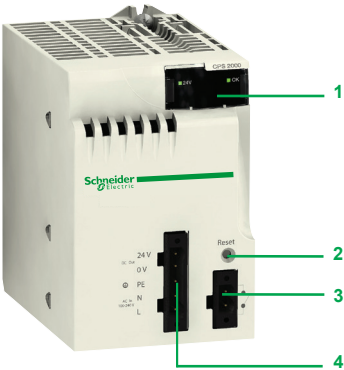
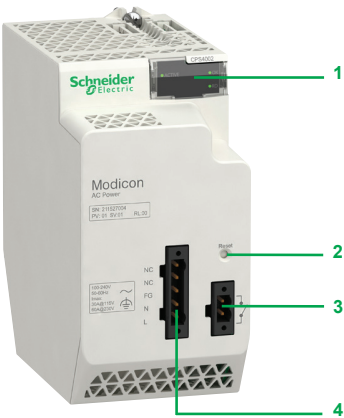




BMXCPS2000



BMXCPS4002

### Presentation

**BMXCPS●●●●** power supplies provide the power supply for each **BMEXBP●●●00** or **BMXXBP●●●00** Modicon X80 rack and the modules installed on it (**BMEXBP●●●02** supports **BMXCPS●●●●2** modules only).

The Modicon X80 power supplies offer comprises:

- Five power supplies for DC line supplies:
  - 24 V  $\text{---}$ , 17 W isolated power supply module, **BMXCPS2010**
  - 24...48 V  $\text{---}$ , 32 W isolated power supply module, **BMXCPS3020**
  - 24...48 V  $\text{---}$ , 40 W redundant power supply module, **BMXCPS4022**
  - 125 V  $\text{---}$ , 36 W power supply module, **BMXCPS3540T** (extended operating temperature -25 to +70 °C/-13 to +158 °F)
  - 125 V  $\text{---}$ , 40 W redundant power supply module, **BMXCPS3522**
- Three power supplies for AC line supplies:
  - 100...240 V  $\sim$ , 20 W power supply module, **BMXCPS2000**
  - 100...240 V  $\sim$ , 36 W power supply module, **BMXCPS3500**
  - 100...240 V  $\sim$ , 40 W redundant power supply module, **BMXCPS4002**

### Description

The power supply is selected according to:

- The electrical line supply: 24 V  $\text{---}$ , 48 V  $\text{---}$ , 125 V  $\text{---}$ , or 100...240 V  $\sim$
- The required power (see the power consumption table available on our website [www.se.com](http://www.se.com)) (1)

**BMXCPS●●●●** power supplies have the following on the front panel:

- 1 A display block comprising:
  - OK LED (green), lit if rack voltages are present and correct
  - 24 V LED (green), lit when the sensor voltage is present (BMXCPS2000/3500/3540T power supply modules only)
  - RD LED (green), lit when all the internal power supply modules are functioning normally (BMXCPS4002/BMXCPS4022/BMXCPS3522 redundant power supply modules only)
  - ACT LED (green), lit when the power supply is the Master power supply, off when it acts as a slave supply in redundant application (BMXCPS4002/BMXCPS4022/BMXCPS3522 redundant power supply modules only)
- 2 A pencil-point RESET pushbutton for a cold restart of the application
- 3 A 2-way connector that can take a removable terminal block (caged or spring-type) for connecting the alarm relay
- 4 A 5-way connector that can take a removable terminal block (caged or spring-type) for connecting the following:
  - $\text{---}$  or  $\sim$  line supply
  - Protective ground
  - Dedicated 24 V  $\text{---}$  power supply for the input sensors (for BMXCPS2000/3500/3540T power supply modules only)

**Included with each power supply module:**

- Set of two **BMXXTSCPS10** caged removable terminal blocks (5-way and 2-way)

**To be ordered separately (if necessary):**

- Set of two **BMXXTSCPS20** spring-type removable terminal blocks (5-way and 2-way)

### Compatibility of the power supply with the rack

The redundant AC power supply can be used alone in a single power supply rack or as a pair in a dual power supply rack. For high-availability applications, two independent redundant power supplies can be used to increase the security of power supply. In case the master power supply fails to provide the total current, the slave power supply will change to master mode and continue to function.

| Type                                                    | Standalone power supply<br>(BMXCPS●●●0) | Redundant power supply<br>(BMXCPS●●●2) |
|---------------------------------------------------------|-----------------------------------------|----------------------------------------|
| Single power supply racks<br>(BMXXBP●●●00, BMEXBP●●●00) | Compatible                              | Compatible                             |
| Dual power supply racks<br>(BMEXBP●●●02)                | Incompatible                            | Compatible                             |
| Compatible                                              |                                         |                                        |
| Incompatible                                            |                                         |                                        |

(1) This power consumption calculation for the rack can also be performed by EcoStruxure Control Expert V14 (Unity Pro in earlier versions) programming software.



BMXCPS2010/3020



BMXCPS2000/3500



BMXCPS4002



BMXCPS4022



BMXCPS3522

### Functions

#### Alarm relay

The alarm relay incorporated in each power supply module has a volt-free contact accessible on the front panel, on the 2-way connector.

The operating principle is as follows:

In normal operation, with the PLC in RUN, the alarm relay is energized and its contact is closed (state 1).

The relay de-energizes and its associated contact opens (state 0) whenever the application stops, even partially, due to any of the following:

- Detection of a blocking fault
- Incorrect rack output voltages
- Loss of supply voltage

#### RESET pushbutton

The power supply module in each rack has a RESET button on the front panel which, when pressed, triggers an initialization sequence on the processor and the modules in the rack it supplies.

Pressing this pushbutton triggers a sequence of service signals, which is the same as that for:

- A power break, when the pushbutton is pressed
- A power-up, when the pushbutton is released
- In terms of the application, these operations represent a cold start (forcing the I/O modules to state 0 and initializing the processor).

#### Sensor power supply

**BMXCPS2000/3500** AC power supplies and **BMXCPS3540T** DC power supplies have an integrated 24 V  $\square$  supply for powering the input sensors.

Connection to this 24 V  $\square$  sensor power supply is via the 5-way connector on the front panel. The available power depends on the power supply (0.45 A or 0.9 A).

### References

Each **BMEXBP●●00** or **BMXXBP●●00** rack must be equipped with a power supply. **BMEXBP●●02** must be equipped with 1 or 2 redundant power supplies. These power supplies are inserted in the leftmost power supply slots of each rack (marked CPS).

The power required to supply each rack depends on the type and number of modules installed in the rack. It is therefore necessary to draw up a power consumption table for each rack in order to determine which

**BMXCPS●●●●** power supply is the most suitable for each rack (please consult our website [www.se.com](http://www.se.com)).

#### X80 Power supplies (1)

| Line supply                     | Available power (2) |                            |                                     | Nominal current<br>24 V $\square$ rack<br>(3) | Reference                       | Weight<br>kg/lb |
|---------------------------------|---------------------|----------------------------|-------------------------------------|-----------------------------------------------|---------------------------------|-----------------|
|                                 | 3.3 V $\square$ (3) | 24 V $\square$ rack<br>(3) | 24 V $\square$ sensors (4)<br>Total |                                               |                                 |                 |
| 24 V $\square$<br>isolated      | 8.3 W               | 17 W                       | —                                   | 0.7 A                                         | <a href="#">BMXCPS2010</a>      | 0.290/<br>0.639 |
| 24...48 V $\square$<br>isolated | 15 W                | 32 W                       | —                                   | 1.3 A                                         | <a href="#">BMXCPS3020</a>      | 0.340/<br>0.750 |
| 24...48 V $\square$             | 18 W                | 40 W                       | —                                   | 1.67 A                                        | <a href="#">BMXCPS4022</a>      | 0.810/<br>1.786 |
| 100...150 V $\square$           | 15 W                | 31.2 W                     | 21.6 W                              | 1.3 A                                         | <a href="#">BMXCPS3540T</a> (5) | 0.340/<br>0.750 |
|                                 | 180 W               | 40 W                       | —                                   | 1.67 A                                        | <a href="#">BMXCPS3522</a>      | 0.610/<br>1.345 |
| 100...240 V $\sim$              | 8.3 W               | 16.8 W                     | 10.8 W                              | 0.7 A                                         | <a href="#">BMXCPS2000</a>      | 0.300/<br>0.661 |
|                                 | 15 W                | 31.2 W                     | 21.6 W                              | 1.3 A                                         | <a href="#">BMXCPS3500</a>      | 0.360/<br>0.794 |
|                                 | 18 W                | 40 W                       | —                                   | 1.67 A                                        | <a href="#">BMXCPS4002</a>      | 0.360/<br>0.794 |

#### Separate parts

| Description                      | Type        | Composition                                              | Reference                   | Weight<br>kg/lb |
|----------------------------------|-------------|----------------------------------------------------------|-----------------------------|-----------------|
| Set of 2 removable<br>connectors | Spring-type | One 5-way terminal block and<br>one 2-way terminal block | <a href="#">BMXXTSCPS20</a> | 0.015/<br>0.033 |
|                                  | Caged       | One 5-way terminal block and<br>one 2-way terminal block | <a href="#">BMXXTSCPS10</a> | 0.020/<br>0.044 |

(1) Include a set of 2 caged removable connectors. Spring-type connectors available separately under reference [BMXXTSCPS20](#).

(2) The sum of the power consumed on each voltage (3.3 V  $\square$  and 24 V  $\square$ ) must not exceed the total power of the module. See the power consumption table available on our website [www.se.com](http://www.se.com).

(3) 3.3 V  $\square$  and 24 V  $\square$  rack voltages for powering modules in the Modicon X80 I/O rack.

(4) 24 V  $\square$  sensor voltage for powering the input sensors (voltage available via the 2-way removable connector on the front panel).

(5) Extended operating temperature -25 to +70 °C/-13 to +158 °F (with power derating at extreme temperatures: 27 W between -25 and 0 °C/-13 and 0 °F and between 60 and 70 °C/140 and 158 °F).