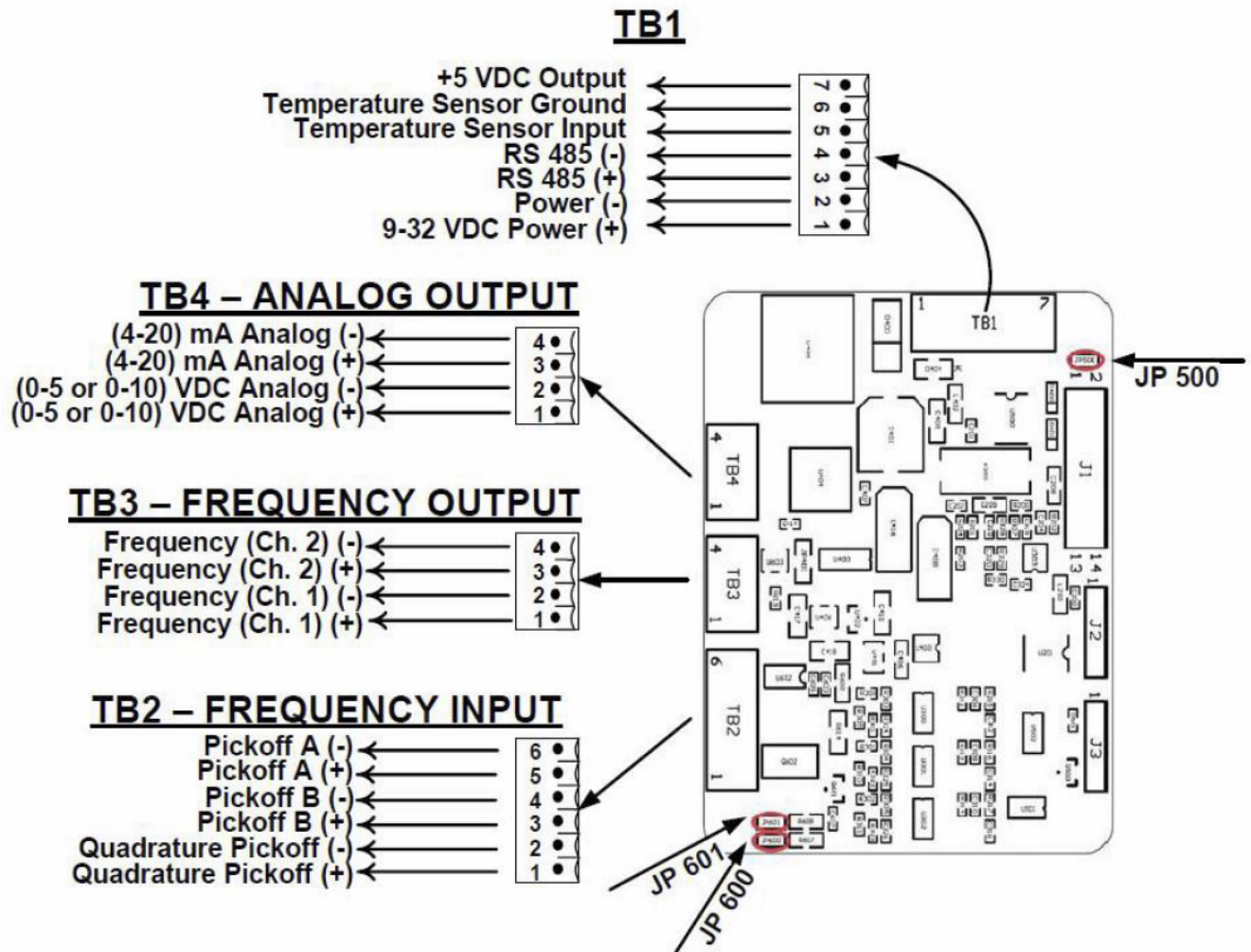




Cox
Turbine Flow Meters

Integrated Flow Computers

IFC15BBA Wiring Instructions



NOTE: TB4 output is jumper configured. Select voltage or current output with appropriate jumper setting.

JUMPER SETTINGS

Analog Output	JP600	JP601
0...5V DC	ON	OFF
0...10V DC	OFF	ON
4...20 mA DC	ON	OFF

Communication	JP500
120 Ω LOAD	ON
(RS485)	—



Badger Meter

CXX-AS-02418-EN-02 (November 2021)

Application Data Sheet

SPECIFICATIONS

Input Power	24V DC nominal	9...32V DC, 1.2W maximum, (excluding 4...20 mA)		
	Note: 15...32V DC power required for analog output			
Flow Meter Input Type	Pulse TTL	Frequency range	1 Hz...16 kHz	
		Impedance	5.8 kΩ...5V DC	
	RF Carrier	Frequency range	5 Hz...3 kHz	
		Inductance	1 mH	
Temperature Input Type	Thermistor	Oscillator frequency	55...65 kHz	
		10 kΩ		
Linearization	Flow meter K-factor	Number of points	2...200	
		Interpolation method	Linear	
		Correlation	Strouhal-Roshko (per ARP4990 publication)	
	Temperature	Number of points	2...50	
		Interpolation method	Linear	
	Viscosity	Number of points	2...100	
		Interpolation method	Linear	
	Density	Correlation	ASTM D341-93, Andrades Equation or user-defined	
Number of points		2...50		
		Interpolation method	Linear	
Outputs	Variables available for output	Linearized volume flow rate		
		Linearized mass flow rate		
		Flow total		
		Temperature		
		Pressure		
	Frequency (2 frequency output channels)	0...5 V TTL, 0.6...16,000 Hz		
		Transmission distance	250 ft maximum	
	Analog (1 analog output channel)		0...5V DC, 0...10V DC or 4...20 mA	
		Voltage	Linearized, scaled	
		Zero offset	Less than 5 mV	
		Current	Linearized, scaled	
		Maximum load	500 Ω maximum load resistance (4...20 mA)	
		RS485 (volume/mass flow, temperature, other)	Baud rate	115K
			Update Rate	Selectable, 0.1 second minimum
			Data Bits	8
			Stop Bit	1
			Parity	None
	Performance	Accuracy	Linearized frequency	0.1% of reading
Linearized analog			0.1% of full scale	
Thermistor			±0.5° C (does not include sensor uncertainty)	
Analog input (temperature)			16 bit A/D resolution	
Linearization latency		0.8...2.0 ms + period of input		
Batching	2 I/O ports for control, batching, manifoldng	1 input port		
		1 output port		
Environment	Temperature	Operating	–40...185° F (–40...85° C)	
		Storage	–67...257° F (–55...125° C)	
	Humidity	0...85% RH non-condensing		
	Enclosure	NEMA 4 or NEMA 4 CLI GR.CD CL II GR.EFG CL.III WET LOC. Aluminum		
	Interface	RS485, serial USART connection to personal computer (with serial cable)		
Communication	Baud	Output	115K	
		Programming	115K	
		Data Bits	8	
		Stop Bit	1	
		Parity	None	
Flexibe Input or Output Terminals	These are accessible when terminals are installed at J3 pins 1...4	FREQ_A (Raw Rotor A Frequency)** on J3 pin1	⚠ WARNING ** As outputs, the internal passive (20 kΩ) pull-down circuit limits the driven capacitance to a maximum of 0.001 uF. Also, the driving frequency must be below 5 kHz when driving the maximum capacitive load.	
		FREQ_B (Raw Rotor B Frequency)** on J3 pin2		
		FREQ_Q (Raw Rotor Q Frequency)** on J3 pin3		
		DGND (Digital Ground) on J3 pin4		

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