

ILR 700 Series

Industrial line registers

Type ILR 700, 701, 710, 720, 730, 740, 750



Features

- Large six digit LCD display
- Display in liters, pints, quarts or gallons, freely programmable
- 11 digits, non-resettable lifetime totalizer and 6 digits, resettable totalizer
- ILR series: -20 °C to +80 °C (-4 °F to +140 °F)
- Replaceable long life battery
- Calibration factor saved in non-volatile memory
- 9 point linearization (ILR 750, ILR 701). Test medium is water – please contact your sales representative for calibrations with other liquids
- Scalable pulse output (ILR 710, ILR 750)
- 4-20 mA output (ILR 730, ILR 750)
- Protection class IP65

Description

The electronic register module contains a microprocessor board powered by a lithium battery. It can be programmed to batch in liters, pints, quarts, or gallons and will totalize in liters or gallons. A calibration factor and unit of measure are programmed during factory test. Unlike mechanical registers, these units can be electronically recalibrated in the field when necessary. A 6-digit LC display, accurate to three decimal places, shows the exact amount of fluid that has passed through the meter. The entire register module is protected from normal wear and tear by a rugged, shock resistant housing.

Operation

Industrial oval gear meter has magnets on the gears that cause the reed switches to send pulses to the register as they rotate.

The register is in a sleep mode until it detects these pulses caused by fluid going through the meter. The micro-processor in the register then measures the flow and will

display either the batch totalization or the flow rate of the fluid going through the meter on the 6-digit display.

The registers batch totalizer is a 6-digit display with three places of resolution after the decimal point. If the total dispensed exceeds 999.999 then the display will shift and only 2 digits will be displayed after the decimal point, 9999.99 and will continue to shift to the maximum value of 999999. After reaching 999999 the batch totalizer will rollover to 0.000. The batch totalizer is reset to zero when the reset button is depressed.

The register also has a resettable totalizer that requires that the total and reset button both be depressed to reset (hold the "Total" button, then press the "Reset" button to reset this totalizer while resettable totalize is displayed). This would be used for multiple batch totalization purposes.

The register's life time totalizer is 11 digits and will either be in gallons or liters based on the unit of measure selected. Pushing and holding the total button while the life time totalizer is displayed will display the full 11-digit life time totalizer value.

Register model	Register features
ILR 700 standard register	<ul style="list-style-type: none"> • Flow rate or totalizer display selectable in the programming menu • Selectable unit of measure
ILR 710 single pulse output	<ul style="list-style-type: none"> • Scalable pulse output • Ability to set pulse output length
ILR 720 dual pulse output	<ul style="list-style-type: none"> • Quadrature pulse output – can be used externally to detect direction of flow • External reset input
ILR 730 analog output	<ul style="list-style-type: none"> • Analog 4-20mA output representing the flow rate of the meter • Minimum and maximum values can be set for analog output
ILR 701	<ul style="list-style-type: none"> • 9 point linearization
ILR 750 pulse output + 4-20mA output	<ul style="list-style-type: none"> • Scalable pulse output • Ability to set pulse output length • Analog 4-20mA output representing the flow rate of the meter • Minimum and maximum values can be set for analog output • 9 point linearization
Note: The ILR 710, 720 and 730 all have the standard features of the ILR 700.	
ILR 740 transmitter	Transmitter (reed switch)

F Series

F-series (F012, F018, F110, F131)



Input features

With the F-series the following signals types can be processed

- Flow-measurement: Turbine sine wave (coil) pick-ups, reed switches, hall-effect sensors and other active or passive NPN / PNP pulse signals, NAMUR sensors and 2 or 3 wire (0)4 - 20mA or 0 - 10V DC.
- Temperature measurement: 2, 3 or 4 wire PT100 (PRTD) elements, thermocouple as well as 2 or 3 wire (0)4 - 20mA or 0 - 10V DC signals.

Linearization of the input signal, data filter functions and square root calculation are all available to process the input signals.

Output features

Related to the functionality of the selected model, the following output features are available:

- Analog output proportional to the flow rate. The active, passive or isolated (0)4 - 20mA or 0 - 10V DC analog output can also be used to control actuators with the PI(D) controllers.
- Transistor or relay outputs for high and low alarms, scaled pulse output, flow-direction as well as the control of valves / relays in batch and level control applications.
- The RS232, RS485 or TTL interface makes it possible to communicate remotely, even with the battery-powered unit.

All software parameters can be monitored and modified in addition to the usual transfer of data using the ModBus® protocol.

Models

F012 Display with external power supply or battery powered

F018 Alarm or pulse output, analog output with HART communication

F110 Pulse output, analog output, optional RS232/RS485

F131 Batch controller with pulse output, analog output, 2 batching outputs, optional RS232/RS485

Options for hazardous area installation

The F1-series can be supplied with certified intrinsically safe To ATEX and IECEx.

The basic F0-series have got the following certifications with an ambient temperature of -40 °C to +70 °C (-40 °F to +158 °F).

- The ATEX markings for gas and dust applications are:
 - II 1 G Ex ia IIC T4
 - II 1 D Ex iaD 20 IP 65/67 T 100 °C.

ER-500

Flow monitor ER-500



Input

Frequency range	1 to 3500 Hz
Frequency accuracy	± 0,1 %
Over voltage protection	28V DC

Outputs

Analog:	4-20mA
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Totalizing pulse

Opto-isolated (ISO) open collector transistor, non-isolated open drain FET.

Status alarms

Open collector transistor, adjustable flow rate with programmable dead band and phase.

ModBus®

ModBus® RTU over RS485, 127 addressable units / 2-wire network, 9600 baud, long integer and single precision IEEE754 formats; retrieve: flow rate, job totalizer, grand totalizer, alarm status and battery level; write: reset job totalizer, reset grand totalizer

Protection class

NEMA 4X/IP 66

More information you get in the data sheet "Flow monitor ER-500".

Features

- Compact size.
- High accuracy and repeatability (0,05 %)
- Flexibility of installation options.
- Robust alarm parameters provide faster warning when something changes in the process or pipeline.
- Advanced connectivity options allow you to connect meters to your network for remote monitoring and process automation capabilities.
- Flexible power options include battery and 4-20mA loop power, providing a number of benefits including: The ability to install in remote location and be up and running immediately.
- Maintains readings and settings in the event of a power loss, and prolong the life of the batteries for up to 6 years.
- An updated display and enhanced totalization options provide more flow information at your fingertips, including display of rate and total at the same time and standard, batch and grand totals.