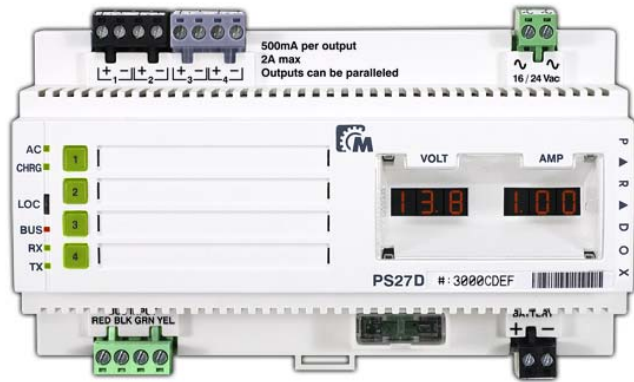


PS27D: 4-Output 2.85A Power Supply Module



Installation/Wiring:	1 hr
Programming 1:	2 hr
Programming 2:	1 hr
Testing:	1 hr
Total Time:	5 hr

DRAFT

Description

Driven by the V32 main controller's 4-wire communication bus (Multibus), the PS27D module is a fully-supervised 2.85A switching power supply with 4 auxiliary outputs that provide 12Vdc, 500mA each. These outputs can be connected in parallel to combine output power.

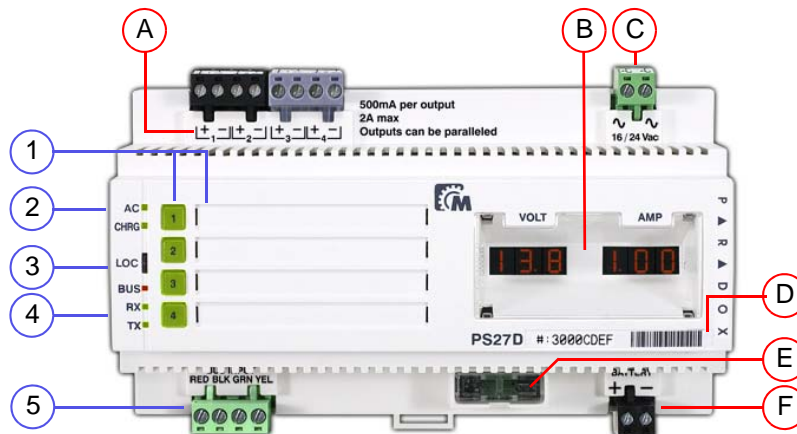
The PS27D provides features local output control buttons, Multibus and power status LEDs, and a 7-segment display that shows the voltage and amperage of each output, or sum of all outputs. Using BabyWare, outputs can also be configured to be used as PGMs.

Features

- 2.85A built-in switching power supply with transformer sharing (share central supply throughout the system)
- 4 auxiliary outputs providing 13.8Vdc, 500mA each (can be used in parallel to increase output current)
- Auxiliary outputs can be used as PGMs
- 7-segment display for voltage and amperage of each output, or sum of all outputs
- On-board buttons to manually turn on/off each output
- Supervises AC, battery, low battery and output limit
- Selectable battery charge current (350mA/500mA)
- Connects to Multibus: 4-wire encrypted 13.8Vdc communication bus at 500bps
- Remote firmware upgrade via Multibus using RS-485 at 57.6Kbps
- All programming is done using BabyWare PC Software
- DIN rail enclosure with removable terminals for fast, secure, orderly and economic installation

Overview

- 1) Local on/off control for each output with space to label each output
- 2) Power status LEDs (page 3)
- 3) Press the LOC button to perform a module locate (see "Bi-directional Locate Feature" on page 3)
- 4) Multibus status LEDs (see page 3)
- 5) 4-wire Multibus connection
- A) Each output provides 13.8Vdc, 500mA (see "Combining Output Power (Parallel)" on page 2)
- B) Displays voltage and amperage supplied to the aux. outputs (see "Volt / Amp Display" on page 3)
- C) Power input: 16-24Vac / 16-36Vdc
- D) Product serial number
- E) Fuse not required (PS27D features fuseless protection)
- F) Battery backup: 12Vdc, 7Ah



Related Topics

Installation / Wiring (see Imperial System Guide)

- DIN Rail Enclosure
- System Diagrams and Wiring Tips
- Wire Gauge Selection

Features

- Remote Firmware Upgrade (see page 3)
- Bi-directional Locate Feature (see page 3)

Applications (see Imperial System Guide)

- Wall Switches
- Macros

BabyWare (see Imperial System Guide)

- BabyWare

Specifications

Operating Voltage	16-24Vac (50 or 60Hz), or 16-36Vdc
Power rating	50W / 75VA
Aux. Outputs	Typical 12Vdc (10.8 to 13.8Vdc), 500mA per output with fuseless shutdown. Connect in parallel to combine output power: For example, combine 1-4 for 1 output at 2A For example, combine 1-2 for 1 output at 1A
Battery	12Vdc, 7Ah minimum
Multibus supply	13.8Vdc
Dimensions	Standard DIN9
Operating Temperature	0°C to 50°C 32°F to 122°F

Wiring

Refer to Figure 1 on page 2 for information wiring the PS27D.

Transformer Sharing

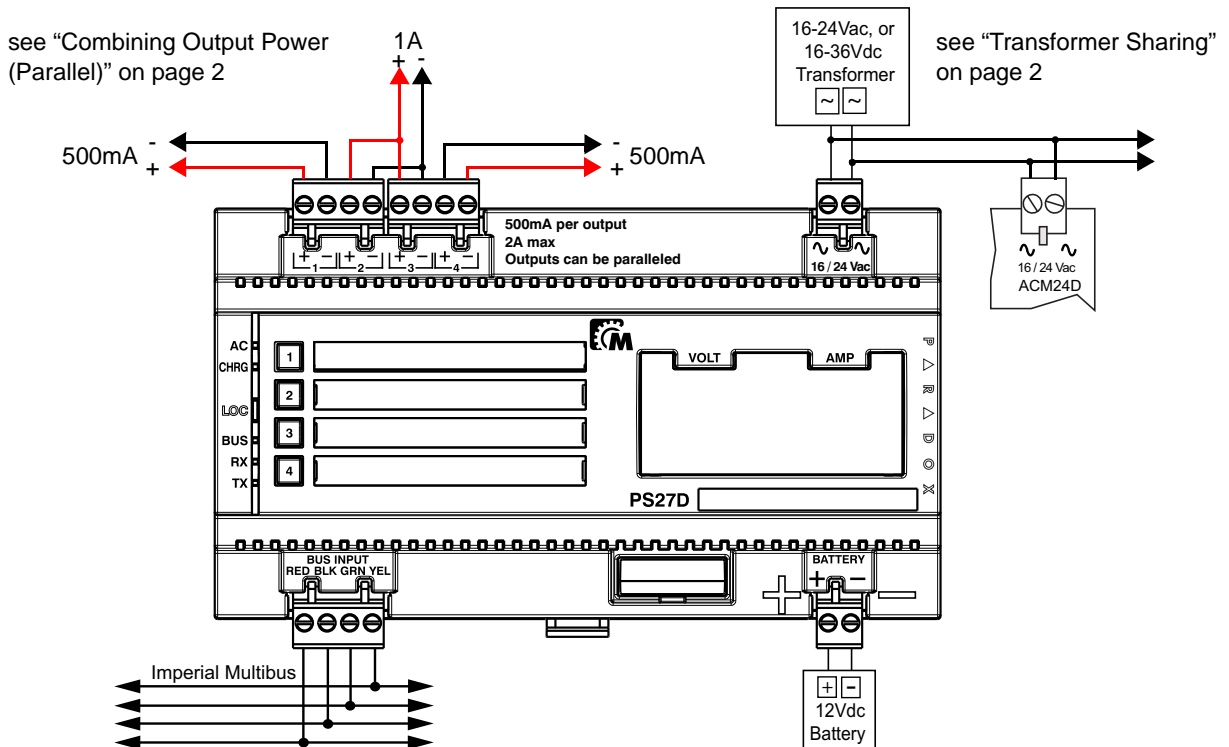
The PS27D features Transformer Sharing that enables modules with this feature to share a central transformer (16-24Vac, or 16-36Vdc) throughout the system. Ensure that the total power output of the transformer is respected. There is no specific polarity connection when using a DC transformer.

Combining Output Power (Parallel)

These outputs can be wired in parallel, to combine output power. For example, in Figure 1 outputs 2 and 3 were connected in parallel to provide one output at 1A. Another example would be to wire all 4 outputs in parallel to provide one output at 2A. To wire in parallel:


- 1) Using the local control buttons, deactivate the outputs (LED off) you want to combine. If outputs are not first deactivated, the correct voltage and amperage will not be displayed.
- 2) Wire the outputs you want to combine in parallel as shown in Figure 1.
- 3) Reactivate the combined outputs by pressing only one of the local control buttons. For example, in Figure 1 pressing local control button 2 will reactivate outputs 2 and 3.

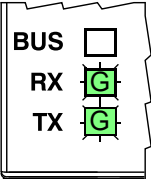
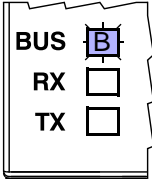
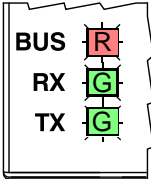
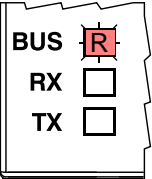
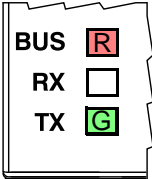
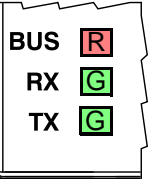
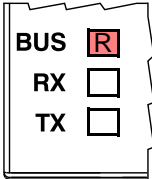
Figure 1: PS27D Wiring Diagram



Feedback Display

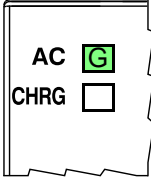
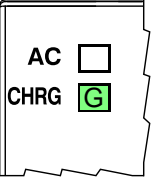
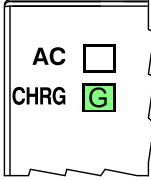
Multibus Status LEDs

R = Red G = Green B = Blue = Off = On  = Flashing


						
OK (com in progress)	firmware upgrade in progress	Module locate mode	Battery voltage low	Com fail, or too many modules	Bus reversed (GRN/YEL)	BUS short (GRN/YEL)

Power Status LEDs

R = Red G = Green B = Blue = Off = On

		
AC or DC power is supplied	Battery is low / charging	On for less than 4 sec. = battery test

Volt / Amp Display

Normal Mode Not in Output or Global mode.	VOLT Voltage that can be supplied to outputs	AMP Total amperage supplied to all four outputs	
Output Mode Press and hold an output button for two seconds. Exits in 5 minutes or by pressing and holding the same button.	VOLT Cycles between output # (e.g. 0-1) and voltage being supplied to selected output.	AMP Amperage supplied to selected output	
Global Mode Press and hold buttons 1 and 4 for two seconds. Exits in 5 minutes or by pressing and holding buttons 1 and 4.	VOLT Cycles through the voltage of each output followed by total of all four outputs	AMP Cycles through the amperage of each output followed by total of all four outputs	

Bi-directional Locate Feature

Pressing and holding the LOC button for 3 seconds will initiate the Module Locate feature. When a Module Locate is initiated, the module's representation in the BabyWare software will flash and the module's BUS, RX and TX LEDs will flash to indicate that it is in locate mode. A module locate can also be initiated from the BabyWare software. From BabyWare right-click the module's representation and select Locate Physical. The module's BUS, RX and TX LEDs will flash. We highly recommend that after pressing locate and identifying the module, open the programming page and assign the proper physical location label and the doors' labels and locations. After complete connection, use the space provided on the module to indicate the doors' description.

Remote Firmware Upgrade

Work in progress...The PS27D is firmware upgradeable remotely via the V32 controller's Multibus at 57.6Kbps. Using BabyWare connect to the V32 account using any of the connection methods (direct connect, IP static, or IP DNS). Right-click the desired module and select Upgrade (??). A firmware upgrade for a single module or group of modules will take usually less than 10 minutes, which keeps system downtime to a minimum.

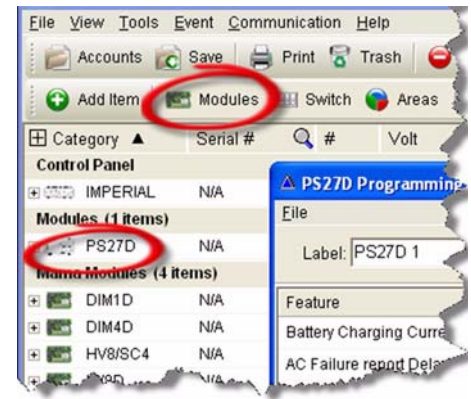
Programming a PS27D Module

- 1) When BabyWare is communicating with the V32 controller and a PS27D module is connected to the Multibus, it automatically appears in the Mama Modules display area. To view the Mama Modules display area, click the **Modules** toggle button. Alternatively, you may wish to add a module to BabyWare before the module is physically connected to the system. Click the **Add Item** button. Refer to Figure 2.
- 2) To program a module that already appeared in the system, double-click the module's icon. The PS27D Programming window opens.
- 3) From the PS27D Programming window, you can set the battery charging current and the AC failure/restore delay. Click OK.

Related Topics

- If you have trouble locating the module in BabyWare, you can use the Module Locate Feature (see "Bi-directional Locate Feature" on page 3)

Figure 2: PS27D Programming



Patents: One or more of the following US patents may apply: 7046142, 6215399, 6111256, 6104319, 5920259, 5886632, 5721542, 5287111, 5119069, 5077549 and RE39406 and other pending patents may apply. Canadian and international patents may also apply.

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