

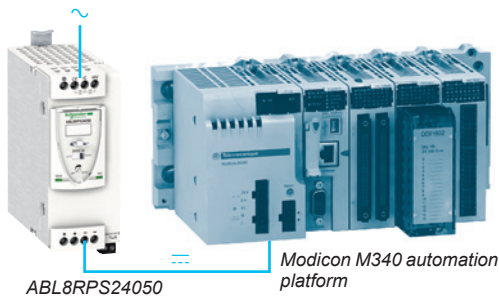
# Power supplies and transformers

## Phaseo

Regulated switch mode power supplies

ABL8RP/ABL8WP (Universal)

72 to 960 W - Wide input voltage range - Mounting on rail



### Switch mode power supplies: ABL8RP/ABL8WP (Universal) range

The **ABL8RPS/RPM/WPS** power supply offer is designed to provide the DC voltage necessary for the control circuits of automation system equipment. Comprising six products, this range meets the needs encountered in industrial and commercial applications. These compact electronic switch mode power supplies provide a quality of output current that is suitable for the loads supplied and compatible with the **Modicon M340**, **Modicon M580**, **Modicon Premium** and **Modicon Quantum** ranges. When used with additional function modules, they ensure continuity of service in the event of network power outages. Clear guidelines are given on selecting the function modules and upstream protection devices which are often used with them, and a comprehensive solution is provided.

The ABL8RP/ABL8WP (Universal) range of Phaseo power supplies must be connected in

phase-to-neutral or phase-to-phase for **ABL8RPS/RPM**, and in three-phase for **ABL8WPS**. They deliver a voltage that is precise to 3%, whatever the load and whatever the type of line supply, within the ranges:

- 85 to 132 V ~ and 170 to 550 V ~ for **ABL8RPS**
- 85 to 132 V ~ and 170 to 264 V ~ for **ABL8RPM**
- 340 to 550 V ~ for **ABL8WPS**

Their very wide input voltage range allows a considerable reduction of parts held in stock and offers a distinct advantage in terms of machine design.

Conforming to IEC standards and UL and CSA certified, they are suitable for ABL8RP/ABL8WP (Universal) use.

**ABL8RPS/RPM** and **ABL8WPS** power supplies are all equipped with a harmonic filter, giving compliance with standard IEC/EN 61000-3-2 concerning harmonic pollution.

The ABL8RP/ABL8WP (Universal) power supplies have protection devices to ensure optimum performance of the automation system. Their operating mode can be configured as required by the user:

- **Manual reset protection mode:** Priority is given to the voltage so as to guarantee the PLC logic states and nominal operation of the supplied actuators.
- **Automatic reset protection mode:** Priority is given to the continuity of service until the arrival of the maintenance team.

The ABL8RP/ABL8WP (Universal) range of Phaseo power supplies also has a power reserve, allowing them to deliver a current of 1.5 In at regular intervals. This avoids the need to oversize the power supply if the device has a high inrush current, while maintaining the performance of the automation.

The diagnostics for the ABL8RP/ABL8WP (Universal) range of Phaseo power supplies are available on the front of the device via LEDs ( $U_{out}$  and  $I_{out}$ ) and via a volt-free relay contact (PLC state).

The products are equipped with an output voltage adjustment potentiometer in order to be able to compensate for any line voltage drops in installations with long connection cable runs.

These power supplies are designed for direct mounting on a 35 mm  $\text{U}$ -rail.

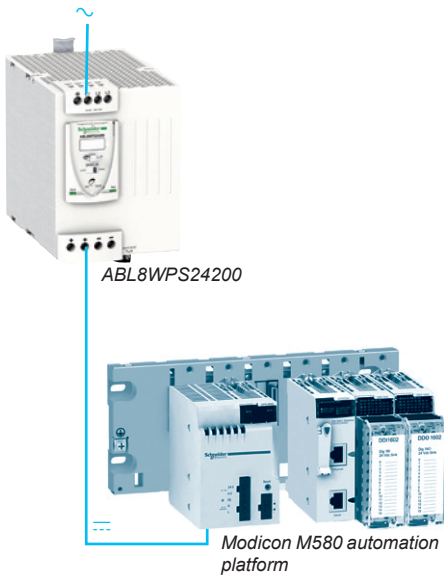
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### Switch mode power supplies: ABL8RP/ABL8WP (Universal) range (continued)

There are four references available in the ABL8RP/ABL8WP (Universal) range of Phaseo power supplies for phase-to-neutral or phase-to-phase connection:

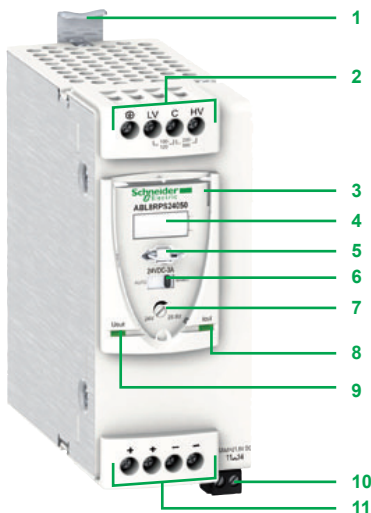
■ <b>ABL8RPS24030</b>	72 W	3 A	24 V $\overline{\text{---}}$
■ <b>ABL8RPS24050</b>	120 W	5 A	24 V $\overline{\text{---}}$
■ <b>ABL8RPS24100</b>	240 W	10 A	24 V $\overline{\text{---}}$
■ <b>ABL8RPM24200</b>	480 W	20 A	24 V $\overline{\text{---}}$

The ABL8RP/ABL8WP (Universal) range of Phaseo power supplies also features two references for three-phase connection:

■ <b>ABL8WPS24200</b>	480 W	20 A	24 V $\overline{\text{---}}$
■ <b>ABL8WPS24400</b>	960 W	40 A	24 V $\overline{\text{---}}$

A range of function modules also allows functions to be added to the ABL8RP/ABL8WP (Universal) range of Phaseo power supplies so as to give continuity of service:

- A Buffer module or Battery control modules combined with their batteries to give continuity of service in the event of a network power outage
- A Redundancy module to meet the requirements for continuity of service even if the power supply is cut off.
- Downstream electronic Protection modules to ensure that the protection in the application is discriminating
- Converter modules delivering nominal voltages of 5 and 12 V  $\overline{\text{---}}$  from the 24 V  $\overline{\text{---}}$  output of the ABL8RP/ABL8WP (Universal) range of Phaseo power supplies



### Description

#### ABL8RP/ABL8WP (Universal) range of power supplies

The ABL8RP/ABL8WP (Universal) range of Phaseo regulated switch mode power supplies, **ABL8RPS24●●0/RPM24200/WPS24●00**, comprise:

- 1 Spring clip for 35 mm  $\overline{\text{---}}$  rail
- 2 4 mm<sup>2</sup> enclosed screw terminals for connection of the AC voltage (single-phase, phase-to-phase or three-phase connection)
- 3 Protective glass flap
- 4 Clip-on marker label
- 5 Locking catch for the glass flap (sealable)
- 6 Protection mode selector
- 7 Output voltage adjustment potentiometer
- 8 Output voltage status LED (green and red)
- 9 Output current status LED (green, red and orange)
- 10 Screw terminals for connection of the diagnostic relay contact, except **ABL8RPS24030**
- 11 4 mm<sup>2</sup> (10 mm<sup>2</sup> on **ABL8WPS24●00** and **ABL8RPM24200**) enclosed screw terminals for connection of the DC output voltage

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ABL8RP/ABL8WP (Universal)

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Selection of protection on the power supply primaries								
Type of line supply	115 V ~ phase-to-neutral			230 V ~ phase-to-phase			400 V ~ phase-to-phase	
Type of protection	Thermal-magnetic circuit-breaker		gG/gL fuse	Thermal-magnetic circuit-breaker		gG/gL fuse	Thermal-magnetic circuit-breaker	gG/gL fuse
	(1) GB2 (IEC/ CSA-c/US) (3)	(2) C60N (IEC/UL)	–	(1) GB2 (IEC/ CSA-c/US)	(2) C60N (IEC/UL)	–	(1) GV2 (IEC/UL)	–
<b>ABL8RPS24030</b>	GB2CD07	MG24443	2 A (8 x 32)	GB2CD07	MG24443	2 A (8 x 32)	GV2RT06 GV2ME06 (3)	2 A (14 x 51)
<b>ABL8RPS24050</b>	GB2CD08	MG24444	4 A (8 x 32)	GB2CD07	MG24443	2 A (8 x 32)	GV2RT06 GV2ME06 (3)	2 A (14 x 51)
<b>ABL8RPS24100</b>	GB2CD12	MG24447	6 A (8 x 32)	GB2CD08	MG24444	4 A (8 x 32)	GV2RT07 GV2ME07 (3)	4 A (14 x 51)
<b>ABL8RPM24200</b>	GB2CD16	MG24449	10 A (8 x 32)	GB2CD12	MG24447	6 A (8 x 32)	–	–
<b>ABL8WPS24200</b>	–	–	–	–	–	–	GV2ME06 (4)	2 A (14 x 51)
<b>ABL8WPS24400</b>	–	–	–	–	–	–	GV2ME07 (4)	4 A (14 x 51)

(1) Automation and Control offer.

(2) Electrical Distribution offer.

(3) Connection in single-phase (L-N) or phase-to-phase (L1-L2).

(4) Connection in 3 phase (L1-L2-L3).

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ABL8RPS24050



ABL8RPM24200



ABL8WPS24200



ABL8BUF24400



ABL8BBU24200



ABL8RED24400

### Regulated switch mode power supplies: Phaseo ABL8RP/ABL8WP (Universal) range

Input voltage	Secondary Output voltage	Nominal power	Nominal current	Reset	Conforming to standard IEC/EN 61000-3-2	Reference	Weight kg/lb
<b>Single-phase (N-L1) or 2-phase (L1-L2) connection</b>							
100...120 V - 200...500 V ~ - 15%, + 10% 50/60 Hz	24...28.8 V	72 W	3 A	Auto/man	Yes	ABL8RPS24030	0.300/ 0.661
	---	120 W	5 A	Auto/man	Yes	ABL8RPS24050	0.700/ 1.543
	---	240 W	10 A	Auto/man	Yes	ABL8RPS24100	1.000/ 2.205
100...120 V/200... 240 V ~ - 15%, + 10% 50/60 Hz	24...28.8 V	480 W	20 A	Auto/man	Yes	ABL8RPM24200	1.600/ 3.527
	---	960 W	40 A	Auto/man	Yes	ABL8WPS24400	2.700/ 5.952
<b>Three-phase connection (L1-L2-L3)</b>							
380...500 V ~ ± 10 % 50/60 Hz	24...28.8 V	480 W	20 A	Auto/man	Yes	ABL8WPS24200	1.600/ 3.527
	---	960 W	40 A	Auto/man	Yes	ABL8WPS24400	2.700/ 5.952

### Function modules for continuity of service (1)

Function	Use	Designation	Reference	Weight kg/lb
<b>Continuity after a power outage</b>	Holding time 100 ms at 40 A and 2 s at 1 A	Buffer module	ABL8BUF24400	1.200/ 2.646
	Holding time 9 min at 40 A...2 hrs at 1 A (depending on use with a Battery control module-battery unit and load) (2)	Battery control module 20 A output current	ABL8BBU24200	0.500/ 1.102
		Battery control module 40 A output current	ABL8BBU24400	0.700/ 1.543
		3.2 Ah battery module (3)	ABL8BPK24A03	3.500/ 7.716
		7 Ah battery module (3)	ABL8BPK24A07	6.500/ 14.330
	12 Ah battery module (3)	ABL8BPK24A12	12.000/ 26.455	
<b>Continuity after a malfunction</b>	Paralleling and redundancy of the power supply to give uninterrupted operation of the application excluding AC line failures and application overloads	Redundancy module	ABL8RED24400	0.700/ 1.543
<b>Discriminating downstream protection</b>	Electronic protection (1...10 A overload or short-circuit) with 4 output terminals from a ABL8RP/ABL8WP (Universal) range Phaseo power supply	Protection module with 2-pole breaking (4) (5)	ABL8PRP24100	0.270/ 0.595

### --- / --- converters (1)

Primary (6)	Secondary	Reference	Weight kg/lb
Input voltage	ABL8RP/ABL8WP (Universal) range power supply module output current	Output voltage	Nominal current
24 V --- - 9%, + 24%	2.2 A	5...6.5 V ---	6 A
	1.7 A	7...15 V ---	2 A
		ABL8DCC05060	0.300/ 0.661
		ABL8DCC12020	0.300/ 0.661

### Separate and replacement parts

Designation	Use	Composition	Unit reference	Weight kg/lb
<b>Fuse assemblies</b>	For ABL8PRP24100 discriminating Protection modules	4 x 5 A, 4 x 7.5 A and 4 x 10 A	ABL8FUS01	—
	For ABL8BPK24A●● Battery	4 x 20 A and 6 x 30 A	ABL8FUS02	—
<b>Clip-on marker labels</b>	Each products except ABL8PRP24100	Order in multiples of 100	LAD90	0.030/ 0.066
	ABL8PRP24100 selective Protection Module	Order in multiples of 22	ASI20MACC5	—
<b>DIN rail mounting kit</b>	ABL8BPK2403 Battery Module	—	ABL1A02	—
<b>EEPROM memory</b>	Backup and duplication of ABL8 BBU24●00 battery control module parameters	—	SR2MEM02	0.010/ 0.022

(1) For use with ABL8RP/ABL8WP (Universal) range of Phaseo power supplies.

(2) For table of compatibility of Battery control module-battery unit with holding time depending on the load.

(3) Supplied with 20 or 30 A fuse depending on the model.

(4) Supplied with four 15 A fuses.

(5) Local reset via pushbutton or automatic reset.

(6) Voltage from a 24 V --- ABL8RP/ABL8WP (Universal) range Phaseo power supply.

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ABL8DCC Function modules

---/--- Converter modules

### Supplying 5 V --- and 12 V --- auxiliary voltages

The Phaseo range offers modules that convert the 24 V --- voltage to a 5 to 15 V --- voltage.

These modules can be used to make savings in the:

- Upstream protection normally used with the 5 to 15 V --- power supply
- Connection to the line supply

There are two references available for this solution:

- **ABL8DCC05060** : 5...6.5 V ---, 6 A converter module
- **ABL8DCC12020** : 7...15 V ---, 2 A converter module

### Description

#### 5 V --- and 12 V --- Converter modules

The **ABL8DCC●●●●●** --- / --- Converter modules comprise:

- 1 Spring clip for 35 mm U<sub>r</sub> rail
- 2 Protective glass flap
- 3 Clip-on marker label
- 4 Locking catch for the glass flap (sealable)
- 5 Output voltage adjustment potentiometer
- 6 Output current status LED (green)
- 7 4 mm<sup>2</sup> enclosed screw terminals for connection of the 24 V --- input voltage
- 8 4 mm<sup>2</sup> enclosed screw terminals for connection of the 5 V --- or 12 V --- output voltage

