

# Technical Note

## ReFlex Power™ Mating Connectors for ACPS Module



Document No. W380272-01 Rev D • 1/23/2009

### PURPOSE

Provide mating connector information for the ReFlex Power™ AC Power Supply (ACPS) module.

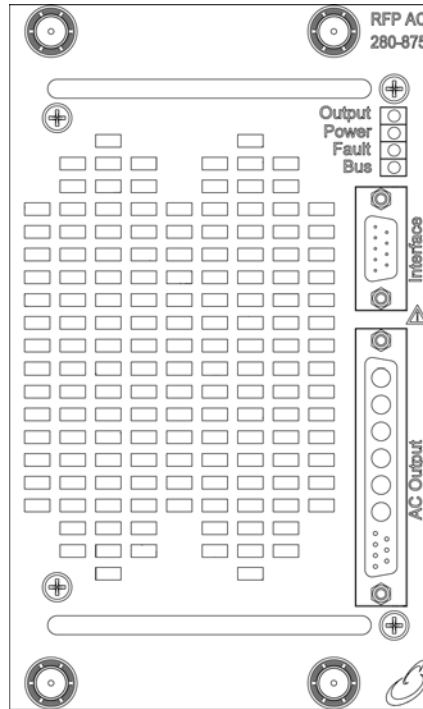


Figure 1. ACPS Front Panel View

### MATING CONNECTOR KIT

ACPS Mating Connector Kit - AMETEK Part No. 5380272-01, mates with RFP-A301K-875-XXXX and RFP-A305K-875-XXXX, and includes the following for both Interface and DC output connectors:

#### Bill of Material

| Item | AMETEK Part No. | Description                           | Qty | Manufacturer Part No. | Manufacturer          | Suggested Source(s)  |
|------|-----------------|---------------------------------------|-----|-----------------------|-----------------------|--|
| 1    | 856-214-07      | Conn, 13P, DSUB, 8/20AWG, Male        | 1   | CBD13W6M2000Z         | Positronic Industries | Positronic Ind.<br><a href="http://www.connectpositronic.com/default.cfm">http://www.connectpositronic.com/default.cfm</a> |
| 2    | 856-745-53      | Contact, F-Volt, 3600VRMS, 500C, Male | 6   | MS4820D-50            | Positronic Industries | Positronic Ind.<br><a href="http://www.connectpositronic.com/default.cfm">http://www.connectpositronic.com/default.cfm</a> |
| 3    | 856-247-39      | Conn, Backshell, 37P, Strt, 2 PC      | 1   | D37000Z00             | Positronic Industries | Positronic Ind.<br><a href="http://www.connectpositronic.com/default.cfm">http://www.connectpositronic.com/default.cfm</a> |
| 4    | 856-214-09      | Conn, 9P, DSUB, 20-24AWG, Crimp, Male | 1   | SD9M1000Z             | Positronic Industries | Positronic Ind.<br><a href="http://www.connectpositronic.com/default.cfm">http://www.connectpositronic.com/default.cfm</a> |
| 5    | 856-247-10      | Conn, Backshell, 9P, DSUB, 2 PC       | 1   | D9000Z00              | Positronic Industries | Positronic Ind.<br><a href="http://www.connectpositronic.com/default.cfm">http://www.connectpositronic.com/default.cfm</a> |

### 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

# Technical Note

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Document No. W380272-01 Rev D • 1/23/2009

Pins A1 through A6 insertion/extraction: Positronic Industries P/N 4311-0-0-0

### INTERFACE CONNECTOR

External isolated digital and analog control interface.

Connector: Positronic Industries P/N SD9M1000Z, AMETEK P/N 856-214-09  
Crimp contacts: Positronic Industries P/N MC7520D (initially supplied with connector)

Backshell: Positronic Industries P/N D9000Z00, AMETEK P/N 856-247-10

Wire size: Maximum gauge 20 AWG (recommended)  
Maximum length 10 meters (can be extended subject to the environment, cable type, and interface circuits).

### INTERFACE PINOUT

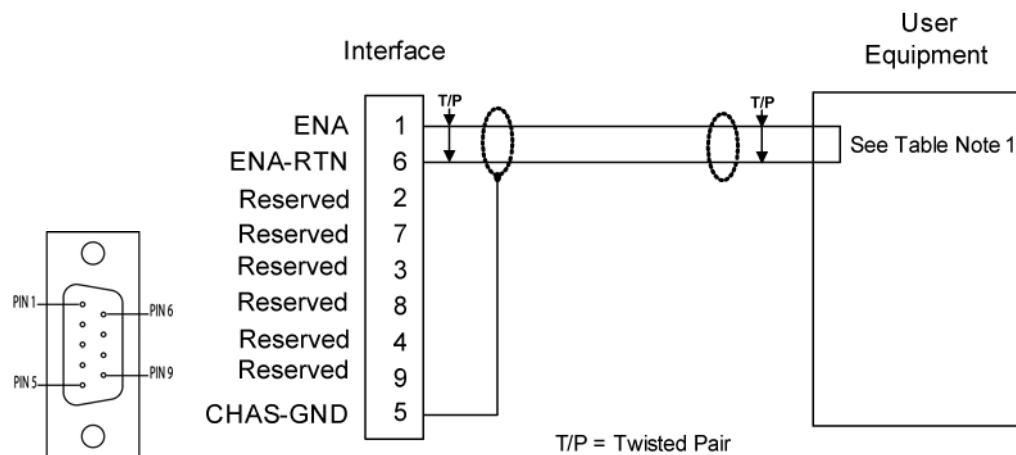


Figure 2. Interface Connector, Front Panel View, and Interface Connector Wiring Diagram

| Pin | Name                 | Function   | Signal Level    |
|-----|----------------------|--|-----------------|
| 1   | ENA <sup>1</sup>     | Input: module output enable                        | TTL logic level |
| 6   | ENA-RTN <sup>1</sup> | Input: return for ENA signal; connected to Pin-7/8 | Signal common   |
| 2   | Reserved             |  |                 |
| 7   | Reserved             |  |                 |
| 3   | Reserved             |  |                 |
| 8   | Reserved             |  |                 |
| 4   | Reserved             |  |                 |
| 9   | Reserved             |  |                 |
| 5   | CHAS-GND             | Shield ground                                      | Chassis ground  |

<sup>1</sup>Enable signal is internally pulled up to +5 V with a 10 K resistor. To enable the module, the signal is pulled low ( $\leq 0.5$  V) with respect to the ENA RTN signal; this may also be accomplished by shorting Pin 1 to Pin 6.

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Document No. W380272-01 Rev D • 1/23/2009

### OPTIONAL INTERFACE CONNECTOR ACCESSORIES

- AMETEK P/N 5380508-01, 9-pin Loop-back Connector Assembly. Includes a jumper wire between Pins 1 and 6 to enable the module outputs.
- AMETEK P/N 5380443-01, Power Module, 9ft. Unterminated Interface Cable Assembly. Use when interfacing to an external system.
- AMETEK P/N 5380443-03, Power Module, Right Angle, 9ft. Unterminated Interface Cable Assembly. Use when interfacing to an external system.

### AC OUTPUT CONNECTOR

Connector: Positronic Industries P/N CBD13W6M2000Z, AMETEK P/N 856-214-07

Pins A1-A6: Positronic Industries P/N MS4820D-50, AMETEK P/N 856-745-53

Pins 1-7: supplied with connector

Backshell: Positronic Industries P/N D37000Z00/ AMETEK P/N 856-247-39

Wire size: Pins A1 through A4 maximum gauge 20 AWG (recommended); maximum length 15 ft (Voltage drop at full-rated current  $\leq 1.1V$ )  
 Pins A5, A6 maximum gauge 20 AWG (recommended); maximum length 15 ft  
 Pins 2, 6 maximum gauge 20 AWG (recommended); maximum length 15 ft (Voltage drop at full-rated current  $\leq 0.6V$ )

### AC OUTPUT PINOUT

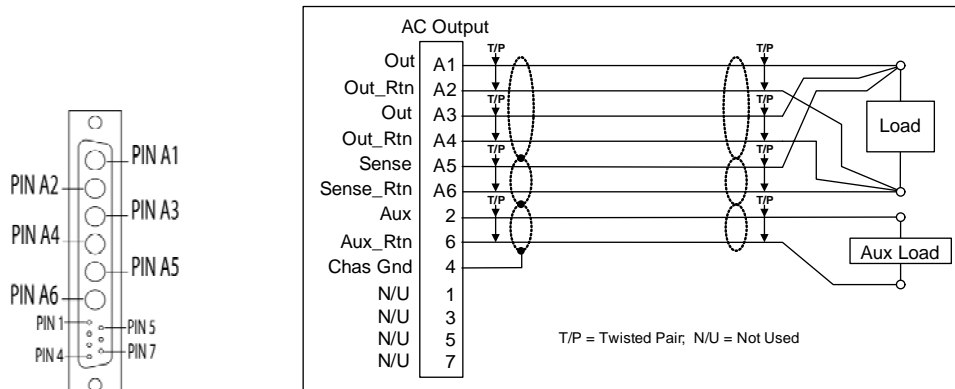


Figure 3. AC Output Connector, Front Panel View, and AC Output Connector Wiring Diagram

| Pin | Name      | Function   | Signal Level                                 |
|-----|-----------|--|--|
| A1  | Out       | Output: module output source; connected to A3          | 280VAC; $\pm 440V_{PK}$ , maximum to chassis |
| A2  | Out_Rtn   | Output: return for output source, OUT; connected to A4 | 280VAC; $\pm 440V_{PK}$ , maximum to chassis |
| A3  | Out       | Output: module output source; connected to A1          | 280VAC; $\pm 440V_{PK}$ , maximum to chassis |
| A4  | Out_Rtn   | Output: return for output source, OUT; connected to A2 | 280VAC; $\pm 440V_{PK}$ , maximum to chassis |
| A5  | Sense     | Input: remote sense connection for OUT                 | 280VAC; $\pm 440V_{PK}$ , maximum to chassis |
| A6  | Sense_Rtn | Input: remote sense connection for OUT-RTN             | 280VAC; $\pm 440V_{PK}$ , maximum to chassis |
| 2   | Aux       | Output: Module auxiliary output source:                | 35VAC; $\pm 100V_{PK}$ , maximum to chassis  |
| 6   | Aux_Rtn   | Output: return for auxiliary output source, Aux.       | 35VAC; $\pm 100V_{PK}$ maximum to chassis    |
| 4   | Chas Gnd  | Shield Ground  | Chassis Ground                               |

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Document No. W380272-01 Rev D • 1/23/2009

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### AC OUTPUT CONNECTOR ACCESSORIES

- AMETEK P/N 5380450-01, ACPS Module, 9ft. Unterminated AC Output Cable Assembly
- AMETEK P/N 5380450-03, ACPS Module, Right Angle, 9ft. Unterminated AC Output Cable Assembly