

HIGH PERFORMANCE CONVERTER

# ISOMAG™

***The friendly magmeter***

## ML 210



GRAPHIC DISPLAY CONVERTER

Warranty conditions are available on this website:  
[www.isomag.eu](http://www.isomag.eu) only in English version

ISOIL™  
INDUSTRIAL  
The solutions that count

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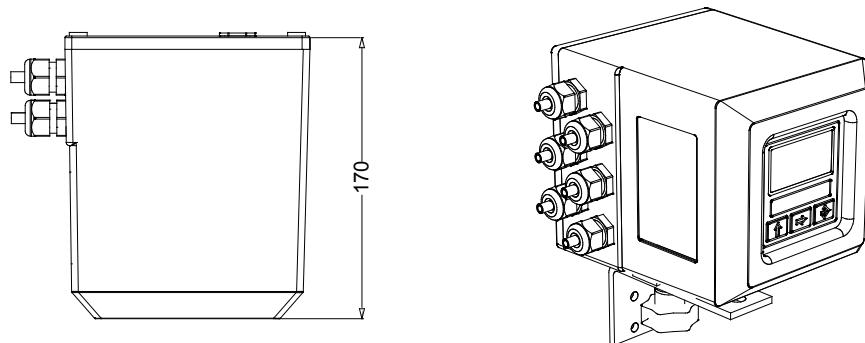
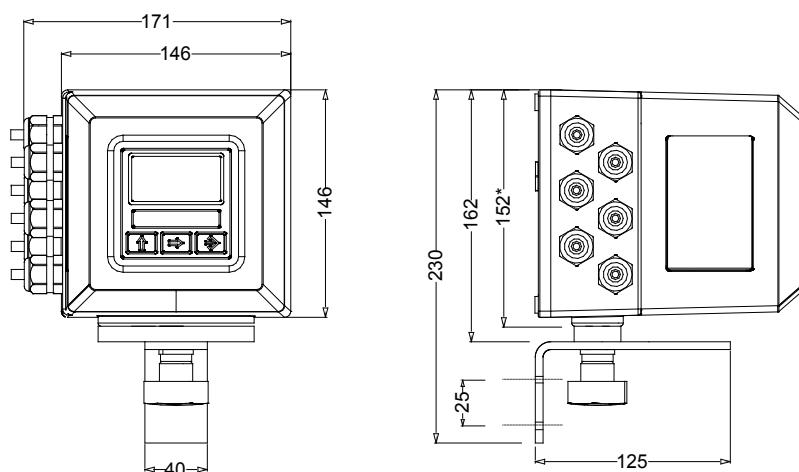
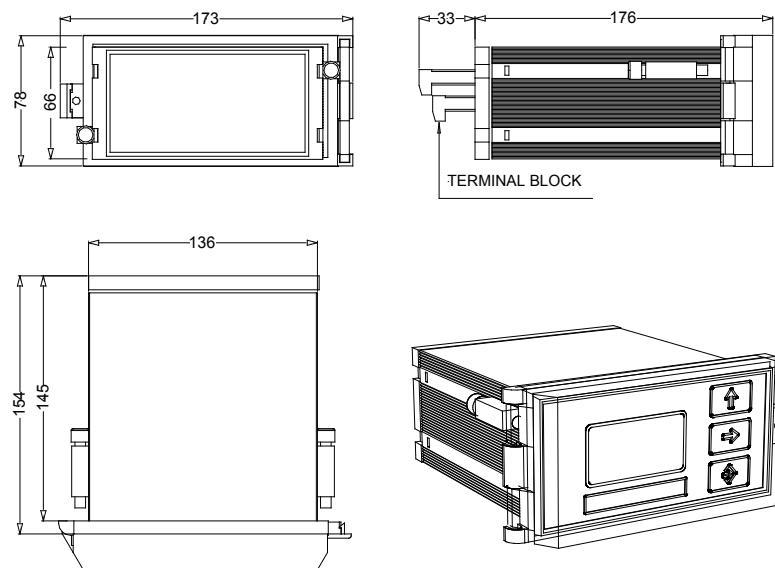
## TECHNICAL DATA

<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 5000 m
<b>Ambient Temperature</b>	<input type="checkbox"/> -20... +60°C / -4... +140 °F - Aluminium housing <input type="checkbox"/> -20... +40°C / -4... +104 °F - Panel mounting housing
<b>Humidity Range</b>	<input type="checkbox"/> 0÷100% (IP65 -IP 67) <input type="checkbox"/> 0-90% (IP40) without condensation, for panel mounting housing (without transparent frontal cover IP 65)

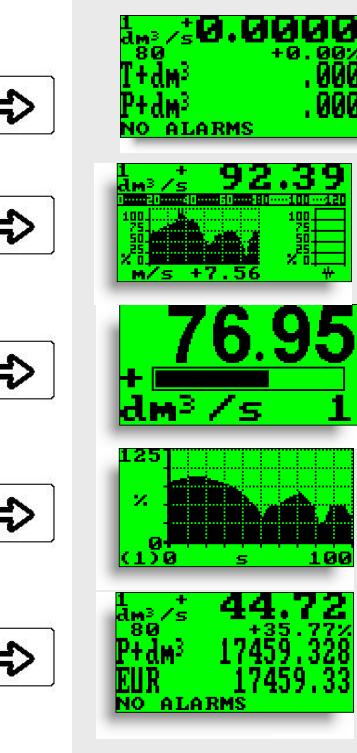
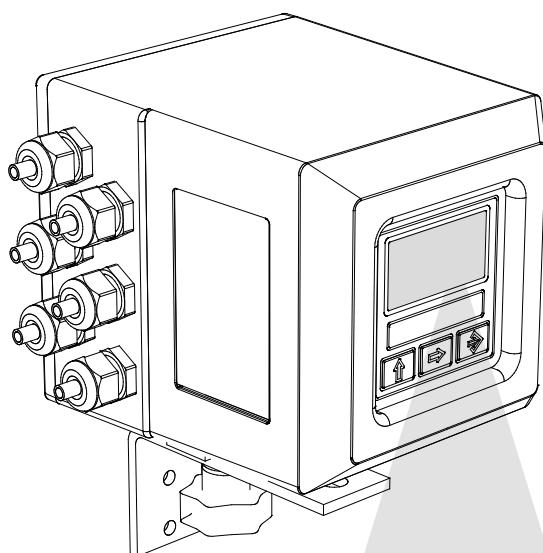
<b>STANDARD FEATURES</b>	
<b>Housing materials</b>	<input type="checkbox"/> Wall/Compact: Painted Aluminium die casting <input type="checkbox"/> Panel version: NORYL UL 94 V-0 black
<b>Protection Rate</b>	<input type="checkbox"/> IP 67 – Aluminium housing <input type="checkbox"/> IP65/IP40 – Panel version
<b>Power Supply/Consumption</b>	<input type="checkbox"/> 100-240 V~ (25VA) – 44-66 Hz
<b>Cable Gland</b>	<input type="checkbox"/> N° 6 CABLE GLAND PG 11
<b>Data Logger</b>	<input type="checkbox"/> 32 values + 64 alarm events
<b>Full scale value</b>	<input type="checkbox"/> 0,4...10m/s
<b>Digital Outputs</b>	<input type="checkbox"/> N° 2 Programmable function (Pulses, alarms) 1250 Hz, 100mA, 40 Vdc
<b>Protocols</b>	<input type="checkbox"/> ETP
<b>Dig. Input</b>	<input type="checkbox"/> N°1 , programmable function (Totalizer reset)
<b>Data Storage</b>	<input type="checkbox"/> Eeprom values storing system in case of power failure
<b>Galvanic Isolation</b>	<input type="checkbox"/> All the inputs/outputs are galvanically isolated from power supply up to 500 V
<b>Programming Plug In</b>	<input type="checkbox"/> Protected plug in for the connection to PC or hand terminal
<b>Bi-Directional</b>	<input type="checkbox"/> Yes
<b>Dual Range</b>	<input type="checkbox"/> Yes
<b>Diagnostic Funct.</b>	<input type="checkbox"/> Yes
<b>Empty Pipe Detect.</b>	<input type="checkbox"/> Yes
<b>Batch Function</b>	<input type="checkbox"/> Yes
<b>CE Certification</b>	<input type="checkbox"/> Yes

<b>OPTIONAL FEATURES (CHECK HOW TO ORDER, AT LAST PAGE, FOR MORE DETAILS)</b>	
<b>Housing materials</b>	<input type="checkbox"/> Wall/Compact: AISI304
<b>Version</b>	<input type="checkbox"/> Compact <input type="checkbox"/> Separate
<b>Protection Rate</b>	<input type="checkbox"/> IP 68
<b>Conn. Sensor Cable</b>	<input type="checkbox"/> CABLE C015 - C016 for separate version <input type="checkbox"/> CABLE C014 for separate version with pre-amplifier
<b>LCD Display</b>	<input type="checkbox"/> Graphic display 128x64 pixels back light,3 programming keys
<b>Power Supply/Consumption</b>	<input type="checkbox"/> 18-45V~ (25 VA) 44-66Hz <input type="checkbox"/> 18-45 V --- (20W); <input type="checkbox"/> 10-35V --- (20W)
<b>Pulses/ Alarm Outputs</b>	<input type="checkbox"/> N°2 , 1250 Hz, 100mA, 40 Vdc (12,5 KHz Opt.) <input type="checkbox"/> Relais
<b>Current Output</b>	<input type="checkbox"/> N°1 , 0/4...20mA – RL=1000Ω (+1 Opt.)
<b>Communication port</b>	<input type="checkbox"/> RS 485 <input type="checkbox"/> RS232
<b>Protocols</b>	<input type="checkbox"/> Profibus DP/HART/Modbus
<b>Certification</b>	<input type="checkbox"/> MI-001 <input type="checkbox"/> MI-004

<b>ACCURACY</b>	
<b>Measurements tolerance</b>	<input type="checkbox"/> Flow rate (volume) = ±0,05% v.l. <input type="checkbox"/> Out 4/20 mA = ± 0,08 % v.l. <input type="checkbox"/> Frequency Out = ± 0,08% v.l.
<b>Accuracy (whole system converter+sensor)</b>	<input type="checkbox"/> See table below

**OVERALL DIMENSIONS****COMPACT VERSION****SEPARATE VERSION****PANEL MOUNTING VERSION**

## VISUALIZATION PAGES



Flowrate and totalizes visualization

Flowrate, speed values and graph

Flowrate value and Full scale %

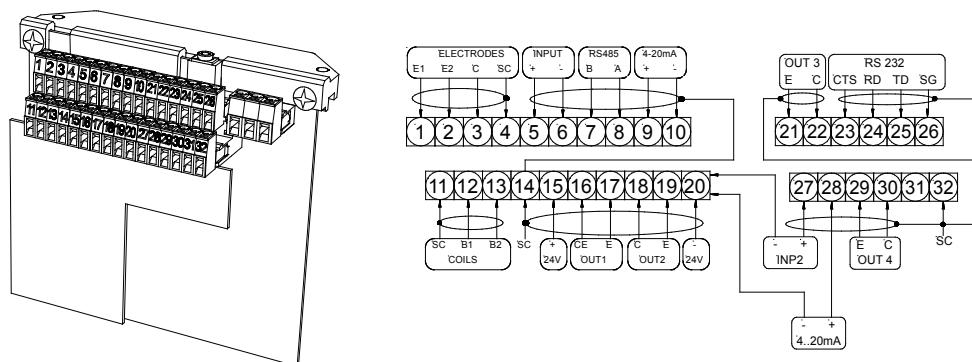
Flowrate graph

Flowrate value with currency function enabled

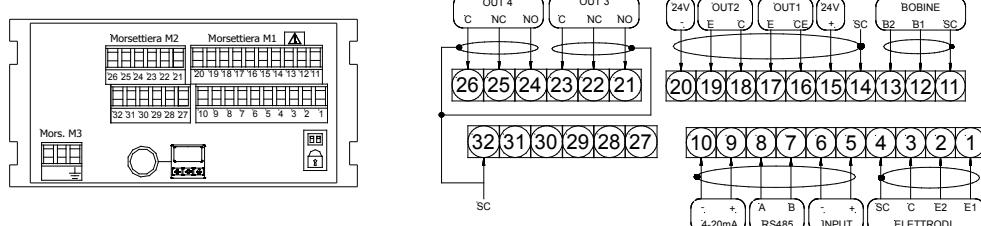
Different visualisation possibilities with the simple press of a key

## ELECTRICAL CONNECTIONS

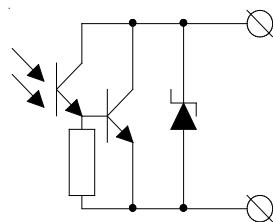
### TERMINAL BLOCK: COMPACT/SEPARATE VERSION



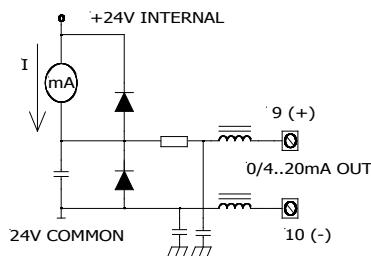
### TERMINAL BLOCK: PANEL MOUNTING VERSION



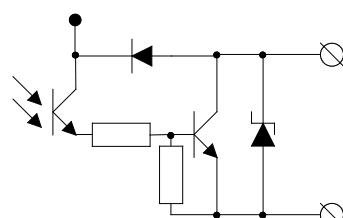
#### ON/OFF STANDARD OUT



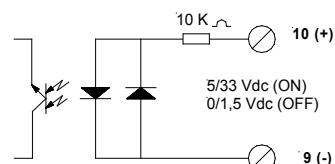
**OUT 4/20 mA**



#### ON/OFF HIGH FREQUENCY



**ON/OFF INPUT**



## FUNCTIONS ( Note : all page number references are to the operating manual)

**MAIN MENU**  
1-Sensor  
1-SENSOR

```
ND=MM      1.0000
KA=        +01.0000
Sens.type= 014
Ins.position= 1
Ki=        1.0015
Kp=        0.8865
Cable len.=M 000
E.P.detect= ON
E.cleaning= OFF
E.p.thr.= 250
Autozero cal.
```

- 1.1 Insert sensor ND (0-3000mm)
- 1.2 Sensor calibration data, visualized on sensor's label
- 1.3 Type of sensor: Enter the first two characters of the sensor serial number
- 1.4 Position for insertion sensors: 0=1/8DN, 1=1/2DN, 2=7/8DN
- 1.5 Factory parameters automatically calculated (ONLY for insertion sensors)
- 1.6 Length of the cable connecting the sensor to the converter
- 1.7 Enables the empty pipe detection feature
- 1.8\* Electrodes cleaning
- 1.9\* Value of empty pipe sensibility detection
- 1.10\* Enables the automatic procedure of zero calibration

**MAIN MENU**  
1-Sensor  
2-Scales  
2-SCALES

```
Fs1=dm³/s 5.0000
Fs2=dm³/s 8.1920
Tot.MU=dm³ 1.000
Pls1=dm³ 1.00000
Pls2=dm³ 1.00000
Tp1s1=ms 0050.00
Tp1s2=ms 0050.00
Frq1=Hz 1000.00
Frq2=Hz 1000.00
Mass units= ON
Sg=kg/dm³ 01.0000
```

- 2.1\* Full scale value set for range N.1
- 2.2\* Full scale value set for range N.2
- 2.3\* Unit of measure and number of decimal place
- 2.4\* Pulse value on channel 1
- 2.5\* Pulse value on channel 2
- 2.6\* Duration of the pulse generated on channel 1
- 2.7\* Duration of the pulse generated on channel 2
- 2.8 Full scale freq. for channel 1 (0.1Hz-1000.0Hz) (0.1Hz-10000Hz with opt. module)
- 2.9 Full scale freq. for channel 2 (0.1Hz-1000.0Hz) (0.1Hz-10000Hz with opt. module)
- 2.10 Enable/disable the selection of mass units on full scale set
- 2.11 Specific gravity set in kg/dm³

**MAIN MENU**  
1-Sensor  
2-Scales  
3-Measure  
3-MEASURE

```
Damping= OFF
Cut-off=% 00.7
Autocal.= OFF
Autorange= OFF
```

- 3.1\* Measure filter
- 3.2 Low flow cut off threshold: 0-25% of full scale value
- 3.3 Enable every hour an internal cycle of calibration. Measurement stopped for 8-15 sec.
- 3.4\* Automatic change of measurement range

**MAIN MENU**  
1-Sensor  
2-Scales  
3-Measure  
4-Alarms  
4-ALARMS

```
Max.thr+=% 000
Max.thr-=% 000
Min.thr+=% 000
Min.thr-=% 000
Hyst.=% 03
mA v.fault=% 000
Hz v.fault=% 125
Timeouts= 00.0
```

- 4.1 Maximum value alarm set for direct flow rate
- 4.2 Maximum value alarm set for reverse flow rate
- 4.3 Minimum value alarm set for direct flow rate
- 4.4 Minimum value alarm set for reverse flow rate
- 4.5 Hysteresis threshold set for the minimum and maximum flow rate alarms
- 4.6\* Current output value in case of failure
- 4.7\* Frequency output value in case of failure
- 4.8\* Batch safety timer

**MAIN MENU**  
1-Sensor  
2-Scales  
3-Measure  
4-Alarms  
5-Inputs  
5-INPUTS

```
T+ reset= ON
P+ reset= ON
T- reset= OFF
P- reset= ON
Puls.reset= OFF
Count lock= ON
Meas.lock= OFF
Calibration= OFF
Range change= OFF
Batch= ON
Inp.2= OFF
```

- 5.1\* Total direct (positive) flow totalizers reset enable
- 5.2\* Partial direct (positive) flow totalizers reset enable
- 5.3\* Total reverse (negative) flow totalizers reset enable
- 5.4\* Partial reverse (negative) flow totalizers reset enable
- 5.5 Reset totalizers of pulse from digital input (see page 14)
- 5.6 Totalizers counting lock command (see page 14)
- 5.7\* Block measures command
- 5.8\* Autozero calibration external command
- 5.9 Range change external command (see function 3.5)
- 5.10 Batch start/stop external command (see batch functions)
- 5.11\*Functions assigned to input 2

**MAIN MENU**  
1-Sensor  
2-Scales  
3-Measure  
4-Alarms  
5-Inputs  
6-Outputs  
6-OUTPUTS

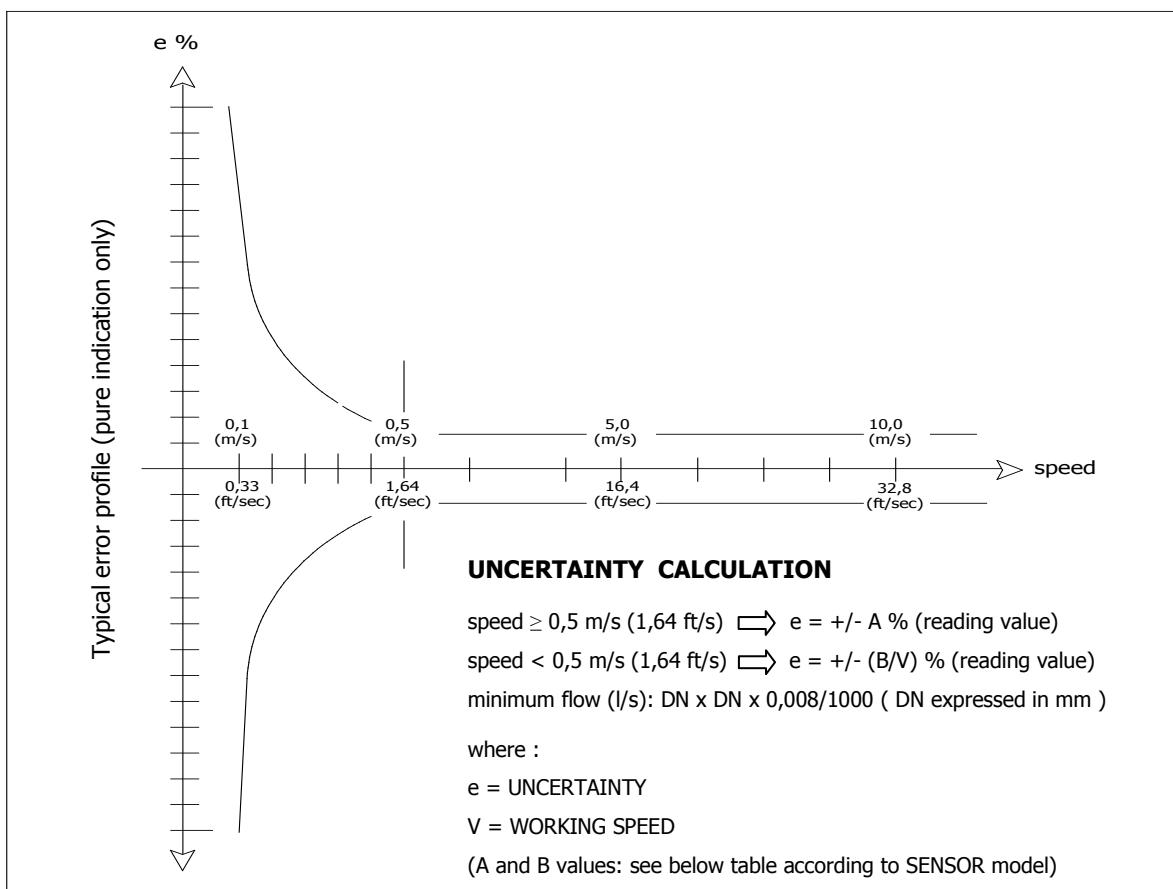
```
Out1= #1 IMP+
Out2= SIGN
Out3= OFF
Out4= #2 IMP+
Out MA1=4÷22
Out MA2=4÷22
```

- 6.1\* Output 1 functions
- 6.2\* Output 2 functions
- 6.3\* Output 3 functions
- 6.4\* Output 4 functions
- 6.5\* Choice of the function and the range of current output n.1
- 6.6\* Choice of the function and the range of current output n.2

<b>6-Outputs</b>	
<b>7-COMMUNICATION</b>	
IF2 pr.= DPP RS232 pr.= DPP RS485 bps= 19200 RS232 bps= 19200 Printer= OFF Print batch= OFF Print data= OFF Print events= OFF d.delay=ms 20 Parity= NONE Address= 000 Rem. addr.= 000 Remote u.conn.	<p>7.1 Choice of the communication protocol for the IF2 device      7.2 Choice of the communication protocol for the RS232 port      7.3 Speed of the RS485 output (possible choices: 4800, 9600, 19200, 38400 bps)      7.4 Speed of the RS232 output (possible choices: 4800, 9600, 19200, 38400 bps)      7.5 Print function enable (optional)      7.6 Print of the performed batch      7.7 Print of the data process on regular intervals      7.8 Print of events      7.9 Instrument answer delay      7.10 RS485 parity      7.11 Address value of converter (range 0 - 255)      7.12 Address of a further converter connected like a terminal      7.13 Start remote connection to the terminal. Connection interrupted after 10sec. of inactivity</p>
<b>8-DISPLAY</b>	
Language= EN D.rate=Hz 1 Contrast= 7 P.totaliz.= ON Date/time= OFF Quick start= OFF Net total.= OFF Currency= ON Curr. decim.= 2 EUR/dm <sup>3</sup> + 1.00000 EUR/dm <sup>3</sup> - 1.00000 Reset video= OFF T+ reset P+ reset T- reset P- reset /Communication 8-Display 9-Data logger 10-Diagnostic 11-Internal data 12-Batch	<p>8.1 Choice of the language: EN= English, IT=italian, FR= French, SP= Spanish, DE=German      8.2 Display updating frequency: 1-2-5-10 Hz      8.3* Display contrast      8.4 Partial totalizer visualization (with batch enable the function is always on)      8.5 Date and time visualization with data logger enable      8.6 Quick start menu visualization      8.7 Enable the page of net totalizer (difference between direct and reverse)      8.8 Visualizes the values of the partial totalizers in the unit of selected currency      8.9 Choice of the numbers of decimals for the visualization currency value: From 0 to 3      8.10* Value of conversion/currency for direct totalizer      8.11* Value of conversion/currency for reverse totalizer      8.12 Reset the processor of the display (useful in case of particular badly operations of the display)      8.13* Total direct (positive) flow totalizer reset      8.14* Partial direct (positive) flow totalizer reset      8.15* Total reverse (negative) flow totalizer reset      8.16* Partial reverse (negative) flow totalizer reset</p>
<b>9-DATA LOGGER</b>	
1992/05/10 15:03 Acquisition= ON Interval=h 24 Display data Display events Disp.min/max Clear data Clear events Reset min/max /Display 9-Data logger 10-Diagnostic 11-Internal data 12-Batch	<p>9.1* Date and time set      9.2 Automatic data logger enable      9.3 Interval time for the data logging function: 1, 2, 3, 6, 8, 12, 24, 48 hours      9.4 Displaying of the data stored in the data logger      9.5 Displaying of the last 64 alarms stored in the data logger      9.6 Visualization function of minimum and maximum peak of flow rate      9.7 Logged data cancel function      9.8 Reset all alarm events      9.9 Reset all minimum and maximum peak of flow rate stored</p>
<b>MAIN MENU</b>	
<b>10-DIAGNOSTIC</b>	
Calibration Self test Simulation= OFF Firmware rev. 7-Communication 8-Display 9-Data logger 10-Diagnostic 11-Internal data 12-Batch	<p>10.1* Calibration of the converter      10.2* Autotest converter      10.3* Flow rate simulation enabling      10.4 Firmware revision/version</p>
<b>MAIN MENU</b>	
<b>11-INTERNAL DATA</b>	
L2 keycode=00000 Load fact.pres. Load user pres. Save user pres. Ign.cal.err= OFF KS= +1.000 /Sensor 9-Data logger 10-Diagnostic 11-Internal data 12-Batch	<p>11.1 Level 2 access code enter      11.2 Load factory data pre-set      11.3 Load user data saved      11.4 Save user data      11.5 Ignore the calibration error during the switch on test      11.6 Ks coefficient (only for service purposes)</p>
<b>12-BATCH</b>	
N.samples= 000 Diff.thr=% 010 U.com=dm <sup>3</sup> 00.000 U.pre=dm <sup>3</sup> 00.000 Auto batch= OFF BM auto sel= OFF Cons.Mode= OFF 8-Display 9-Data logger 10-Diagnostic 11-Internal data 12-Batch	<p>12.1 Number of batch cycles to define the value of compensation. Value 0=OFF      12.2* % limit of compensation threshold      12.3 Compensation value      12.4* Prebatch value      12.5* Auto-batch      12.6* Automatic selection of batch formula      12.7* Static consent of batch</p>

**Menu 12: batch function**

## ACCURACY TABLE



### FULL BORE SENSORS

MS501/MS1000/MS2410/MS2500			MS 600			MS5000		
A	B(m/s)	B(ft/s)	A	B(m/s)	B(ft/s)	A	B(m/s)	B(ft/s)
0,2	0,1	0,33	0,4	0,2	0,66	2	1	3,28

### INSERTION SENSORS

### See MS 3770 / MS 3800 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 %

## ML 210 / MS 2500 : MI-001 DETAILS

The sensor's diameters listed below, coupled with ML210 and ML110 , are certified according to European Directive 2004/22CE category MI-001 (OIML R49)

Sensor Size	mm	25	32	40	50	65	80	100	125	150	200
	inch	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8
Q1	m <sup>3</sup> /h	0.1	0.156	0.25	0.394	0.625	1	1.563	2.5	3.938	6.25
Q2	m <sup>3</sup> /h	0.16	0.25	0.4	0.63	1	1.6	2.5	4	6.3	10
Q3	m <sup>3</sup> /h	<b>16.0</b>	<b>25.0</b>	<b>40.0</b>	<b>63.0</b>	<b>100.0</b>	<b>160.0</b>	<b>250.0</b>	<b>400.0</b>	<b>630.0</b>	<b>1000</b>
Q4	m <sup>3</sup> /h	20	31.3	50	78.8	125	200	312.5	500	787.5	1250

### MI-001 ALLOWABLE RANGE

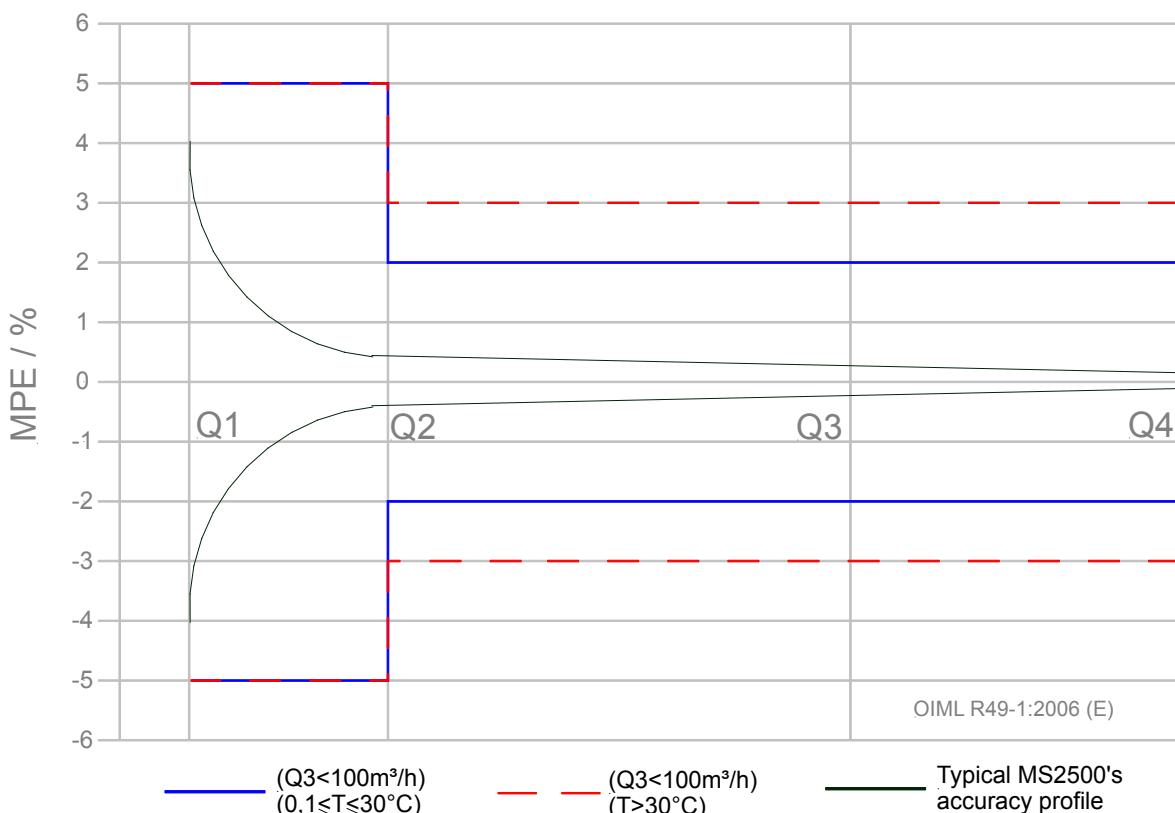
- Q3 allowed range :

/m <sup>3</sup> h <sup>-1</sup>	/dm <sup>3</sup> s <sup>-1</sup>	/m <sup>3</sup> h <sup>-1</sup>	/dm <sup>3</sup> s <sup>-1</sup>	/m <sup>3</sup> h <sup>-1</sup>	/dm <sup>3</sup> s <sup>-1</sup>	/m <sup>3</sup> h <sup>-1</sup>	/dm <sup>3</sup> s <sup>-1</sup>	/m <sup>3</sup> h <sup>-1</sup>	/dm <sup>3</sup> s <sup>-1</sup>
1	0,278	1,6	0,444	2,5	0,694	4	1,111	6,3	1,750
10	2,778	16	4,444	25	6,944	40	11,11	63	17,50
100	27,78	160	44,44	250	69,44	400	111,1	630	175,0
1000	277,8	1600	444,4	2500	694,4	4000	1111	6300	1750

- Q2 /Q1=1,6
- Q4 /Q3=1,25
- R (= Q3/Q1) allowed range :

10	12,5	16	20	25	31,5	40	50	63	80
100	125	160	200	250	315	400	500	630	800

### OIML R49 ACCURACY CLASS 2 (Maximum Permissible Error)



## ML 210 / MS 2500: MI-004 DETAILS

The sensor's diameters listed below, coupled with ML210 and ML110, are certified according to European Directive 2004/22CE category MI-004

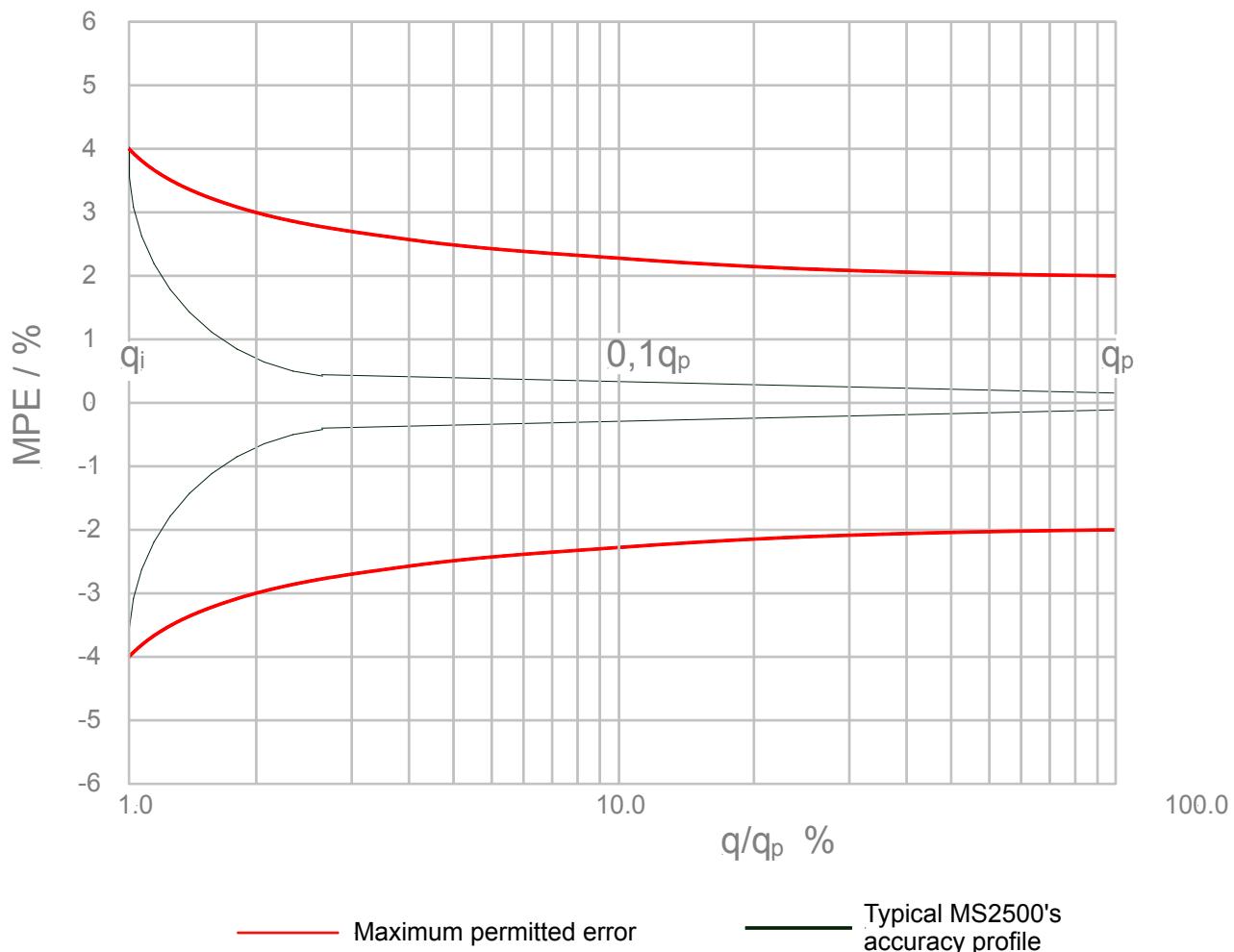
<b>DN sensore</b>	<b>mm</b>	<b>25</b>	<b>32</b>	<b>40</b>	<b>50</b>	<b>65</b>	<b>80</b>	<b>100</b>	<b>125</b>	<b>150</b>	<b>200</b>
	<i>inch</i>	1	1 ¼	1 ½	2	2 ½	3	4	5	6	8
q <sub>i</sub>	m <sup>3</sup> /h	0.16	0.25	0.4	0.63	1	1.6	2.5	4	6.3	10
0,1 q <sub>p</sub>	m <sup>3</sup> /h	1.6	2.5	4	6.3	10	16	25	40	63	100
q <sub>p</sub> (10m/s)	m <sup>3</sup> /h	16	25	40	63	100	160	250	400	630	1000
q <sub>p</sub> /q <sub>i</sub>		100	100	100	100	100	100	100	100	100	100

<b>DN sensore</b>	<b>mm</b>	<b>25</b>	<b>32</b>	<b>40</b>	<b>50</b>	<b>65</b>	<b>80</b>	<b>100</b>	<b>125</b>	<b>150</b>	<b>200</b>
	<i>inch</i>	1	1 ¼	1 ½	2	2 ½	3	4	5	6	8
q <sub>i</sub>	m <sup>3</sup> /h	0.2	0.32	0.5	0.8	1.26	2	3.2	5	8	12.6
0,1 q <sub>p</sub>	m <sup>3</sup> /h	1	1.6	2.5	4	6.3	10	16	25	40	63
q <sub>p</sub> (5m/s)	m <sup>3</sup> /h	10	16	25	40	63	100	160	250	400	630
q <sub>p</sub> /q <sub>i</sub>			50	50	50	50	50	50	50	50	50

<b>DN sensore</b>	<b>mm</b>	<b>25</b>	<b>32</b>	<b>40</b>	<b>50</b>	<b>65</b>	<b>80</b>	<b>100</b>	<b>125</b>	<b>150</b>	<b>200</b>
	<i>inch</i>	1	1 ¼	1 ½	2	2 ½	3	4	5	6	8
q <sub>i</sub>	m <sup>3</sup> /h	0.16	0.252	0.4	0.64	1	1.6	2.52	4	6.4	10
0,1 q <sub>p</sub>	m <sup>3</sup> /h	0.4	0.63	1	1.6	2.5	4	6.3	10	16	25
q <sub>p</sub> (2;5m/s)	m <sup>3</sup> /h	4	6.3	10	16	25	40	63	100	160	250
q <sub>p</sub> /q <sub>i</sub>			25	25	25	25	25	25	25	25	25

<b>DN sensore</b>	<b>mm</b>	<b>25</b>	<b>32</b>	<b>40</b>	<b>50</b>	<b>65</b>	<b>80</b>	<b>100</b>	<b>125</b>	<b>150</b>	<b>200</b>
	<i>inch</i>	1	1 ¼	1 ½	2	2 ½	3	4	5	6	8
q <sub>i</sub>	m <sup>3</sup> /h	0.16	0.25	0.4	0.63	1	1.6	2.5	4	6.3	10
0,1 q <sub>p</sub>	m <sup>3</sup> /h	0.16	0.25	0.4	0.63	1	1.6	2.5	4	6.3	10
q <sub>p</sub> (1,0m/s)	m <sup>3</sup> /h	1.6	2.5	4	6.3	10	16	25	40	63	100
q <sub>p</sub> /q <sub>i</sub>		10	10	10	10	10	10	10	10	10	10

### MID 004 - MPE CLASS 2 (Maximum permitted error)



## HOW TO ORDER

<b>CODE EXAMPLE</b>		<b>Display</b>
<b>A</b>	<b>A</b>	WITHOUT DISPLAY ( BLIND EXECUTION )
	<b>B</b>	Graphic LCD WSTN- <b>GREEN</b> -back light display, point matrix 128 x 64, 8 line each of 16 characters and 3 keys
	<b>C</b>	Graphic LCD WSTN- <b>WHITE</b> -back light display, point matrix 128 x 64, 8 line each of 16 characters and 3 keys
<b>Housing material / Protection rate</b>		
<b>0</b>	<b>0</b>	Painted aluminum die casting, protection rate IP67
	<b>1</b>	AISI304 Stainless Steel housing, protection rate IP67 ( <b>DISPLAY NOT ROTABLE</b> )
	<b>2</b>	NORYL UL 94 V-0 black ( <b>ONLY "F" VERSION</b> ) IP 40
	<b>3</b>	NORYL UL 94 V-0 BLACK ( <b>ONLY "F" VERSION</b> ) +TRANSPARENT FRONTAL COVER IP 65
	<b>4</b>	Painted aluminum die casting , protection rate IPXX , preset for <b>CUSTOMER CABLE GLAND</b> (Total Dim. Max available <b>105 x 52 mm</b> )
	<b>9</b>	Painted aluminum die casting, protection rate IP68 (special version <b>CONTACT THE FACTORY</b> )
<b>Version</b>		
<b>A</b>	<b>A</b>	Compact version with sensor MS.... (liquid maximum temperature 100 °C)
	<b>B</b>	Separate version ( <b>CABLE C015-C016 OR C014 with preamp.</b> ) for wall monting, complete with mounting accessories in <b>Aluminum</b> (painted RAL6028)
	<b>D</b>	Separate version ( <b>CABLE C015-C016 OR C014 with preamp.</b> ) for wall monting, complete with mounting accessories in <b>AISI304</b>
	<b>F</b>	Separate version ( <b>CABLE C015-C016 OR C014 with preamp.</b> ) for <b>FRONT PANEL</b> mounting according <b>DIN 43700(72x144)</b> complete with mounting accessories; <b>AVAILABLE ONLY FOR HOUSING MATERIALS OPTIONS 2 AND 3 ( SEE ABOVE )</b>
<b>Power supply</b>		
<b>1</b>	<b>1</b>	Power supply : 100 ... 240 V 44-66 Hz
	<b>2</b>	Power supply : 15...45 VAC-DC / 44-66 Hz
	<b>3</b>	Power supply : 12 ... 35 V dc
	<b>9</b>	Power supply : other
<b>Analogue output</b>		
<b>A</b>	<b>A</b>	Without Analogue output
	<b>B</b>	Analogue output 0/4...20/22 mA
<b>Serial Interface</b>		
<b>1</b>	<b>1</b>	Without RS485 Serial Interface
	<b>2</b>	RS485 Serial Interface
	<b>3</b>	Modbus protocol over RS 485 interface
<b>Additional module</b>		
<b>A</b>	<b>A</b>	Without additional module
	<b>C</b>	ME200; n. 2 additional ON / OFF programmable output + 1 ON/OFF INPUT
	<b>D</b>	ME201; n. 2 additional ON / OFF programmable output (one of them at 10 KHz frequency)+ 1 ON/OFF INPUT
	<b>E</b>	ME202; additionals 0/4...20 mA + n.2 ON / OFF programmable output + 1 ON/OFF INPUT
	<b>F</b>	ME203; n. 1 RS232 serial interface + n.2 additional ON / OFF programmable output + 1 ON/OFF INPUT
	<b>G</b>	ME204; n. 1 RS232 serial interface + additionals 0/4...20 mA + n.2 ON / OFF program. output + 1 ON/OFF INPUT
	<b>P</b>	ME205; n. 2 relè output (each with 1 NO contact + 1 NC contact, 2A - 60 Vca, 60W 125 VA)
	<b>T</b>	ME207; n. 2 relè output (each with 1 NO contact + 1 NC contact, 2A - 250 Vca, 60W 125 VA)
	<b>H</b>	ME 100 ; Profibus DP communication module ( <b>NOT POSSIBLE IF HOUSING MATERIAL 2 AND 3</b> )
	<b>M</b>	ME 220 : data logger real time clock ; 2 Mbyte ( up to 172.800 record :flow rate;volume+/-; date/time ) ; <b>ALONE OR WITH OPTIONS : C-D-E-F-G-P-T</b>
	<b>N</b>	ME 221 : data logger real time clock ; 2 Mbyte ( up to 172.800 record :flow rate;volume+/-; date/time ) ; n° 1 communication port : n° 1 RS 232 ; <b>ALONE OR WITH OPTIONS : C-D-E</b>
	<b>O</b>	ME 222 : data logger real time clock ; 2 Mbyte ( up to 172.800 record :flow rate;volume+/-; date/time ) ; n° 2 communication ports : n° 1 RS 232 , n° 1 RS 485 ; n° 1 analog input 4/20 mA passive ( <b>WITH THIS OPTION IS NOT POSSIBLE TO ADD OTHER MODULE</b> )
	<b>Q</b>	ME 200 + ME 220
	<b>R</b>	ME 201 + ME 220
	<b>S</b>	ME 202 + ME 220
	<b>U</b>	ME 203 + ME 220
	<b>V</b>	ME 204 + ME 220
	<b>B</b>	ME 205 + ME 220
	<b>K</b>	ME 207 + ME 220
	<b>X</b>	ME 200 + ME 221
	<b>Y</b>	ME 201 + ME 221
	<b>W</b>	ME 202 + ME 221
	<b>L</b>	ME101 - HART PROTOCOL OUT ( <b>NOT POSSIBLE IF HOUSING MATERIAL 2 AND 3</b> )
	<b>1</b>	BlueTooth INTERFACE
	<b>Z</b>	Other
<b>Special Features</b>		
<b>0</b>	<b>0</b>	NONE
	<b>1</b>	WITH ANTCONDENSE CAP
	<b>2</b>	n° 4 CABLE GLAND 1/2" NPT - IP68 - Nickel plated brass CODE 1.609.1200.70 ( CABLE 6 - 12 mm )

**Due to the constant technical development and improvements of its products, the manufacturer reserves the right to make changes and / or modify the information contained in this document without notice. Information contained herein is not binding.**