

FloBoss™ 107 Input/Output Modules

The input/output (I/O) module options for the FloBoss™ 107 Flow Manager (FB107) provide terminals for expanded I/O. You can order the expanded 6-point I/O as an:

- I/O assembly that mounts directly on the CPU module.
- I/O module that inserts in the I/O slots.

Both ways provide configuration terminations for six points of expanded monitoring and control applications with the same selections for I/O. Five of the six points of I/O are software-configurable. The six points of I/O consists of:

- Two analog inputs or discrete inputs.
- One analog output or discrete output.
- One discrete output.
- Two pulse inputs or discrete inputs.

Use ROCLINK™ 800 Configuration Software to configure the I/O points.

The FB107 supports up to six I/O modules (with the optional I/O Expansion Rack) and one CPU I/O assembly. You can install I/O modules in slots 1 through 3 on the main FB107 and in slots 4 through

6 on the expansion rack. When a communications module is installed in slot 1, you can also install an I/O module in slot 7 of the expansion rack.

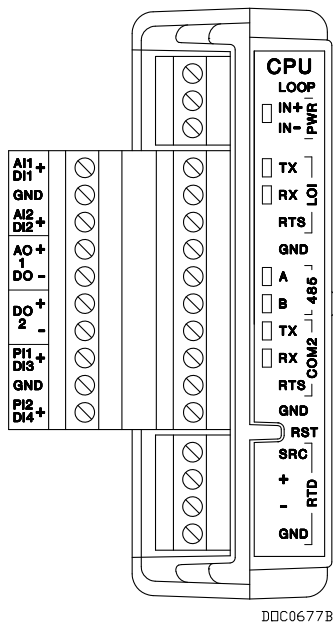
You can configure the I/O assembly on the CPU to set the loop output power to 10 Volts dc or 24 Volts dc. The I/O module only supports 24 Volts dc loop output power.

The intent of the loop output power is to power devices that require 24 Volts dc to ground allowing the external device to send the FB107 a 4 to 20 mA signal based on pressure, temperature, level, and such.

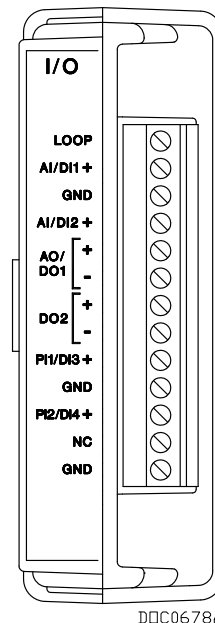
The 10-volt loop output power is intended for low power transmitters. The loop current is designed to deliver 80 mA to power two field devices that connect back to the two analog inputs.

You can use current analog inputs of 4 to 20 mA when the 250-ohm resistor is selected in the AI configuration using ROCLINK 800 software.

All modules have removable terminal blocks for convenient wiring and servicing. The terminal blocks can accommodate size 16 to 24 American Wire Gauge (AWG).



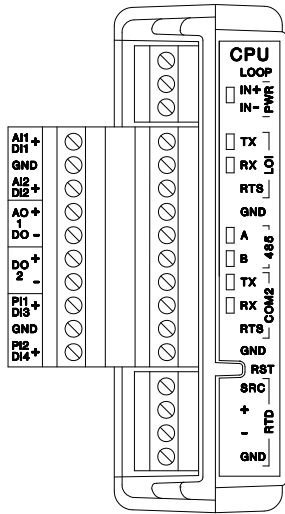
CPU Module with I/O Assembly



I/O Module

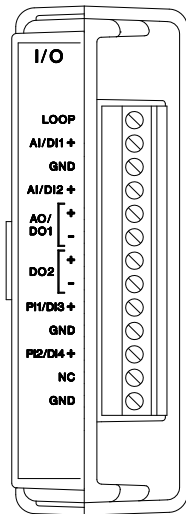
FloBoss 107 6-Point I/O Assembly and 6-Point I/O Module

Field Wiring Terminals



DDC0677B

Terminal	Label	Definition
1	AI1/DI1+	AI 1 / DI 1 Positive
2	GND	Ground
3	AI2/DI2+	AI 2 / DI 2 Positive
4	AO1/DO1+	AO 1 / DO 1 Positive
5	AO1/DO1-	AO 1 / DO 1 Negative
6	DO2+	DO 2 Positive
7	DO2-	DO 2 Negative
8	PI1/DI3+	PI 1 / DI 3 Positive
9	GND	Ground
10	PI2/DI4+	PI 2 / DI 4 Positive



DDC0678A

Terminal	Label	Definition
1	Loop	Loop Power Output
2	AI1/DI1+	AI 1 / DI 1 Positive
3	GND	Ground
4	AI2/DI2+	AI 2 / DI 2 Positive
5	AO1/DO1+	AO 1 / DO 1 Positive
6	AO1/DO1-	AO 1 / DO 1 Negative
7	DO2+	DO 2 Positive
8	DO2-	DO 2 Negative
9	PI1/DI3+	PI 1 / DI 3 Positive
10	GND	Ground
11	PI2/DI4+	PI 2 / DI 4 Positive
12	NC	No Connection
13	GND	Ground

Analog Inputs

Type	Single-ended, voltage-sense analog inputs (software-configurable resistor for current loop).
Signal	0 to 5 V dc, software-configurable. 4 to 20 mA, with 250Ω resistor selected.
Protection	Current limit protection on loop power outputs and analog inputs. Surge protection on all I/O.
Reference Accuracy ¹ (after calibration) at 20°C (68°F)	±0.1%
Accuracy ¹ Over Operating Temperature Range [-40 to 65°C (-40 to 149°F)]	±0.3%
Isolation	None

1. Includes: Linearity, Hysteresis, Repeatability, and Stability.

Input Impedance	1 MΩ	
Filter	Single pole	
Resolution	12 bits	
Sample Period	1.0-second minimum	
Analog Outputs		
Type	4 to 20 mA high side source current	
Resolution	12 bits	
Accuracy	0.1% of full-scale output	
Reset Action	Output goes to last value or low scale (software-configurable) on power-up, warm start, or on watchdog time-out.	
Discrete Inputs		
Type	Contact-sense discrete input. Note: Signal must be below 0.3 V to be considered a closed contact, and above 3 V to be considered an open contact.	
Current Rating	35 μA in the active (on) state 0 μA in the inactive (off) state	
Isolation	None	
Frequency	10 Hz maximum	
Sample Period	1.0 second minimum	
Discrete Outputs		
Type	Solid-state switch	
Switch Rating	28 V dc, 0.2 A maximum	
Isolation	3000 V from processor	
Reset Action	Output goes to last value or off (software-configurable) on power-up, warm start, or on watchdog time-out.	
Pulse Inputs		
Type	High-speed pulse counter inputs, dry contact in low range. Note: Signal must be below 0.3 V to be considered a closed contact, and above 3 V to be considered an open contact.	
Frequency	10 KHz maximum	
Signal Current	65 μA in the active (on) state, 0 μA in the inactive (off) state.	
Filter	Slow pulse input debounce filter. Software-configurable. Filter times from 0.025 to 5 seconds.	
Power		
Consumption	176 mW to 2.5 watts based on load.	
Loop Output (per channel)	6-Point I/O Assembly	Software-configurable loop power output at 10 V dc or 24 V dc, 200 mA max.
	6-Point I/O Module	24 volts loop output power @ 80 mA maximum.
	Terminals	“LOOP” loop power, “+” positive output, “GND” negative output (common).

Physical

Dimensions	82.55 mm H by 25.4 mm W by 127 mm L (3.25 in. H by 1.0 in. W by 5.0 in. L).
Weight	113.4 g (4 oz.)
Wiring	Size 16 to 24 AWG at the removable terminal block.

Environmental

Same as the FB107 in which it is installed.

Approvals

Same as the FB107 in which it is installed.

Bristol, Inc., Bristol Canada, BBI SA de CV and Emerson Process Management Ltd, Remote Automation Solutions division (UK), are wholly owned subsidiaries of Emerson Electric Co. doing business as Remote Automation Solutions ("RAS"), a division of Emerson Process Management. FloBoss, ROCLINK, Bristol, Bristol Babcock, ControlWave, TeleFlow and Helicoid are trademarks of RAS. AMS, PlantWeb and the PlantWeb logo are marks of Emerson Electric Co. The Emerson logo is a trademark and service mark of the Emerson Electric Co. All other marks are property of their respective owners.

The contents of this publication are presented for informational purposes only. While every effort has been made to ensure informational accuracy, they are not to be construed as warranties or guarantees, express or implied, regarding the products or services described herein or their use or applicability. RAS reserves the right to modify or improve the designs or specifications of such products at any time without notice. All sales are governed by RAS' terms and conditions which are available upon request. RAS does not assume responsibility for the selection, use or maintenance of any product. Responsibility for proper selection, use and maintenance of any RAS product remains solely with the purchaser and end-user.

Emerson Process Management
Remote Automation Solutions
Marshalltown, IA 50158 U.S.A.
Houston, TX 77041 U.S.A.
Pickering, North Yorkshire UK Y018 7JA

