

## Flow rate Indicator with very large digits



The F-Series is your first and safest choice for field mount indicators in safe and hazardous area applications. Especially in harsh weather conditions like rain, snow, salty atmospheres and temperatures between  $-40^{\circ}\text{C}$  up to  $+80^{\circ}\text{C}$  ( $-40^{\circ}\text{F}$  up to  $176^{\circ}\text{F}$ ).

### Advantages

- Robust aluminum or stainless steel 316L field enclosure (IP67 / NEMA Type4X). It is so rugged, a truck can even stand on it!
- Intrinsically Safe available - ATEX, IECEx, FM and CSA approval for gas and dust applications.
- Programming can be done by your own crew, with the sensible menu-driven structure, saving cost and irritation. Know one, know them all!
- Very diverse mounting possibilities: walls, pipes, panels or directly onto outdoor sensors!

### Features

- Displays instantaneous flow rate and measuring unit.
- Very large 26mm (1") digits.
- Piegraph indication: ten segments.
- Easy configuration with alphanumerical display and descriptions.
- LED backlight option.
- Selectable on-screen engineering units for volumetric or mass.
- Ability to process all types of signals: Sine wave (coil), NAMUR, NPN/PNP pulse, Reed-switch, Active pulse signals, (0)4-20mA, 0-10V DC.
- Power requirements: Input loop powered, battery powered or 8 - 30V DC, 24V AC/DC and 115 - 230V AC.
- Sensor supply: 3.2 / 8.2 / 12 / 24V DC.
- Explosion/flame proof available, according ATEX/IECEx.

## Introduction

The F010 is a local indicator to display the actual flow rate. The measuring and time unit to be displayed are simply selected through an alfanumerical configuration menu. No adhesive labels have to be put on the outside of the enclosure: a weather proof and user friendly solution! The configuration of K-factors or Span and number of decimals is done through software functions, without any sensitive dip-switches or trimmers. A wide selection of options further enhance this models capabilities, including Intrinsic Safety for hazardous area applications.

## Display

The display has very large 26mm (1") digits which can be set to show the flow rate and the measuring and time units. As the F010 has been designed for field mounted applications, a smart display update function has been incorporated. Related to the lower temperatures, the update frequency of the LCD is tuned automatically to achieve a readable display even at -40°C / -40°F.

## Configuration

All configuration settings are accessed via a simple operator menu which can be password protected. Each setting is clearly indicated with an alphanumerical description, which avoids confusing abbreviations and baffling codes. Once familiar with one F-series product, you will be able to program all models in the series without a manual. All settings are safely stored in EEPROM memory in the event of sudden power failure.

## Hazardous area

For hazardous area applications, this model is ATEX, IECEx, FM and CSA certified as Intrinsically Safe for gas and dust applications, with an allowed ambient temperature of -40°C to +70°C (-40°F to +158°F). A flame proof Ex d enclosure with ATEX/IECEx certification is also available.



## Backlight

For those applications where readability during day and night is an issue, a white backlight is available. The intensity can be adjusted from the keyboard. The display is a transfective type, which means that a high contrast reading is guaranteed in full sunlight as well as during the night. This backlight option is also available Intrinsically Safe.

## Power requirements

Several power supply options are available to power the F010 and sensor. Most popular is our battery powered version with a long life lithium battery which will last up to five years. For analog sensors, a 4 - 20mA loop powered version is available as well. A real sensor supply is offered with the 24V AC/DC or 115 - 230V AC power requirement options.



All info  
at a glance



Easy  
to install



Easy  
to program



Know one  
know them all!



Reliable



User-friendly

### Overview application F010

The F-Series is your first and safest choice for field mount indicators in safe and hazardous area applications. Especially in harsh weather conditions like rain, snow, salty atmospheres and temperatures between -40°C up to +80°C (-40°F up to 176°F). Flow measurement where a local flow rate indication is required without re-transmission or totalizer functionality. Alternative advanced models: F012 - F013 - F014 - F016 or even more advanced F110 and higher or the D-Series DIN panel mount flow rate indicators.



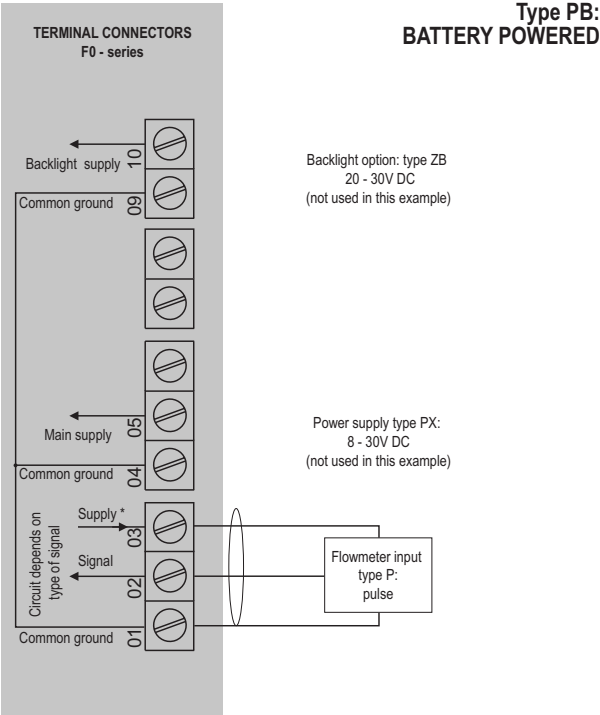
### Signal input

The F010 accepts most pulse and analog input signals for volumetric flow or mass flow measurement. The input signal type can be selected by the user in the configuration menu without having to adjust any sensitive mechanical dip-switches, jumpers or trimmers. The analog input is available with linear and square root calculation and even as 4 - 20mA input loop powered.

| Type of signal    | Resistance     | Low Pass filter (LP) | Max. frequency          | Max. frequency Low Pass filter (LP) | Min. amplitude p-p | Remark                      |
|-------------------|----------------|----------------------|-------------------------|-------------------------------------|--------------------|-----------------------------|
| NPN               | 100kΩ pull-up  | 100kΩ pull-up        | 6kHz<br>Threshold 1.2V  | 1.2kHz                              |                    | Open collector              |
| REED              | 1MΩ pull-up    | 1MΩ pull-up          | 600Hz<br>Threshold 1.2V | 120Hz                               |                    |                             |
| PNP               | 47KΩ pull-down | 100KΩ pull-down      | 6kHz<br>Threshold 1.2V  | 1.2kHz                              |                    |                             |
| NAMUR             | 820Ω pull-down | -                    | 4kHz                    | -                                   |                    | External power required     |
| COIL LO           | -              | -                    |                         | -                                   | 90mV <sub>pp</sub> | Default sensitivity         |
| COIL-HI           | -              | -                    | -                       | -                                   | 20mV <sub>pp</sub> | Sensitive for interference! |
| COIL-HI (Type ZF) |                |                      |                         |                                     | 10mV <sub>pp</sub> |                             |
| COIL-HI (Type ZG) |                |                      |                         |                                     | 5mV <sub>pp</sub>  |                             |
| ACTIVE 8.2V DC    | 3K9Ω           |                      | 10kHz<br>Threshold 4V   |                                     |                    | External power required     |
| ACTIVE 12V DC     | 4KΩ            |                      | 10kHz<br>Threshold 6V   |                                     |                    | External power required     |
| ACTIVE 24V DC     | 3KΩ            |                      | 10kHz<br>Threshold 12V  |                                     |                    | External power required     |



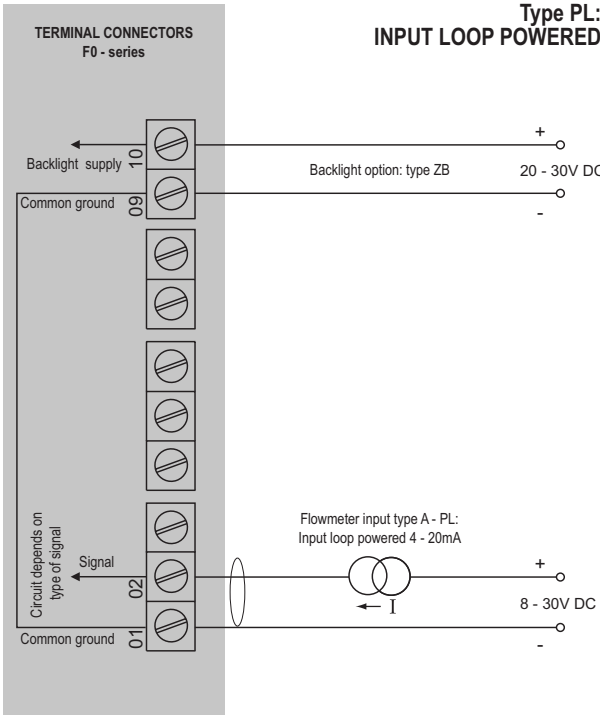
Configuration example F010-P-PB-(PX)-(XX)-(ZB)



\* Sensor supply voltage for pulse flowmeter type P:  
Terminal 3: 1.2 / 3.2V DC.

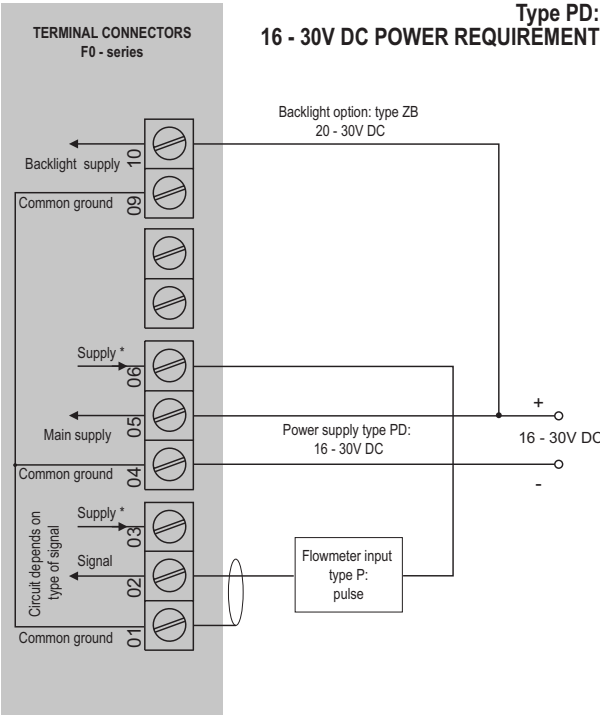
\* Sensor supply voltage for analog flowmeter type A / U:  
Terminal 3: not available.

Configuration example F010-A-PL-XX-ZB



Sensor supply: sensor is externally powered.

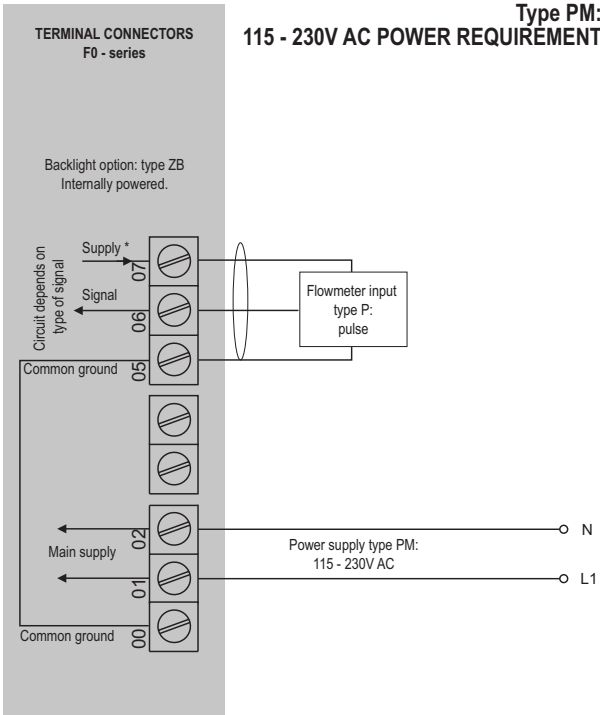
Configuration example F010-P-PD-XX-ZB



\* Sensor supply voltage for pulse flowmeter type P:  
Terminal 3: 1.2 / 3.2V DC. Terminal 6 with type PD: 8.2V DC.

\* Sensor supply voltage for analog flowmeter type A / U:  
Terminal 3: not available.  
Terminal 6 with type PD: voltage as connected to terminal 5 (internally linked).

Configuration example F010-P-PM-XX-ZB



\* Sensor supply voltage for pulse flowmeter type P:  
Terminal 7: 1.2 / 3.2 / 8.2 / 12 / 24V DC.

\* Sensor supply voltage for analog flowmeter type A / U:  
Terminal 7: 8.2 / 12 / 24V DC.

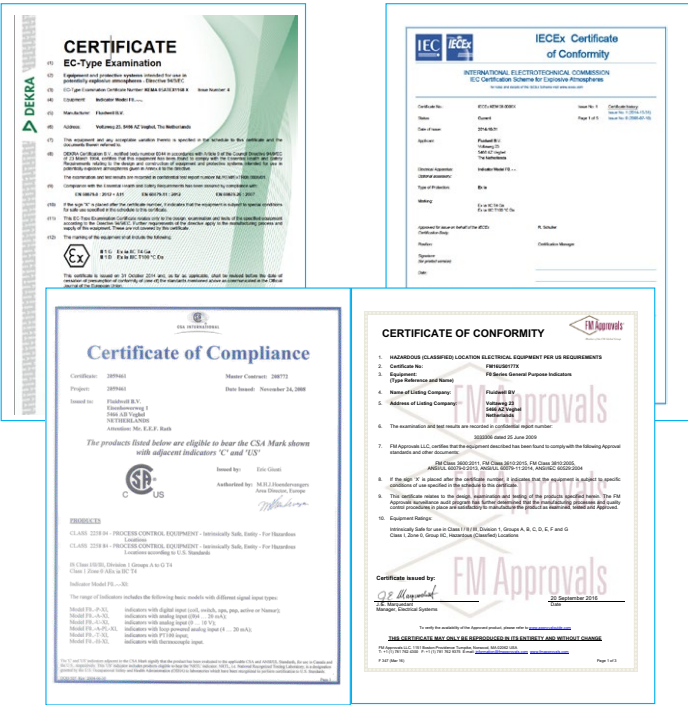
Hazardous area applications

The F010-XI has been certified according to ATEX and IECEx by DEKRA and according to CSA c-us and FM for use in Intrinsically Safe applications with an ambient temperature of -40°C to +70°C (-40°F to +158°F). For equipment category 1 D (EPL Da), -40°C to +50°C (-40°F to +122°F).

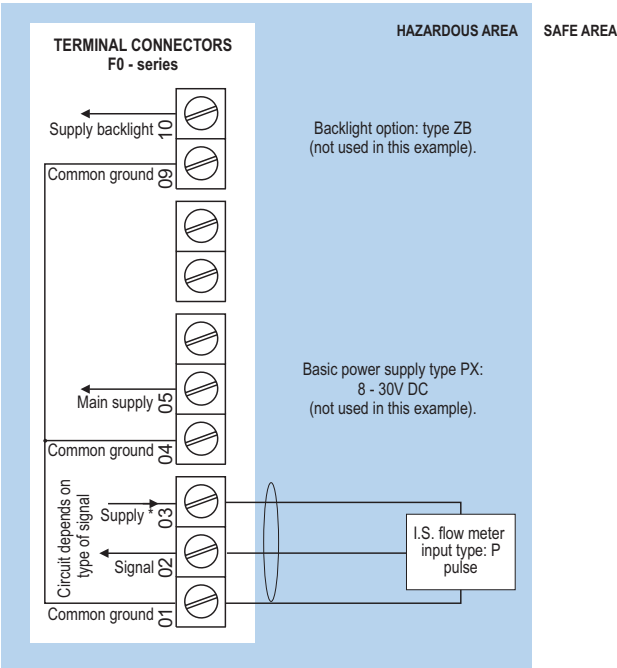
- The ATEX markings for gas and dust applications are:  
 Gas: **II 1 G Ex ia IIC T4 Ga.**  
 Dust: **II 1 D Ex ia IIIC T<sub>200</sub> 100 °C Da.**
- The IECEx markings for gas and dust applications are:  
Gas: **Ex ia IIC T4 Ga**  
Dust: **Ex ia IIIC T<sub>200</sub> 100 °C Da.**
- The CSA c-us markings are:  
**IS Class I/II/III, Division 1, Groups A to G T4.**  
**Class 1 Zone 0 AEx ia IIC T4 Ga.**  
**Ex ia IIC T4 Ga.**
- The FM markings are:  
**IS, Class I, II, III, Division 1, Groups A to G T4.**  
**Class I, Zone 0, AEx ia IIC T4**

Besides the I.S. power supply for the pulse output, it is allowed to connect up to three I.S. power supplies in IIB/IIIC applications or one in IIC applications. Consult the certificate for the maximum input and output values of the circuits. Full functionality of the F110 remains available, including 4 - 20mA output, pulse output and Modbus communication (type CT). Power supply type PD-XI offers a 8.2V sensor supply e.g. for one Namur sensor. An ATEX/IECEx approved flame proof Ex d enclosure is available as well. Please contact your supplier for further details.

Certificate of conformity KEMA 05ATEX1168 X • IECEx KEM 08.0006X  
• CSA.08.2059461

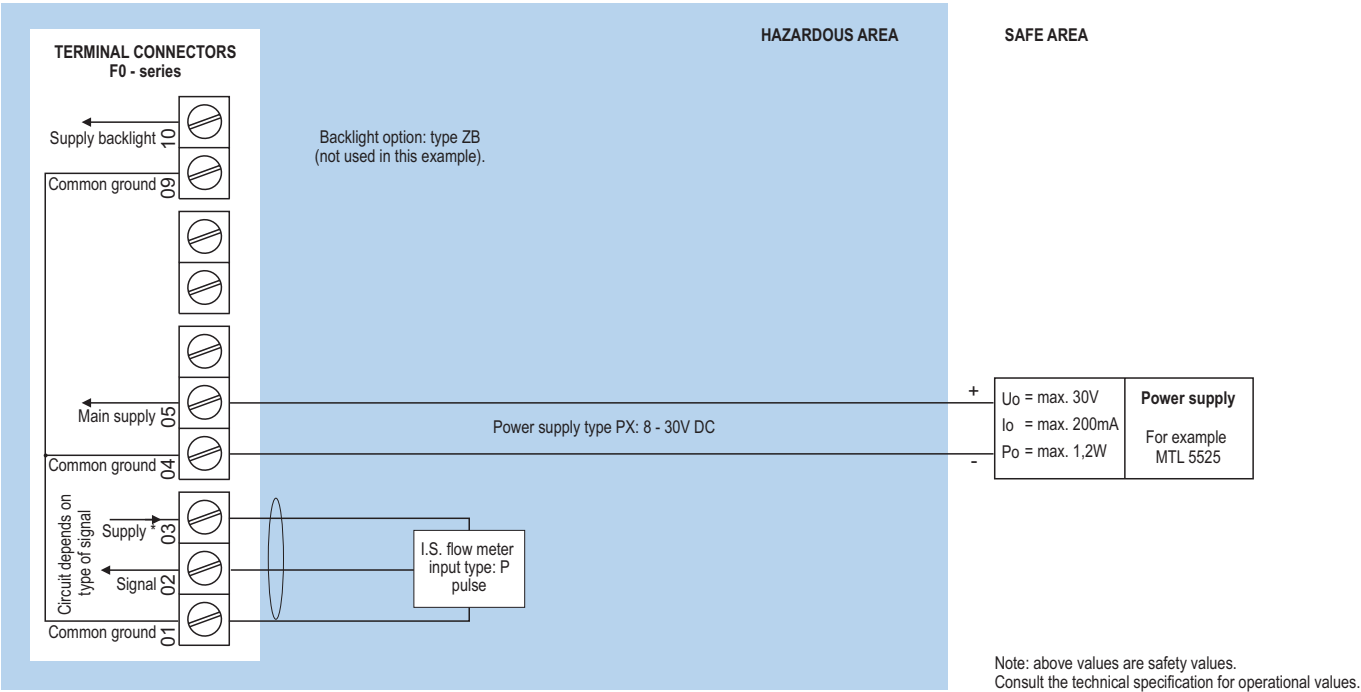


Configuration example IIA - IIIB and IIC  
F010-P-PC-(PX)-XI-(ZB) - Battery powered unit



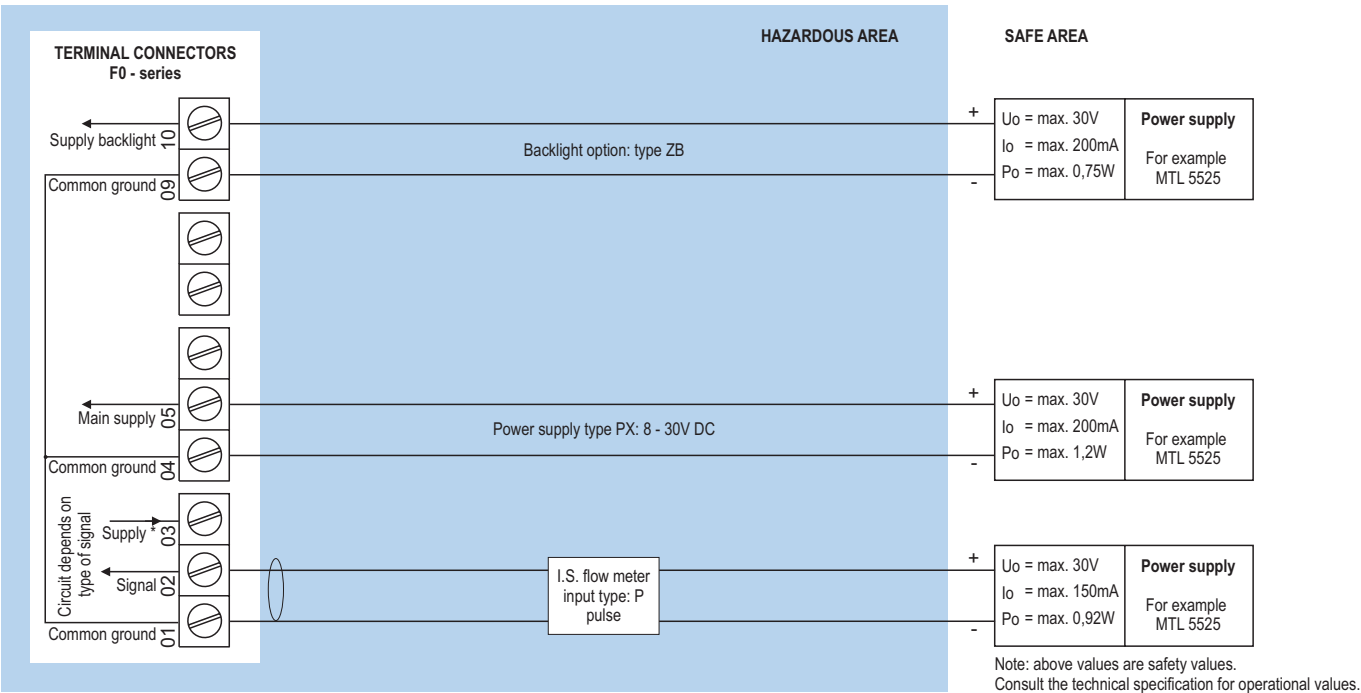
\* Sensor supply voltage for pulse flow meter type P : Terminal 3: 1.2 - 3.2V DC.  
Please note: type PX may be used in combination with the battery (type PC).  
PX will power the unit; the battery will be disabled automatically till power is disconnected.

Configuration example IIA - IIB and IIC - F010-P-PX-XI-(ZB) - Basic power requirement 8 - 30V DC



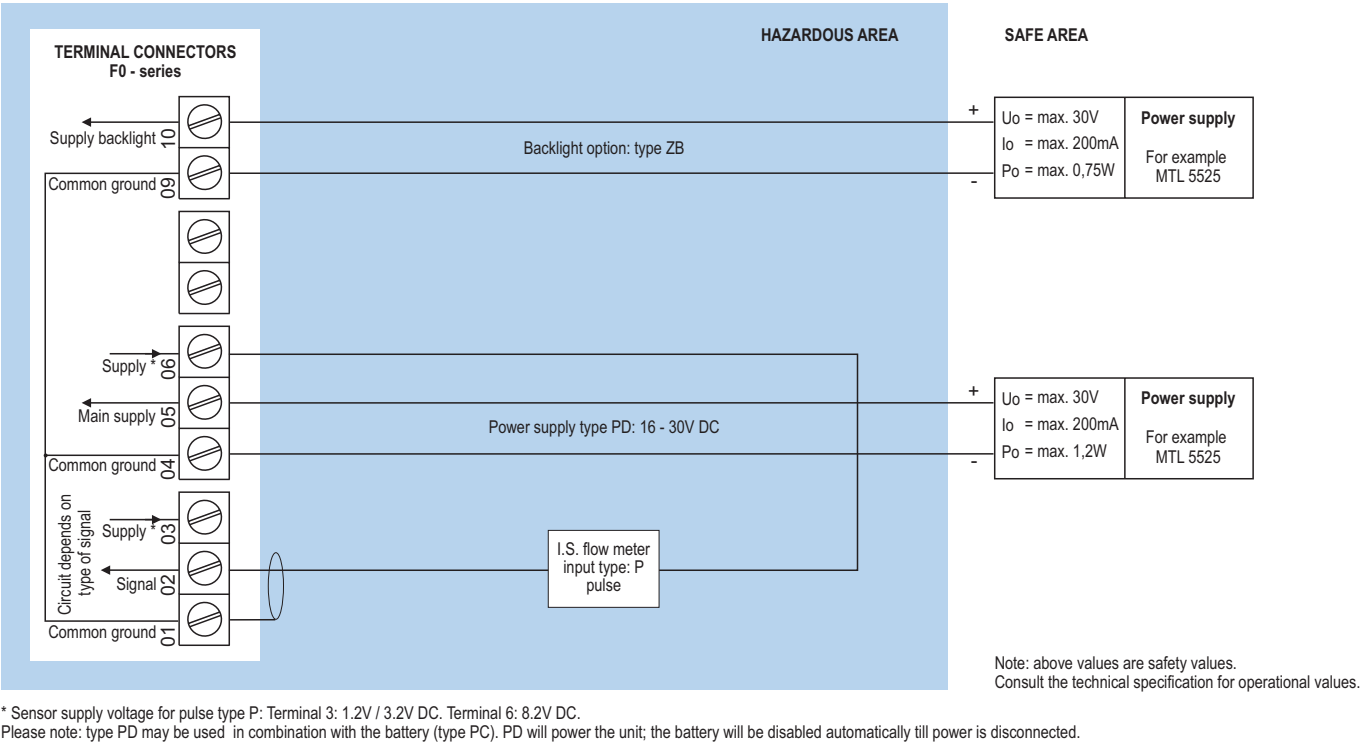
\* Sensor supply voltage for pulse type P: Terminal 3: 1.2V / 3.2V DC.  
Please note: type PX may be used in combination with the battery (type PC). PX will power the unit; the battery will be disabled automatically till power is disconnected.

Configuration example IIA - IIB and IIC - F010-P-PX-XI-ZB - Basic power requirement 8 - 30V DC

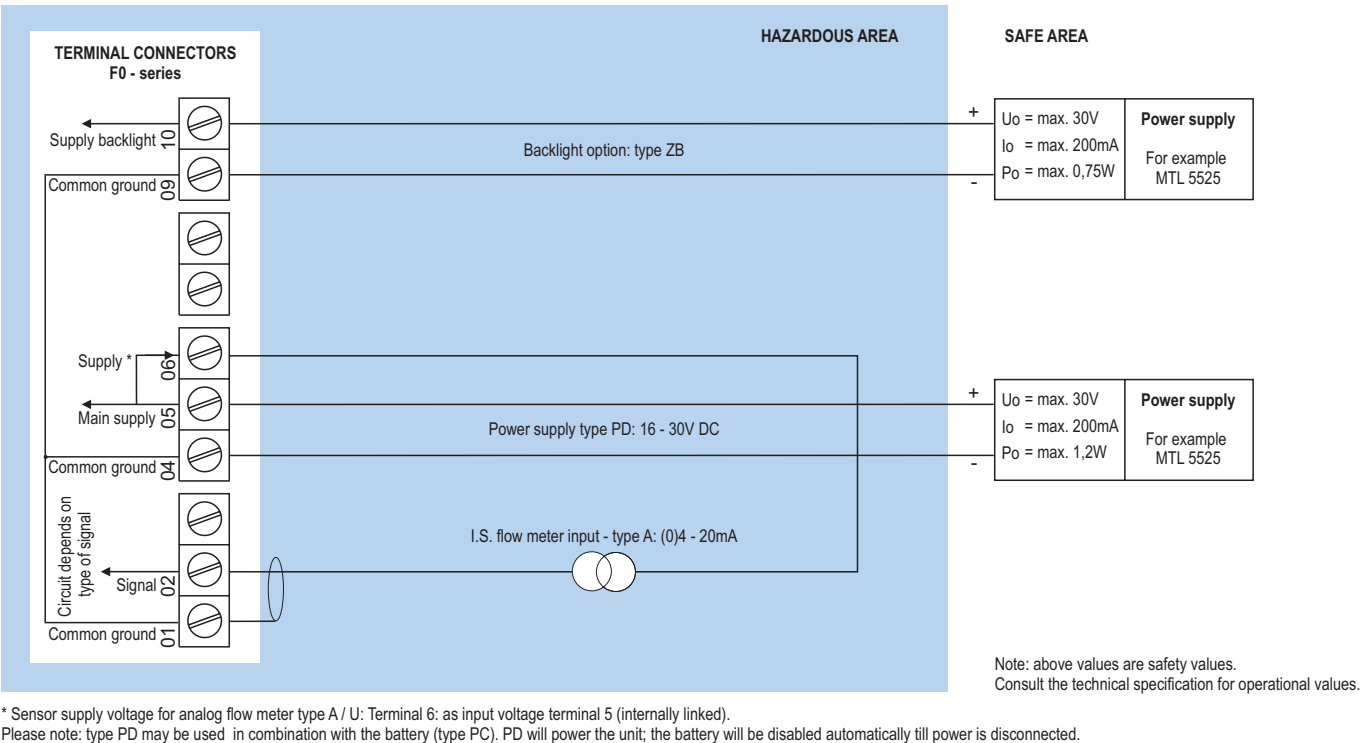


\* Sensor supply voltage for pulse type P: Terminal 3: 1.2V / 3.2V DC.  
Please note: type PX may be used in combination with the battery (type PC). PX will power the unit; the battery will be disabled automatically till power is disconnected.

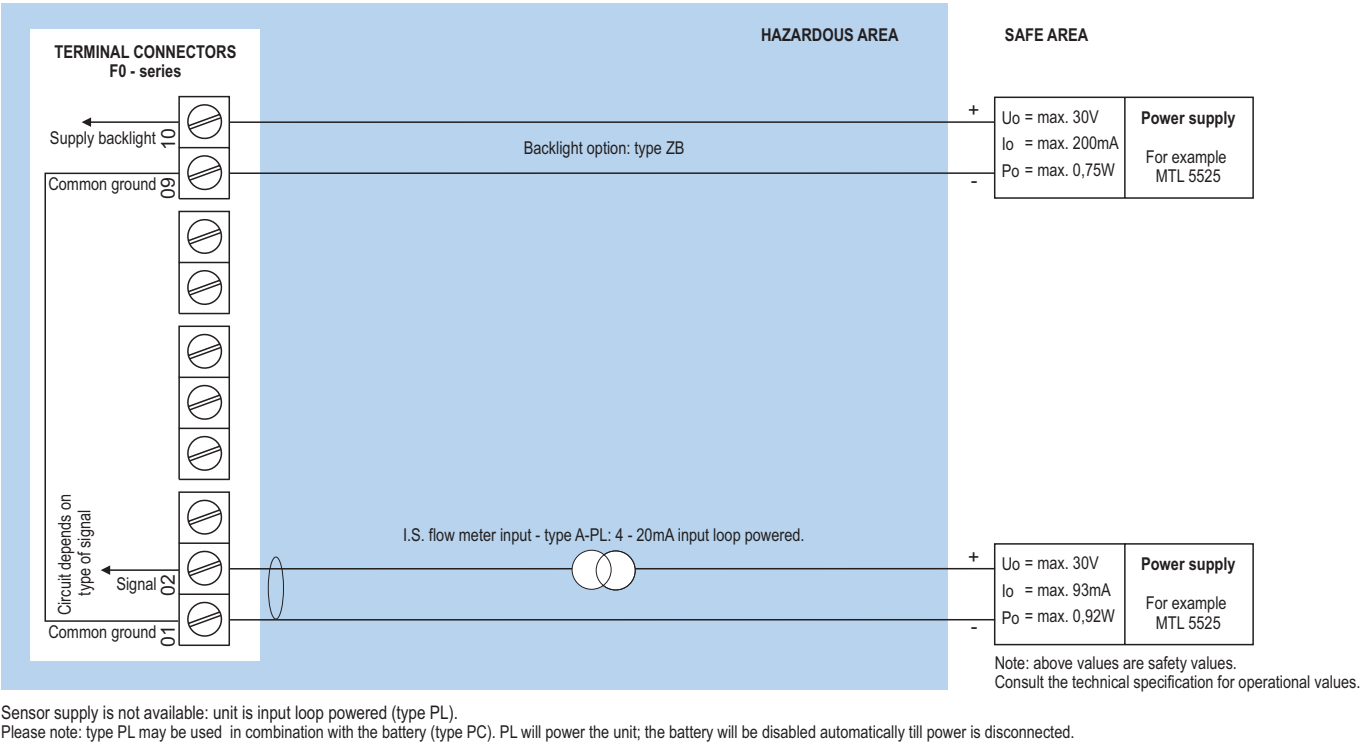
Configuration example IIA - IIB and IIC - F010-P-PD-XI-ZB - Power requirement 16 - 30V DC



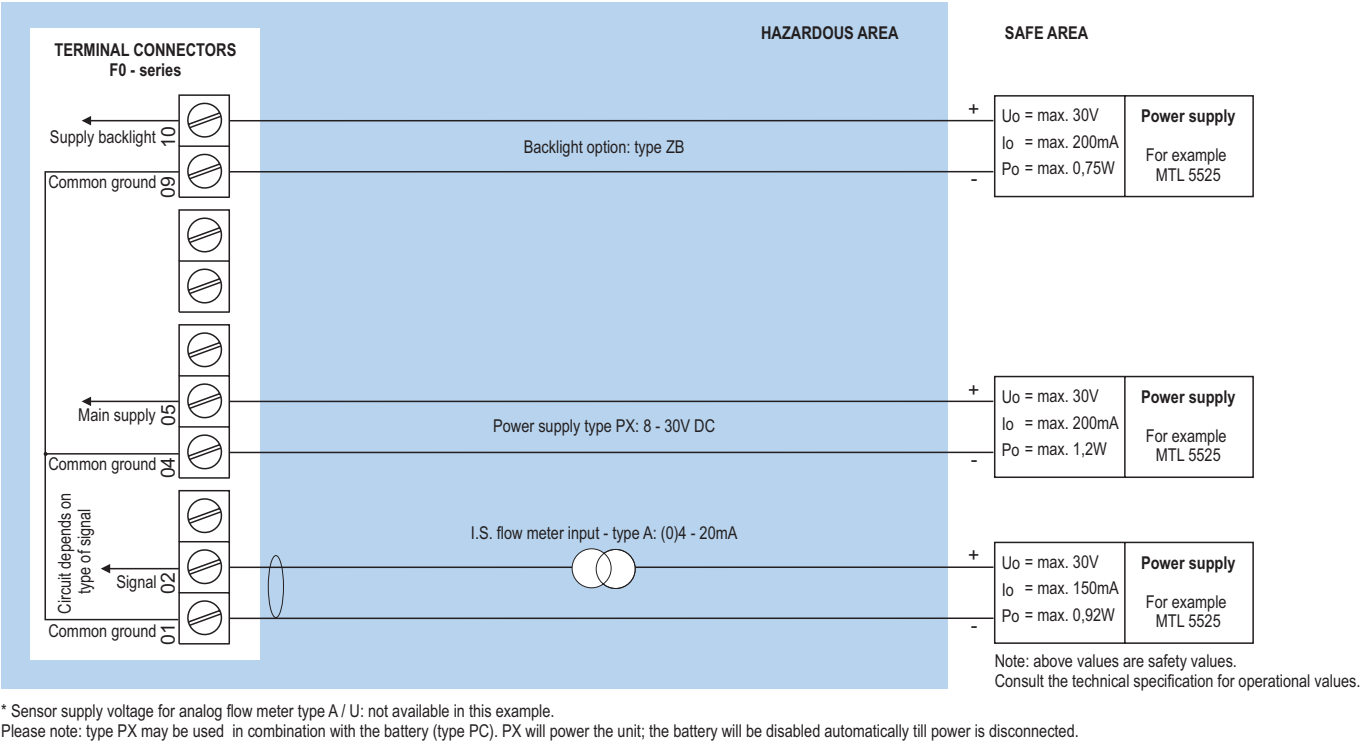
Configuration example IIA - IIB and IIC - F010-A-PD-XI-ZB - Power requirement 16 - 30V DC



Configuration example IIA - IIB and IIC - F010-A-PL-XI-ZB - Input loop powered



Configuration example IIA - IIB and IIC - F010-A-PX-XI-ZB - Basic power requirement 8 - 30V DC



## Display

|                     |   |
|---------------------|---|
| <b>Type</b>         | High intensity reflective numeric and alphanumeric LCD, UV-resistant.   |
| <b>Dimensions</b>   | 90 x 40mm (3.5" x 1.6").  |
| <b>Digits</b>       | 5½ very large 26mm (1") digits.<br>Various symbols and measuring units.   |
| <b>Piegraph</b>     | Ten segments - related to the input signal.   |
| <b>Refresh rate</b> | User definable: fast, 1sec, 3sec, 15sec, 30sec, off.  |
| <b>Option ZB</b>    | Transflective LCD with white LED-backlight.<br>Intensity can be adjusted in the configuration menu. Good readings in full sunlight and darkness. Also available Intrinsically Safe. |

## Ambient temperature

|                    |  |
|--------------------|--|
| <b>Safe areas</b>  | -40°C to +80°C (-40°F to +176°F).                                      |
| <b>EPL Ga / 1G</b> | -40°C to +70°C (-40°F to +158°F).                                      |
| <b>EPL Da / 1D</b> | -40°C to +50°C (-40°F to +122°F).<br>max. dust layer thickness: 200mm. |
| <b>EPL Db / 2D</b> | -40°C to +70°C (-40°F to +158°F).<br>max. dust layer thickness: 5mm.   |

## Power requirements

|                      |  |
|----------------------|--|
| <b>Type PB</b>       | Long life Lithium battery - life-time depends upon settings and configuration - up to 5 years. (requires PD, PL or PX)                         |
| <b>Type PC</b>       | Intrinsically Safe long life lithium battery life-time depends upon settings and configuration - up to 5 years. (requires XI and PD, PL or PX) |
| <b>Type PD</b>       | 16 - 30V DC. power consumption max. 1W.  |
| <b>Type PF</b>       | 24V AC / DC ± 10%. Power consumption max. 15W.   |
| <b>Type PL</b>       | Input loop powered from sensor signal 4 - 20mA (type "A").   |
| <b>Type PM</b>       | 115 - 230V AC ± 10%. Power consumption max. 15W.   |
| <b>Type PX</b>       | 8 - 30V DC. Power consumption max. 0.3W.   |
| <b>Type ZB</b>       | 20 - 30V DC ± 10%. Power consumption max. 1W.<br>With type PF / PM: internally powered.  |
| <b>Note PB/PF/PM</b> | Not available Intrinsically Safe.  |
| <b>Note PF/PM</b>    | The total consumption of the sensor and backlight type ZB may not exceed 400mA @ 24V DC.   |
| <b>Note XI</b>       | For Intrinsically Safe applications, consult the safety values in the certificate.   |

## Sensor excitation

|                      |  |
|----------------------|--|
| <b>Type PB/PC/PX</b> | 3.2V DC for pulse signals and 1.2V DC for coil pick-up.  |
| <b>Note PB/PC/PX</b> | This is not a real sensor supply. Only suitable for sensors with a very low power consumption like coils (sine wave) and reed-switches.                      |
| <b>Type PD</b>       | For pulse signals: 1.2 / 3.2 / 8.2V DC - max. 5mA@8.2V DC. For analog signals, the sensor supply voltage is according to the power supply voltage connected. |
| <b>Type PF / PM</b>  | With pulse input: 1.2 / 3.2 / 8.2 / 12 / 24V DC - max. 400mA @ 24V DC. With analog input: 8.2 / 12 / 24V DC - max. 400mA @ 24V DC.                           |

## Terminal connections

|             |  |
|-------------|--|
| <b>Type</b> | Removable plug-in terminal strip.<br>Wire max. 1.5mm² and 2.5mm² |
|-------------|--|

## Data protection

|                 |   |
|-----------------|---|
| <b>Type</b>     | EEPROM backup of all settings. Backup of running totals every minute. Data retention at least 10 years. |
| <b>Password</b> | Configuration settings can be password protected.   |

## Directives & Standards

|                      |   |
|----------------------|---|
| <b>EMC</b>           | Directive 2014/30/EU, FCC 47 CFR part 15.         |
| <b>Low voltage</b>   | Directive 2014/35/EU                              |
| <b>RoHS</b>          | Directive 2011/65/EU                              |
| <b>ATEX / IECEx</b>  | Directive 2014/34/EU, IEC 600079-0, IEC 60079-11. |
| <b>FM</b>            | FM Class No. 3600, FM Class No. 3610.             |
| <b>CSA</b>           | CSA 22.2 No. 157-92.                              |
| <b>IP &amp; NEMA</b> | EN 60529 & NEMA 250.                              |

## Intrinsically Safe (Type XI)

|                 |   |
|-----------------|---|
| <b>ATEX</b>     | Gas: II 1 G Ex ia IIC T4 Ga.<br>Dust: II 1 D Ex ia IIIC T <sub>200</sub> 100 °C Da.   |
| <b>IECEx</b>    | Gas: Ex ia IIC T4 Ga.<br>Dust: Ex ia IIIC T <sub>200</sub> 100 °C Da.                 |
| <b>CSA c-us</b> | IS Class I/II/III, Division 1, Groups A to G T4.<br>Class 1 Zone 0 AEx ia IIC T4 Ga.  |
| <b>FM</b>       | IS, Class I, II, III, Division 1, Groups A to G T4.<br>Class I, Zone 0, AEx ia IIC T4 |

## Explosion proof (Type XF)

|                   |   |
|-------------------|---|
| <b>ATEX/IECEx</b> | Gas: II 2 G Ex db IIB+H2 T5 Gb.<br>Dust: II 2 D Ex tb IIIC T80°C.           |
| <b>Protection</b> | IP66  |
| <b>Type XF</b>    | Dimensions of enclosure: 300 x 250 x 200mm (11.8" x 9.9" x 7.9") L x H x D. |
| <b>Weight</b>     | Appr. 15kg.   |

## Enclosure

|                     |   |
|---------------------|---|
| <b>Window</b>       | Polycarbonate window.   |
| <b>Sealing</b>      | Silicone.   |
| <b>Control keys</b> | Three industrial micro-switch keys. UV-resistant silicone keypad. |

## Panel mount enclosures

|                      |   |
|----------------------|---|
| <b>Dimensions</b>    | 130 x 120 x 60mm (5.12" x 4.72" x 2.36") - W x H x D.                           |
| <b>Panel cut-out</b> | 115 x 98mm (4.53" x 3.86") L x H.   |
| <b>Type HB</b>       | Die-cast aluminum panel mount enclosure IP65 / NEMA Type4X.                     |
| <b>Weight</b>        | 600 gr.   |
| <b>Type HC</b>       | GRP panel mount enclosure IP65 / NEMA Type4X, UV-resistant and flame retardant. |
| <b>Weight</b>        | 450 gr.   |
| <b>Type HSB</b>      | Die-cast stainless steel 316L IP67/NEMA Type4X.                                 |
| <b>Weight</b>        | 1150gr.   |

## GRP wall / field mount enclosures

|                   |  |
|-------------------|--|
| <b>General</b>    | GRP wall/field mount enclosure IP67 / NEMA Type4X, UV-resistant and flame retardant. |
| <b>Dimensions</b> | 130 x 120 x 75mm (5.12" x 4.72" x 2.95") - W x H x D.                                |
| <b>Weight</b>     | 600 gr.  |
| <b>Type HD</b>    | Cable entry: no holes.   |
| <b>Type HE</b>    | Cable entry: 2 x Ø 16mm and 1 x Ø 20mm.  |
| <b>Type HF</b>    | Cable entry: 1 x Ø 22mm (7/8").  |
| <b>Type HG</b>    | Cable entry: 2 x Ø 20mm.   |
| <b>Type HH</b>    | Cable entry: 6 x Ø 12mm.   |
| <b>Type HJ</b>    | Cable entry: 3 x Ø 22mm (7/8").  |
| <b>Type HK</b>    | Flat bottom, cable entry: no holes.  |

## Aluminum wall / field mount enclosures

|                    |   |
|--------------------|---|
| <b>General</b>     | Die-cast aluminum wall/field mount enclosure IP67 / NEMA Type4X with 2-component UV-resistant coating.<br>Extended back cover available with undrilled preparation for direct meter mounting. |
| <b>Dimensions</b>  | 130 x 120 x 75mm (5.12" x 4.72" x 2.95") - W x H x D.<br>130 x 120 x 90mm (5.12" x 4.72" x 3.54") - W x H x D.  |
| <b>Weight</b>      | 1100 gr. / extended enclosure: 1310 gr.   |
| <b>Type HA</b>     | Cable entry: 2 x PG9 and 1 x M20.   |
| <b>Type HL</b>     | Cable entry: 2 x 1/2" NPT.  |
| <b>Type HM/HBM</b> | Cable entry: 2 x M16 and 1 x M20.   |
| <b>Type HN</b>     | Cable entry: 1 x M20.   |
| <b>Type HO/HBO</b> | Cable entry: 2 x M20.   |
| <b>Type HP</b>     | Cable entry: 6 x M12.   |
| <b>Type HT</b>     | Cable entry: 1 x 1/2" NPT.  |
| <b>Type HU/HBU</b> | Cable entry: 3 x 1/2" NPT.  |
| <b>Type HV</b>     | Cable entry: 4 x M20.   |
| <b>Type HZ</b>     | Cable entry: no holes.  |

## Stainless steel 316L wall / field mount enclosures

|                   |  |
|-------------------|--|
| <b>General</b>    | Die-cast stainless steel 316L wall / field mount enclosure with flat bottom. IP67 / NEMA Type4X. |
| <b>Dimensions</b> | 130 x 120 x 75mm (5.12" x 4.72" x 2.95") - W x H x D.  |
| <b>Weight</b>     | 2700 gr.   |
| <b>Type HSM</b>   | Cable entry: 2 x M16 + 1 x M20.  |
| <b>Type HSO</b>   | Cable entry: 2 x M20.  |
| <b>Type HSU</b>   | Cable entry: 3 x 1/2"NPT.  |

## Signal inputs - Flowmeter

|                        |   |
|------------------------|---|
| <b>Type P</b>          | Coil / sine wave (HI: 20mVpp or LO: 90mVpp - sensitivity selectable), NPN/PNP, open collector, reed switch, Namur, active pulse signals 8 - 12 and 24V DC.                              |
| <b>Frequency</b>       | Minimum 0Hz - maximum 6kHz for total and flow rate. Maximum frequency depends on signal type and internal low-pass filter. E.g. reed switch with low-pass filter: max. frequency 120Hz. |
| <b>K-Factor</b>        | 0.000010 - 199,999 with variable decimal position.  |
| <b>Low-pass filter</b> | Available for all pulse signals.  |
| <b>Option ZF</b>       | coil sensitivity 10mVpp.  |
| <b>Option ZG</b>       | coil sensitivity 5mVpp.   |
| <b>Type A</b>          | (0)4 - 20mA. Analog input signal can be scaled to any desired range within 0 - 20mA.  |
| <b>Type U</b>          | 0 - 10V DC. Analog input signal can be scaled to any desired range within 0 - 10V DC.   |
| <b>Accuracy</b>        | Resolution: 16 bit. Error < 0.01mA / ± 0.05% FS. Low level cut-off programmable.  |
| <b>Span</b>            | 0.000010 - 199,999 with variable decimal position.  |
| <b>Update time</b>     | Four times per second.  |
| <b>Voltage drop</b>    | Type A: max. 1V DC @ 20mA.  |
| <b>Voltage drop</b>    | Type A - PL (loop powered): max. 2.6V DC @ 20mA.  |
| <b>Relationship</b>    | Linear and square root calculation.   |
| <b>Note A</b>          | For signal type A: external power to sensor is required; e.g. type PD.  |

## Operator functions

|                       |   |
|-----------------------|---|
| <b>Displayed info</b> | <ul style="list-style-type: none"> <li>• Flow rate.</li> <li>• Measuring and time units.</li> </ul> |
|-----------------------|---|

## Flow rate

|                   |   |
|-------------------|---|
| <b>Digits</b>     | 5 1/2 digits.   |
| <b>Units</b>      | mL, L, m³, Gallons, kg, Ton, lb, bl, cf, REV, ft³, scf, Nm³, NI, igal - no units. |
| <b>Decimals</b>   | 0 - 1 - 2 - 3 - 4 or 5.   |
| <b>Time units</b> | /sec - /min - /hr - /day.   |

## Mounting accessories

|              |  |
|--------------|--|
| <b>ACF02</b> | Stainless steel wall mounting kit.   |
| <b>ACF05</b> | Stainless steel pipe mounting kit (worm gear clamps not included).                           |
| <b>ACF06</b> | Two stainless steel worm gear clamps Ø 44 - 56mm.  |
| <b>ACF07</b> | Two stainless steel worm gear clamps Ø 58 - 75mm.  |
| <b>ACF08</b> | Two stainless steel worm gear clamps Ø 77 - 95mm.  |
| <b>ACF09</b> | Two stainless steel worm gear clamps Ø 106 - 138mm.  |
| <b>ACF11</b> | Swivel with 25° movement from center axis for direct flowmeter mounting: 1" NPT to 1/2" NPT. |

| Description |             |   |
|-------------|-------------|---|
| Model       | <b>F010</b> | <b>Flow rate indicator with very large digits.</b>  |
| Input       | A           | (0)4 - 20mA input.  |
|             | <b>P</b>    | <b>Pulse input, e.g., coil, npn, pnp, namur, reed-switch.</b>                             |
|             | U           | 0 - 10V DC input.   |
| Enclosures  | HB          | Aluminum panel mount enclosure.   |
|             | <b>HC</b>   | <b>GRP panel mount enclosure.</b>   |
|             | HSB         | Stainless steel 316L panel mount enclosure.   |
|             | HD          | GRP field mount - Cable entry: no holes.  |
|             | HE          | GRP field mount - Cable entry: 2 x Ø 16mm & 1 x Ø 20mm.                                   |
|             | HF          | GRP field mount - Cable entry: 1 x Ø 22mm ( $\frac{7}{8}$ ").                             |
|             | HG          | GRP field mount - Cable entry: 2 x Ø 20mm.  |
|             | HH          | GRP field mount - Cable entry: 6 x Ø 12mm.  |
|             | HJ          | GRP field mount - Cable entry: 3 x Ø 22mm ( $\frac{7}{8}$ ").                             |
|             | HK          | GRP field mount, flat bottom - Cable entry: no holes.                                     |
|             | HA          | Aluminum field mount - Cable entry: 2 x PG9 + 1 x M20.                                    |
|             | HL          | Aluminum field mount - Cable entry: 2 x $\frac{1}{2}$ "NPT.                               |
|             | HM          | Aluminum field mount - Cable entry: 2 x M16 + 1 x M20.                                    |
|             | HN          | Aluminum field mount - Cable entry: 1 x M20.  |
|             | HO          | Aluminum field mount - Cable entry: 2 x M20.  |
|             | HP          | Aluminum field mount - Cable entry: 6 x M12.  |
|             | HT          | Aluminum field mount - Cable entry: 1 x $\frac{1}{2}$ "NPT.                               |
|             | HU          | Aluminum field mount - Cable entry: 3 x $\frac{1}{2}$ "NPT.                               |
|             | HV          | Aluminum field mount - Cable entry: 4 x M20.  |
|             | HZ          | Aluminum field mount - Cable entry: no holes.   |
|             | HBM         | Extended Alu. field/meter mount - Cable entry: 2 x M16 + 1 x M20.                         |
|             | HBO         | Extended Alu. field/meter mount - Cable entry: 2 x M20.                                   |
|             | HBU         | Extended Alu. field/meter mount - Cable entry: 3 x $\frac{1}{2}$ "NPT.                    |
|             | HSM         | Stainless steel 316L field mount - Cable entry: 2 x M16 + 1 x M20.                        |
|             | HSO         | Stainless steel 316L field mount - Cable entry: 2 x M20.                                  |
|             | HSU         | Stainless steel 316L field mount - Cable entry: 3 x $\frac{1}{2}$ "NPT.                   |
| Power       | PD          | 16 - 30 V DC + sensor supply.   |
|             | PF          | 24V AC/DC + sensor supply - requires XX.  |
|             | PL          | Input loop powered from sensor signal type "A" .  |
|             | PM          | 115 - 230V AC + sensor supply - Safe area only .  |
|             | <b>PX</b>   | <b>Basic power supply 8 - 30V DC.</b>   |
| Battery     | PB          | Additional lithium battery powered (opt.) - requires XX and PD, PL or PX.                 |
|             | PC          | Additional lithium battery powered (opt.) - Intrins. safe - requires XI and PD, PL or PX. |
| Hazardous   | XI          | Intrinsically safe, according ATEX, IECEx, CSA c-us and FM.                               |
|             | XF          | Ex d enclosure - 3 keys according ATEX and IECEx.   |
|             | <b>XX</b>   | <b>Safe area only, according CE / UKCA.</b>   |
| Options     | ZB          | Backlight.  |
|             | ZF          | Coil input 10mVpp.  |
|             | ZG          | Coil input 5mVpp.   |
|             | <b>ZX</b>   | <b>No options.</b>  |

The **bold** marked text contains the standard configuration: F010-P-HC-PX-XX-ZX.