015 / C016 cable (maximum length 20 meters)
Cable gland	<input type="checkbox"/> standard PG 11
Ambient temperature	<input type="checkbox"/> -20...+60°C
LCD Display	<input type="checkbox"/> Alphanumerical display: 2 lines x 16 characters NOT back lighted
Keyboard	<input type="checkbox"/> 3 membrane keys
Analogue Input	<input type="checkbox"/> n°1 programmable 4÷20 mA
Pressure measure	<input type="checkbox"/> Input for Pressure sensor (0÷2000 , 0÷4000 Kpa)
Built-in Modules	<input type="checkbox"/> Out 4÷20 mA (Passive, used also to supply power to the entire system), n°2 On/Off out + n°1 On/Off input, RS232 Serial Communication, GSM /GPRS (SMS/CSD system)
Data Logger	<input type="checkbox"/> Two Sets (1 Mbit). ▪ 8192 records collected at intervals of 1, 5, 10,30 min. - 1,6,12,24 hours ▪ 512 records collected at the Measure Sample Rate ▪ Note: both sets of records contain Date/Time reference, Flow Rate, Positive and Negative volumes and auxiliary Input data (4/20 mA or Pressure) expressed in Technical Units <input type="checkbox"/> Recording of the last 64 alarm Events
Bi-directional	<input type="checkbox"/> Yes
Full Scale value	<input type="checkbox"/> 0,4...10 m/s
Diagnostic functions	<input type="checkbox"/> Yes
Empty Pipe Detection	<input type="checkbox"/> Yes
Galvanic Isolation	<input type="checkbox"/> all the Inputs/Outputs are galvanically isolated from Power Supply
Data storage	<input type="checkbox"/> EEprom, battery backup RAM
Programming plug in	<input type="checkbox"/> Protected plug in for connection to PC (IF2)
CE certification	<input type="checkbox"/> Instrument with CE certificate
Accuracy	<input type="checkbox"/> Flow Rate (Volume) = ±0,5 % o.r. /(continuously sampling)
Repeatability	<input type="checkbox"/> better than 0,5% (continuously sampling)
Power Supply (see details on Page 5)	<input type="checkbox"/> Standard: n°1 Lithium Battery size D not rechargeable, Life Time 2 Years using 15s Sampling Rate, 1 month with Continuous Sampling; Universal Power Supply 10÷400 Vdc, 15÷265 vac 44÷66 Hz; functioning also as mixed system network: Power Supply + Battery as backup. <input type="checkbox"/> Optional: up to n°4 Lithium batteries (up to 10 years)
Max consumption	<input type="checkbox"/> 0.08W with battery, 0.2W with Universal Power Supply

OVERALL DIMENSIONS

COMPACT VERSION

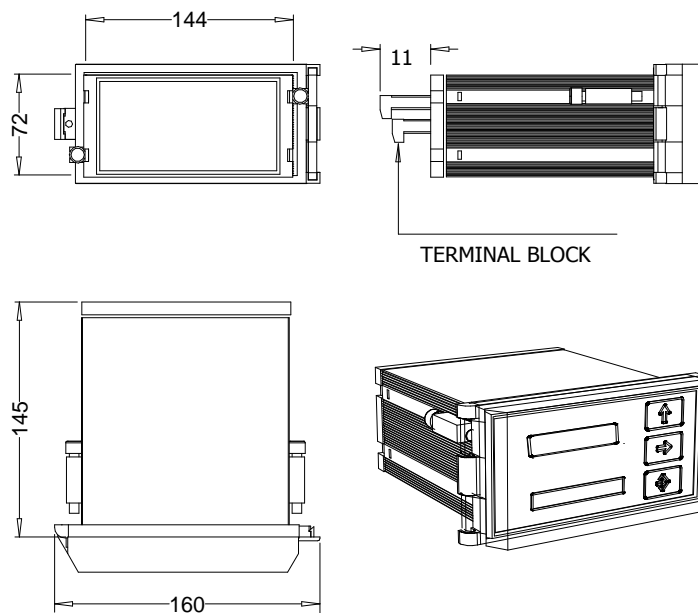


SEPARATE VERSION



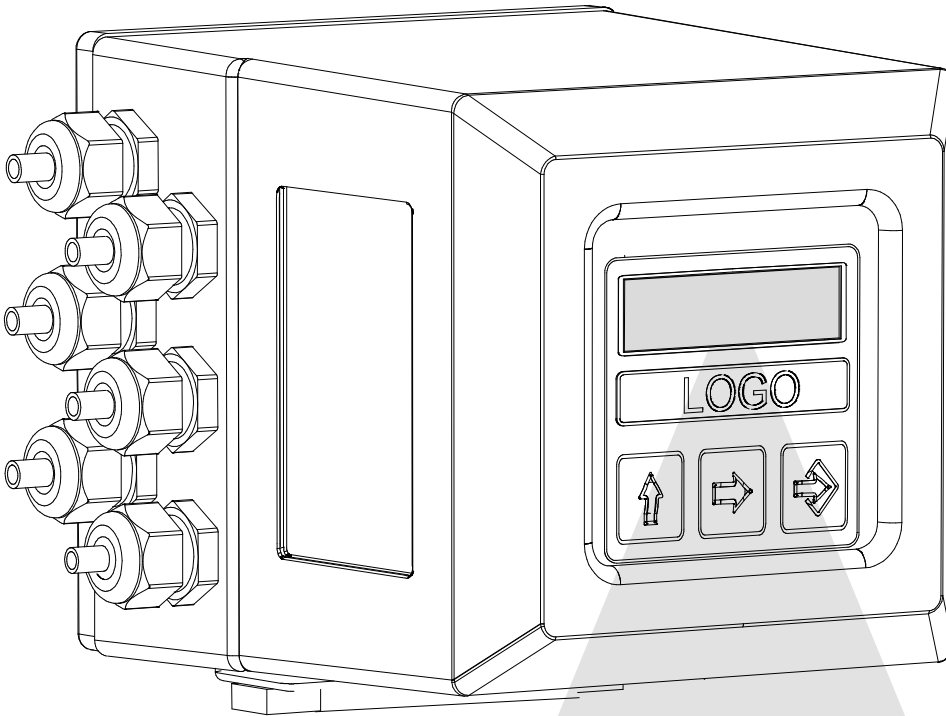
SEPARATE VERSION IP 68

FRONT PANEL VERSION



TERMINAL BLOCK

VISUALIZATION PAGES

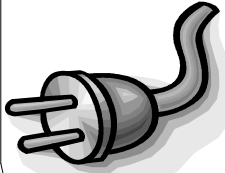


	dm ³ /s +0.0000 ! +0.00%-----	Flow rate value
	T+dm ³ 56.043 P+dm ³ 271013.447	Totalized values
	par 25.5 -25.5%-----	Analogical Input visualization
	dm ³ /s +0.000 !1 P+dm ³ ! .000	Direct and reverse totalize
	dm ³ /s +0.168 1 m/s 0.92-----	Flow rate and speed of media
	=====> <=====	Alternate visualization of data
	2006/02/21 15:28 EXCITATION FAIL	Alarm ON visualization
	BATT.STATUS 0% BATT:OK Y-----	Battery status and signal network check

Different possibilities of visualization with the simple pressure of key

POWER SUPPLY

MAIN POWER



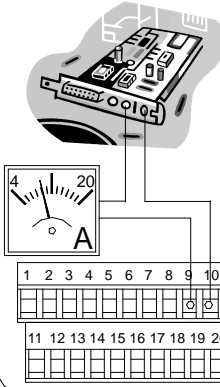
With main voltage batteries are automatically excluded.
The converter always works at the maximum sampling rate (continuous sampling).

BATTERIES



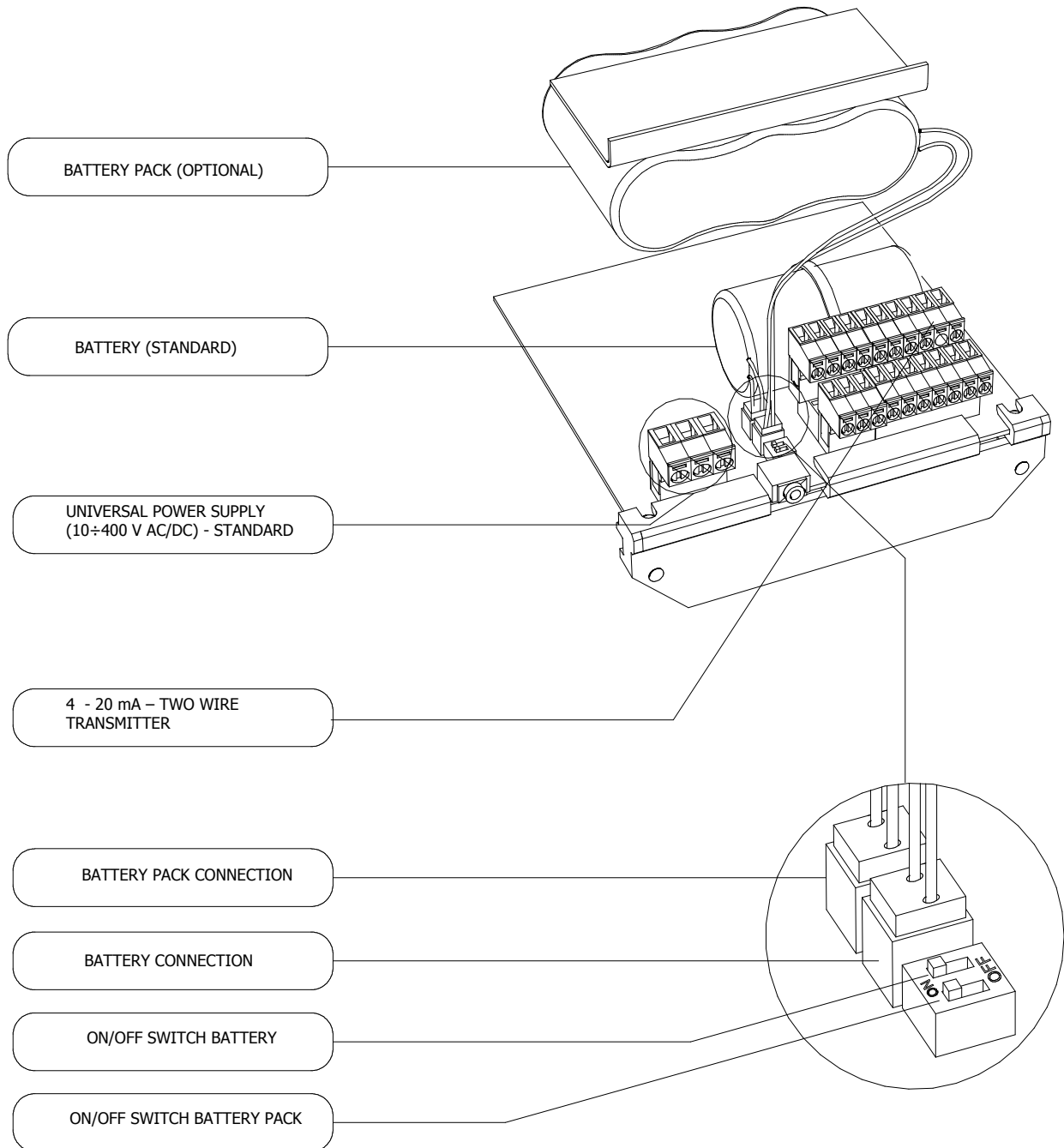
To avoid the fast batteries consumption, activate the "energy saving" function and set the "measure interval" on a proper time .

OUT 4÷20 POWER SUPPLY



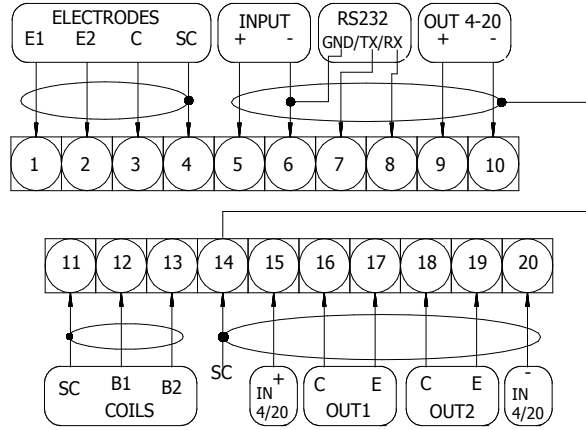
With the 4÷20 power supply loop batteries are automatically excluded and the converter works with a 1 Hz sampling frequency (continuous sampling).
In case of interruption of the 4÷20 power supply loop, the converter switches automatically onto the "energy saving" mode even if this function is not enabled.

POWER SUPPLY LAYOUT

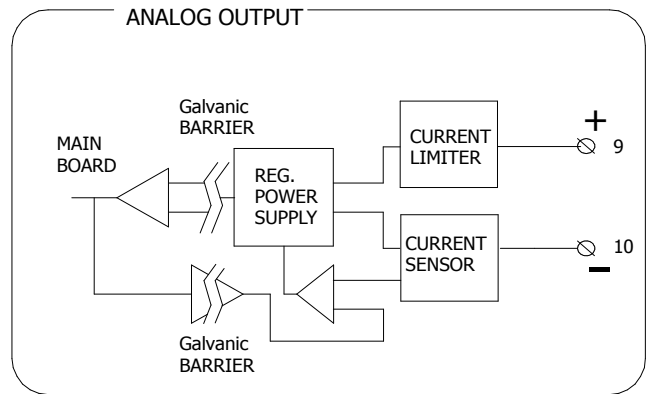
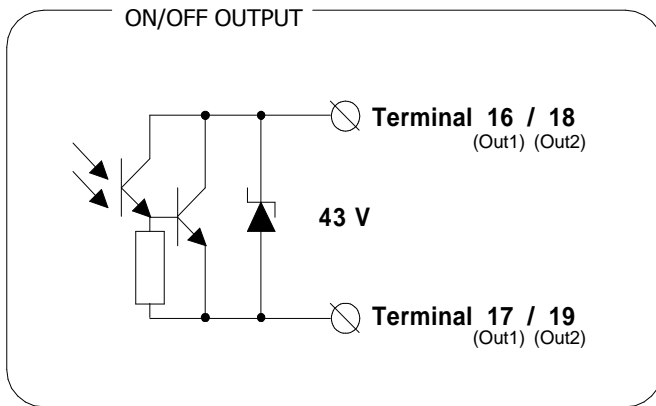


ELECTRICAL CONNECTIONS

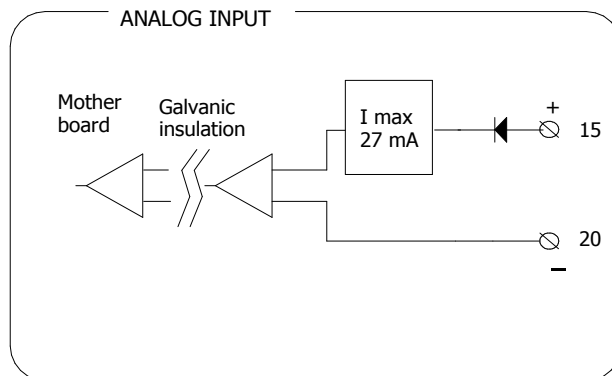
TERMINAL BOARD



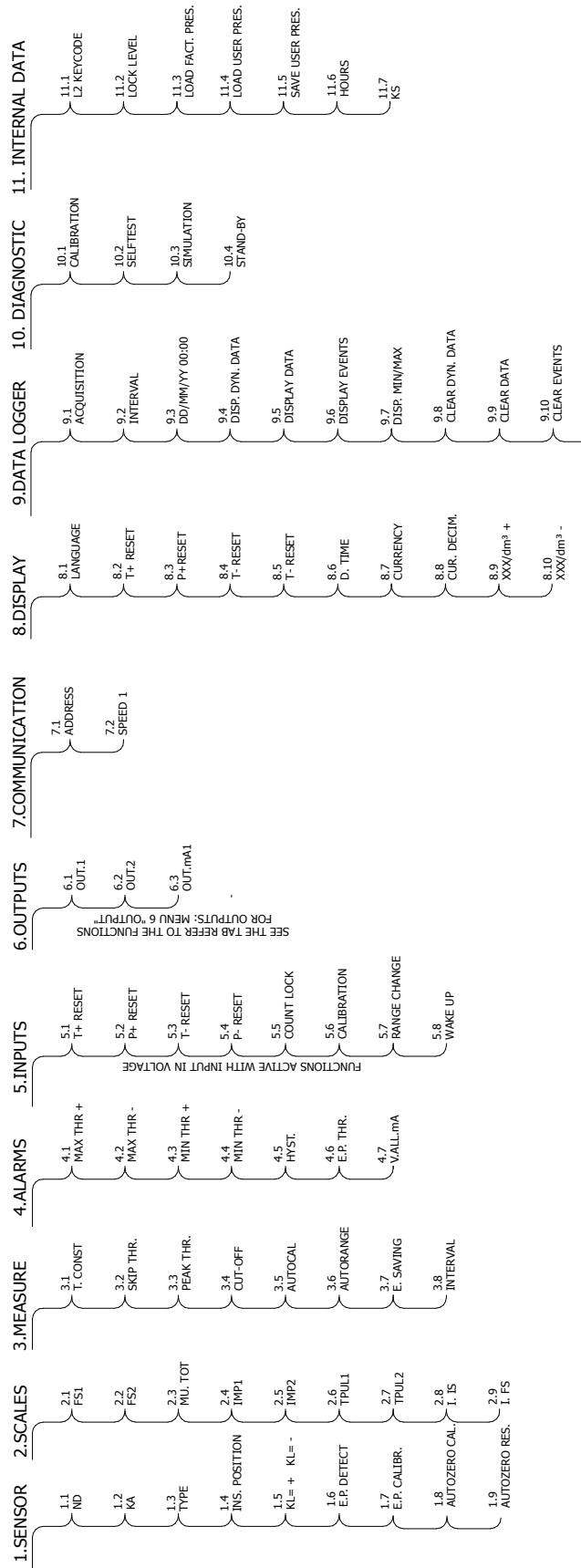
OUTPUT



INPUT



FUNCTIONS

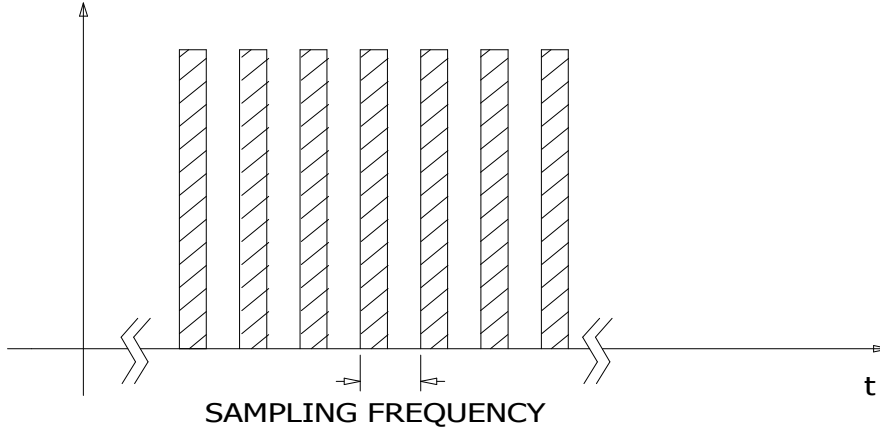


MEASURE / SAMPLING FREQUENCY

The ML 250 converter can be used in two different modes:

CONTINUOUS SAMPLING

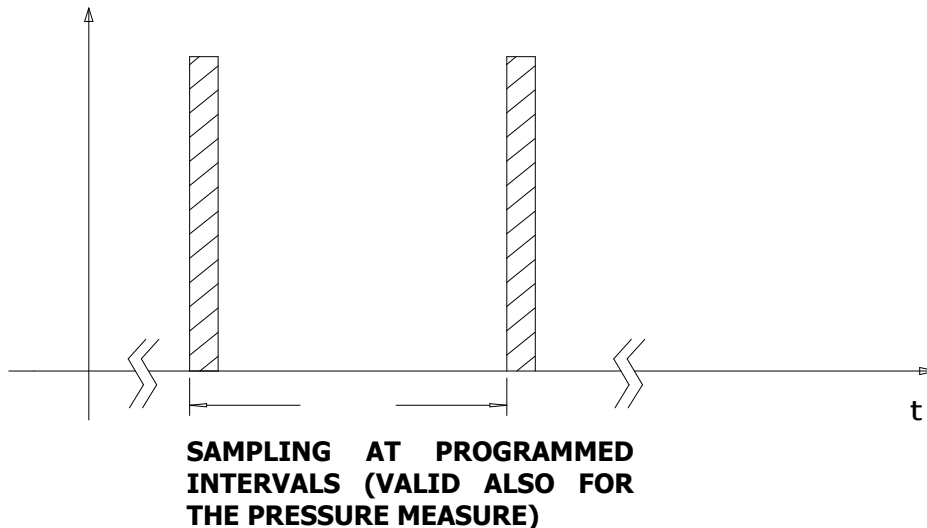
In this mode the converter measures according to the classic mag meters scheme; the system consumption, for any sensor diameter, is 0,1 W; the battery life is 1 month (4 with 4 batteries). The system accuracy is defined according to this operation mode.



SAMPLING AT PROGRAMMED INTERVAL

This sampling mode allows a big saving of energy; the consumption is the following:

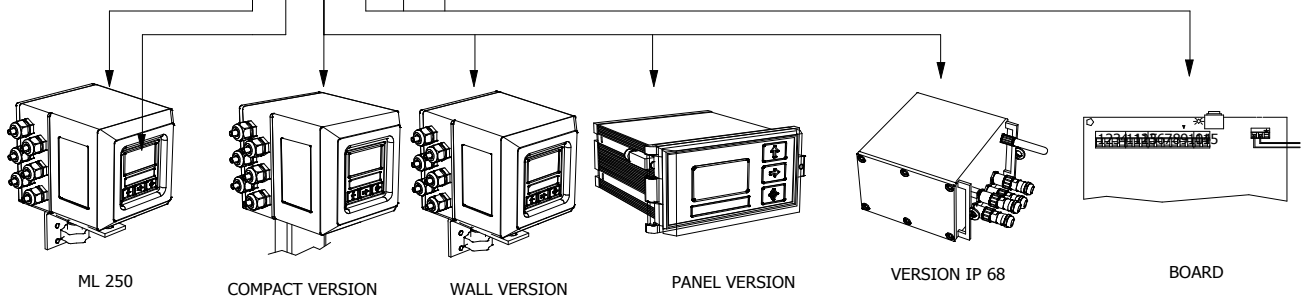
Sampling time (s)	Battery life - n° 1 battery (years)	Battery life - n° 4 batteries (years)
1	1	3,3
2	1.3	5,4
5	2.1	8.4
10	2.7	10
15	3.0	10
>= 30	5	10



HOW TO ORDER

ML 250	Display
A	Blind version without display and keyboard
B	Alphanumeric LCD display 2 line, each of 16 characters and 3 programming keys (NOT AVAILABLE FOR HOUSING MATERIAL ITEM 5)
Housing material - Protection rate	
0	Painted aluminum die casting (painted RAL6028) ,protection rate IP67
1	Stainless Steel AISI 304 , protection rate IP67
2	NORYL UL 94 V-0 black (ONLY "F" VERSION) IP 54
3	NORYL UL 94 V-0 BLACK (ONLY "F" VERSION)+ FRONTAL COVER IP 65
5	(ONLY "D" VERSION) AISI 304 BLIND , IP 68 , WITH 5 CONNECTORS (MAX)
Version	
A	Compact version with sensor MS... (liquid maximum temperature 100 °C)
B	Separate version for wall monting, complete with mounting accessories in Carbon Steel (painted RAL6028) ; CABLE C015/C016
D	Separate version for wall monting, complete with mounting accessories in Stainless Steel (AISI 304) ; CABLE C015/C016
F	Separate version for front panel mounting according DIN 43700, with mounting accessories, dimensions 72 x 144 mm;CABLE C015/C016
Power supply	
1	Power supply : n° 1 Lithium Battery + Universal
2	Power supply : n° 4 Lithium Battery + Universal
3	Power supply : 4/20 mA (see module 2)
4	n° 2 Lithium Battery+(ONLY FOR IP 68 VERSION ,1 for ME 44 if installed)
Input	
A	Without remote input
B	Remote analog input 4/20 mA
C	PRESSURE SENSOR 0 ÷ 2000 Kpa
D	PRESSURE SENSOR 0 ÷ 4000 Kpa
Z	Other
Additional module	
1	Without additional module
2	ME41: n. 1 4/20 mA (also for converter power supply)
3	ME 42 : n. 2 input ON / OFF + 1 out ON/OFF
4	ME 43 : RS 232 communication port
5	ME 44 : GSM/GPRS MODULE
6	ME 45 : module ME41+ME42+ME43
9	Other

ML 250 B 0 A 1 B 1 EXAMPLE OF CODE FOR ORDER



In accordance with a continuous evolution of the product, the company reserves the right to modify without warning the information contained in this document