

F112 LCD Totaliser & Flow Rate Indicator with Pulse Output or 4-20mA & 14 Point Linearization



Features

- Displays instantaneous flowrate, total and accumulated total.
- 15 point linearisation of the flowcurve - with interpolation.
- Large 17mm (0.67") digit selection for flowrate or total.
- Selectable on-screen engineering units; volumetric or mass.
- Auto backup of settings and running totals.
- Operational temperature -30°C up to +80°C (-22°F up to 178°F).
- Very compact design for panel mount, wall mount or field mount applications.
- Rugged aluminum field mount enclosure IP67/NEMA4X.
- Intrinsically Safe
⊕ II 1 GD EEx ia IIB/IIC T4 T100°C.
- Explosion/flame proof ⊕ II 2 GD EEx d IIB T5.
- Analog and pulse signal outputs.
- Full Modbus communication RS232/485/TTL.
- Loop or battery powered, 8 - 24V AC/DC or 115 - 230V AC power supply.
- Sensor supply 3.2 - 8.2 - 12 - 24V DC.

Signal output

- (0)4 - 20mA / 0 - 10V DC according to linearised flowrate.
- Scaled pulse output according to linearised accumulated total.

Signal input

Flow

- Reed-switch.
- NAMUR.
- NPN/PNP pulse.
- Sine wave (coil).
- Active pulse signals.
- (0)4 - 20mA.
- 0 - 10V DC.

Applications

- Liquid flow measurement with mechanic flowmeters where a precise calculation over the full measurement range is required. Also re-transmission of the flowrate and/or totaliser functions or serial communication is desired. Alternative basic model: F016 or more advanced F118.

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General information

Introduction

The F112 provide very precise linearisation of the flowmeters signal. In addition to the average K-Factor or Span, fifteen linearisation points can be entered with there frequencies or values. The unit will interpolate between these points greatly enhancing accuracy in any flowrange. Even for very low frequency applications is catered for. This linearisation effects all displayed information as well as the signal outputs. A wide selection of options further enhance this models capabilities, including Intrinsic Safety and full Modbus communication.

Display

The display has large 17mm (0.67") and 8mm (0.31") digits which can be set to show flowrate and totals. On-screen engineering units are easily configured from a comprehensive selection. The linearised accumulated total can register up to 11 digits and is backed-up in EEPROM memory every minute.

Configuration

All configuration settings are accessed via a simple operator menu which can be pass-code protected. Each setting is clearly indicated with an alphanumerical description, therefore avoiding 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.

Analog output signal

The linearised flowrate is re-transmitted with the (0)4 - 20mA or 0 - 10V DC output signal. The output signal is updated ten times per second with a filter function being available to smoothen out the signal if desired. The output value is user defined in relation to the flowrate, e.g. 4mA equals to 15L/Hr and 20mA equals to 2000L/Hr. The output signal can be passive, active or isolated where the passive output type will loop power the F112 as well.

Pulse output

The scaleable pulse output, reflects the count on the accumulated display. The pulse length is user defined from 0.008 second up to 2 seconds.

The maximum output frequency is 64Hz.

The output signal can be a passive NPN, active PNP or an isolated electro-mechanical relay.

Signal input

The F112 will accept most pulse and analog input signals for 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.

Communication

All process data and settings can be read and modified manually or through the Modbus communication link (RS232 / RS485). Full Modbus functionality remains available for the Intrinsically Safe version (TTL).

Hazardous areas

For hazardous area applications, this model has been ATEX certified Intrinsically Safe $\text{Ex II 1 GD EEx ia IIB / IIC T4 T100}^\circ\text{C}$ with an allowed operational temperature of -30°C to $+70^\circ\text{C}$ (-22°F to $+158^\circ\text{F}$). A flame proof enclosure is also available with the rating $\text{Ex II 2 GD EEx d IIB T5}$.

Enclosures

Various types of enclosures can be selected, all ATEX approved. As standard the F112 is supplied in an ABS panel mount enclosure, which can be converted to an IP67 / NEMA 4X ABS field mount enclosure by the addition of a back case. Most popular is our rugged aluminum field mount enclosure with IP67 / NEMA 4X rating. Both European or U.S. cable gland entry threads are available.

Overview application F112

