

ELECTROMAGNETIC FLOW METER SERIE'S

ISOMAG *Millennium*

ML 250

CONVERTER FOR ELECTROMAGNETIC FLOW METER WITH POWER SUPPLY FROM BATTERY UP TO TEN YEARS, UNIVERSAL (10÷400 V AC/DC) OR 4/20 mA (TWO WIRE) .



ML 250 WALL VERSION

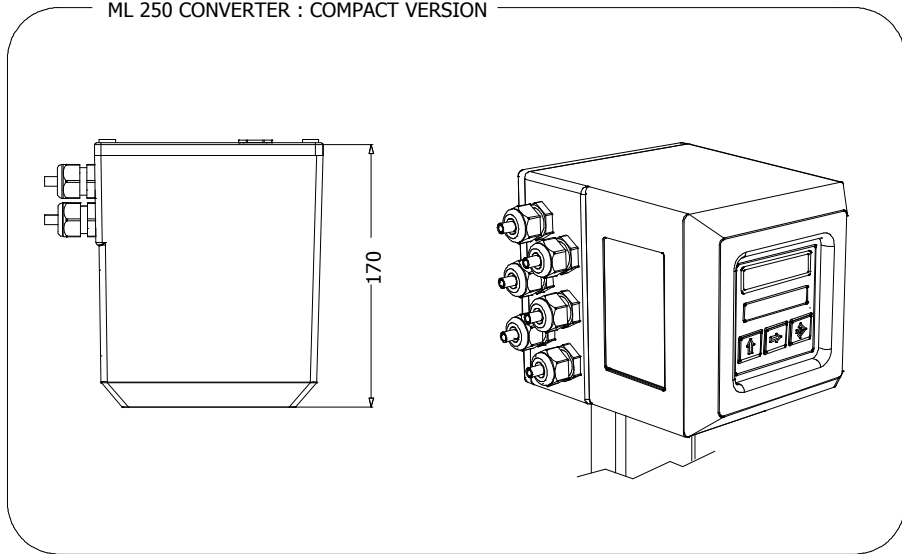


ML 250 PANEL MOUNTING VERSION

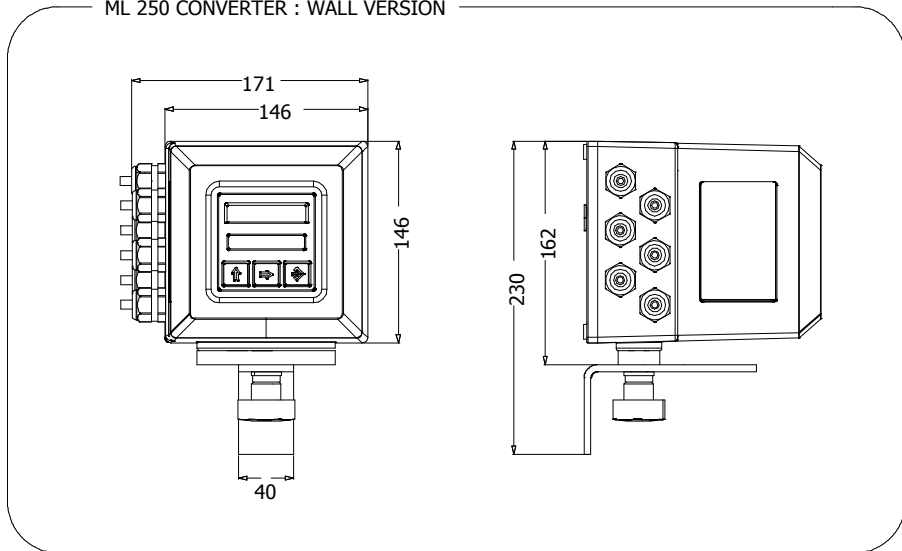
TECHNICAL DATA

Material Box	<input type="checkbox"/> Wall/Compact : Painted Aluminium Die Casting <input type="checkbox"/> Panel Version : NORYL UL 94 V-0 Black
Dimension	<input type="checkbox"/> 140 X 140 X 160 Mm / 176 X 173 X 154 (Max. Dim.)
Protection Rate	<input type="checkbox"/> IP 67 (Wall-Compact) – IP 54 (Opt. Ip 65) Panel Version
Connection Sensor Cable/Cable Gland	<input type="checkbox"/> C018 Cable (MAX 20 meters) / Standard N° 4 PG 11
Amb. Temperature	<input type="checkbox"/> -20... +60°C
Display LCD	<input type="checkbox"/> Alphanumeric Display 2 Lines X 16 Characters NOT Back lighted
Keyboard	<input type="checkbox"/> 3 Membrane Keys
Analog Input	<input type="checkbox"/> N°1 4÷20 ma Programmable
Pressure measure	<input type="checkbox"/> Input for pressure sensor (0÷16 , 0÷40)
Built-in Modules	<input type="checkbox"/> Out 4÷20 ma (Passive, Used Also To Supply Power To The Entire Electronic), N°2 Out On/Off + N°1 In On/Off, Serial Door RS 232 , GSM (SMS/CSD system)
Data Logger	<input type="checkbox"/> TWO SETS: <ul style="list-style-type: none"> ▪ 8192 Records Sampled at Rate Of 1, 2, 3, 6, 8, 12, 24, 48 hours ▪ 1024 Records Collected at Measure Sample Rate Note : Both Sets of Records Contain Date/Time Reference, Flow Rate, Positive and Negative Volumes and Auxiliary Input (4/20 mA OR PRESSURE) Expressed in Technical Units <input type="checkbox"/> Recording Of Last 64 Alarm Events
Bi-directional FS Value	<input type="checkbox"/> Yes
Diagnostic Functions	<input type="checkbox"/> 0,4...10m/S
Empty Pip Detect.	<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
Measurements Tolerance	<input type="checkbox"/> Flow rate (Volume) = ±1 % V.L. /(continuously sampling)
Repeatability	<input type="checkbox"/> Better Than 0,5% (continuously sampling)
Power Supply (See Details At Pag. 5)	<input type="checkbox"/> Standard: N°1 Lithium Battery Size D Not Rechargeable, Autonomy 2 Years Using 15 S Sample Rate, 1 Month With Continuous Sampling; Universal Power Supply 10÷400 VDC, 15÷265VAC 44÷66 Hz; Functioning Also As Mixed System Network Power Supply + Battery As Backup. Optional: Up To N°4 Lithium Battery
Max Consumption	<input type="checkbox"/> 0.08W With Battery, 0.2W With Power Supply

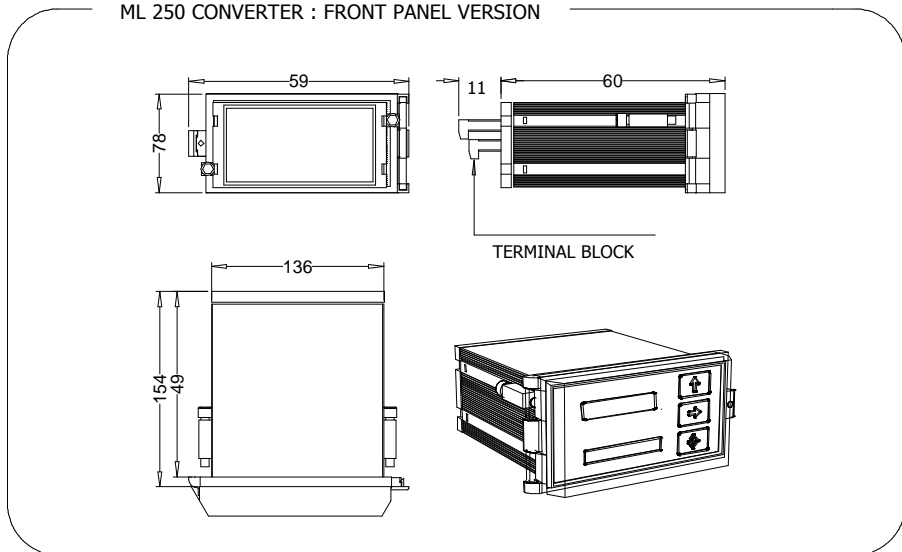
ML 250 CONVERTER : COMPACT VERSION



ML 250 CONVERTER : WALL VERSION



ML 250 CONVERTER : FRONT PANEL VERSION



AVAILABLE FUNCTIONS

1.SENSOR	1.1 ND	1.2 COEFF. KA	1.3 COEFF. KL+/KL-	1.4 TEST EMPTY PIPE	1.5 AUTOZERO CAL.	1.6 AUTOZERO RES.
	SETND	SETKA	SETKL	E. PIPE: ON/OFF	ZERO CALIBR.	RES. ZERO CALIBR.

2.SCALES	2.1 FS1	2.2 MUTOT	2.3 IMP1	2.4 IMP2	2.5 TPUL1	2.6 TPUL2	2.7 I IS	2.8 I FS
	FULL SCALE 1 SET	MEASURE UNIT	PULSE VALUE CH1	PULSE VALUE CH2	DUR. PULSE CH1	DUR. PULSE CH2	MIN VALUE INP4+20	MAX VALUE INP4+20
	VOLUME UNIT	TYPE OF UNIT	MSURE UNIT	MSURE UNIT			UNIT OF MEASURE	UNIT OF MEASURE
	TYPE OF UNIT	DECIMAL TOTALIZER	TYPE OF UNIT	TYPE OF UNIT			TYPE OF UNIT MEAS	TYPE OF UNIT MEAS
	UNIT TIME		NUMERIC VALUE	NUMERIC VALUE			SIGN	SIGN
	NUMERIC VALUE						VALUE	VALUE

3.MEAS.	3.1 T.CONST	3.2 SKIP THR	3.3 PEAK THR	3.4 CUTOFF	3.5 AUTOCAL	3.6 E.SAVING	3.7 INTERV.-S
	TIME CONSTANT SET	ACC. THRESHOLD	PICK THRESHOLD	F.R. CUTOFF		E.SAVING ENABLE	SAMP. INTERVAL

4.ALARMS	4.1 MAX THR	4.2 MIN TRH	4.3 HYSTERESIS	4.4 VAL LTA
	MAX FLOW RATE AL	MIN FLOW RATE AL	SET HYST. THRESHOLD	VAL LTA

5.INPUTS	5.1 RESET+	5.2 RESET P+	5.3 RESET-	5.4 RESET P-	5.5 COUNT LOCK	5.6 CALIBRATION
					LOCK TOTAL USER	
					FUN. ACTIVE WITH INPUT VOLTAGE	

6.OUTPUT	6.1 D.O. OUT:1	6.2 D.O. OUT:2	6.3 USCM A1
	SEE THE TAB REFER TO OUTPUTS	SET CURR. VALUE	SCALE (4-20/22 mA)
			AND SIGN (+,-,#)

7.COMM	7.1 ADDRESS	7.2 SPEED
	NETWORK ADDRESS	

8.DISPLAY	8.1 LANGUAGE	8.2 RESET T+	8.3 RESET P+	8.4 RESET-	8.5 RESET P-	8.6 CURRENCY	8.7 CUR. DECIM.	8.8 CONV. FACTOR FR.+	8.9 CONV. FACTOR FR.-
		RESET TOT. TOTAL +	RESET TOT. PART. +	RESET TOT. TOTAL -	RESET TOT. TOTAL -		DEC. CURRENCY	CONV. FACTOR FR.+	CONV. FACTOR FR.-

9.D.LOG.	9.1 ACQUISITION	9.2 INTERV. (h)	9.3 DIMMY 0000	9.4 DISPLAY DATA	9.5 DISPLAY EVENTS	9.6 DISPMINMAX	9.7 CLEAR DATA	9.8 CLEAR EVENTS	9.9 CLEAR MINMAX
		INT. DATA LOGING	DATE AND TIME	DISPLAY DATA					

10.DIAGN	10.1 CALIBRATION	10.2 SELFTEST	10.3 SIMULATION	10.4 STANDBY
	EN. CALIBRATION	AUTOTEST	F.R. SIMULATION	

11.INT.D.	11.1 L2KEYCODE	11.2 LOCK LEVEL	11.3 LOAD FACT. PRES	11.4 LOAD USER PRES	11.5 SAVE USER PRES	11.6 HOURS	11.7 KS
	LEVEL 2 CODE	LOCK LEVEL SET	FACT. DATA RECALL	USER DATA RECALL	USER DATA SAVE		

MEASURE / SAMPLING FREQUENCY

The converter ML 250 could be used in two different mode :

- CONTINUOUS SAMPLING (fig. 1)

In this mode the converter effect the measure according to the classical scheme of the magnetic flow meter; the system consumption, any it is the diameter of sensor is 0.1 W. **The battery life is 1 month (4 with 4 battery)**
The system accuracy is define in this operation mode.

- SAMPLING AT PROGRAMMED INTERVALS (fig. 2)

This sample mode allows a big saving of energy. In this mode, the consumption are:

Sample time (s)	1 Battery life (years)	4 Battery life (years)
1	6 months	2,4
2	1	4,2
5	2	7,5
10	2,3	9,4
15	2,7	> = 10
30	4,7	> = 10
60	7,5	> = 10

FIG1 : CONTINUOUS SAMPLING

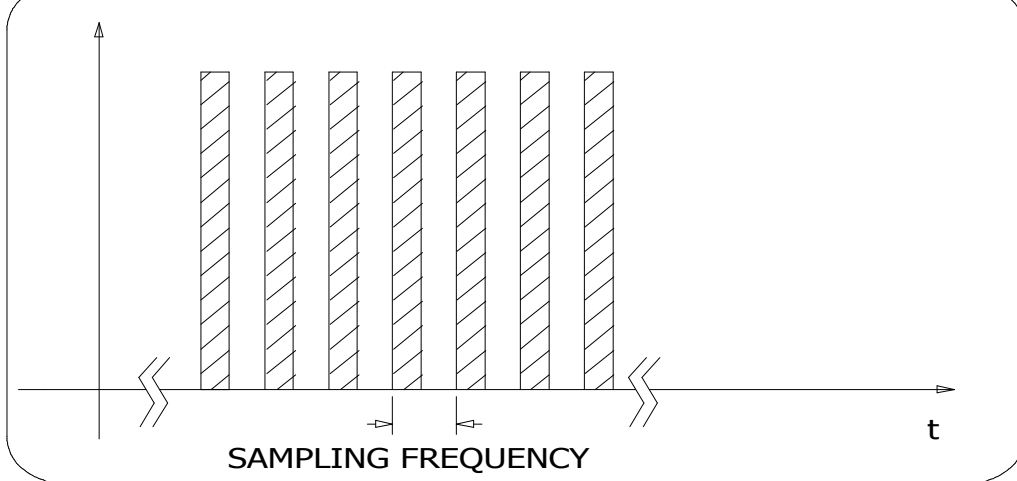
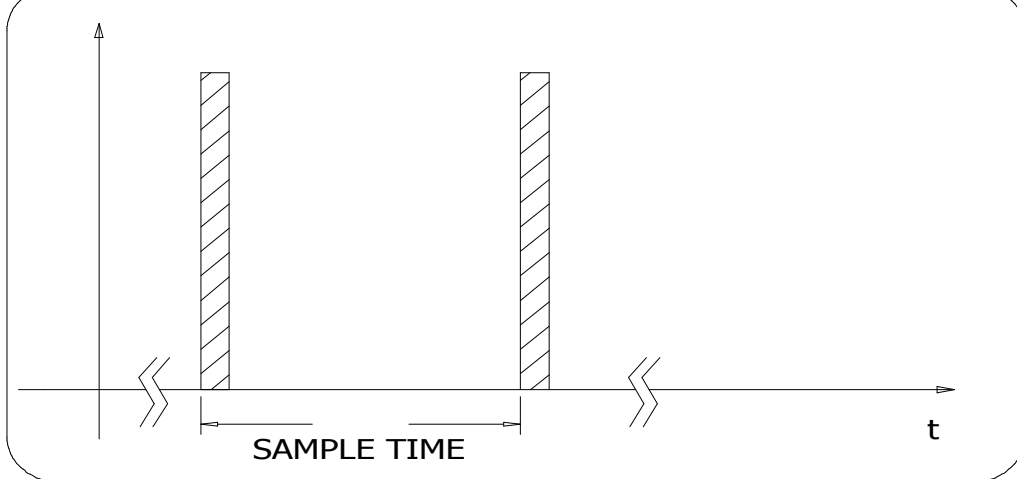
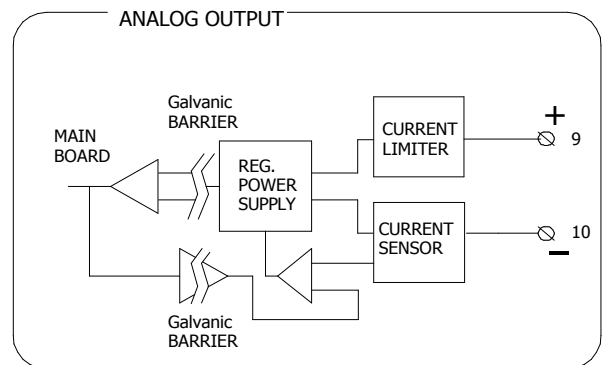
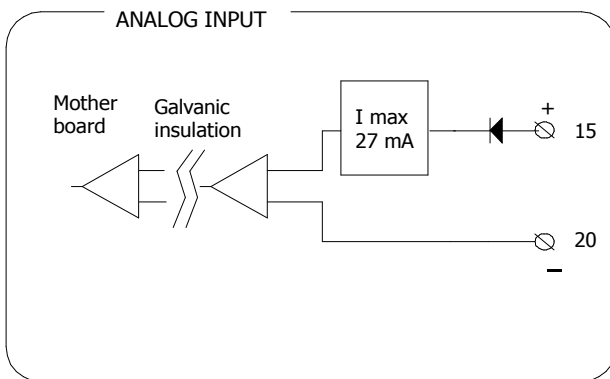
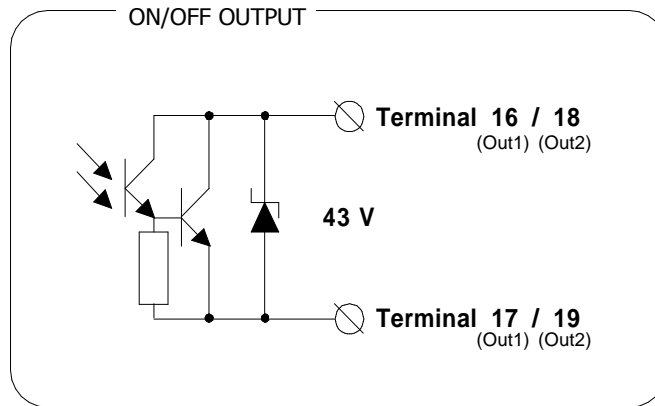
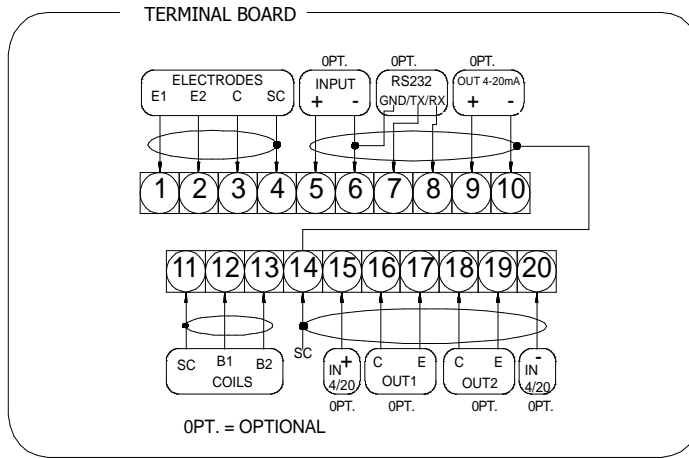


FIG.2 : SAMPLING AT PROGRAMMED INTERVALS



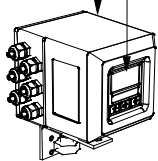
ELECTRICAL CONNECTIONS



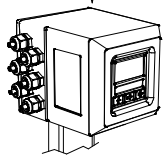
HOW ORDER

ML 250	Display
A	Blind version without display and keyboard
B	Alphanumeric LCD display execution, 2 line each of 16 characters and 3 programming keys
	Housing material - Protection rate
0	Painted aluminum die casting (painted RAL6028) ,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)+TRANSPARENT FRONTAL COVER IP 65
	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)
F	Separate version for front panel mounting according DIN 43700, complete with mounting accessories, dimensions 72 x 144 mm
	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)
9	Power supply : other
	INPUT
A	Without remote input
B	Remote analog input 4/20 mA
C	PRESSURE PROBE (TO BE DEFINE MAX VALUE 16 - 40)
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 : communication door RS 232
5	ME 44 : GSM MODULE
6	ME 45 : option of module ME41+ME42+ME43
9	Other

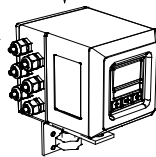
ML 250 B 0 A 1 B 1 EXAMPLE OF CODE FOR ORDER



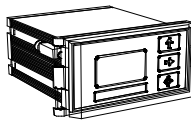
ML 250



COMPACT VERSION



WALL VERSION



PANEL VERSION



BOARD

WARNING

THE ABOVE DATA CAN BE CHANGED WITHOUT NOTICE