

Your success counts

## Basic Flow rate Indicator / Totalizer with analog and pulse signal outputs



*Application examples: Common flow monitoring*



*Battery powered flow indication*



*Your brand customization*

The basic indicators of the B-Series have all the benefits you may expect from a Fluidwell product: It's durable, reliable and very easy to operate. For more advanced functionality we recommend our D-, E-, F- and N-Series.

### Advantages

- Durable IP65 (Type4) field, wall or meter mount enclosure.
- Intuitive "Know one, know them all!" configuration menu, saving time, cost and aggravation.
- Compact design.
- Competitive pricing in bigger quantities.
- Design your own branded product with several enclosure customization options.

### Features

- Displays instantaneous flow rate, total and accumulated total.
- Clear 12mm(0.5") numeric and 7mm(0.3") alphanumeric digits.
- All info at a glance with clear alphanumeric display.
- Bright LED backlight.
- The B-Smart accepts the basic sensor input signals: Reed-switch, Namur, NPN, PNP, Sine wave (coil).
- Loop powered 4 - 20mA output according to flow rate.
- Scaled pulse output according to accumulated total.
- Power requirements: Lithium AA battery, output loop powered and 10 - 30V DC.
- Sensor supply: 8.2V DC.
- Auto backup of settings and running totals.
- One 20mm and two 16mm knock-out hole cable entries.

## Introduction

The B-Smart flow transmitter is the most advanced model in our B-Series, complete with pulse and analog output signals. The display shows flow rate, total and accumulated total. On-screen engineering units are easily configured from a comprehensive selection.

## Display

The main process information is displayed with 7 digits (12mm, 0.47") to show flow rate, total or accumulated total. The 7 alpha-numeric digits (7mm, 0.28") are used for the flow rate measurement units and the clear setup menu messages. For good readings in full sunlight and darkness, the B-Smart is provided with a bright backlight.

## Configuration

The B-Series uses the same highly appreciated configuration structure of our Fluidwell product series. Each setting is clearly indicated with an alphanumeric description, which avoids confusing abbreviations. Once familiar with one B-series product, you will be able to program all models in all series without a manual. In other words: know one, know them all.

## Analog output

The flow rate is transmitted with the 4 - 20mA output signal. The B-Smart can even be powered via the loop-current.



## Pulse outputs

A scaled pulse output is available according to the accumulated total. The pulse length can be set to 5msec or 100msec. The output is a passive NPN signal.

## Power requirements

Several power inputs are available to supply the B-Series and sensor. The B-Smart can be powered with a single 3,6V lithium AA battery or loop powered via the analog output. The basic 10 - 30V DC power supply can supply the B-Smart including the backlight and offers an 8.2V DC sensor supply.



All info at a glance



Easy to install



Easy to program



Know one know them all!



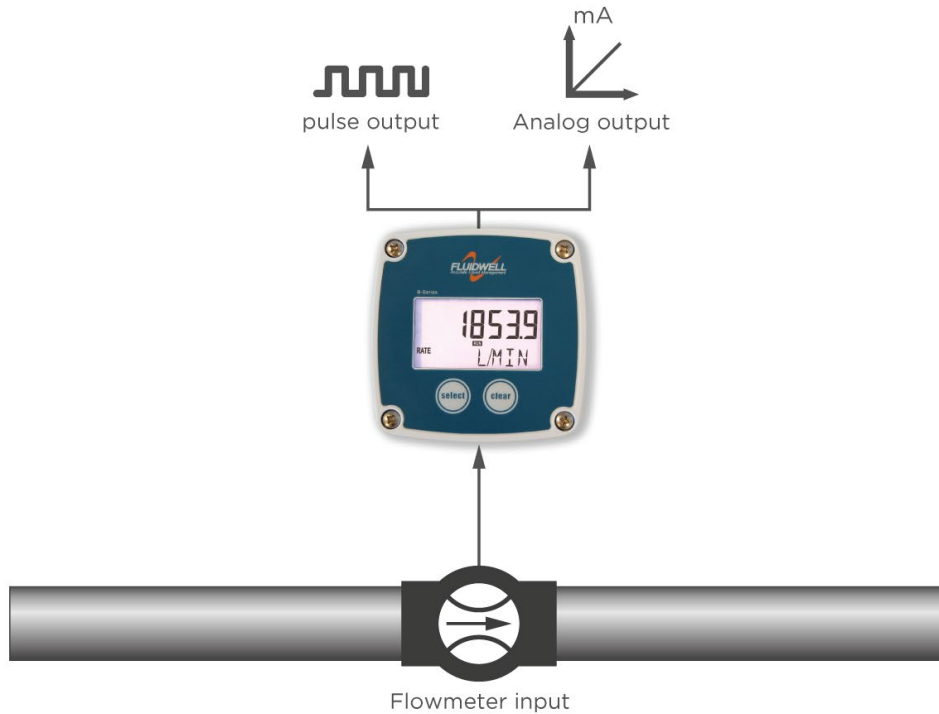
Reliable



User-friendly

### Overview application B-Smart

Basic flow measurement where re-transmission of the flow rate and/or totalizer functions is required. The B-series offers you an economical solution for common industrial applications. Nothing more, nothing less. For intrinsically safe applications we offer our rugged, field mount F-Series indicators, for explosion proof applications we offer our E-Series indicators and for panel mount applications we offer our D-Series indicators.



### Signal input

The B-Smart accepts the basic flowmeter input signals: Namur, Reed-switch, NPN, PNP and Sine wave (coil). The input signal type can easily be selected in the configuration menu

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		6 kHz Threshold 1.2V			Open collector
REED		1MΩ pull-up		120Hz		
PNP	47KΩ pull-down		6kHz Threshold 1.2V			
NAMUR	820Ω pull-down		4kHz	-		External power required
COIL	-	-		-	90mV <sub>pp</sub>	Default sensitivity

## Enclosures

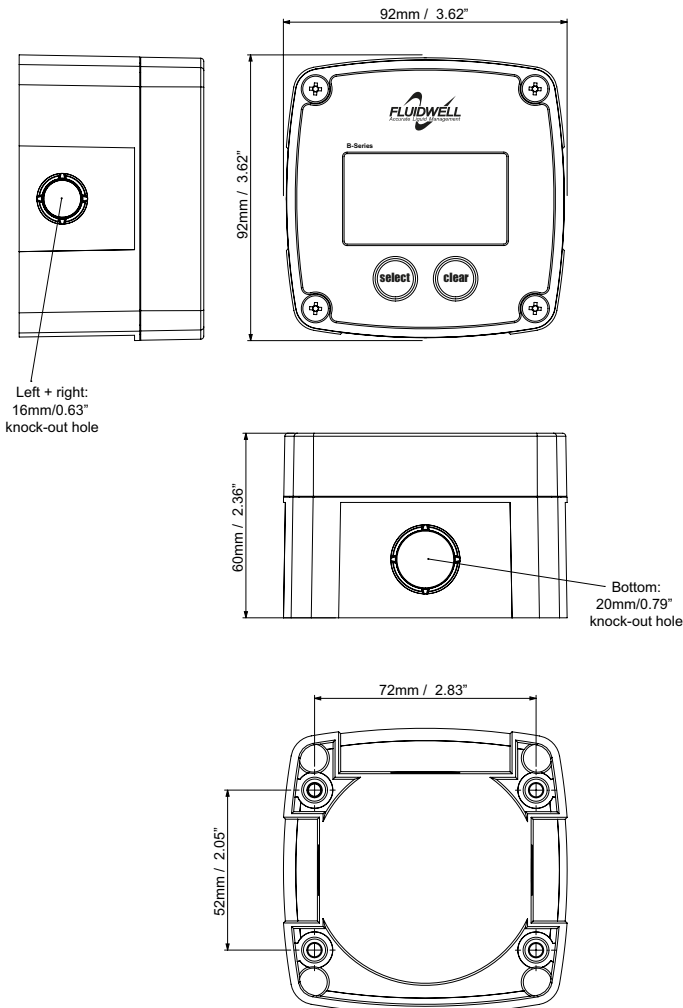
The smart design of the rugged IP65 (Type4) GRP enclosure ensures optimal advantages for various mounting possibilities. The B-Smart can be field or wall mounted or directly on the flowmeter.

The standard enclosure will be delivered as follows:

- Blue GRP back cover.
- White GRP front cover with blue polyester front foil and Fluidwell logo.

## Dimensions enclosure

GRP field mount enclosure



## B-Smart display example

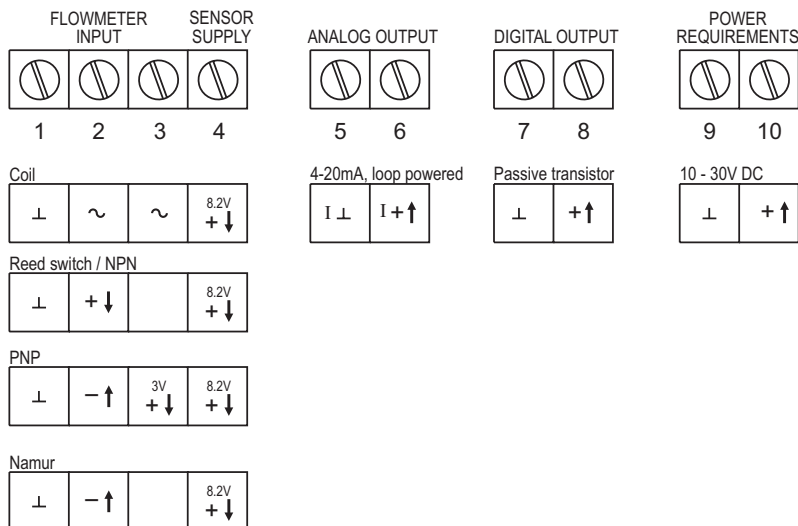


## Customization options

- Fluidwell blue polyester front foil without logo.
- Custom front foil options. (2, 3, 4 or 5 colors).
- Custom front/back cover color.
- Customized manual cover.
- Customized technical label.
- Customized package label.



## Terminal connections B-Smart



## Display

<b>Type</b>	High intensity transfective numeric and alphanumeric LCD, with white LED backlight.
<b>Dimensions</b>	54 x 29mm (2.13" x 1.14").
<b>Digits</b>	Seven 12mm (0.47") and seven 7mm (0.28") digits Various symbols and measuring units.
<b>Refresh rate</b>	During operation 8 times/sec, it will automatically switch to 1 time/sec after 30 sec without operation.

## Operating temperature

<b>Ambient</b>	-20°C to +60°C (-4°F to +140°F).
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## Power requirements

<b>Basic supply</b>	10 - 30V DC. Standard consumption: $P_{max}$ 60mW. With backlight: $P_{max}$ 435mW. With backlight + sensor supply: $P_{max}$ 735mW.
<b>Note</b>	The basic power supply will also supply the backlight or the 8.2V DC sensor supply.
<b>Battery</b>	1 x 3.6V AA Lithium battery - life-time depends upon settings and configuration - up to approx. 2 years.
<b>Loop powered</b>	Loop powered, analog output. 12 - 30V DC. 3.3 - 21.7mA according Namur NE45. $I_{max}$ = 22mA. Consumption max. 660mW @ 0 Ohm (22mA @ 30VDC).

## Sensor excitation

<b>Terminal 3</b>	3V DC for pulse signals and 1.2V DC for coil pick-up, $I_{out}$ max. 100 $\mu$ A.
<b>Note</b>	This is not a real sensor supply. Only suitable for sensors with a very low power consumption like coil.
<b>Terminal 4</b>	8.2V DC, $I_{out}$ max. 10mA, requires 10-30V DC supply.

## Data protection

<b>Type</b>	Non-volatile 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>IP &amp; NEMA</b>	EN 60529 & NEMA 250

## Enclosure

<b>Material</b>	GRP, IP65 (Type4), UV-resistant and flame retardant.
<b>Window</b>	Polycarbonate window.
<b>Sealing</b>	EPDM gasket.
<b>Control keys</b>	Two industrial micro-switch keys.
<b>Dimensions</b>	92 x 92 x 60mm (3.62" x 3.62" x 2.36") - W x H x D.
<b>Weight</b>	200 gram / 0.44 lbs.

## Terminal connections

<b>Type</b>	Removable plug-in terminal strip. Wire max. 1.5mm <sup>2</sup>
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## Signal inputs - Flowmeter

<b>Pulse inputs</b>	Coil / sine wave (sensitivity: 80mVpp), NPN, PNP, reed-switch, Namur.
<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.

## Signal outputs - Digital output

<b>Function</b>	Pulse output - transmitting accumulated total.
<b>Frequency</b>	User definable: 100Hz (5msec) or 5Hz (100msec).
<b>Output type</b>	One passive transistor output (NPN) - not isolated. 300mA, max. 30V.

## Signal outputs - Analog output

<b>Function</b>	Transmitting flow rate.
<b>Output type</b>	Loop powered, analog output. 12 - 30V DC. 3 - 22mA according Namur NE45.
<b>Accuracy</b>	10 bit. Error 0.5% of full scale and temperature range. Analog output signal can be scaled to any desired range.
<b>Liftoff voltage</b>	12V.
<b>Liftoff voltage</b>	Typical 500Ohm @ 24V. Max. 800Ohm

## Operator functions

<b>Displayed info</b>	<ul style="list-style-type: none"> <li>• Flow rate.</li> <li>• Total.</li> <li>• Accumulated total.</li> <li>• Reset total by pressing the CLEAR-key twice.</li> </ul>
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## Total

<b>Digits</b>	7 digits.
<b>Units</b>	L, m <sup>3</sup> , US gal, igal, Oil bbl, kg, lb or none.
<b>Decimals</b>	0 - 1 - 2 or 3.
<b>Note</b>	Total can be reset to zero.

## Accumulated total

<b>Digits</b>	7 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> , g, kg, ton, US ton, US gal, igal, Oil bbl, lb, cf or none.
<b>Decimals</b>	0 - 1 - 2 or 3.
<b>Time units</b>	/sec - /min - /hr - /day.