



Series Introduction

The 100 series of secondary instruments have been designed as a rugged and versatile range offering the user anything from simple flowrate indication to batching, ratio metering and controlling applications. The indicator can be head, field or panel mounted and the standard aluminium case design is to IP67. A large LCD dual display shows clear text and measuring units. The units are battery powered as standard and the easily replaced lithium battery has an average life of seven years. A scaleable pulse and analogue output is available as standard. The units are very easy to program and the whole range have been designed with the same clear logical menu structure.

- 110-P Flowrate/Totaliser. Scaleable pulse output + 4-20 mA output
- 111 -P Dual input flowrate/Totaliser
- 112-P Flowrate/Totaliser with linearisation. Scaleable pulse + 4-20 mA output
- 113-P Flowrate Totaliser High/Low alarms or pulse + 4-20 mA output
- 114-P Ratio indicator high/Low alarms + 4-20 mA output
- 115-P Flowrate/Totaliser with quadrature input scaleable pulse + 4-20 mA output
- 116-P Differential/sum indicator scaleable pulse + 4-20 mA output
- 120-P Flowrate controller PI (D) with 4-20 mA + pulse output
- 124-P Ratio controller PI (D) with 4-20 mA + high/low alarm output
- 126-P Flow computer with temperature and pressure compensation
- 130-P Batch controller two transistor outputs 2 stage or pulse
- 131-P Batch controller with flowrate indication 4-20 mA + 2-stage or pulse output
- 133-P Dispenser/batcher mimic with two transistor outputs

Note: STANDARD configuration for most 100-Series models: Internal Battery & 8-28V DC powered + 4-20mA Output with die-cast, powder coated aluminium field enclosure -IP67 (further options below)

OPTIONS 100-SERIES

Option - communication:

- CB 2-wire RS232 Modbus protocol
- CH 2-wire RS485 Modbus protocol
- CI 4-wire RS485 Modbus protocol

Option - case design:

- HB aluminium panel-mount housing IP65 / Nema 4
- HD ABS wall-mount housing IP65 / Nema 4

Option - inputs:

- IB Remote input (reset total)
- IC Remote control of the three function keys

Option - power supply

- PA see PB
- PB Lithium battery (long life)
- PF 12-24V AC/DC + DC sensor supply + electro-mechanical relays
- PL input loop powered 4-20mA
- PM 80-240V AC + DC sensor supply + electro-mechanical relays
- PN 80-240V AC + sensor supply + relays + LED back-light

Option - hazardous area:

- XD EExd IIB T5 - Explosion proof housing with one function key - 1x M20 cable entries
- XF EExd IIB T5 - Explosion proof housing + all three function keys - 3x M20 cable entries
- ZV PRTD range -200 / +800 °C





Series Introduction



The F series range of secondary instruments has been developed with primary functionality and low cost in mind. The range comes with an ABS case to IP65 and can be head, field or panel mounted. It features the same user interface as the 100 series described on page 13 with a large LCD display showing clear text and measuring unit. In order to keep the F series competitive the base price includes a panel mounted case and is suitable for DC low voltage power supply. Lithium batteries, case backs for wall mounting and other extras are priced separately.

Display Instrumentation

- 010-P Flowrate indicator
- 011-P Totaliser
- 012-P Flowrate/Totaliser
- 013-P Flowrate/Totaliser + one high or low alarm output
- 014-P Flowrate/Totaliser + pulse output
- 030-P Batch controller, single stage

Note: STANDARD configuration for all F-Series models:
Supplied in ABS Panel-Mount case: 8-30V DC powered
(further options below).

OPTIONS F-SERIES

Option - case:

- HA rugged aluminium wall/field-mount housing IP65 / Nema 4x
- HD ABS wall/field-mount housing IP65 / Nema 4

Option - power supply

- PB Lithium battery
- PF 12-24V AC/DC + adjustable sensor supply + electro-mechanical relays
- PL input loop powered 4-20mA (models with -A designation only)
- PM 80-240V AC + adjustable sensor supply + electro-mechanical relays

Option - hazardous area:

- XI EEx ia IIB T4 / EEx ia IIC T4 - Cenelec IS approval
- XF EExd IIB T5 - Explosion proof housing with three keys - 3x M20 cable entries

Option - misc:

- ZV PRTD-extended temperature range -200 / +800 °C
- ST-ONX Stainless Steel Flow Meter Mounting Stem M20(m) x M25(f) - further threads available



Panel Mount Display Instrumentation



Series Introduction

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The 99 Series comprises two DIN 92x92 mm panel mount instruments. The 99RT is a rate/totaliser with built-in alarms and the 99B a twin relay batcher. Both instruments have a clear twin LED display panel and all parameters are programmed from the front panel. The instruments are quick and easy to set up. The instrument design is very robust and the front panel rated to IP65.

99RT Rate Totaliser

The 99RT takes a pulse input from your flowmeter and simultaneously displays the flowrate and total. It also displays a non-resettable accumulated total at the touch of a button. High and low flow rate alarms can be used as part of a safety system to protect your plant. There is a scaled pulse output and an analogue 4-20mA output for transmission to other instruments or control equipment.

99B Batcher

To start a batch simply press the run button. One display will show you the batch count whilst the other can be set to show either the flowrate or the preset batch quantity.

You can use the 99B in two ways.

1. Single relay operation. The run button operates a relay to control a valve or pump, which is automatically shut off at the end of the batch.
- 2: Dual relay operation where two relays can be used independently to control valves and pumps for slow start and slow stop applications.

Two LEDs show you when either of the two relays are energised.

Construction:	Panel mounting instrument
Case	Black powder coated aluminium
Bezel	High impact phenolic plastic
Front keypad	Polyester
Protection	IP65 - bezel / face
Dimensions:	H 96mm x W 96mm x D 175.4mm
Panel cut-out	92mm x 92mm
Weight	1.2 kg
Power input:	
Mains	110 or 230V AC 45-65 Hz
DC Supply	12-24V DC 300mA typical
Power output:	8-24V DC 50mA
Display:	6 digit 14mm high LED 6 digit 10mm high LED
Temperature range:	0 - 45°C
Connections:	2 rows of through panel screw terminals
Input signals:	Frequency range 0 to 5kHz



.....Precision Counts