Technical Note

ReFlex Power™ Mating Connectors for Controller Module

AMETEK PROGRAMMABLE POWER

Document No. W380269-01 Rev F • 1/26/2009

PURPOSE

Provide mating connector information for the ReFlex Power™ Controller module.

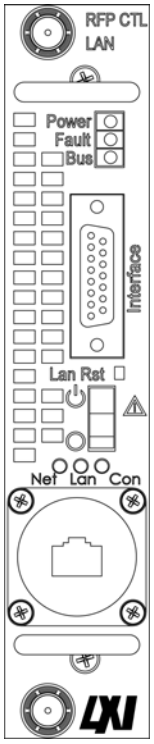

Figure 1. ReFlex Power™ Controller Front Panel

MATING CONNECTOR KIT

ReFlex Power™ Controller (RFPC) Mating Connector Kit - AMETEK Part No. 5380269-01, mates with RFP-C1LAN-0000-XXXX, and includes the following:

Bill of Material

Item	AMETEK Part No.	Description	Qty	Manufacturer Part No.	Manufacturer	Suggested Source(s)
1	856-993-07	Plug, RJ45, ¼ Turn, 26482, NI	1	RJF6MN	Amphenol Socapex	PEI-Genesis: http://www.pei-genesis.com/ Arrow Electronics: http://www.arrownac.com/
2	856-918-15	Conn, 15P, DSUB, 20AWG, Crimp, Male	1	SD15M1000Z	Positronic Industries	Positronic Ind. http://www.connectpositronic.com/default.cfm
3	856-975-16	Conn, Backshell, 15P	1	D15000Z00	Positronic Industries	Positronic Ind. http://www.connectpositronic.com/default.cfm

RECOMMENDED TOOLS (NOT INCLUDED WITH MATING CONNECTOR KIT)

Hand crimp: Positronic Industries P/N 9507-0-0-0

Pneumatic crimp: Positronic Industries P/N 9550-1-0

Insertion/extraction: Positronic Industries P/N M81969/1-02

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INTERFACE CONNECTOR

Provides user access to programmable digital I/O and ReFlex Power™ monitoring signals.

Connector: 15-pin D-SUB
Positronic Industries Connector P/N SD15M1000Z, crimp male, AMETEK P/N 856-918-15
Crimp contacts: Positronic Industries P/N MC7520D (initially supplied with connector)

Backshell: Positronic Industries P/N D15000Z00, AMETEK P/N 856-975-16

Wire size: Maximum gauge 20 AWG (22 AWG recommended);
Maximum length 10 meters (can be extended subject to the environment, cable type, and interface circuits).
Recommend twisted shielded cables used.

INTERFACE CONNECTOR PINOUT

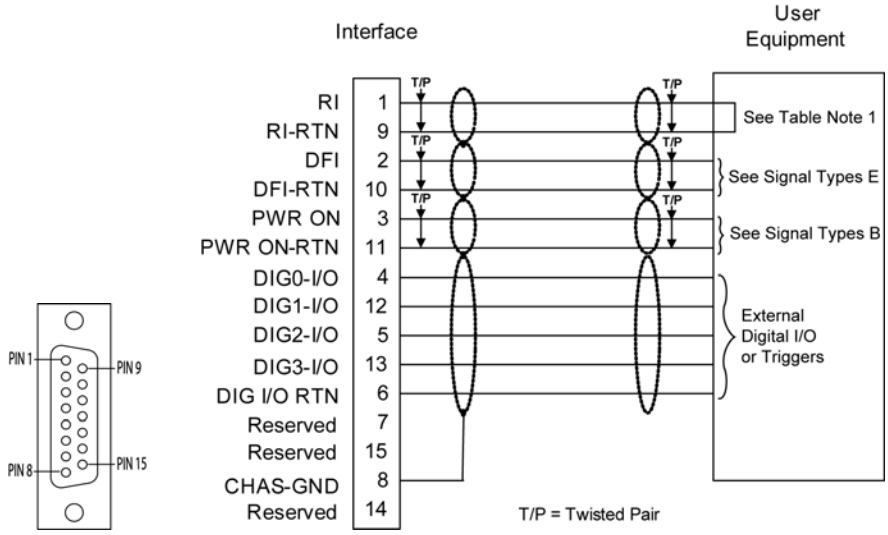

Figure 2. Interface Connector, Front Panel View, and Interface Connector Wiring Diagram

Pin	Type	Signal	Function	Signal Level
1	A	RI (Remote Inhibit)[1]	Active-High input signal that is utilized to inhibit all power module outputs (Pulled High internally). Low input (or connection between Pins 1 & 9) enables outputs.	TTL
2	E	DFI	(Discrete Fault Indicator) Active High output signal that indicates events/faults within system modules; derived from an open collector of floating opto-isolator. External Pull-up resistor required.	Open Collector
3	B	PWR ON	Normally-open relay contacts that close when the ReFlex Power™ Controller power is on	Relay Contact
4	A	DIG0-I/O	Input/Output: programmable digital I/O	TTL
5	A	DIG2-I/ O	Input/Output: programmable digital I/O	TTL
6	C	DIGI/O RTN	Signal returns for Programmable Digital Input/Outputs	TTL
7		Reserved		
8	D	CHAS GND	Chassis ground	CHAS GND
9	C	RI RTN[1]	Signal return for RI	TTL_RTN
10	F	DFI RTN	Signal return for DFI emitter of opto-isolator	TTL_RTN
11	B	PWR ON RTN	Return line for PWR ON	Relay Contact
12	A	DIG1-I/O	Input/Output: programmable digital I/O	TTL
13	A	DIG3-I/O	Input/Output: programmable digital I/O	TTL
14		Reserved		
15		Reserved		

[1] The ReFlex Power™ Controller RI signal must have a low input (or short Pin 1 to Pin 9) to enable all module outputs in a ReFlex Power™ system. If Interface signals are not required in system configuration, order AMETEK P/N 5380509-01, Loop-back Connector Assembly, to short the Remote Inhibit signals, and enable all system module outputs.

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Signal Types:

A. Bi-Directional Digital I/O. Signals internally pulled up to +5V DC. Externally to be pulled low, (< = 0.5 VDC) relative to the designated signal return, (signal type C).
B. Internal relay contact that is connected to the return when asserted. Absolute maximum rating 2A @ 30 VDC, 0.5A @ 125 VAC. Minimum 10 mA DC or 10 μA AC current required.
C. Return for type A see above.
D. Connected to the metal enclosure of the module. The enclosure of the module is connected to the earth ground connection of the ReFlex Power™ power input.
E. Externally to be pulled up to +5V to +15V DC, relative to Return Type F. Limit sink current to ≤ 40 mA.
F. Return for Type E, Common mode range ≤ 60 Volts.

OPTIONAL INTERFACE CONNECTOR ACCESSORIES

- AMETEK P/N 5380509-01, 15-pin Loop-back Connector Assembly. Includes a jumper wire between Pins 1 and 9 to enable the outputs on all AC/DC/Load modules in a system.
- AMETEK P/N 5380441-01, Controller Module, 9-ft. Unterminated Cable Assembly. Use when interfacing to an external system.
- AMETEK P/N 5380441-03, Controller Module, Right Angle, 9-ft. Unterminated Cable Assembly. Use when interfacing to an external system.

LAN CONNECTOR

Primary user interface to the ReFlex Power™ system via Ethernet connection

Type: RJ45, CAT 5 compatible

Protocol conforms to IEEE 802.3 Ethernet-based LANs

Mating connector: Amphenol Socapex P/N RJF6MN, AMETEK P/N 856-993-07

Wire size: Standard CAT 5e 10/100-Base-T cable
Maximum length: 10 meters (can be extended subject to the environment and cable type).

LAN CONNECTOR PINOUT

Pin	Name	Function	Signal Level
1	TX+	Transmit data positive, twisted differential pair with TX-	IEEE 802.3
2	TX-	Transmit data negative, twisted differential pair with TX+	IEEE 802.3
3	RX+	Receive data positive, twisted differential pair with RX-	IEEE 802.3
4	NA		N/A
5	NA		N/A
6	RX-	Receive data negative, twisted differential pair with RX+	IEEE 802.3
7	NA		N/A
8	NA		N/A

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