

# Power Input Modules (for ROC800-Series)

The ROC800-Series Remote Operations Controllers are microprocessor-based measurement and control devices that provide the functions required for a variety of field automation applications. The ROC809 has a backplane to which the Central Processing Unit (CPU), Power Input Module, Input/Output (I/O) modules, and communication modules connect.

The ROC809 uses one Power Input Module to convert external input power to the voltage levels required by the ROC809 unit's electronics and to monitor voltage levels to ensure proper operation. Two types of power input modules are available for the ROC809: 12 Volt DC and 24 Volt DC.

Power Input Modules can easily be installed or removed from the module slot, when not under power, by removing the two captive screws accessible from the front of the unit. The modules are self-identifying via ROCLINK™ 800 Configuration Software.

With the **12 VDC module**, the ROC809 can accept 12 Volts DC (nominal) input power from an AC/DC converter or other 12 Volt DC supply. The input source should be fused and connected to the BAT+ and BAT- terminals. The CHG+ and CHG- terminals provide functionality similar to an Analog

input channel and allow the user to monitor a voltage, such as an external charging source. The AUX+ and AUX- terminals can be used to supply reverse polarity protected source voltage to external devices, such as a radio or solenoid. The AUX<sub>sw</sub>+ and AUX<sub>sw</sub>- terminals can be used to provide switched power for external devices.

With the **24 VDC module**, the ROC809 can accept 24 Volts DC (nominal) input power from an AC/DC converter or other 24 Volt DC supply fused and connected to the + and - terminals. The AUX+ and AUX- terminals can be used to supply reverse polarity protected source voltage (12 Volts) to external devices, such as a radio or solenoid.

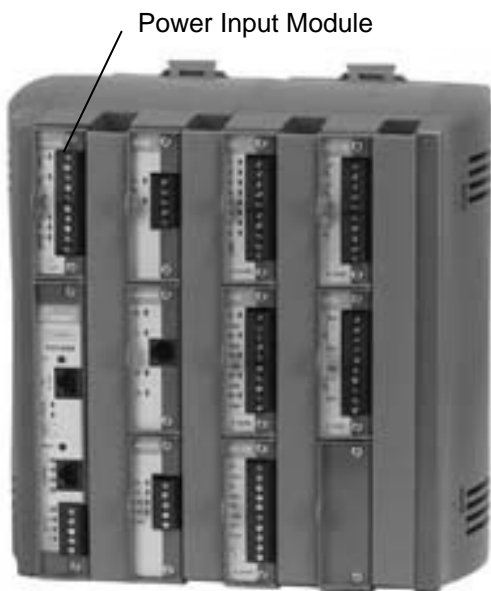
Table 1. 12 VDC Power Input Module Terminals

Terminal	Label	Definition
1	BAT+	Source / Battery Power
2	BAT-	Source / Battery Return
3	CHG+	Monitor Charger Power
4	CHG-	Monitor Charger Return
5	AUX+	Auxiliary Output Power
6	AUX-	Auxiliary Output Return
7	AUX <sub>sw</sub> +	Switched Auxiliary Output Power
8	AUX <sub>sw</sub> -	Switched Auxiliary Output Return

Table 2. 24 VDC Power Input Module Terminals

Terminal	Label	Definition
1	+	Power
2	-	Return
3	+	Power <sup>1</sup>
4	-	Return <sup>2</sup>
5	NC	
6	NC	
7	AUX+	Auxiliary Output Power (12 V)
8	AUX-	Auxiliary Output Return (12 V)
9	NC	
10	NC	

1. Internally connected to terminal 1.  
2. Internally connected to terminal 2.



ROC809 Remote Operations Controller

**Common Specifications**

<p><b>ENVIRONMENTAL</b></p> <p><b>Operating Temp:</b> -40 to 75°C (-40 to 167°F).  <b>Storage Temp:</b> -40 to 85°C (-40 to 185°F).  <b>Relative Humidity:</b> IEC68-2-3; 5-95% non-condensing.  <b>Vibration:</b> IEC68-2-6; 0.15 mm/sec<sup>2</sup> @10-150 Hz.  <b>Mechanical Shock:</b> IEC68-2-27; 11 ms, sinusoidal 50 Gs non-operating, 15 Gs operating.  <b>Thermal Shock:</b> IEC68-2-14; Air to air from -20 to 85°C (-4 to 185°F).</p>	<p><b>WIRING</b></p> <p>12 AWG maximum size for terminal blocks.</p> <p><b>DIMENSIONS</b></p> <p>26 mm W by 133 mm H by 75 mm D (1.04 in. W by 5.25 in. H by 2.96 in. D).</p> <p><b>APPROVALS</b></p> <p>Covered by approvals for ROC809 unit. See Specification Sheet 6:ROC809.</p>
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**Specifications (12 Volts DC Module)**

<p><b>POWER INPUT RATINGS</b></p> <p><b>Recommended Input Operating Range (BAT+):</b> 11.25 to 14.0 Volts DC.  <b>Input Range (BAT+):</b> 10 to 16 Volts DC.  <b>Maximum Input Current (BAT+):</b> 5 Amps.  <b>Input Switch on Resistance (BAT+ to AUX+):</b> ~100 mΩ.</p> <p><b>AUX+</b></p> <p><b>Output Voltage Range:</b> 0 to BAT Volts DC +/- ~0.7 Volts.  <b>Output Current:</b> 2.5 Amps maximum.</p> <p><b>AUX<sub>SW+</sub></b></p> <p><b>Output Voltage Range:</b> 0 to 14.25 Volts DC.  <b>Output Current:</b> 0.5 Amps maximum.</p>	<p><b>LED INDICATORS</b></p> <p><b>V<sub>ON</sub>:</b> Indicates voltage is in tolerance on BAT+ and BAT-.  <b>V<sub>OFF</sub>:</b> Indicates the AUX<sub>SW+</sub> output is disabled by the CPU control line.  <b>V<sub>OVER</sub>:</b> Indicates the AUX<sub>SW+</sub> is disabled due to excess voltage on BAT+.  <b>TEMP:</b> Indicates the AUX<sub>SW+</sub> output are disabled due to the excess temperature of the power input module.</p> <p><b>WEIGHT</b></p> <p>97.5 g (3.44 oz).</p>
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**Specifications (24 Volts DC Module)**

<p><b>POWER INPUT RATINGS</b></p> <p><b>Input Operating Range (+):</b> 20 to 30 Volts DC.  <b>Input Current Range (+):</b> 0 to 2 Amps.</p> <p><b>AUX+</b></p> <p><b>Output Voltage:</b> 11.3 Volts (typical).  <b>Output Current:</b> 0.5 Amps maximum.</p>	<p><b>LED INDICATORS</b></p> <p><b>V<sub>12</sub>:</b> Indicates the module is providing voltage to the backplane.  <b>V<sub>3</sub>:</b> Indicates the module is providing voltage to the CPU.</p> <p><b>WEIGHT</b></p> <p>120 g (4.24 oz).</p>
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**Emerson Process Management**  
**Flow Computer Division**  
 Marshalltown, IA 50158 U.S.A.  
 Houston, TX 77065 U.S.A.  
 Pickering, North Yorkshire UK Y018 7JA

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