

DESCRIPTION

The B3100 Series flow monitor is a flexible, durable, easy-to-use platform for your flow metering applications. Our trusted flow metering technology now offers a new flow monitor with more options and features than ever before with the B3100 Series.

APPLICATIONS

The B3100 monitor is suitable for application in a wide variety of metering needs. A few of the more common industries are:

- Secondary oil recovery applications
- Remediation and reclamation
- Fracture/refracture
- Coal bed methane
- Regulatory compliance and environmental accountability
- Industrial chemicals
- Aggressive chemical processing applications
- Semiconductor manufacturing
- Fertilizer production and dispensing
- Pesticide manufacture
- Liquid batching and water cooling

FEATURES

- Explosion-proof according ATEX, IECEx, FM and CSA c-us
- Rugged 1 in. NPT thread for flow meter mounting
- Data logging to survey information
- USB communication for configuration using a programming cable
- Modbus RS485 communication option.
- Easy configuration via PC with free downloadable software
- Easy K-factor and engineering unit configuration for volumetric or mass readings
- Display shows flow rate, total, measuring units and a flow rate indicating speedometer
- Seven-digit flow rate/total and 11-digit accumulated total
- Easy configuration with clear alphanumeric display
- Bright LED backlight
- Auto backup of settings and running totals
- Power requirements: Loop powered or battery
- Operational temperature – 40...158° F (– 40...70° C)
- Sixteen-point linearization of the flow curve, with interpolation
- Field operation via through-the-glass keypad



PART NUMBER CONSTRUCTION

Blancett B3100 Display					-	
Model	Blancett B3100 Display		B31			
Model	Explosion Proof* – Battery & Loop Power		Z			
Mounting	Meter		M			
Units of Measure	Customer Selectable					
			CS			

*For hazardous locations, the monitor must be installed on an explosion-proof rated meter. To maintain compliance, kit P/N B280-757 for meter mounting is required.

SPECIFICATIONS

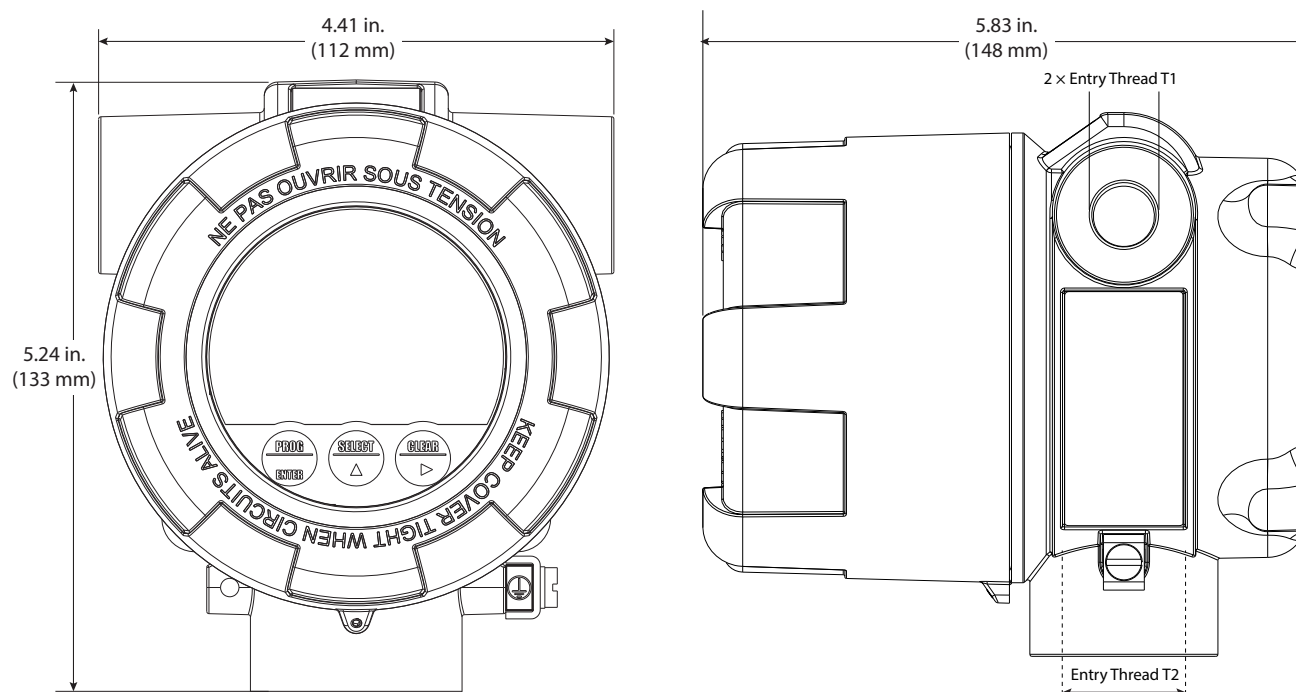
Display	Dimensions	Ø 2.56 × 1.77 in. (65 × 45 mm)
	Digits	Seven 0.47 in. (12 mm) and eleven 0.28 in. (7 mm) digits. Various symbols and measuring units
	Refresh rate	User definable: 8 times/sec – 30 sec
	Speedometer	To indicate the actual flow rate, the bar graph range is 0...100% in 20 blocks, each block is 5%
Ambient Operating Temperature		– 40...158° F (– 40...70° C)
Enclosure	Sealing	Silicone
	Control keys	Three infra-red keys with operation through-the-glass front window
	Rating	NEMA 4x, NEMA 7, NEMA 8, NEMA 9, IP66, IP67
	Type	Die-cast aluminum Ex d enclosure
	Dimensions	4.41 × 5.24 × 5.83 in. (112 × 133 × 148 mm) W × H × D
	Entry thread	2 × 3/4 in. NPT (T1), 1 × 1 in. NPT (T2)
Power Requirements	Battery powered	Long life Lithium battery; lifetime depends on settings and configuration; Up to approx. 3 years NOTE: The battery can power the backlight for a short time after a keypad touch
	Loop powered	Loop powered, analog output; 11...27V DC; Minimum 3.5 mA NOTE: The loop powered analog output cannot power the backlight
	Power supply	9...27V DC; Consumption max. 3W
Sensor Excitation	All power sources	Terminal S3: 3V DC for pulse signals and 1.2 V DC for coil pickup, I _{out} max. 100 µA
Terminal Connections	Removable plug-in terminal strip; Wire max. 1.5 mm ² and 2.5 mm ²	
Data Protection	EEPROM backup of all settings; Backup of running totals every minute; Data retention is 10 years Configuration settings can be password protected	
Hazardous Area	CSA c-us / FM	Class I, Division 1, Grps A, B, C, D
		Class II/III, Division 1, Grps E, F, G
		Class I, Zone 1, AEx d IIC T6/T5 Gb
		Zone 21, Aex tb IIIC T85°C/T100°C Db
Directives and Standards	EMC	EN 61326-1; FCC 47 CFR part 15
	LVD	EN/IEC 61010-1
	ATEX / IECEx	EN/IEC 60079-0; EN/IEC 60079-1; EN/IEC 60079-31
	CSA	CSA 22.2 No. 25, CSA 22.2 No. 30, No. 61010-1-12
	RoHS	EN 50581
	IP & TYPE	EN 60529; NEMA 250
	FM	Class 3600, 3615, 3616, 3810
	UL	UL 61010-1
Input	Pulse Flow Meter	Coil / sine wave (COIL-HI: 20 mVpp or COIL-LO: 90 mVpp sensitivity selectable), NPN, PNP, reed switch, NAMUR, active pulse signals 8 or 24V DC
	Frequency	Min. 0 Hz, max. 10k Hz for total and flow rate; Maximum frequency depends on signal type and internal low-pass filter; For example, a reed switch with low-pass filter: max. frequency 120 Hz
	K-Factor	0.000010...9,999,999 with variable decimal position
	Low-pass filter	Available for all pulse signals
	External reset total	
Digital Output	Pulse	Transmitting linearized accumulated total
	Frequency	500 Hz max; Pulse length user-definable from 1 msec to 10 sec
	One passive transistor output (NPN), not isolated; 300 mA to 50V @ 77° F (25° C)	
Analog Output	General	Transmitting linearized flow rate
	Galvanically isolated, loop powered 4...20 mA output	
	Accuracy	12 bit; Error 0.03% @ 68° F (typical 25 ppm/°F); analog output signal can be scaled to any desired range
Communication	Reading display information, reading/writing all configuration settings and data log extraction	
	Modbus RTU, RS485 2-wire, bus termination without resistor for low power solutions	
	Addressing	Maximum 247 addresses
	Baud rate	1200, 2400, 4800, 9600, 19K2, 38K4

SPECIFICATIONS (CONTINUED)

Data Logging	Function	Records process data over time with real time clock Each log contains flow rate, total, accumulated total, time/date stamp and log number
	Interval logs	Every: 1 min, 5 min, 10 min, 15 min, 30 min, 1 hr, 2 hr, 3 hr, 4 hr, 6 hr, 8 hr or disable Max 1500 interval logs
	Daily logs	Configurable time once/twice per day or disable; Max 600 daily logs
	Event logs	When settings change (manual/Modbus) restart/power failure, factory reset, cleared total or error event; Max 724 event logs
	Extraction	Via USB (CU) or Modbus communications or USB programming cable
Operational	Displayed information	Linearized flow rate and/or total; Linearized total and accumulated total; Indicating speedometer for flow rate; Total can be reset to zero
	Total Digits	7 digits
	Total Units	L, m ³ US gal, igal, cf, il bbl, kg, ton, US ton, lb or none
	Total Decimals	0, 1, 2, or 3 NOTE: Total can be reset to zero.
	Accumulated Total Digits	11 digits
	Accumulated Total Units/Decimals	According to selection for total NOTE: Accumulated total cannot be reset to zero.
	Flow Rate Digits	7 digits
	Flow Rate Units	mL, L, m ³ , mg, g, kg, ton, US ton, US gal, igal, Oil bbl, lb, cf, rev, none, scf, nm ³ , nL or p
	Bar graph Speedometer	20 blocks,; each block is 5% of total span
	Flow Rate Decimals	0, 1, 2, or 3
	Flow Rate Time Units	sec, min, hr, day

ACCESSORIES

Part Number	Description
B280-757	Explosion-proof Meter Mount Kit, 1 in. connections
B310001	USB Programming Cable
B310010	Wall Mounting Kit
B310011	Pipe Mounting Kit (requires wall mounting kit)
B310028	Replacement Battery

DIMENSIONS

Control. Manage. Optimize.

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