

# Micro800 Programmable Controller External AC Power Supply

Catalog Numbers 2080-PSAC-12W

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## Important User Information

Read this document and the documents listed in the additional resources section about installation, configuration, and operation of this equipment before you install, configure, operate, or maintain this product. Users are required to familiarize themselves with installation and wiring instructions in addition to requirements of all applicable codes, laws, and standards.

Activities including installation, adjustments, putting into service, use, assembly, disassembly, and maintenance are required to be carried out by suitably trained personnel in accordance with applicable code of practice.

If this equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

In no event will Rockwell Automation, Inc. be responsible or liable for indirect or consequential damages resulting from the use or application of this equipment.

The examples and diagrams in this manual are included solely for illustrative purposes. Because of the many variables and requirements associated with any particular installation, Rockwell Automation, Inc. cannot assume responsibility or liability for actual use based on the examples and diagrams.

No patent liability is assumed by Rockwell Automation, Inc. with respect to use of information, circuits, equipment, or software described in this manual.

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Throughout this manual, when necessary, we use notes to make you aware of safety considerations.



**WARNING:** Identifies information about practices or circumstances that can cause an explosion in a hazardous environment, which may lead to personal injury or death, property damage, or economic loss.

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**ATTENTION:** Identifies information about practices or circumstances that can lead to personal injury or death, property damage, or economic loss. Attentions help you identify a hazard, avoid a hazard, and recognize the consequence.

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**IMPORTANT**

Identifies information that is critical for successful application and understanding of the product.

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Labels may also be on or inside the equipment to provide specific precautions.

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**SHOCK HAZARD:** Labels may be on or inside the equipment, for example, a drive or motor, to alert people that dangerous voltage may be present.

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**BURN HAZARD:** Labels may be on or inside the equipment, for example, a drive or motor, to alert people that surfaces may reach dangerous temperatures.

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**ARC FLASH HAZARD:** Labels may be on or inside the equipment, for example, a motor control center, to alert people to potential Arc Flash. Arc Flash will cause severe injury or death. Wear proper Personal Protective Equipment (PPE). Follow ALL Regulatory requirements for safe work practices and for Personal Protective Equipment (PPE).

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## Environment and Enclosure

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**ATTENTION:** This equipment is intended for use in a Pollution Degree 2 industrial environment, in overvoltage Category II applications (as defined in IEC 60664-1), at altitudes up to 2000 m (6562 ft) without derating.



This equipment is considered Group 1, Class A industrial equipment according to IEC/CISPR 11. Without appropriate precautions, there may be difficulties with electromagnetic compatibility in residential and other environments due to conducted and radiated disturbances.

This equipment is supplied as open-type equipment. It must be mounted within an enclosure that is suitably designed for those specific environmental conditions that will be present and appropriately designed to prevent personal injury resulting from accessibility to live parts. The enclosure must have suitable flame-retardant properties to prevent or minimize the spread of flame, complying with a flame spread rating of 5VA or be approved for the application if nonmetallic. The interior of the enclosure must be accessible only by the use of a tool. Subsequent sections of this publication may contain additional information regarding specific enclosure type ratings that are required to comply with certain product safety certifications.

In addition to this publication, see:

- Industrial Automation Wiring and Grounding Guidelines, Rockwell Automation publication [1770-4.1](#), for additional installation requirements.
  - NEMA Standard 250 and IEC 60529, as applicable, for explanations of the degrees of protection provided by different types of enclosure.
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## North American Hazardous Location Approval

The following information applies when operating this equipment in hazardous locations.	Informations sur l'utilisation de cet équipement en environnements dangereux.
<p>Products marked "CL I, DIV 2, GP A, B, C, D" are suitable for use in Class I Division 2 Groups A, B, C, D, Hazardous Locations and nonhazardous locations only. Each product is supplied with markings on the rating nameplate indicating the hazardous location temperature code. When combining products within a system, the most adverse temperature code (lowest "T" number) may be used to help determine the overall temperature code of the system. Combinations of equipment in your system are subject to investigation by the local Authority Having Jurisdiction at the time of installation.</p>	<p>Les produits marqués "CL I, DIV 2, GP A, B, C, D" ne conviennent qu'à une utilisation en environnements de Classe I Division 2 Groupes A, B, C, D dangereux et non dangereux. Chaque produit est livré avec des marquages sur sa plaque d'identification qui indiquent le code de température pour les environnements dangereux. Lorsque plusieurs produits sont combinés dans un système, le code de température le plus défavorable (code de température le plus faible) peut être utilisé pour déterminer le code de température global du système. Les combinaisons d'équipements dans le système sont sujettes à inspection par les autorités locales qualifiées au moment de l'installation.</p>
<div style="display: flex; align-items: center;">  <div> <p><b>WARNING:</b> <b>Explosion Hazard –</b></p> <ul style="list-style-type: none"> <li>• Do not disconnect equipment unless power has been removed or the area is known to be nonhazardous.</li> <li>• Do not disconnect connections to this equipment unless power has been removed or the area is known to be nonhazardous. Secure any external connections that mate to this equipment by using screws, sliding latches, threaded connectors, or other means provided with this product.</li> <li>• Substitution of components may impair suitability for Class I, Division 2.</li> <li>• If this product contains batteries, they must only be changed in an area known to be nonhazardous.</li> </ul> </div> </div>	<div style="display: flex; align-items: center;">  <div> <p><b>AVERTISSEMENT:</b> <b>Risque d'Explosion –</b></p> <ul style="list-style-type: none"> <li>• Couper le courant ou s'assurer que l'environnement est classé non dangereux avant de débrancher l'équipement.</li> <li>• Couper le courant ou s'assurer que l'environnement est classé non dangereux avant de débrancher les connecteurs. Fixer tous les connecteurs externes reliés à cet équipement à l'aide de vis, loquets coulissants, connecteurs filetés ou autres moyens fournis avec ce produit.</li> <li>• La substitution de composants peut rendre cet équipement inadéquat à une utilisation en environnement de Classe I, Division 2.</li> <li>• S'assurer que l'environnement est classé non dangereux avant de changer les piles.</li> </ul> </div> </div>



### WARNING:

- When used in a Class I, Division 2, hazardous location, this equipment must be mounted in a suitable enclosure with proper wiring method that complies with the governing electrical codes.
- Any fluctuation in voltage source must be within 88 . . 264V AC. Do not connect the adapter to a power source that has fluctuations outside of this range.



**ATTENTION:**

- Be careful when stripping wires. Wire fragments that fall into the controller could cause damage. Once wiring is complete, be sure the module is free of all metal fragments before removing the protective debris strip. Failure to remove the strip before operating can cause overheating.
  - Be careful of metal chips when drilling mounting holes for your controller or other equipment within the enclosure or panel. Drilled fragments that fall into the controller could cause damage. Do not drill holes above a mounted controller if the protective debris strips have been removed.
  - Electrostatic discharge can damage semiconductor devices inside the adapter. Do not touch the connector pins or other sensitive areas.
  - Mount the power supply vertically.  
Allow 50 mm (2 in.) of space on all but the right side for adequate ventilation.
  - Do not wire more than 2 conductors on any single terminal.
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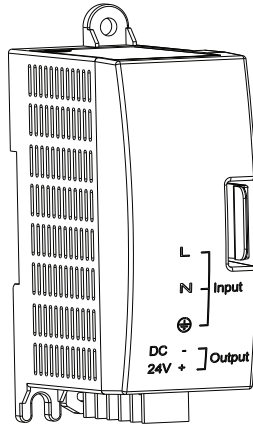


**WARNING:** Risk of electrical shock, fire, personal injury or death.

- Do not use the power supply without proper grounding (Protective Earth).
  - Turn power off before working on the device.  
Protect against inadvertent re-powering.
  - Make sure that the wiring is correct by following all local and national codes.
  - Do not modify or repair the unit.
  - Do not open the unit as high voltages are present inside.
  - Use caution to prevent any foreign objects from entering into the housing.
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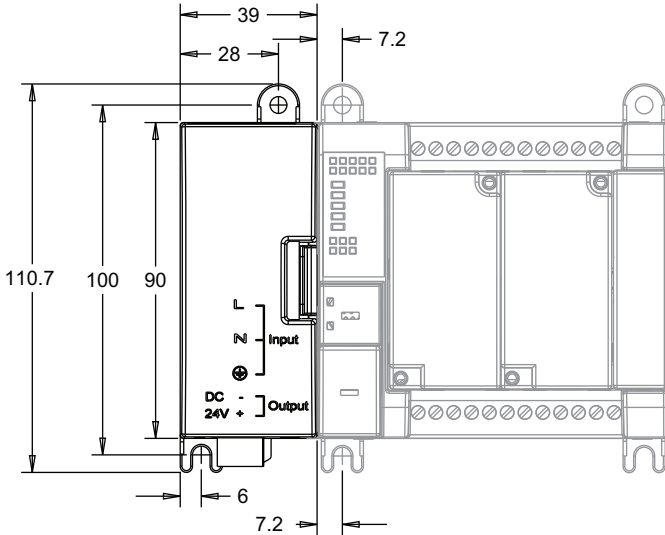
## Overview

The 2080-PSAC-12W power supply can be used by controllers from the Micro800® family as an optional AC power source.



## Connect the Power Supply

Measurements in millimeters



## General Considerations

Most applications require installation in an industrial enclosure to reduce the effects of electrical interference and environmental exposure. Locate your module as far as possible from power lines, load lines, and other sources of electrical noise such as hard-contact switches, relays, and AC motor drives. For more information on proper grounding guidelines, see the Industrial Automation Wiring and Grounding Guidelines, publication [1770-4.1](#).

## Module Spacing

Maintain spacing from objects such as enclosure walls, wireways and adjacent equipment. Allow 50.8 mm (2 in.) of space on all sides for adequate ventilation. An exception to this spacing guideline is allowed for the side at which you are connecting a Micro800 controller.



## DIN Rail Mounting

Use a flat-blade screwdriver to mount the power supply on EN50022-35x7.5 DIN rails.

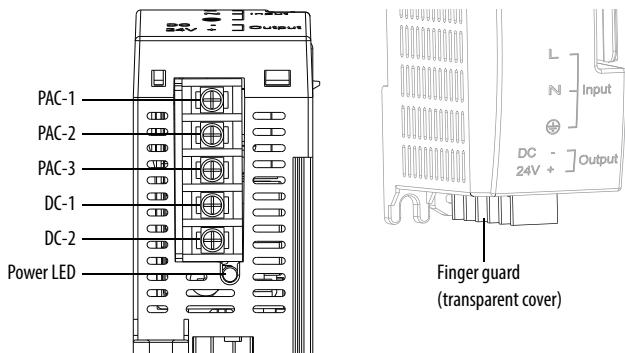
## Panel Mounting

The preferred mounting method is to use four M4 (#8) screws per module. Hole spacing tolerance:  $\pm 0.4$  mm (0.016 in.).

Follow these steps to install the power supply using mounting screws.

1. Place the power supply against the panel where you are mounting it. Make sure the power supply is spaced properly.
2. Mark drilling holes through the mounting screw holes and mounting feet then remove the power supply.
3. Drill the holes at the markings, then replace the power supply and mount it.

## Wire the Module



AC Input Connectors			DC Output Connectors (DC 24V / 0.5 A)		
PAC-1	AC hot	100...240V AC	DC-1	-	
PAC-2	AC neutral	100...240V AC	DC-2	+	
PAC-3	Safety ground				



**ATTENTION:** Replace the finger guard after wiring the power supply.

## Specifications

### General

Attribute	Value
Dimensions, HxWxD	90 x 39 x 75 mm (3.54 x 1.54 x 2.95 in)
Shipping weight	0.2 kg (0.44 lb)
Supply voltage range <sup>(1)</sup>	100V...120V AC, 0.7 A 200...240V AC, 0.4 A
Supply frequency	47...63 Hz
Supply power	24V DC, 0.9 A @ 50 °C 24V DC, 0.5 A @ 65 °C
Inrush current, max	25 A @ 132V for 10 ms 40 A @ 265V for 10 ms
Line loss ride through	10...3000 ms @ 88V AC
Power consumption (Output power)	21.6W @ 50 °C 12W @ 65 °C
Power dissipation (Input power)	27W (115V AC), 26.7W (230V AC) @ 50 °C 15.4W (115V AC), 15.2W (230V AC) @ 65 °C
Isolation voltage	250V (continuous), Primary to Secondary: Reinforced Insulation Type Type tested for 60s at 2300V AC primary to secondary and 1350V AC primary to earth ground.

## General

Attribute	Value
Output ratings	24V, 0.9 A, 21.6W @ 50 °C 24V, 0.5 A, 12W @ 65 °C
Enclosure type rating	Meets IP20
Wire size	0.32... 2.1 mm <sup>2</sup> (22...14 AWG) solid copper wire or 0.32... 1.3 mm <sup>2</sup> (22...16 AWG) stranded copper wire rated at 90 °C (194 °F) insulation max
Terminal screw torque	0.49... 0.59 Nm (4.3... 5.2 lb-in) (using a Phillips-head or 2.5 mm (0.10in.) flat-blade screwdriver)
Wiring category <sup>(2)</sup>	2 - on power ports
Insulation stripping length	5 mm (0.197 in.)
North American temp code	T4

- (1) Any fluctuation in voltage source must be within 88...264V. Do not connect the adapter to a power source that has fluctuations outside of this range.
- (2) Use this Conductor Category information for planning conductor routing. Refer to Industrial Automation Wiring and Grounding Guidelines, publication [1770-4.1](#).

## Environmental

Attribute	Value
Temperature, operating	IEC 60068-2-1 (Test Ad, Operating Cold), IEC 60068-2-2 (Test Bd, Operating Dry Heat), IEC 60068-2-14 (Test Nb, Operating Thermal Shock): -20... 65 °C (-4... 149 °F)
Temperature, surrounding air, max	65 °C (149 °F)
Temperature, storage	IEC 60068-2-1 (Test Ab, Unpackaged Non-operating Cold), IEC 60068-2-2 (Test Bb, Unpackaged Non-operating Dry Heat), IEC 60068-2-14 (Test Na, Unpackaged Non-operating Thermal Shock): -40... 85 °C (-40... 185 °F)
Relative humidity	IEC 60068-2-30 (Test Db, Unpackaged Damp Heat): 5... 95% noncondensing
Vibration	IEC 60068-2-6 (Test Fc, Operating): 2 g @ 10... 500 Hz
Shock, operating	IEC 60068-2-27 (Test Ea, Unpackaged Shock): 25 g

## Environmental

Attribute	Value
Shock, nonoperating	IEC 60068-2-27 (Test Ea, Unpackaged Shock): 25 g for DIN rail mounted 45 g for panel mounted
Emissions	IEC 61000-6-4
ESD immunity	IEC 61000-4-2: 6 kV contact discharges 8 kV air discharges
Radiated RF immunity	IEC 61000-4-3: 10V/m with 1 kHz sine-wave 80% AM from 80 . . .2000 MHz 10V/m with 200 Hz 50% Pulse @ 900 MHz and 1890 MHz 10V/m with 1 kHz sine-wave 80% AM from 2000 . . . 2700 MHz
EFT/B immunity	IEC 61000-4-4: $\pm 2$ kV at 5 kHz on power ports
Surge transient immunity	IEC 61000-4-5: $\pm 1$ kV line-line(DM) and $\pm 2$ kV line-earth(CM) on power ports
Conducted RF immunity	IEC 61000-4-6: 10V rms with 1 kHz sine-wave 80% AM from 150 kHz . . . 80 MHz
Voltage variation	IEC 61000-4-11: 30% dips for 25 cycles 60% dips for 10 cycles 100% dips for 0.5 and 1 cycles >95% interruptions for 250 cycles

## Certifications

Certification (when product is marked) <sup>(1)</sup>	Value
c-UL-us	UL Listed Industrial Control Equipment, certified for US and Canada. See UL File E322657. UL Listed for Class I, Division 2 Group A,B,C,D Hazardous Locations, certified for U.S. and Canada. See UL File E334470.
CE	European Union 2014/30/EU EMC Directive, compliant with: EN 61326-1; Meas./Control/Lab., Industrial Requirements EN 61000-6-2; Industrial Immunity EN 61000-6-4; Industrial Emissions EN 61131-2; Programmable Controllers (Clause 8, Zone A & B) European Union 2014/35/EU LVD, compliant with: EN 61131-2; Programmable Controllers (Clause 11)
RCM	Australian Radiocommunications Act, compliant with: EN 61000-6-4; Industrial Emissions
KC	Korean Registration of Broadcasting and Communications Equipment, compliant with: Article 58-2 of Radio Waves Act, Clause 3

- (1) See the Product Certification link at <http://www.ab.com> for Declaration of Conformity, Certificates, and other certification details.

## 中国 RoHS 指令符合性表

## China RoHS Compliance Table

部件名称 Component Name	有毒或有害的物质和元素 Toxic or Hazardous Substances and Elements					
	铅 Lead (Pb)	汞 Mercury (Hg)	镉 Cadmium (Cd)	六价铬 Hexavalent Chromium (Cr(VI))	多溴联苯 Polybrominated Biphenyls (PBB)	多溴二苯醚 Polybrominated Diphenyl Ethers (PBDE)
印刷电路板组件 Printed circuit board assemblies	X	0	0	0	0	0

本表格依据 SJ/T 11364 的规定编制。

This form is based on the provisions established in SJ/T 11364.

0: 表示该有害物质在该部件所有均质材料中的含量均在 GB/T 26572 规定的限量要求以下。

0: Indicates that this hazardous substance contained in all of the homogeneous materials for the part is below the limit requirement in GB/T 26572.

X: 表示该有害物质至少在该部件的某一均质材料中的含量超出 GB/T 26572 规定的限量要求。

X: Indicates that this hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement in GB/T 26572.

(企业可在此处, 根据实际情况对上表中打“X”的技术原因进行进一步说明。)  
(If desired, descriptions of the components with an "X" can be provided here.)

## Additional Resources

These documents contain additional information concerning related products from Rockwell Automation.

Resource	Description
Micro810 Programmable Controllers User Manual, publication <a href="#">2080-UM001</a>	A more detailed description of how to install and use your Micro810® LC10 programmable controller and expansion I/O system.
Micro820 Programmable Controllers User Manual, publication <a href="#">2080-UM005</a>	A more detailed description of how to install and use your Micro820™ LC20 programmable controller and expansion I/O system.
Micro830 and Micro 850 Programmable Controllers User Manual, publication <a href="#">2080-UM002</a>	A more detailed description of how to install and use your Micro830® LC30 and Micro850® LC50 programmable controller and expansion I/O system.
Industrial Automation Wiring and Grounding Guidelines, publication <a href="#">1770-4.1</a>	Provides general guidelines for installing a Rockwell Automation industrial system.
Product Certifications website, <a href="http://www.rockwellautomation.com/global/certification/overview.page">http://www.rockwellautomation.com/global/certification/overview.page</a>	Provides declarations of conformity, certificates, and other certification details.

You can view or download publications at

<http://www.rockwellautomation.com/global/literature-library/overview.page>.

To order paper copies of technical documentation, contact your local Allen-Bradley distributor or Rockwell Automation sales representative.

## Rockwell Automation Support

For technical support, visit <http://www.rockwellautomation.com/support/overview.page>.

# Rockwell Automation Support

Use the following resources to access support information.

<b>Technical Support Center</b>	Knowledgebase Articles, How-to Videos, FAQs, Chat, User Forums, and Product Notification Updates.	<a href="https://rockwellautomation.custhelp.com/">https://rockwellautomation.custhelp.com/</a>
<b>Local Technical Support Phone Numbers</b>	Locate the phone number for your country.	<a href="http://www.rockwellautomation.com/global/support/get-support-now.page">http://www.rockwellautomation.com/global/support/get-support-now.page</a>
<b>Direct Dial Codes</b>	Find the Direct Dial Code for your product. Use the code to route your call directly to a technical support engineer.	<a href="http://www.rockwellautomation.com/global/support/direct-dial.page">http://www.rockwellautomation.com/global/support/direct-dial.page</a>
<b>Literature Library</b>	Installation Instructions, Manuals, Brochures, and Technical Data.	<a href="http://www.rockwellautomation.com/global/literature-library/overview.page">http://www.rockwellautomation.com/global/literature-library/overview.page</a>
<b>Product Compatibility and Download Center (PCDC)</b>	Get help determining how products interact, check features and capabilities, and find associated firmware.	<a href="http://www.rockwellautomation.com/global/support/pcdc.page">http://www.rockwellautomation.com/global/support/pcdc.page</a>

## Documentation Feedback

Your comments will help us serve your documentation needs better. If you have any suggestions on how to improve this document, complete the How Are We Doing? form at [http://literature.rockwellautomation.com/idc/groups/literature/documents/du/ra-du002\\_-en-e.pdf](http://literature.rockwellautomation.com/idc/groups/literature/documents/du/ra-du002_-en-e.pdf).

Rockwell Automation maintains current product environmental information on its website at <http://www.rockwellautomation.com/rockwellautomation/about-us/sustainability-ethics/product-environmental-compliance.page>. At the end of its life, this equipment should be collected separately from any unsorted municipal waste.

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