

Your success counts

## Flow rate Indicator / Totalizer

with linearization and pulse signal output



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

- Eight point linearization of the flowcurve - with interpolation.
- Displays instantaneous flow rate, total and accumulated total.
- Large 17mm (0.67") digits for flow rate or total.
- Easy configuration with clear alphanumerical display.
- 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.
- Scaled pulse output according to linearized accumulated total.
- Power requirements: Battery powered or 8 - 30V DC, 24V AC/DC and 115 - 230V AC.
- Sensor supply: 3.2 / 8.2 / 12 / 24V DC.
- Auto backup of settings and running totals.
- Explosion/flame proof available, according ATEX/IECEx.

## Introduction

The F016 is a local indicator with linearization to display the actual flow rate, total and non-resettable accumulated total. In addition to the average K-Factor or Span, eight linearization points can be entered with their frequencies or values. The unit will interpolate between these points greatly enhancing accuracy in any flowrange. Even for very low frequency applications is catered. This linearization affects all displayed information as well as the pulse output. A wide selection of options further enhances the capabilities of this model, including Intrinsic Safety.

## 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.

## Display

The display has large 17mm (0.67") and 8mm (0.31") digits which can be set to show flow rate and totals. On-screen engineering units are easily configured from a comprehensive menu. The accumulated total can register up to 11 digits and is backed-up in EEPROM memory every minute, just as the running total. A smart display update function achieves 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. 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.



## 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.

## Pulse output

The scaleable pulse output reflects the count on the accumulated display. The pulse width is user defined: from 0.001 second up to 10 seconds. The maximum output frequency is 500Hz. The output signal can be a passive NPN or an active PNP transistor, or an isolated electro-mechanical relay.

## Power requirements

Several power supply options are available to power the F016 and sensor. Most popular is our battery powered version with a long life lithium battery which will last up to five years. A real sensor supply is offered with the 24V AC/DC or 115 - 230V AC power requirement option.



All info at a glance



Easy to install



Easy to program



Know one know them all!



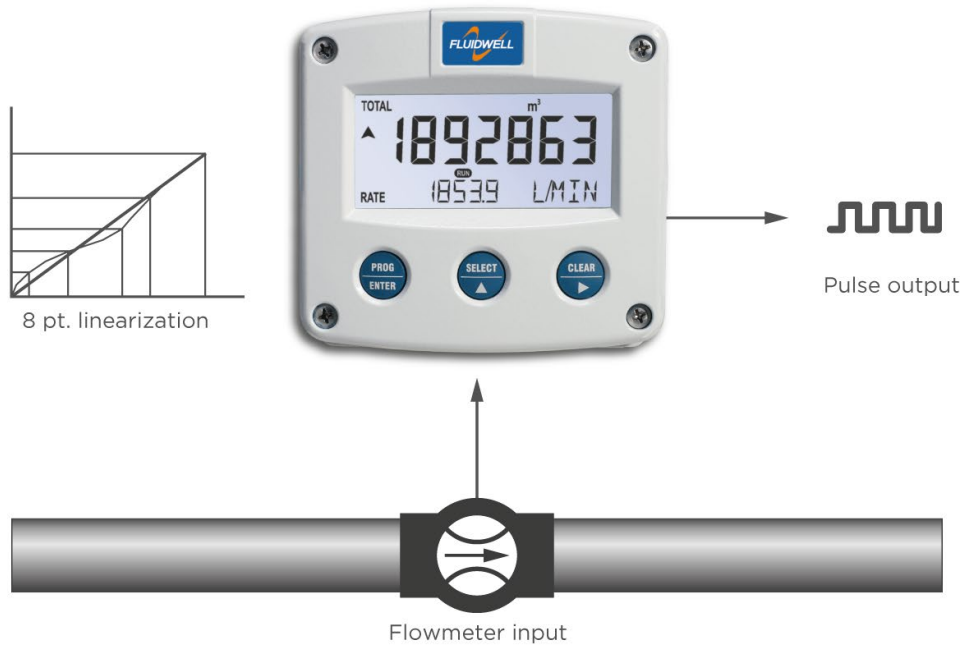
Reliable



User-friendly

### Overview application F016

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). Liquid flow measurement with mechanical flowmeters where a precise calculation over the full measurement range is required. Also retransmission of the totalizer function is desired. Alternative more advanced models: F112 - F118 or the D-Series DIN panel mount flow rate indicators.



### Signal input

The F016 accepts most pulse 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.

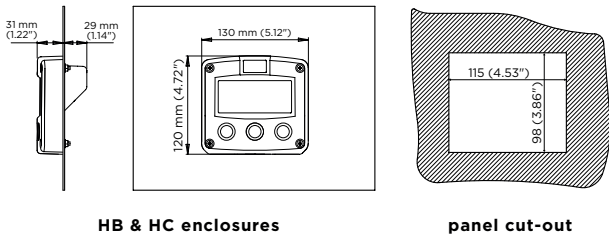
| Type of signal    | Resistance     | Low Pass filter (LP) | Max. frequency          | Max. frequency Low Pass filter (LP) | Min. amplitude p-p | Remark                      |
|-------------------|----------------|----------------------|-------------------------|-------------------------------------|--------------------|-----------------------------|
| 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     |

## Enclosures

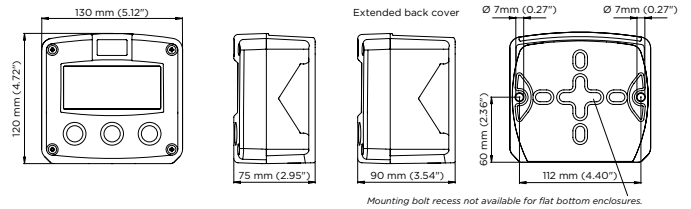
Various types of enclosures can be selected, all ATEX, IECEx, FM and CSA approved. The F016 is supplied in an GRP panel mount enclosure as standard, which can be converted to an IP67 / NEMA 4X GRP field mount enclosure by the addition of a back case. Most popular is our robust aluminum field mount enclosure which is also available with an extended backcover with undrilled preparation for direct meter mounting at the back side. It is so rugged, even a truck can stand on it! For the most challenging environments we have a durable high grade Stainless steel 316L enclosure. All enclosures have a IP67 / NEMA Type4X rating and EU or U.S. cable gland entry threads available.

## Dimensions enclosures

### Aluminum & GRP panel mount enclosure

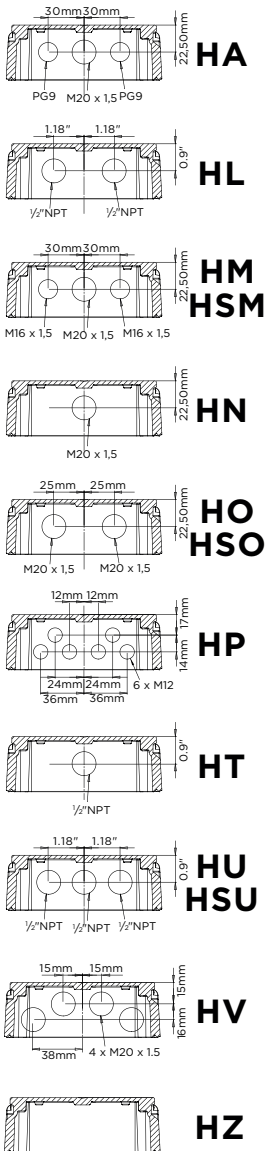


### Aluminum, GRP & Stainless steel 316L field mount enclosures

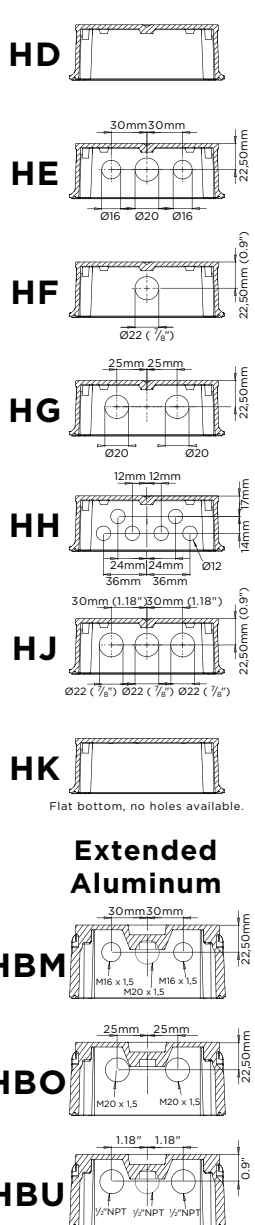


### Cable entries

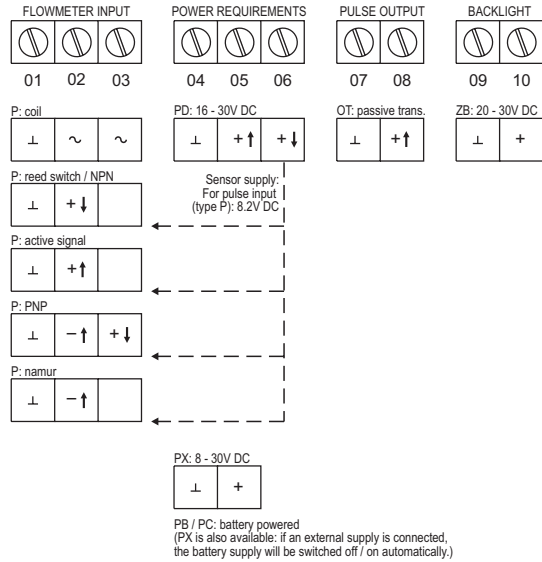
#### Aluminum / Stainless Steel



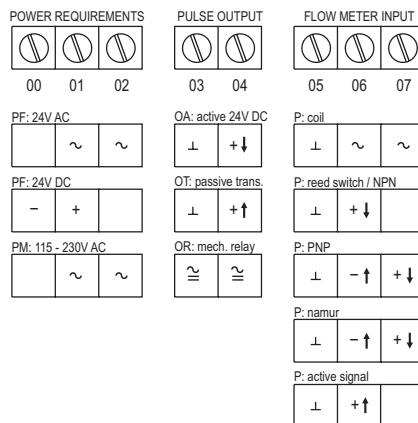
#### GRP



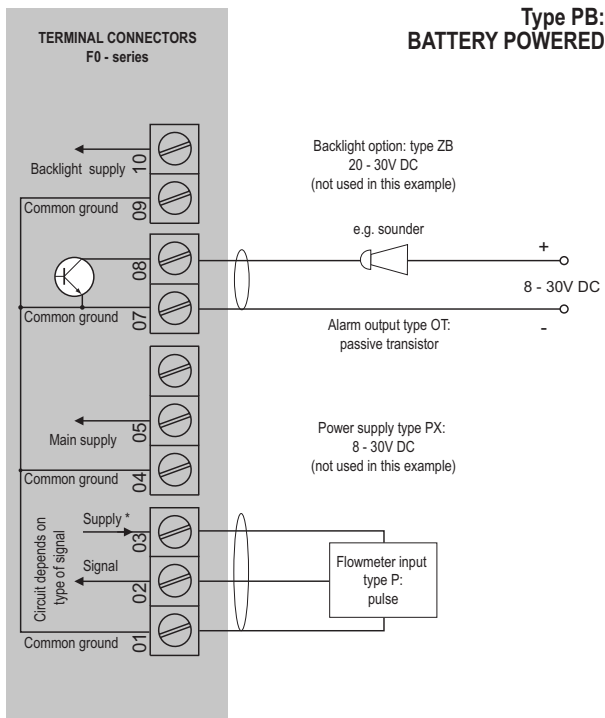
## Terminal connections PB/PC - PD - PX



## Terminal connections PF - PM

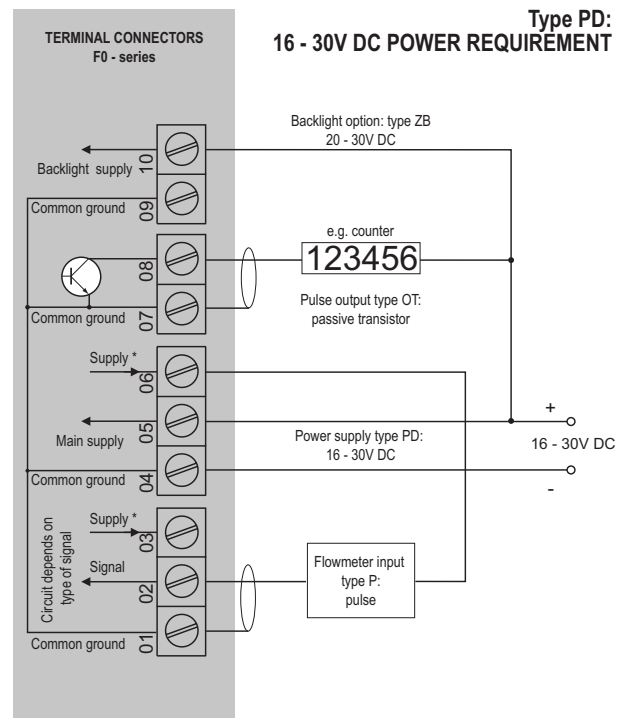


Configuration example F016-P-OT-PB-(PX)-XX-(ZB)



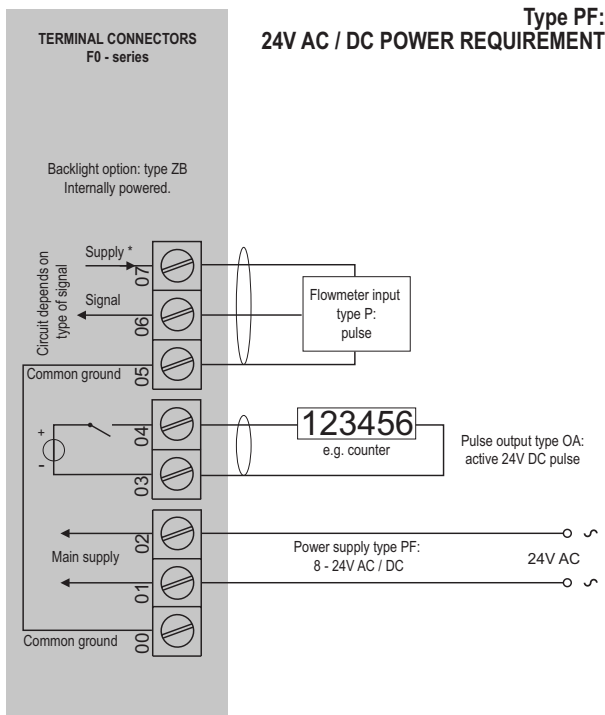
\* Sensor supply voltage for pulse flowmeter type P:  
Terminal 3: 1.2 / 3.2V DC.

Configuration example F016-P-OT-PD-XX-ZB



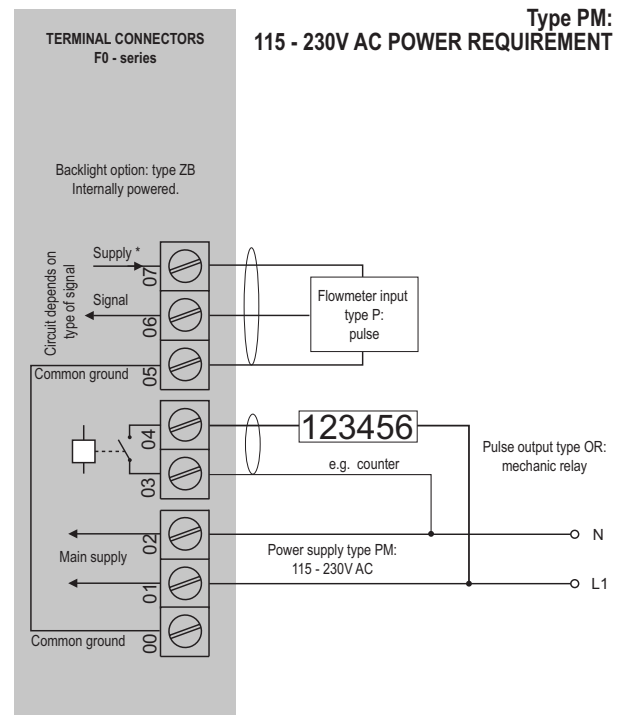
\* Sensor supply voltage for pulse flowmeter type P:  
Terminal 3: 1.2 / 3.2V DC. Terminal 6 with type PD: 8.2V DC.

Configuration example F016-P-OA-PF-XX-ZB



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

Configuration example F016-P-OR-PM-XX-ZB



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

## Hazardous area applications

The F016-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.**

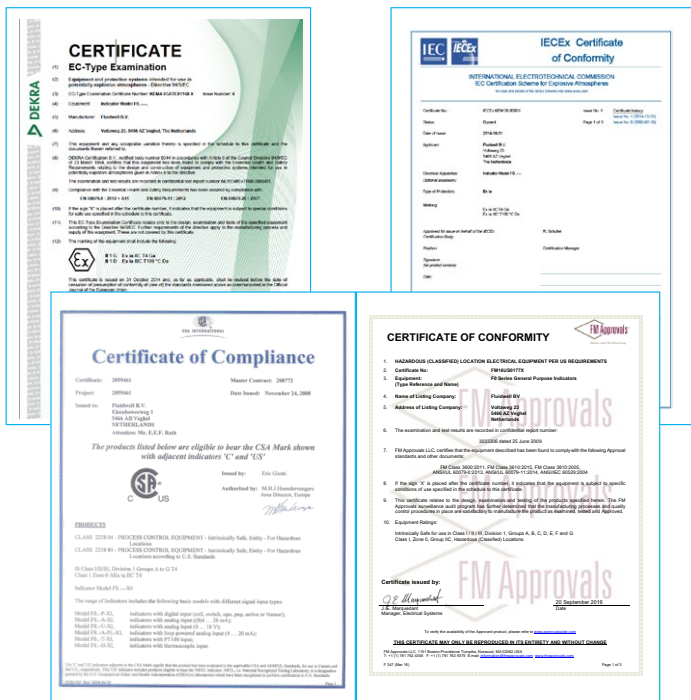
**Class I, Zone 0, AEx ia IIC T4**

It is allowed to connect up to three I.S. power supplies to power the unit, sensor and backlight. Consult the certificate for the maximum input and output values of the circuits. The F016-PD-XI offers a 8.2V DC sensor supply to power e.g. a Namur sensor or the input voltage to power an analog sensor. An ATEX/IECEx approved flame proof Ex d enclosure is available as well. Please contact your supplier for further details.

Note: Extended aluminum enclosures are not available with CSA c-us and FM approvals.

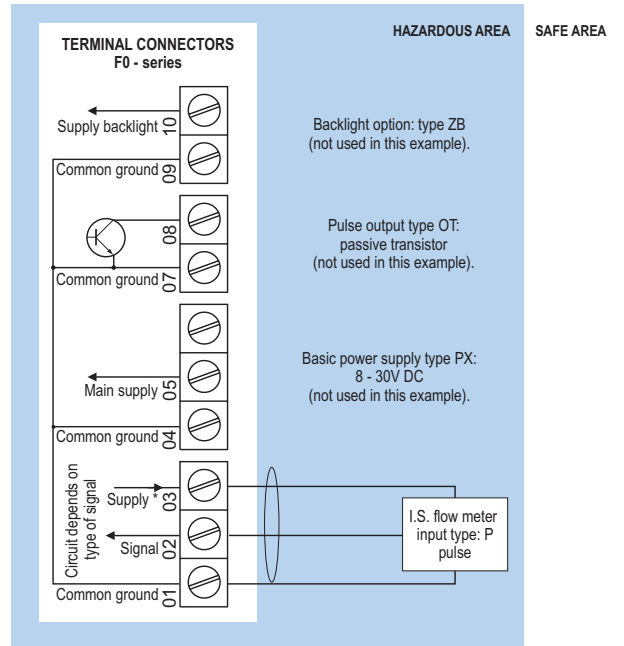
### Certificate of conformity KEMA 05ATEX1168 X • IECEx KEM 08.0006X

- CSA.08.2059461



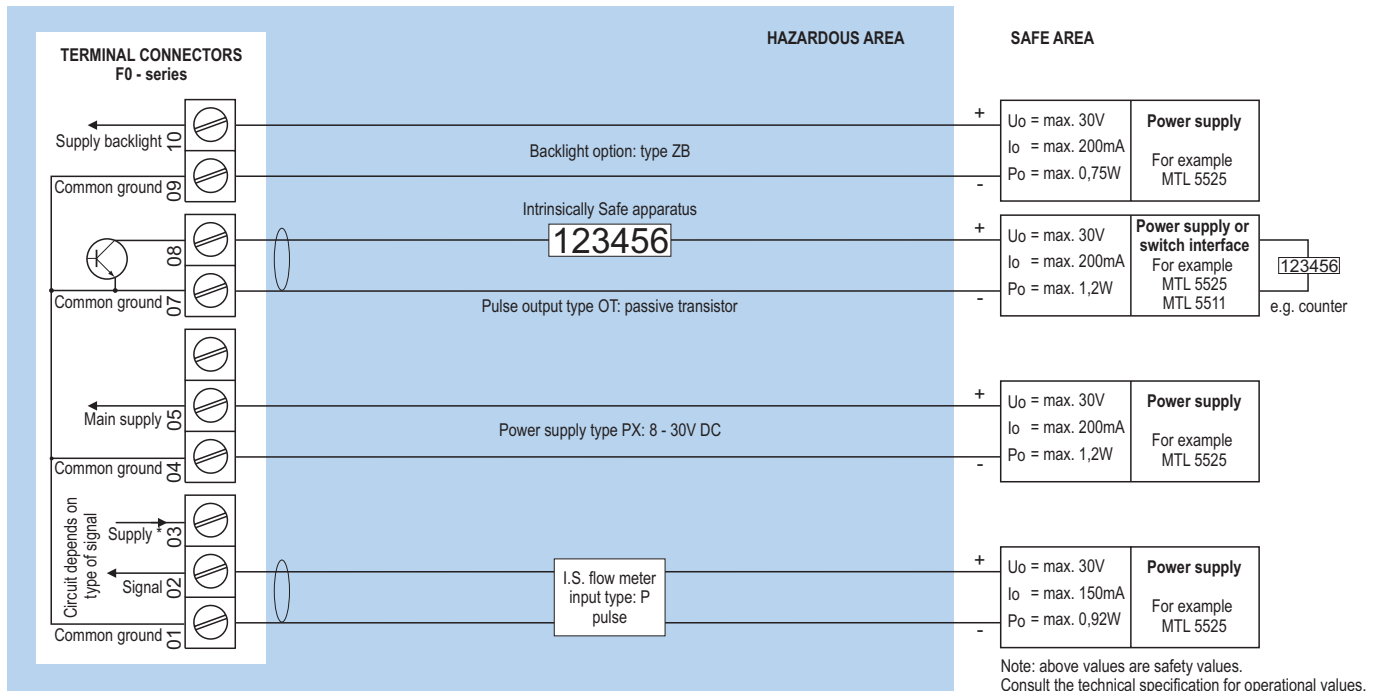
### Configuration example IIA - IIIB and IIC

### F016-P-(OT)-PC-(PX)-XI-(ZB) - Battery powered unit



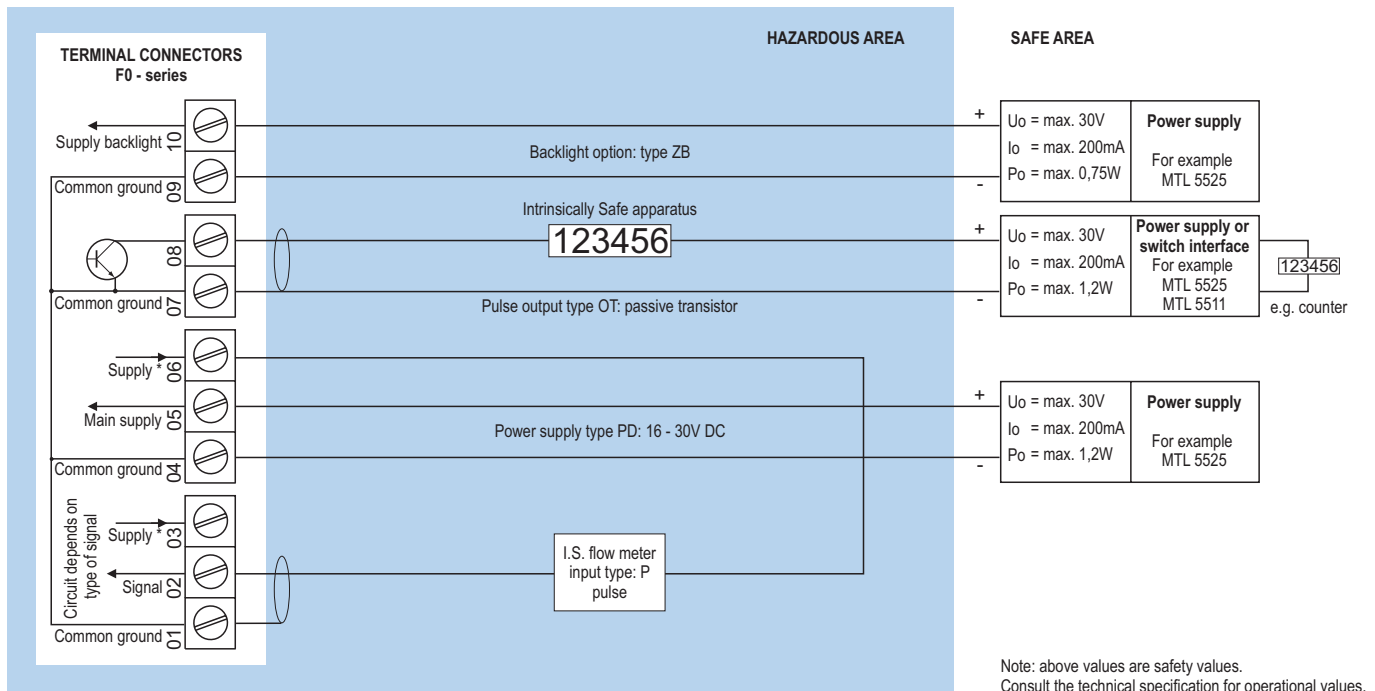
\* Sensor supply voltage for pulse flow meter type P : Terminal 3: 1.2 / 3.2V DC. Please note: type PX may be used in combination with the battery (type PC). PX will power the unit; the battery will be disabled automatically till power is disconnected.

## Configuration example IIA - IIB and IIC - F016-P-OT-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 - F016-P-OT-PD-XI-ZB - Power requirement 16 - 30V DC



\* Sensor supply voltage for pulse type P: Terminal 3: 1.2V / 3.2V DC. Terminal 6: 8.2V DC.  
Please note: type PD may be used in combination with the battery (type PC). PD will power the unit; the battery will be disabled automatically till power is disconnected.

## 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>       | Seven 17mm (0.67") and eleven 8mm (0.31") digits. Various symbols and measuring units.   |
| <b>Refresh rate</b> | User definable: fast, 1sec, 3sec, 15sec, 30sec, off.   |
| <b>Option ZB</b>    | Transflective LCD with white LED-backlight. 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 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 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 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, active output type OA 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 PF / PM</b>  | 1.2 / 3.2 / 8.2 / 12 / 24V DC - max. 400mA @ 24V DC.  |

## Terminal connections

|             |  |
|-------------|--|
| <b>Type</b> | Removable plug-in terminal strip.<br>Wire max. 1.5mm <sup>2</sup> and 2.5mm <sup>2</sup> |
|-------------|--|

## 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 |
| <b>Note</b>     | Extended aluminum enclosures are not available with CSAC-us and FM approvals.         |

## 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.  |
| <b>Note</b>        | Extended aluminum enclosures are not available with CSAc-us and FM approvals.   |
| <b>CSA c-us/FM</b> |   |

## 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 - 9,999,999 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.   |

## Signal output - Digital output

|                  |  |
|------------------|--|
| <b>Function</b>  | Pulse output - transmitting accumulated total.   |
| <b>Frequency</b> | Max. 500Hz. Pulse width user definable between 1msec up to 10 seconds.                                       |
| <b>Type OA</b>   | One active 24V DC transistor output (PNP); load max. 400mA (requires PF or PM).                              |
| <b>Type OR</b>   | One electro-mechanical relay output - isolated; max. switch power 230V AC (N.O.) - 0.5A (requires PF or PM). |
| <b>Type OT</b>   | One passive transistor output (NPN) - not isolated. Max. 50V DC - 300mA per output.                          |

## Operator functions

|                       |  |
|-----------------------|--|
| <b>Displayed info</b> | <ul style="list-style-type: none"> <li>• Linearized flow rate and / or total.</li> <li>• Linearized total and accumulated total.</li> <li>• Total can be reset to zero by pressing the CLEAR-key twice.</li> </ul> |
|-----------------------|--|

## Total

|                 |   |
|-----------------|---|
| <b>Digits</b>   | 7 digits.   |
| <b>Units</b>    | L, m <sup>3</sup> , GAL, USGAL, kg, lb, bbl, no unit. |
| <b>Decimals</b> | 0 - 1 - 2 or 3.                                       |
| <b>Note</b>     | Total can be reset to zero.                           |

## Accumulated total

|                         |                                   |
|-------------------------|-----------------------------------|
| <b>Digits</b>           | 11 digits.                        |
| <b>Units / Decimals</b> | According to selection for total. |
| <b>Note</b>             | Can not be reset to zero.         |

## Flow rate

|                   |  |
|-------------------|--|
| <b>Digits</b>     | 7 digits.  |
| <b>Units</b>      | mL, L, m <sup>3</sup> , Gallons, kg, Ton, lb, bl, cf, RND, ft <sup>3</sup> , scf, Nm <sup>3</sup> , NI, ical - no units. |
| <b>Decimals</b>   | 0 - 1 - 2 or 3.  |
| <b>Time units</b> | /sec - /min - /hr - /day.  |

|                |  | Description   |
|----------------|--|---|
| Model          | <b>F016</b>  | <b>Flow rate indicator / totalizer with linearization and pulse signal output.</b>                  |
| Input          | <b>P</b>   | <b>Pulse input, e.g., coil, npn, pnp, namur.</b>  |
| 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 (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 (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 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 1/2"NPT.  |
|                | HU   | Aluminum field mount - Cable entry: 3 x 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 (not with CSAc-us / FM approvals). |
|                | HBO  | Extended Alu. field/meter mount - Cable entry: 2 x M20 (not with CSAc-us / FM approvals).           |
|                | HBU  | Extended Alu. field/meter mount - Cable entry: 3 x 1/2"NPT (not with CSAc-us / FM approvals).       |
|                | 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 1/2"NPT. |   |
| Digital output | OA   | One active transistor output - requires XX and PF or PM.  |
|                | OR   | One mechanical relay output - requires XX and PF or PM.   |
|                | <b>OT</b>  | <b>One passive transistor output.</b>   |
| Power          | PD   | 16 - 30 V DC + sensor supply.   |
|                | PF   | 24V AC/DC + sensor supply - requires XX.  |
|                | PM   | 115 - 230V AC + sensor supply - requires XX.  |
|                | <b>PX</b>  | <b>Basic power supply 8 - 30V DC.</b>   |
| Battery        | PB   | Additional lithium battery powered (opt.) - requires XX and PD or PX.                               |
|                | PC   | Additional lithium battery powered (opt.) - Intrins. safe - requires XI and PD 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: F016-P-HC-OT-PX-XX-ZX.