

RPS 18/4.5
RPS1845QAB000
2 RU Redundant Power Supply

General Description:

The **RPS1845QAB000** Series Redundant Power Supply provides a centralized power source for as many as 16 LNAs, LNBs, upconverters, downconverters, and line amplifiers. The unit is comprised of two separately fused power supply modules configured for nominal voltage or +18 VDC @ 4.5 amps and has been designed for international use with an input voltage of 100-240 VAC, 50/60 Hz. The power supply modules are on individual drawers to provide easy replacement of a failed module. Both supplies are monitored by a summary alarm which employs a serial RS-422 interface. On the rear panel, green LEDs indicate power status for each of the input ports. An automatic resetting circuit breaker will prevent each input port from exceeding 900 mA. Loads in excess of 900 mA will 'trip' the breaker, shutting down the input port until the current demand drops below the trip point.

Specifications:

| | |
|----------------------------|--|
| Output Voltage: | +18 V $\overline{=}$ |
| Output Current: | 900 mA on any single port. Total of all ports not to exceed 4.5 A |
| Power Requirements: | 100-240 V~, 50/60 Hz |
| Power Consumption: | 41 W no load, 150 W full load |
| Output Connectors: | Sixteen 2-Pin Quick Disconnects (+VDC and -VDC) |
| Mechanical: | 2 RU (19" wide x 20" deep x 3.5" high) |
| Weight: | 17.8 lbs. gross (boxed), 13.8 lbs. net |
| Certifications: | CE, NRTL/TUV, FCC PART 15 |



Usage Information

Front Panel LEDs

Front panel mounted LED indicators have been included for each of the hot-swappable power supply modules to indicate DC power supply status. Their meanings are as follows:

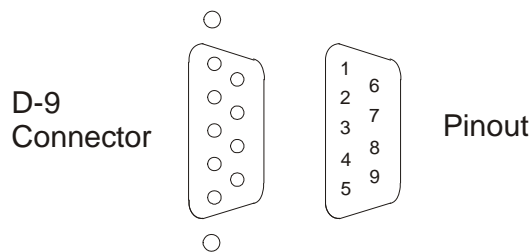
- Green LED on – normal operation
- Green LED off – power supply failure

Control Port

The RPS1845QAB000 provides the ability to remotely monitor the power supply modules via the ALARM port. In order to communicate with the RPS1845QAB000, the following communications parameters must be in effect:

- Baudrate - 19200 bps
- Data - 8 bits
- Parity - none
- Stop - 1 bit

Pinouts for the ALARM port are as follows:



- Pin 1 - DC common
- Pin 2 - not used
- Pin 3 - Noninverting TX
- Pin 4 - Noninverting RX
- Pin 5 - DC common
- Pin 6 - Inverting TX
- Pin 7 - not used
- Pin 8 - not used
- Pin 9 - Inverting RX

Remote Monitoring Interface – RS 422

The RPS1845QAB000 can be monitored remotely via the ALARM port by issuing simple commands from a PC-based command line or terminal interface. Currently, the remote monitoring protocol offers 3 different commands which allow you to perform such actions as:

- inquire about the operational status of the power supplies
- retrieve information about the firmware version
- clear active power alarms that have occurred

Commands

The specific command types that can be issued to the RPS1845QAB000 are:

- SA1 Request the current status of the power supply module(s) at address A1
- FA1 Retrieve the CPU card firmware version at address A1
- CA1 Clear an active alarm at address A1

The unit address is set via two rotary switches which are accessible from a top panel access hole. The address range is 00 to FF (max. of 256 units). The factory default address is set to A1.

To issue one of these commands, simply type the three character command in the terminal interface or command line interface window. The RPS1845QAB000 will respond with a single line response that reflects the desired status/action.

Each response line has the following basic structure:

<command echo>,<response>

where:

<command echo> echoes the same command that was entered
<response> is comprised of two numeric characters that reflect the desired status/action

In addition to response lines received as a result of user-specified commands, the RPS1845QAB000 may also generate alarm messages as a result of a power supply module failures. A response of this type has the form:

A<unit address>,<response>

where:

<unit address> is the unit address of the RPS1845QAB000 module.
<response> is comprised of two numeric characters that reflect the operational status of the power supply modules

Alarm messages will be generated immediately in response to a failure condition and will be received every 2 seconds until the alarm is cleared (via the "Cxx" command) or until the failure condition is reset, restored, or repaired. Note that once an alarm is cleared, it will no longer be received, regardless of whether the condition that caused the alarm was remedied or not.

Examples

Request current status from unit at address **A1**.

| | | | |
|--|---------------|---------------------|---------------------|
| Data sent to unit at address A1: | SA1 | | |
| Data received from unit at address A1: | SA1,11 | Power supply 1 good | Power supply 2 good |
| | SA1,10 | Power supply 1 good | Power supply 2 fail |
| | SA1,01 | Power supply 1 fail | Power supply 2 good |

Alarm message from unit at address **A1**.

| | | | |
|--|---------------|---------------------|---------------------|
| Data received from unit at address A1: | AA1,10 | Power supply 1 good | Power supply 2 fail |
| | AA1,01 | Power supply 1 fail | Power supply 2 good |

Clear active alarm message from unit at address **A1**.

| | | | |
|--|------------------------|--|--|
| Data sent to unit at address A1: | CA1 | | |
| Data received from unit at address A1: | CA1,Alarm Clear | | |

Request firmware version from unit at address **A1**.

| | | | |
|--|-----------------------------|--|--|
| Data sent to unit at address A1: | FA1 | | |
| Data received from unit at address A1: | FA1,FIRMWARE VER 001 | | |

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