

CONVERTER

ML 212



**Integrate PID Regulator**

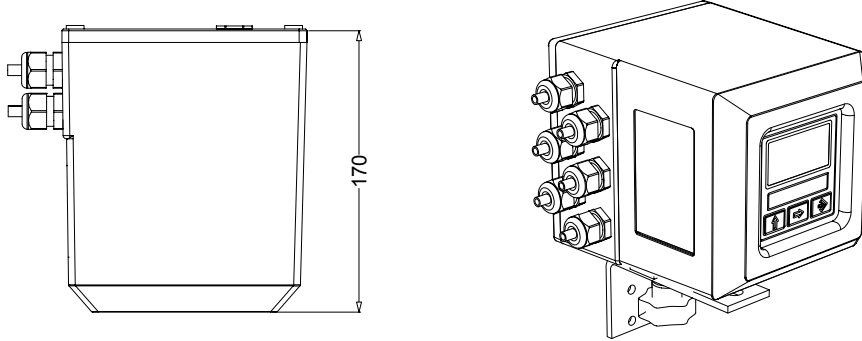
- ❑ N° 1 output (0/4...20mA; frequency; pulses variable "duty cycle") for the actuator
- ❑ N° 2 inputs (0...5/10V o 0/4...20mA) for the actuator position control and remote set point
- ❑ Automatic/manual internal or external command
- ❑ Output reverse through internal or external command
- ❑ Regulation error verification: timer and alarm limits setting

## TECHNICAL DATA

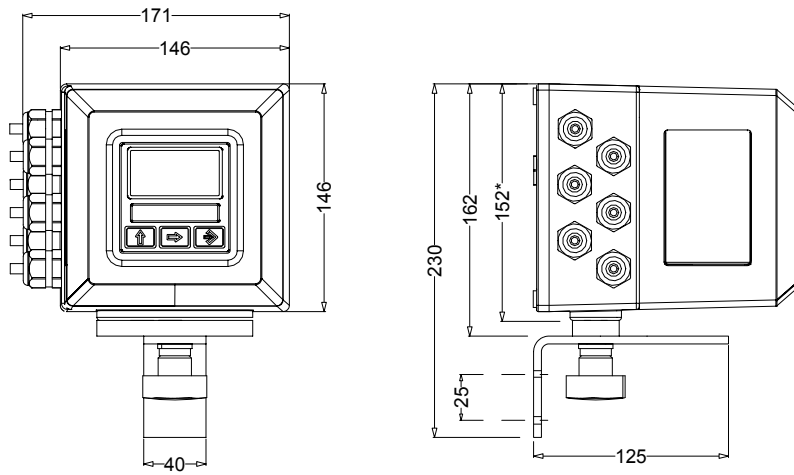
<b>Material box</b>	<input type="checkbox"/>	<b>Painted aluminium die casting</b>
<b>Dimensions</b>	<input type="checkbox"/>	<b>140 X 140 X 160 mm</b>
<b>Protection rate</b>	<input type="checkbox"/>	<b>IP 67</b>
<b>Cable gland</b>	<input type="checkbox"/>	<b>N° 6 PG 11</b>
<b>Ambient temperature</b>	<input type="checkbox"/>	<b>-20... +60°C</b>
<b>LCD Display</b>	<input type="checkbox"/>	<b>Graphic display 8 lines x 16 Characters 128x64 pixels with back light</b>
<b>Programming keyboard</b>	<input type="checkbox"/>	<b>3 membrane keys</b>
<b>Pulse/frequency outputs</b>	<input type="checkbox"/>	<b>N°2 , 1250 Hz, 100mA, 40 Vdc (12,5 KHz Opz./Opt.)</b>
<b>Current output</b>	<input type="checkbox"/>	<b>N°1 , 0/4...20mA – RL=1000Ω (+1 Opt. )</b>
<b>Digital input</b>	<input type="checkbox"/>	<b>N°1 , Programmable function</b>
<b>Alarm outputs</b>	<input type="checkbox"/>	<b>N°2 , programmable function</b>
<b>Data logger</b>	<input type="checkbox"/>	<b>32 values + 64 alarm events</b>
<b>Bi-directional</b>	<input type="checkbox"/>	<b>Yes</b>
<b>Dual range</b>	<input type="checkbox"/>	<b>Yes</b>
<b>FS value</b>	<input type="checkbox"/>	<b>0,4...10m/s</b>
<b>Serial interface</b>	<input type="checkbox"/>	<b>RS 485 (RS232 Opz./Opt.)</b>
<b>Diagnostic funct.</b>	<input type="checkbox"/>	<b>Yes</b>
<b>Empty pipe detect.</b>	<input type="checkbox"/>	<b>Yes</b>
<b>Galvanic isolation</b>	<input type="checkbox"/>	<b>All the inputs/outputs are galvanically isolated from power supply</b>
<b>Data storage</b>	<input type="checkbox"/>	<b>Eeprom values storing system in case of power failure</b>
<b>Programming plug in</b>	<input type="checkbox"/>	<b>Protected plug in for connection to PC or hand terminal</b>
<b>Batch function</b>	<input type="checkbox"/>	<b>Yes</b>
<b>CE certification</b>	<input type="checkbox"/>	<b>Instrument with CE certificate</b>
<b>Accuracy</b>	<input type="checkbox"/>	<b>+/- 0,2 % r.v.</b>
<b>Repeatability</b>	<input type="checkbox"/>	<b>Better than 0,01%</b>
<b>Power supply</b>	<input type="checkbox"/>	<b>90÷265 Vac – 45÷60 Hz; 10÷63Vdc/15÷45 Vac-45÷66Hz; 10÷25 Vdc</b>
<b>Consumption</b>		<b>25VA                                  23VA                                  21W</b>

# OVERALL DIMENSIONS

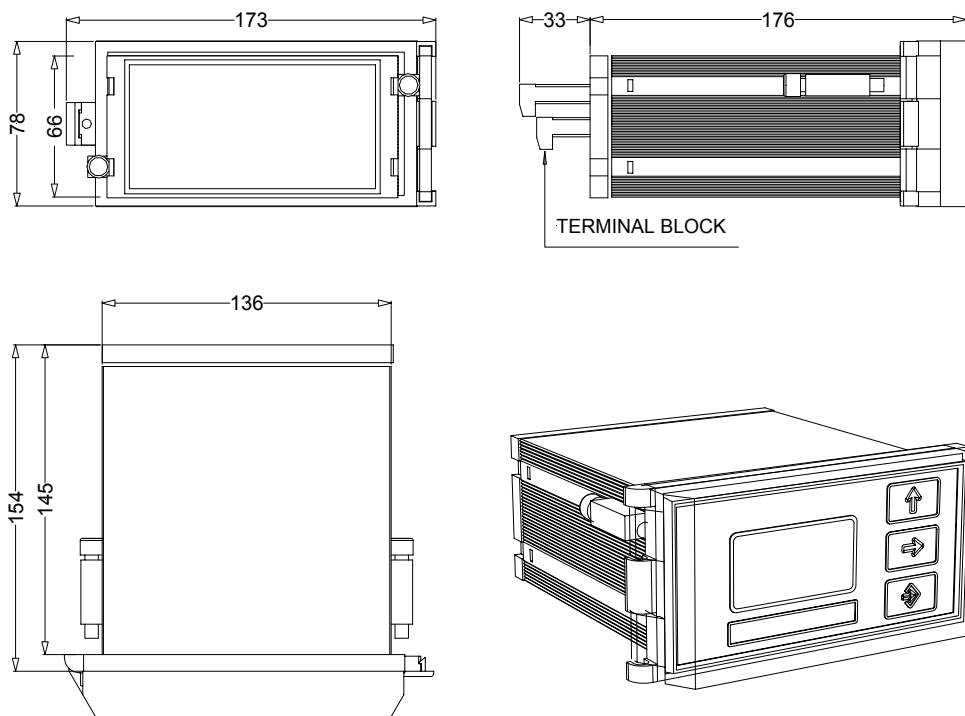
## COMPACT VERSION



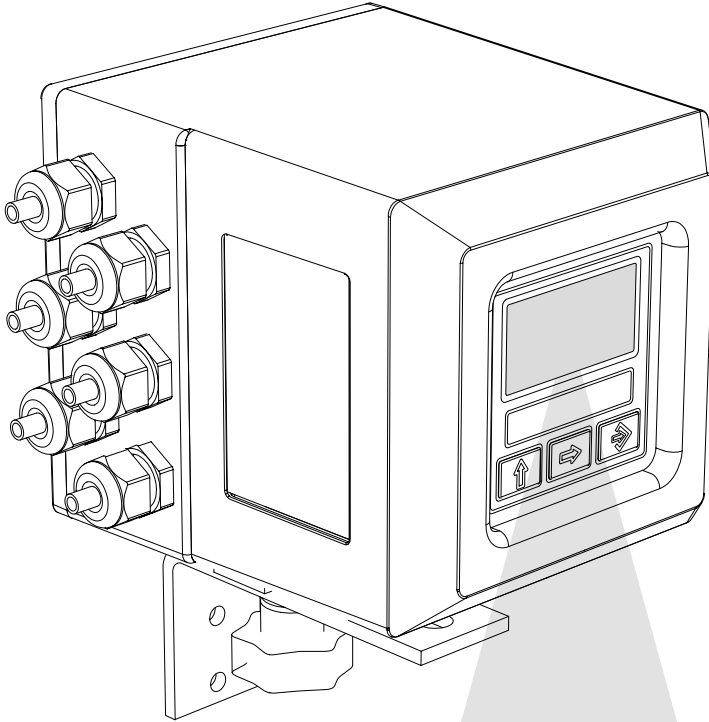
## SEPARATE VERSION



## PANEL VERSION



**VISUALIZATION PAGES**



```

f
dm³/s +0.0000
10*x
T+dm³ +0.00%
P+dm³ 278.140
CLOSE
OPEN
01/01/03 00:00
    
```

Flowrate, totalizes visualization and actuator status



```

S f L M +
dm³/s 0.0000
100 100 100 100
50 50 50 50
% 0 0 0 0
m/s +0.00 RSOD
    
```

Flowrate, speed values, set point , deviation error, out value



```

1.0678
dm³/s 1
    
```

Flowrate value and Full scale % graph



```

125
%
<1> 0 s 10
    
```

Flowrate graph



```

f
dm³/s +0.0000
10*x
P-dm³ .000
EUR 0.00
01/01/03 00:00
    
```

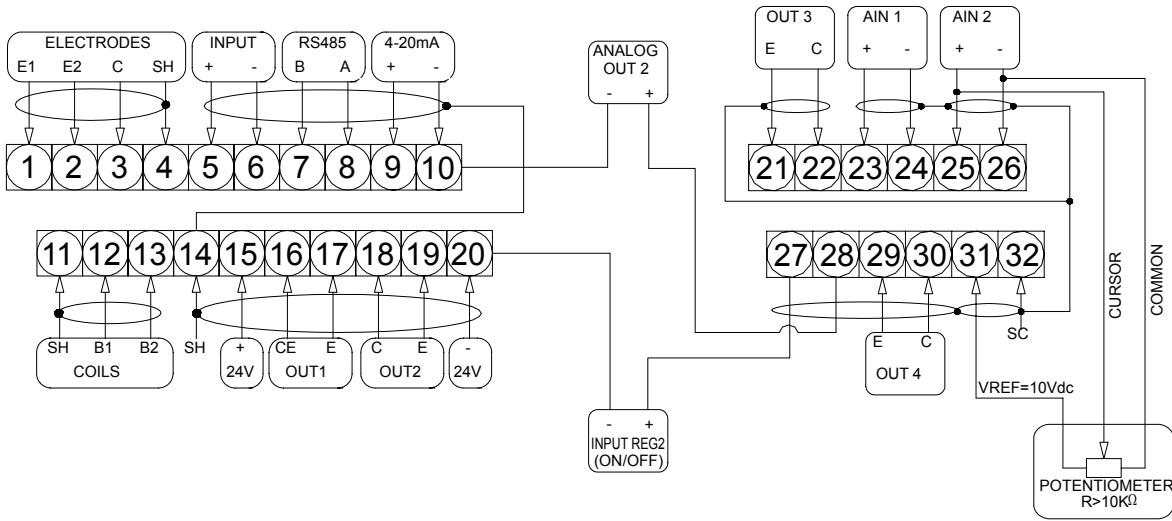
Flowrate value with currency function enabled

**Different possibilities of visualization with the simple pressure of a key**



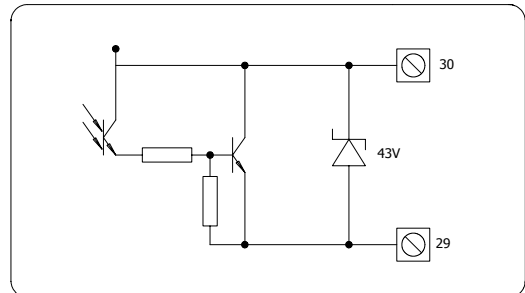
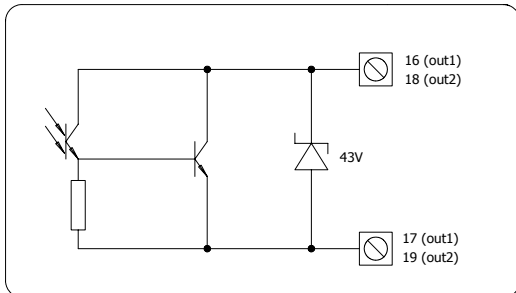
# ELECTRICAL CONNECTIONS

## CONVERTER TERMINAL BLOCK



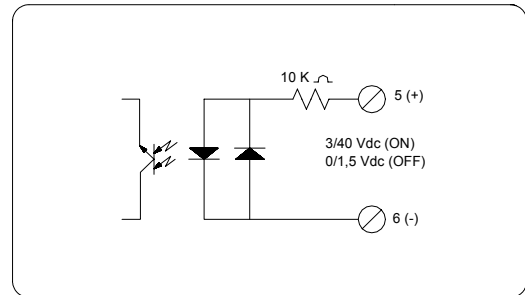
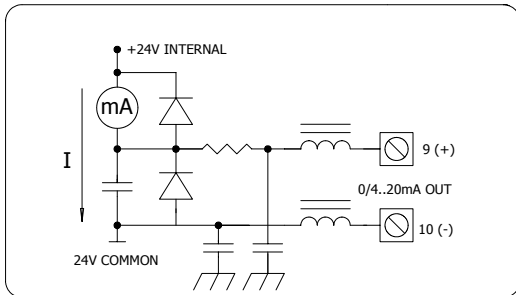
### ON/OFF STANDARD OUTPUT

### ON/OFF HIGH FREQUENCY OUTPUT (OPZ.)

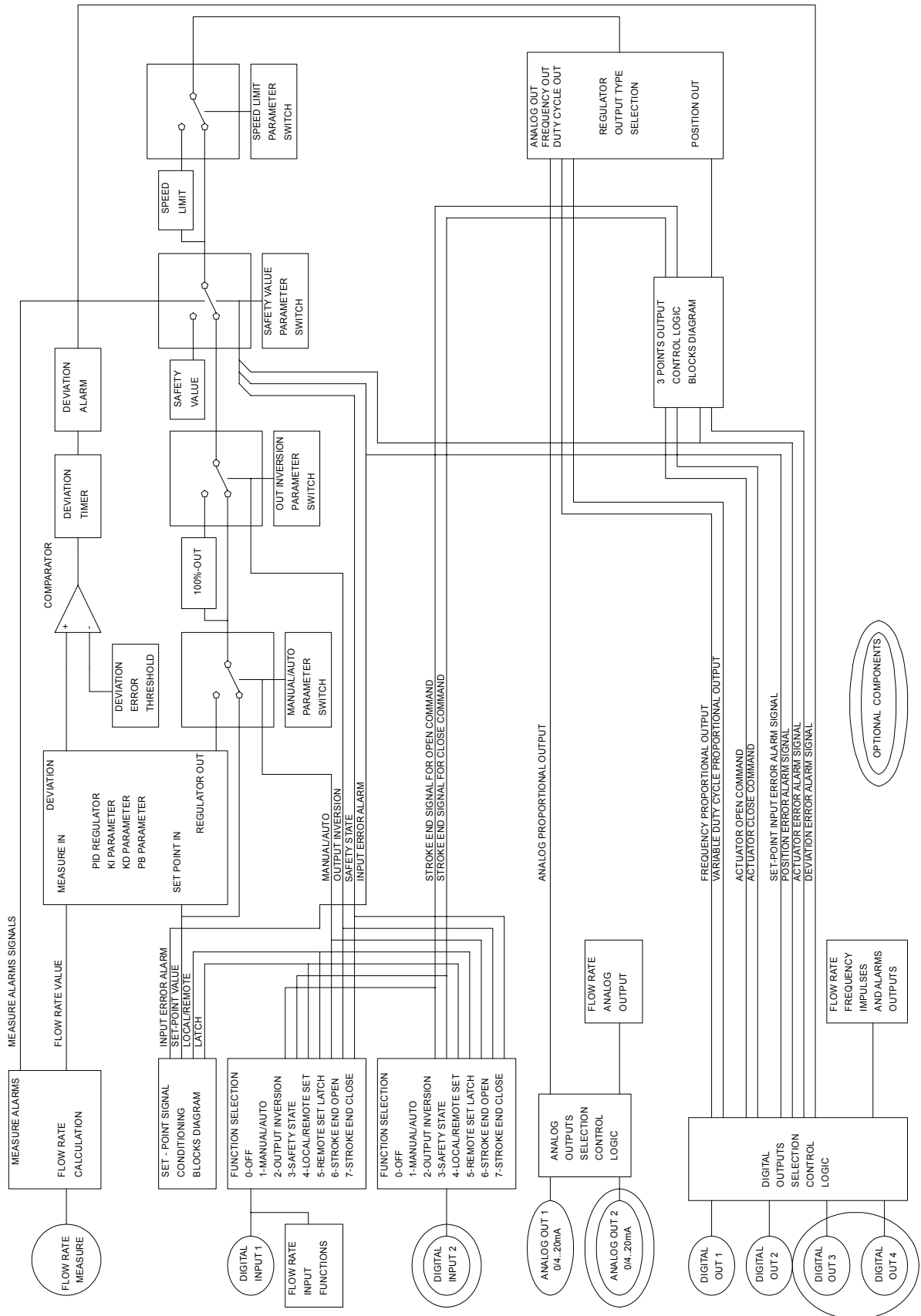


### STANDARD ANALOGIC OUTPUT

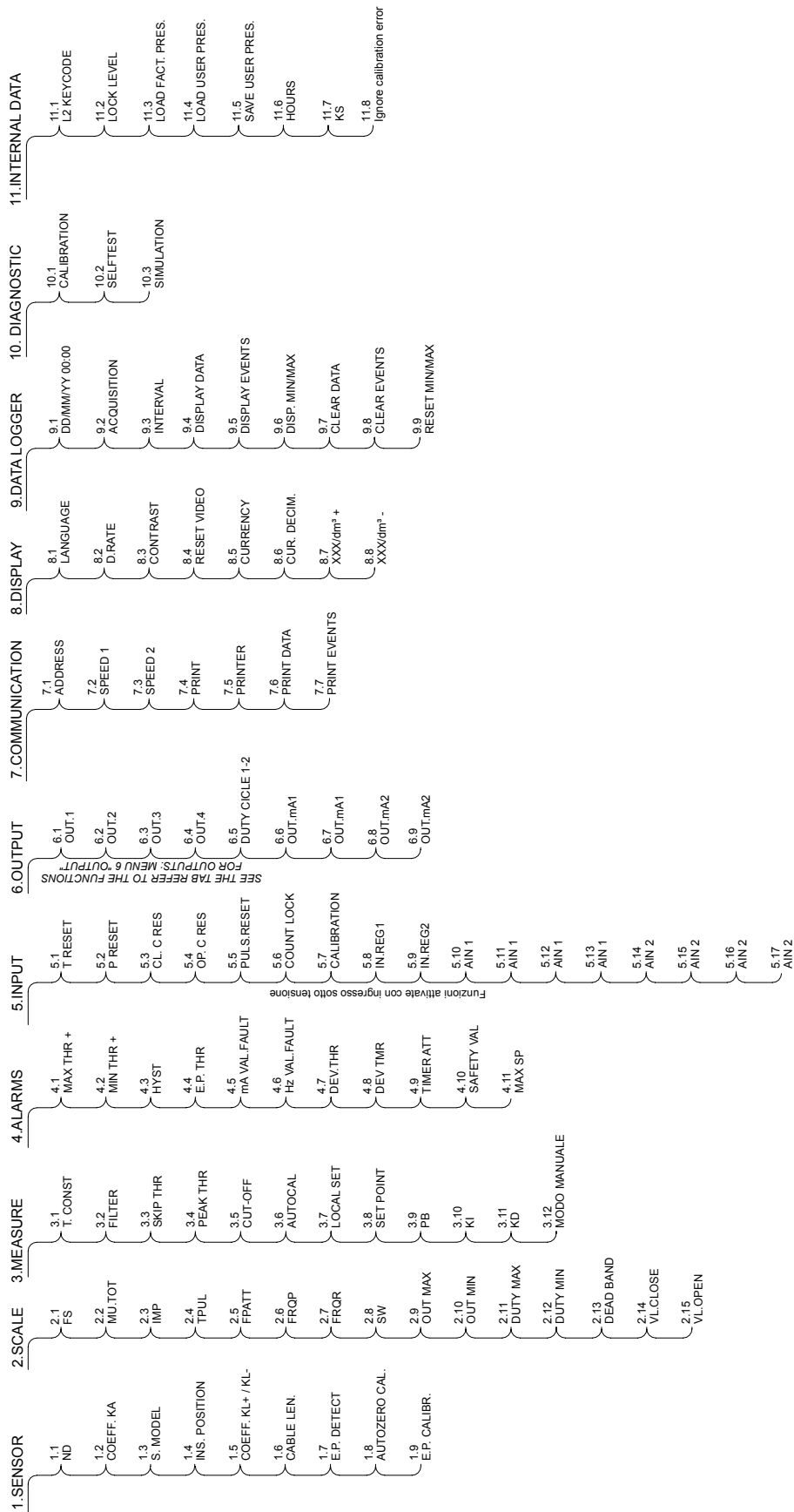
### STANDARD DIGITAL INPUT



# BLOCK SCHEME



# FUNCTIONS

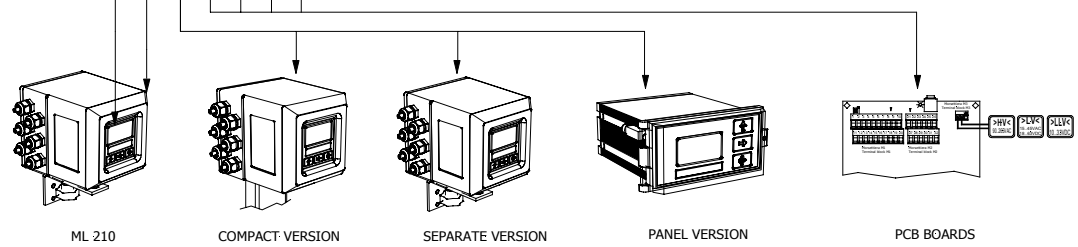




# HOW TO ORDER

<b>ML 212</b>	<b>Display</b>
<b>B</b>	Graphic LCD WSTN back light display execution, point matrix 128 x 64, 8 line each of 16 characters and 3 programming keys
<b>Housing material - Protection rate</b>	
<b>0</b>	Painted aluminum die casting (painted RAL6028) ,protection rate IP67
<b>1</b>	Aisi 304 Electro-polish
<b>2</b>	NORYL UL 94 V-0 black ( ONLY "F" VERSION ) IP 54
<b>3</b>	NORYL UL 94 V-0 BLACK ( ONLY "F" VERSION )+TRANSPARENT FRONTAL COVER IP 65
<b>Version</b>	
<b>A</b>	Compact version with sensor MS.... (liquid maximum temperature 100 °C)
<b>B</b>	Separate version for wall monting, complete with mounting accessories in Carbon Steel (painted RAL6028)
<b>F</b>	Separate version for front panel mounting according DIN 43700, complete with mounting accessories, dimensions 72 x 144 mm
<b>Power supply</b>	
<b>1</b>	Power supply : 90 ... 265 V 45/66 Hz
<b>2</b>	Power supply : 18...63 V dc / 15...45 V ac - 45...66 Hz
<b>3</b>	Power supply : 10 ... 35 V dc
<b>9</b>	Power supply : other
<b>Analogue output</b>	
<b>A</b>	Without Analogue output 0/4...20/22 mA
<b>B</b>	Analogue output 0/4...20/22 mA
<b>Serial Interface</b>	
<b>1</b>	Without Serial Interface
<b>2</b>	RS485 Serial Interface
<b>Additional module</b>	
<b>A</b>	Without additional module
<b>C</b>	ME200; n. 2 additional ON / OFF programmable output
<b>D</b>	ME201; n. 2 additional ON / OFF programmable output (one of them at 10 KHz frequency)
<b>E</b>	ME202; additional 0/4...20 mA + n.2 ON / OFF programmable output
<b>F</b>	ME203; n. 1 RS232 serial interface + n.2 additional ON / OFF programmable output , 2A - 60 Vca, 60W 125 VA)
<b>G</b>	ME204; n. 1 RS232 serial interface + additional 0/4...20 mA + n.2 ON / OFF program. output Vca, 60W 125 VA)
<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>O</b>	ME230 : 2 analog input (0-10V, 0-5V, 0-20mA, 4-20mA) + 1 input ON/OFF
<b>R</b>	ME231: 2 analog input (0-10V, 0-5V, 0-20mA, 4-20mA) + 1 input ON/OFF + 1 out 0/4-20 mA
<b>S</b>	ME232:2 analog input (0-10V, 0-5V, 0-20mA, 4-20mA) + 1 input ON/OFF + 1 out 0/4-20 mA + 2 out ON/OFF
<b>M</b>	ME 220 : d. logger r. t. c. ; 128K record : F.R. ;tot./-; date/time )
<b>N</b>	ME 221 : d. logger r. t. c. ; 128 Krecord : F.R.;tot./-; date/time ; n° 1 RS 232
<b>Z</b>	ME 222 : d. logger r. t. c. ; 128K record : F.R.;tot./-; date/time ; n° 1 RS 232 , n° 1 RS 485+1 A.I.
<b>Q</b>	ME 200 + ME 220
<b>U</b>	ME 201 + ME 220
<b>V</b>	ME 202 + ME 220
<b>K</b>	ME 203 + ME 220
<b>Y</b>	ME 204 + ME 220
<b>X</b>	ME 205 + ME 220
<b>W</b>	ME 207 + ME 220
<b>X</b>	ME 230 + ME 220
<b>Y</b>	ME 231 + ME 220
<b>B</b>	ME 232 + ME 220
<b>U</b>	ME 100 ; modul Profibus DP + MODUL ME 210

ML 212 B 0 A 1 B 2 A EXAMPLE OF ORDER CODE



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