## Catalog | June 2020



## Modicon Power Supply

# Power supply for industrial use, rail mounting



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Selection guide

**Modicon** Power Supply Regulated power supply for industrial use, rail mounting

Input Voltage	100240 V	ac								100240 Va	ic, 140340 Vo	lc (2)				100120 V	ac and 200	500 Vac	100120 Vac, 200240	380500	/ac
ominal output power	10 W	12 W	15 W	18 W	25 W	30 W	50 W	60 W		50 W	75 W	91.2 W	120 W	240 W	480 W	75 W	120 W	240 W	<b>Vac</b> 480 W	480 W	960 \
	1. 11 11 11 11 11 11 11 11 11 11 11 11 1														e.						
																					****
Connection toUnited States: 120 V (in phase-to-neutral) / 240 V (in ine suppliesphase-to-phase)		se (N-L1) or 2-pl	hase (L1-L2) cc	onnection						Single-phase	ə (N-L1) or 2-ph	ase (L1-L2) co	onnection			Single-phas	e (N-L1) or 2-p	ohase (L1-L2) o	connection	-	
Europe: 230 V (in phase-to- neutral) / 400 V (in phase-to- phase)		se (N-L1) conne	ction							Single-phase	e (N-L1) connec	ction				Single-phas	e (N-L1) or 2-p	ohase (L1-L2) o	connection	3-phase (L	1-L2-L3)
United States: 277 V (in phase-to-neutral) / 480 V (in phase-to-phase)	-									-						Single-phas	e (N-L1) or 2-p	ohase (L1-L2) o	connection	3-phase (L	1-L2-L3)
Protection against overloads and short-circuits	Yes, with automatic restart after the source of overload/short-circuit has been corrected				Yes, with automatic restart after the source of overload/short-circuit has been corrected			been corrected	<ul> <li>Yes with 2 possible modes:</li> <li>automatic restart after the source of overload/short-circuit has been corrected</li> <li>manual restart, the input voltage must be interrupted after the source of overload/ short-circuit has been corrected</li> </ul>												
Diagnostic relay	-								-	_						Yes, depend	ling on model				
Certifications (1)	<ul> <li>C€ marki</li> <li>CB Sche</li> <li>cULus Li</li> <li>cURus R</li> <li>RCM</li> <li>EAC</li> </ul>	me								<ul> <li>C€ markin</li> <li>CB Scher</li> <li>cULus Lis</li> <li>cURus Re</li> <li>RCM</li> <li>EAC</li> </ul>	ne ited					<ul> <li>C€ markir</li> <li>CB Scher</li> <li>cULus Lis</li> <li>CSA</li> <li>RCM</li> <li>EAC</li> </ul>	ng me				
Power supply type	Modicon	ABLM Modul	ar power su	oply						Modicon A	BLS Optimiz	zed power s	upply			Modicon A	ABL8RP/WP	Universal p	ower supply		
Output voltage 5V				ABLM1A0503	6																
12V		ABLM1A12010	0		ABLM1A1202	1	ABLM1A12042	2			ABLS1A12062		ABLS1A12100								
24V	ABLM1A2400	4	ABLM1A24006	5		ABLM1A24012	!	ABLM1A24025		ABLS1A24021	ABLS1A24031	ABLS1A24038	ABLS1A24050	ABLS1A24100	0 ABLS1A24200	ABL8RPS2403	ABL8RPS240	50 ABL8RPS241	00 ABL8RPM242	00 ABL8WPS24	200 ABL8
48V													ABLS1A48025								
utput rating	NEC Class 2,	Limited Power Sou	rce								imited Power Sour	ce (except	-	-	-	-	-	-	-	-	-
Compatibility with functionnal modules -					ABLS1A12062) -				Yes, with: - Converter module for supplying 5 Vdc to 15 Vdc auxiliary voltage - Redundancy module for continuity of service after an outage of power suppli equipment - Battery control modules, Buffer module and Battery module for continuity of solutions to microbreaks and power outages - Protection module: solution for discriminating protection of the application, S			nuity of se									
Page	6									8						10					
(1) Consult detail on certification for each refe	erence in the pr	roduct data shee	et, click on <mark>prod</mark>	luct reference t	o open it.					(2) Except A	BLS1A24021 a	nd ABLS1A240	038.				o Universal po ndergo a future		nown in this doc		

as they will undergo a future brand change. All other product documentation Phaseo until the brand change occurs.

## Modicon Power Supply

Regulated power supply for industrial use, rail mounting

## Regulated power supply for industrial use, rail mounting

voltage necessary for the automation system equipment control circuits. Modicon industrial power supplies are regulated switch mode power supplies, available

The Modicon switch mode power supply offer is designed to provide the DC

in 3 types: **ABLM Modular**, **ABLS Optimized**, and **ABL8RP/WP Universal**. ■ They are fully electronic with a regulated output voltage. The use of electronics makes it possible to significantly improve the performance of these power supplies, which offer:

- Compact dimensions
- Integrated overload, short-circuit, overvoltage, and undervoltage protection
   Wide input voltage range
- High degree of output voltage stability
- Efficiency
- Diagnostics via LEDs on the front panel
- Remote diagnostics via relay contact with ABL8RP/WP Universal

■ They deliver a stabilized DC output voltage that is precise to less than 3%, whatever the load from an AC line supply, within the following ranges:

- 100 to 240 Vac for phase-to-neutral (N-L1) or phase-to-phase (L1-L2) connections for the ABLM Modular, ABLS Optimized and ABL8RPM universal types
- 100 to 500 Vac for phase-to-neutral (N-L1) or phase-to-phase (L1-L2) connections for the ABL8RPS Universal types
- 380 to 500 Vac for 3-phase connections (L1-L2-L3) for the ABL8WP Universal types
- They comply with IEC standards and are certified to comply with the major certifications bureau standards (1). Power supplies with 24 Vdc output and power output equal or lower than 90 W are also NEC Class 2 and Limited Power Source compliant (2)
- The harmonic pollution is reduced to a minimum level across the entire Modicon power supply types, ensuring compliance with the requirements of standard IEC/EN 61000-3-2
- Modicon power supplies incorporate:
  - An output voltage adjustment potentiometer to help compensate for any line voltage drops in installations with long cable runs (3)
     Direct mounting on 35 mm (1.37 in) omega rail

#### Modicon ABLM Modular power supply

■ The ABLM Modular type meets the needs of simple automation systems with power ratings from 10 to 60 W and an output voltage of 5, 12 or 24 Vdc

- The shape and compact nature of the housing mean that it can be mounted directly on a panel, in a modular distribution panel or on a omega rail in a cabinet
- Modicon ABLM Modular power supply conform to the Overvoltage Category III and therefore can be directly connected to central distribution boards. In the event of an overload the power supply protection interrupts power, when the source of the overload has been corrected, the power supply reverts to its nominal state (automatic reset)

#### Modicon ABLS Optimized power supply

The ABLS Optimized type offers competitive functionality for applications supplied with 12, 24 or 48 Vdc and with power ratings from 50 W up to 480 W.

#### Modicon ABL8RP/WP Universal power supply

■ The ABL8RP/WP Universal type covers power ratings from 72 to 960 W in 24 Vdc and adapts to the majority of power distribution networks used throughout the world. The same power supply can thus be connected phase-to-neutral (N-L1) or phase-to-phase (2 or 3 phases) for line supplies ranging from 100 Vac to 500 Vac nominal

- The ABL8RP/WP Universal type offers:
- Diagnostic functions (local or remote)

- User choice of operating mode in the event of an overload (automatic or manual reset)

- Functional modules to help continuity of service, for protection against microbreaks or prolonged outages, for paralleling and redundancy functions and for discriminating protection against application overloads

- A power reserve (boost function) for absorbing the transient current peaks required by the application

■ With ABL8RP/WP Universal power supplies, it is possible to meet the need for auxiliary voltage (5 to 15 Vdc) using DC/DC converter modules

(1) Consult detail on certification for each reference in the product data sheet, click on product reference to open it.

(2) Except ABL8RPS24030 Universal power supply.
(3) Depending on model, see references page 13.



Modicon ABLM Modular power supply



Modicon ABLS Optimized power supply



Modicon ABL8RP/WP Universal power supply

**Modicon** Power Supply Regulated power supply for industrial use, rail mounting

Regulated power supply for industrial use, rail mounting	Protective extra low voltage (PELV) and Safety extra low voltage (SELV)
	The Modicon power supplies can be used to supply protection extra low voltage (PELV) or safety extra low voltage (SELV) control circuits in compliance with standard IEC/EN 60364-4-41.
	<ul> <li>They have the following characteristics:</li> <li>Double insulated between the input circuit (connected to the line supply) and the low voltage output circuit via an integrated isolation transformer</li> <li>Internal circuitry limiting the output voltage to less than 60 V under single fault conditions</li> </ul>
	Harmonic pollution (power factor)
	The current drawn by a power supply is not sinusoidal. This leads to the generation of harmonic currents that pollute the distribution network. European standard IEC/EN 61000-3-2 limits the harmonic currents produced by power supplies.
	This standard covers devices between 75 and 1000 W, drawing up to 16 A per phase, and connected directly to the public distribution network.
	Modicon ABL8RP/WP Universal and ABLS Optimized from 75 W power supplies conform to IEC/EN 61000-3-2 and can therefore be connected directly to public distribution networks.
	Since ABLM Modular, ABLS1A12062, ABLS1A24021, and ABLS1A24031 power supplies have power ratings that are less than 75 W, they are not subject to the requirements of standard IEC/EN 61000-3-2. They can therefore be connected directly to public distribution networks.
	Output characteristics and conditions of use
	The ambient temperature is a determining factor that limits the power an electronic power supply can deliver continuously.
	If the temperature around the electronic components is too high, the integrated overtemperature protection could activate and/or the lifetime of the power supply may be significantly reduced.
	Depending on product type, the upper nominal ambient temperature is 50 or 55 °C (122 or 131 °F) for a standard mounting position, at 230 Vac input voltage. Above this temperature with different input voltages, and/or with other mounting positions, derating is necessary up to a maximum temperature of 60 or 70 °C (140 or 158 °F).
	In most cases, there must be adequate convection and sufficient clearance around the products to assist cooling.
	Derating is also necessary in case of altitudes greater than 2000 m (6561.6 ft).
	The derating curves are given in each product data sheet, available on our website and directly accessable via the QR code printed in front of the product (except on ABL8 products).
	It is considered good practice to select a power supply with a nominal output current at least 20% greater than required.

## Presentation. description

## **Modicon** Power Supply

Regulated power supply for industrial use, rail mounting

The Modicon ABLM Modular are regulated power supplies designed to supply

Thanks to their modular housing, they can be installed either in enclosures (Spacial and Thalassa) or industrial panels by clipping on omega (DIN) rail

Direct, fixed mounting on panel is also possible without additional parts thanks to

Available with 18, 36 and 53 mm (0.70, 1.41, and 2.09 in) widths, ABLM modular

Modicon ABLM Modular power supply meet NEC Class 2 and LPS (Limited

Modicon ABLM Modular power supply conform to the Overvoltage Category III

A QR code is printed on the front of the power supplies and gives a direct access

Modicon ABLM Modular Power Supply

Modicon ABLM Modular power supply

control circuits in industrial and building automation up to 60 W.

power supplies are one of the most compact ranges on the market

and therefore can be directly connected to central distribution boards

**Presentation** 

the integrated mounting lugs

Power Source) requirements

to the latest technical documentation

# DC

100...240 Vac Modicon ABI M

Modular power supply



Zelio Logic Smart relay





#### Description

- Screw terminal for connection of the DC output voltage 1
- Output voltage adjustment potentiometer (depending on models) 2
- LED indicating presence of DC output voltage 3
- 4 QR code for access to the latest technical documentation
- Screw terminal for connection of the AC input voltage 5
- 6 Spring clip for 35 mm (1.37 in) Lr rail
- 7 Retractable mounting lugs for panel mounting
- 8 2 fixing holes

(1) Consult our catalog Ref. DIA3ED2111202EN (click on product reference to open catalog) (2) Derating for temperature higher than 55°C (131°F), and mounting on horizontal plane,

Consult the product data sheet (click on pr to open it (3) Derating for altitude > 2000 m (6561.6 ft), Consult the product data sheet (click on product

(4) OVC III category up to 2000 m (6561.6 ft).

(5) For EMC standard, Consult the product data sheet (click on product reference to open it).



DIA3ED2111202EN (click to open catalog)

## Modicon Power Supply

Regulated power supply for industrial use, rail mounting

Modicon ABLM Modular Power Supply

#### Modicon ABLM Modular power supply

Secondary

Selection of protection on the power supply primary

The device is designed, tested and approved for branch circuits up to 16 A (IEC) and 20 A (UL) without additional protection devices. If external protection is used, do not use circuit breakers smaller than those indicated in the table below to avoid spurious over-current/short-circuit detection by the circuit breaker. Use the Acti9 iC60 range of Miniature Circuit Breakers (1).

Modicon ABLM Modular power supply	Type of protection
ABLM1A05036	4 A, B or C curve
ABLM1A12010	2 A, B or C curve
ABLM1A12021	4 A, B or C curve
ABLM1A12042	6 A, C curve or 10 A, B-curve
ABLM1A24004	2 A, B or C curve
ABLM1A24006	2 A, B or C curve
ABLM1A24012	4 A, B or C-curve
ABLM1A24025	6 A, C curve or 10 A, B-curve







References Input voltage



ABLM1A24004 ABLM1A24006





ABLM1A12021

ABLM1A12042





ABI M1A24012

ABLM1A24025

	Output voltage (2)	Nominal power (3)	Nominal current		it potentiometer		Kg/ID
Modicon ABLM M	odular powe	er supply					
<b>100240 Vac</b> - 10%, + 10% 50/60 Hz	5 Vdc	18 W	3.6 A	Automatic	With	ABLM1A05036	
	12 Vdc	12 W	1 A	Automatic	Without	ABLM1A12010	
		25 W	2.1 A	Automatic	With	ABLM1A12021	
		50 W	4.17 A	Automatic	With	ABLM1A12042	
	24 Vdc	10 W	0.42 A	Automatic	Without	ABLM1A24004	
		15 W	0.625 A	Automatic	Without	ABLM1A24006	
		30 W	1.25 A	Automatic	With	ABLM1A24012	
		60 W	2.5 A	Automatic	With	ABLM1A24025	

Reset after Output voltage

overload or adjustment

Reference

Weight

ka/lb

Substitution of Phaseo ABL7/ABL8 with Modicon ABLM Modular power supply Old reference (End of commercialization) **Replaced with** ABL8MEM05040 ABLM1A05036 ABL8MEM12020 ABLM1A12021 ABL8MEM24003 ABLM1A24004 ABL8MEM24006 ABLM1A24006 ABL8MEM24012 ABLM1A24012 ABL7RM24025 ABLM1A24025

Note: in case of substitution into an existing machine, the external protection has to be adapted also.

(1) More information on Actig iC60 range on our website

(2) ABLM power supplies are Limited Power Source conforming IEC 62368-1 and NEC Class 2.

(3) Nominal power given for mounting on horizontal rail and +55°C (131°F) ambiant temperature. For other temperatures and mounting positions, Consult the product data sheet (cl

(4) In case of overtemperature or overvoltage the input power must be cycled to reset the detected error.

## Presentation. description

## Modicon Power Supply

Regulated power supply for industrial use, rail mounting

Modicon ABLS Optimized Power Supply

# DC



100...240 Vac Modicon ABLS Optimized power

supply

Modicon M221 logic controller



Compact housing 75 mm height (2.95 in)



Book housing 124 mm height (4.88 in)

#### Modicon ABLS Optimized power supply **Presentation**

The Modicon ABLS Optimized are regulated power supplies, designed to supply control circuits in industrial applications from 50 up to 480 W.

- They are available in 2 housing formats for a better adaptation to the enclosure: compact housing 75 mm height (2.95 in)
- or book housing 124 mm height (4.88 in)

Available with a width from 27 mm (1.06 in), ABLS optimized power supplies are one of the slimmer ranges on the market

The printed circuit board of the power supplies (book housing) has a conformal coating in order to resist to common dust and chemical pollutants

- Modicon ABLS Optimized power supply (1) meet NEC Class 2 and LPS (Limited Power Source) requirements
- Up to 6 output terminals make wiring easier

A QR code is printed on the front of power supply and gives a direct access to the latest technical documentation

#### Modicon ABLS Optimized power supply are the right choice for use with Modicon M221/M241/M251 logic controllers and Modicon M262 logic/motion controllers (2).

Main Features	
Nominal input voltage	100240 Vac, 140340 Vdc <i>(3)</i>
Network system compatibility	TN, TT, IT
Nominal output voltage	12 , 24 and 48 Vdc
Operating temperature	-20+70°C (-4+158°F) (4)
Product certifications	<ul> <li>C€ marking</li> <li>CB Scheme</li> <li>cULus Listed</li> <li>cURus Recognized</li> <li>RCM</li> <li>EAC</li> </ul>
Conformity to standards <i>(5)</i>	<ul> <li>IEC/EN 62368-1</li> <li>IEC/EN 61010-1, IEC/EN 61010-2-201 (except ABLS1A24050, ABLS1A24100, ABLS1A48025)</li> <li>UL/CSA 61010-1, UL/CSA 61010-2-201 (except ABLS1A24050, ABLS1A24100 and ABLS1A48025 )</li> <li>UL 508/CSA C22.2 No. 107.1 (only for ABLS1A24050, ABLS1A24100 and ABLS1A48025 )</li> </ul>

#### **Description**

- 1 Screw terminals for connection of the DC output voltage
- Output voltage adjustment potentiometer (except on ABLM1A24038) 2
- 3 Output DC status LED (green)
- 4 QR code for access to the latest technical documentation
- 5 Screw terminals for connection of the intput voltage (single-phase N-L1, phase-to-phase L1-L2)
- Spring clip for 35 mm (1.37 in) Lr rail 6

(1) Depending on model, see page 9 (2) Consult catalog Ref. DIA3ED2140106EN, Ref. DIA3ED2140107EN, Ref. DIA3ED2140108EN, Ref. DIA3ED2180503EN (click on reference to open catalog).

(3) Except ABLS1A24021 and ABLS1A24038.

(4) Derating for temperature higher than 55°C (131°F) at 230 Vac input voltage and 45°C (113°F) at 115 Vac input voltage, Consult the product data sheet (click on product reference to open it).

(5) For EMC standard, Consult the product data sheet (click on product reference to open it).







Schneider

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#### **Modicon** Power Supply Regulated power supply for industrial use, rail mounting

Modicon ABLS Optimized Power Supply

#### Modicon ABLS Optimized power supply

Secondary

Nominal Nominal

Output

References

Input voltage

#### Selection of protection on the power supply primary

The device is designed, tested and approved for branch circuits up to 16 A (IEC) and 20 A (UL) without additional protection devices. If external protection is used, do not use circuit breakers smaller than those indicated in the table below to avoid spurious over-current/short-circuit detection by the circuit breaker. Use the Acti**9** iC60 range of Miniature Circuit Breakers (1).

Modicon ABLS Optimized power supply	Type of protection
ABLS1A12062	10 A, C curve or 13 A, B-curve
ABLS1A12100	13 A, C-Curve
ABLS1A24021	6 A, C curve or 10 A, B-curve
ABLS1A24031	10 A, C curve or 13 A, B-curve
ABLS1A24038	6 A, C curve or 10 A, B-curve
ABLS1A24050	13 A, C-Curve
ABLS1A24100	6 A, B or C curve
ABLS1A24200	13 A, C curve or 16 A, B-curve
ABLS1A48025	13 A, C-Curve

Housing

Reset

after

Output voltage

adjustment

Reference

ABLS1A48025

Weight

kg/lb



ABLS1A12062 ABLS1A

ABLS1A24021 ABLS1A

ABLS1A24038

		voltage	Nominal power (3)	current		overload or short circuit (5)	potentiometer		Ng/10
	ABLS Optimized	power su	pply						
•	<b>100240 Vac</b> <b>140340 Vdc</b> (2) - 15%, + 10%	12 Vdc	75 W	6.25 A	Book: 124 mm height <i>(4.88 in)</i>	Auto.	With	ABLS1A12062	
A12100	50/60 Hz		120 W	10 A	Book: 124 mm height <i>(4.88 in)</i>	Auto.	With	ABLS1A12100	
		24 Vdc	50 W (4)	2.1 A	Compact: 75 mm height <i>(2.95 in)</i>	Auto.	With	ABLS1A24021	
			75 W (4)	3.13 A	Book: 124 mm height <i>(4.88 in)</i>	Auto.	With	ABLS1A24031	
A24031			91.2 W (4)	3.8 A	Compact: 75 mm height (2.95 in)	Auto.	Without	ABLS1A24038	
			120 W	5 A	Book: 124 mm height <i>(4.88 in)</i>	Auto.	With	ABLS1A24050	
A24050			240 W	10 A	Book: 124 mm height <i>(4.88 in)</i>	Auto.	With	ABLS1A24100	
			480 W	20 A	Book: 124 mm height <i>(4.88 in)</i>	Auto.	With	ABLS1A24200	

ABLS1A24100 ABLS1A24200

ABLS1

	11Ter
6	0 0 0 0 0 0 0 0
-	388 1
	49000 40000
	0000

ABLS1A48025

Old reference (End of commercialization)	Replaced with	
ABL7RP1205	ABLS1A12062	
ABL7RP4803	ABLS1A48025	
ABL8REM24030	ABLS1A24031	
ABL8REM24050	ABLS1A24050	

Book: 124 mm Auto.

height (4.88 in)

With

Note: in case of substitution into an existing machine, the external protection has to be adapted also

25A

(1) More information on Actig iC60 range on our website.

48 Vdc

120 W

(2) Except ABLS1A24021 and ABLS1A24038.

(3) Nominal power given for mounting on horizontal rail, for 230 Vac input voltage and for +50°C (131°F) ambiant temperature. For other temperatures and mounting positions, Consult the product data sheet (click on product reference to open it).

(4) Limited Power Source conforming IEC 62368-1 and NEC Class 2, except ABLS1A12062, ABLS1A12100, ABLS1A24050, ABLS1A24100, ABLS1A24200 and ABLS1A48025.

(5) In case of overtemperature or overvoltage the input power must be cycled to reset the detected error.



## Presentation

## Modicon Power Supply

Regulated power supply for industrial use, rail mounting

Modicon ABL8RP/WP Universal Power Supply





Modicon M580 Programmable automation controller

#### Modicon ABL8RP/WP Universal power supply Presentation

The ABL8RP/ABL8WP Universal power supplies 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 power outages. Clear guidelines are given on selecting the function modules and upstream protection devices that are often used with them to provide a comprehensive, usable solution.

ABL8RP/ABL8WP Universal power supplies must be connected in phase-to-neutral or phase-to-phase for ABL8RPS/8RPM, and in 3-phase for ABL8WPS. They deliver a voltage that is precise to within 3%, whatever the load and whatever the type of line supply, within the following ranges:

- 85 to 132 Vac and 170 to 550 Vac for ABL8RPS
- 85 to 132 Vac and 170 to 264 Vac for ABL8RPM
- 340 to 550 Vac 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 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.

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 ensure the PLC logic states and nominal operation of the supplied actuators.

Automatic reset protection mode: Priority is given to the current to ensure continuity of service until the maintenance team arrives.

Modicon ABL8RP/ABL8WP Universal power supplies also have 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 to be able to maintain optimum performance of the automation system.

The diagnostics for the Modicon ABL8RP/ABL8WP Universal range of power supplies are available on the front of the device via LEDs (Uout and lout) 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 cable runs.

These power supplies are designed for direct mounting on a 35 mm (1.37 in)  $\Box$  rail.

There are four references available in the Modicon ABL8RP range with phase-toneutral or phase-to-phase connection:

ABL8RPS24030	72 W	3 A	24 V				
ABL8RPS24050	120 W	5 A	24 V				
ABL8RPS24100	240 W	10 A	24 V				
ABL8RPM24200	480 W	20 A	24 V				

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DC



There are two references available in the Modicon ABL8WPS range with 3-phase connection:

ABL8WPS24200	480 W	20 A	24 V
ABL8WPS24400	960 W	40 A	24 V

Note: Phaseo Universal power supplies shown in this document are identified as Modicon as they will undergo a future brand change. All other product documentation will reference Phaseo until the brand change occurs.

## Presentation, description

## Modicon Power Supply

Regulated power supply for industrial use, rail mounting

Modicon ABL8RP/WP Universal Power Supply



#### Modicon ABL8RP/WP Universal power supply

#### **Description**

- Spring clip for 35 mm (1.37 in) Lr rail 1
- 2 4 mm<sup>2</sup> enclosed screw terminals for connection of the incoming AC voltage (single-phase, phase-to-phase, or 3-phase connection)
- 3 Protective glass flap
- Clip-on marker tag 4
- Locking catch for the glass flap (sealable) 5
- Protection mode selector 6
- Output voltage adjustment potentiometer 7
- 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, except on ABL8RPS24030
- 11 4 mm<sup>2</sup> (10 mm<sup>2</sup> on ABL8WPS24200, ABL8WPS24400 and ABL8RPM24200) enclosed screw terminals for connection of the DC output voltage

#### **Functional modules**

A range of functional modules also allows functions to be added to the Modicon ABL8RP/ABL8WP Universal power supplies to ensure continuity of service: D Buffer module or Battery check modules and their batteries to ensure continuity of service in the event of a 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 make the protection in the application discriminating

 $\hfill\square$  Converter modules delivering nominal voltages of 5 and 12 V  $\overline{--}$  from the 24 V  $\overline{--}$ output of the Modicon ABL8RP/ABL8WP Universal power supplies. See pages 16 to 22.

Selection

**Modicon** Power Supply Regulated power supply for industrial use, rail mounting

Modicon ABL8RP/WP Universal Power Supply

Selection of prote	ction on the pow	ver supply	primary					
Line supply type	115 V $\sim$ phase	e-to-neutral		230 V $\sim$ phas	e-to-phase		400 V $\sim$ phase-to-phase	
Type of protection		Miniature circuit breaker	gG/gL fuse	Thermal- magnetic circuit breaker	Miniature circuit breaker	gG/gL fuse	Thermal- magnetic circuit breaker	gG/gL fuse
		Multi9 C60 (IEC, UL/CSA)		GB2 (IEC, UL/CSA)	Multi9 C60 (IEC, UL/CSA)		GV2 (IEC/UL)	
ABL8RPS24030	GB2CD07	M9F22202	2 A (8 x 32)	GB2CD07	M9F22202	2 A (8 x 32)	GV2RT06 GV2ME06 (1)	2 A (14 x 51)
ABL8RPS24050	GB2CD08	M9F22203	4 A (8 x 32)	GB2CD07	M9F22202	2 A (8 x 32)	GV2RT06 GV2ME06 (1)	2 A (14 x 51)
ABL8RPS24100	GB2CD12	M9F22206	6 A (8 x 32)	GB2CD08	M9F22203	4 A (8 x 32)	GV2RT07 GV2ME07 (1)	4 A (14 x 51)
ABL8RPM24200	GB2CD16	M9F22210	10 A (8 x 32)	GB2CD12	M9F22206	6 A (8 x 32)	-	-
ABL8WPS24200	-	-	-	-	-	-	GV2ME06 (2)	2 A (14 x 51)
ABL8WPS24400	-	-	-	-	-	-	GV2ME07 (2)	4 A (14 x 51

(1) Single-phase (N-L) or 2-phase (L1-L2) connection. (2) 3-phase connection (L1-L2-L3).

## **Modicon** Power Supply Regulated power supply for industrial use, rail

mounting

Modicon ABL8RP/WP Universal Power Supply

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ABL8RPS24030



ABL8RPS24050



ABL8RPS24100



ABL8RPM24200





ABL8WPS24400

References						
Input voltage	Secondary	Nominal power	Nominal	Reset	Reference	Weight kg/lb
	Output voltage	Nominar power	current			Ŭ
Single-phase (N-L	_1) or 2-phase (L1-L2	2) connection				
<b>100…120 Vac/</b> <b>200…500 Vac</b> -15%,+10% 50/60 Hz	24 Vdc	72 W	3 A	Auto/man	ABL8RPS24030	0.300 <i>0.66</i>
		120 W	5 A	Auto/man	ABL8RPS24050	0.700 <i>1.54</i> 3
		240 W	10 A	Auto/man	ABL8RPS24100	1.000 2.20
<b>100120 Vac/</b> <b>200240 Vac</b> -15%,+10% 50/60 Hz	24 Vdc	480 W	20 A	Auto/man	ABL8RPM24200	1.600 3.52
3-phase connecti	on (L1-L2-L3)					
<b>380…500 Vac</b> ± 10% 50/60 Hz	24 Vdc	480 W	20 A	Auto/man	ABL8WPS24200	1.600 3.52
		960 W	40 A	Auto/man	ABL8WPS24400	2.700

#### Functional modules available for use with ABL8RP/WP Universal power supply

Converter module for supplying 5 Vdc to 15 Vdc auxiliary voltage

Redundancy module for continuity of service if the power supply equipment is not available
 Battery control modules, Buffer module and Battery module for continuity of service: solutions to microbreaks and power

outages Protection module: solution for discriminating protection of the application See page 16

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## Selection guide

Modicon Power Supply Regulated power supply for industrial use, rail mounting Functional modules for Modicon ABL8RP/WP Universal Power Supply



Input Voltage	24 Vdc		
Output voltage	56.5 Vdc	715 Vdc	24 Vdc
Certifications and standards (1)	- C€ marking - EAC - CSA - RCM - UL		- C€ marking - EAC - CSA - RCM - UL
Functional module type	Converter module		Redundancy module

Output current	2A		ABL8DCC12020	
	6 A	ABL8DCC05060		
	10 A			
	20 A			
	40 A			ABL8RED24400
Battery capacity	3.2 Ah			
	7 Ah			
	12 Ah			
Page		16		17

(1) Consult detail on conformity to standards for each reference in the product data sheet, click on product reference to open it. Note: Phaseo Functional modules shown in this document are identified as Modicon as they will undergo a future brand change. All other product documentation will reference Phaseo until the brand change occurs.

Continuity of server	Continuity of service: Solutions to microbreaks and power outages					Solution for discriminating protection of the application
24 Vdc						24 Vdc
24 Vdc						24 Vdc
- C€ marking - EAC - CSA - RCM - UL			- C€ marking - GOST - UL			<ul> <li>C€ marking</li> <li>EAC</li> <li>CSA</li> <li>RCM</li> <li>UL</li> </ul>
Battery control	modules	Buffer module	Battery modules			Protection module
Battery control	modules	Buffer module	Battery modules			Protection module
Battery control	modules	Buffer module	Battery modules			Protection module
Battery control	modules	Buffer module	Battery modules			Protection module ABL8PRP24100
Battery control	modules	Buffer module	Battery modules			
	modules		Battery modules			
			Battery modules			
				ABL88PK24A07		
				ABL88PK24A07	ABL8BPK24A12	

Continuity of ser	vice: Solutions to r	microbreaks and p	ower outages			Solution for discriminating protection of the application
24 Vdc						24 Vdc
24 Vdc						24 Vdc
<ul> <li>C€ marking</li> <li>EAC</li> <li>CSA</li> <li>RCM</li> <li>UL</li> </ul>			- C€ marking - GOST - UL			<ul> <li>C€ marking</li> <li>EAC</li> <li>CSA</li> <li>RCM</li> <li>UL</li> </ul>
Battery control	modules	Buffer module	Battery modules			Protection module
Battery control	modules	Buffer module	Battery modules			Protection module
Battery control	modules	Buffer module	Battery modules			Protection module
Battery control	modules	Buffer module	Battery modules			Protection module ABL8PRP24100
Battery control	modules	Buffer module	Battery modules			
		Buffer module	Battery modules			
			Battery modules			
				ABL8BPK24A07		
				ABL8BPK24A07	ABL88PK24A12	

## Presentation, description, references

## 

References

## Modicon Power Supply

Regulated power supply for industrial use, rail mounting

Functional modules for Modicon ABL8RP/WP Universal Power Supply

#### Supplying 5 Vdc and 12 Vdc auxiliary voltage

ABL8DCCeeeee functional modules are designed to convert the 24 Vdc voltage into a 5 to 15 Vdc voltage.

These modules can be used to make savings in the:

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

#### **Description**

- 1 Spring clip for 35 mm (1.37 in) 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 Vdc input voltage
- 8 4 mm<sup>2</sup> enclosed screw terminals for connection of the 5 Vdc or 12 Vdc output voltage



ABL8DCC12020



ABL8DCC05060

Functional mod	lule						
Designation	Functionality	Primary (1)		Secondary		Reference	Weight
		Input voltage	Output current power supply ABL8RP/WP Universal	Output voltage	Nominal current		kg /lb
DC/DC converter modules	Supplying 5 to 12 Vdc auxiliary voltage	24 Vdc	2.2 A	5 Vdc Adjustable from 5 to 6.5 Vdc	6 A	ABL8DCC05060	0.300/ 0.661
			1.7 A	12 Vdc Adjustable from 7 to 15 Vdc	2A	ABL8DCC12020	0.300/ 0.661

Replacement part			
Designation	Composition	Unit reference	Weight kg /lb
Legend holder	Order in multiples of 100	LAD90	0.001/ 0.002

(1) Voltage from a 24 Vdc ABL8RP/WP Universal power supply.

Note: Phaseo Functional modules shown in this document are identified as Modicon as they will undergo a future brand change. All other product documentation will reference Phaseo until the brand change occurs.

## Presentation, description, references

## Modicon Power Supply

Regulated power supply for industrial use, rail mounting

Functional modules for Modicon ABL8RP/WP Universal Power Supply

#### Continuity of service after a failure of power supply equipment

Where continuous operation of the application is the prime concern, it is necessary to know that when one power supply is not available, a second power supply takes over. The ABL8RED24400 Redundancy module can perform this function, allowing that the inoperability of one power supply does not disturb the second (for example, in the event of a short-circuit of one of the power supply outputs).

The **ABL8RED24400** redundancy module, used with two regulated power supplies of the same type, can be used to supply the nominal power to the application even if one of the power supplies is inoperable or otherwise unavailable.

The various diagnostics - on the front panel (LED) and remote (relay) can be used to inform the maintenance team as soon as the first detected error occurs on one of the power supplies.

In the event that continuity of service is a must for the application, redundancy modules can be put in cascade with addition power supplies.

**Note:** The redundancy module can be used to connect two power supplies with a maximum rating of 20 A in parallel. To connect two 40 A **ABL8WPS24400** power supplies, two **ABL8RED24400** redundancy modules must be used.

#### Description

- 1 Spring clip for 35 mm (1.37 in) Lr rail
- 2 Clip-on marker label
- 3 Input voltage status LED (green) for the first 24 Vdc power supply
- 4 Input voltage status LED (green) for the second 24 Vdc power supply
- 5 10 mm<sup>2</sup> enclosed screw terminals for connection of the 24 Vdc output voltage
- 6 10 mm<sup>2</sup> enclosed screw terminals for connection of the input voltage for the second 24 Vdc power supply (I ≤ 20 A)
- 7 10 mm<sup>2</sup> enclosed screw terminals for connection of the input voltage for the first 24 Vdc power supply (I  $\leq$  20 A)
- 8 Removable screw terminal block for connection of the diagnostic contact

References	i -			
Functional mo	odule			
Designation	Functionality	Nominal curent	Reference	Weight kg/ <i>lb</i>
Redundancy module	Continuity of service after a failure of power supply equipment	40 A	ABL8RED24400	0.700/ 1.543

Replacement part			
Designation	Composition	Unit reference	Weight kg/lb
Legend holder	Order in multiples of 100	LAD90	0.001/ 0.002

Note: Phaseo Functional modules shown in this document are identified as Modicon as they will undergo a future brand change. All other product documentation will reference Phaseo until the brand change occurs.





ABL8RED24400

## Presentation

## Modicon Power Supply

Regulated power supply for industrial use, rail mounting

Functional modules for Modicon ABL8RP/WP Universal Power Supply

## Continuity of service: Voltage holding in the event of a power outage

Modicon ABL8RP/WP Universal power supply can deliver their nominal power in the event of a microbreak of less than 20 ms. When outages exceed this value, the **ABL8BUF** Buffer module, combined with a Modicon ABL8RP/WP Universal power supply, is used. In the event of short interruptions, the Buffer module takes over and continues to provide the 24 Vdc voltage.

The table below indicates the maximum time for immunity to microbreaks t1.



Power supply		Typical time for immunity to microbreaks with ABL8BUF Buffer module $(40\text{A})$ at Un t1		
		100% load at the Buffer module output	2 A at the Buffer module output	
ABL8RPS24030	Single-phase or 2-phase 3 A, 72 W	0.912 s	0.984 s	
ABL8RPS24050	Single-phase or 2-phase 5 A, 120 W	0.472 s	1.33 s	
ABL8RPS24100	Single-phase or 2-phase 10 A, 240 W	0.220 s	1.34 s	
ABL8RPM24200	Single-phase or 2-phase 20 A, 480 W	0.206 s	1.82 s	
ABL8WPS24200	3-phase 20 A, 480 W	0.056 s (1)	1.18 s	
ABL8WPS24400	3-phase 40 A, 960 W	0.092 s (1)	1.29 s	

**Note:** In order to maximize the immunity time, it is advisable to connect only those circuits requiring protection against microbreaks (controller or PLC power supply) at the Buffer module output

(1) Values liable to increase significantly.

Note: Phaseo Functional modules shown in this document are identified as Modicon as they will undergo a future brand change.

All other product documentation will reference Phaseo until the brand change occurs.

### Presentation (continued)

## Modicon Power Supply

Regulated power supply for industrial use, rail mounting

Functional modules for Modicon ABL8RP/WP Universal Power Supply

Continuity of service: Voltage holding in the event of a power outage

For applications that are sensitive to unintended stopping, the **ABL8B** functional module offers a solution comprising:

■ Electronic switch mode power supply and Buffer module for holding times t2 up to two seconds

■ Electronic switch mode power supply, Battery control module and Battery module for holding times t2 of between two seconds and a few hours

These solutions are used to supply voltage after loss of the line supply, thus enabling saving of current values or fallback of some actuators supplied with 24 Vdc.

The table below indicates the possible holding times according to the equipment combinations and the current required.



Holding current	Hole	ding t	ime t	2																							
	Sec	onds							Min	utes														Hou	rs		
	0.1	0.2	0.5	1	2	5	10	30	1	2	3	4	5	6	7	8	9	10	15	20	30	40	50	1	2	3	5
1 A	1	1	1	1	1	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+5	2+5
2 A	1	1	1	1	1	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+5	2+6	2+6
3A	1	1	1	1	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+5	2+5	2+5	2+6	2+6	2+6 +6
4 A	1	1	1	1	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+5	2+5	2+5	2+5	2+6		2+6 +6
5A	1	1	1	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+5	2+5	2+5	2+6	2+6	2+6 +6	2+6 +6	
6A	1	1	1	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+5	2+5	2+5	2+6	2+6	2+6	2+6 +6	2+6 +6	
7 A	1	1	1	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+5	2+5	2+5	2+5	2+5	2+6	2+6	2+6	2+6	2+6 +6		
8A	1	1	1	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+5	2+5	2+5	2+5	2+5	2+5	2+5	2+6	2+6	2+6	2+6 +6	2+6 +6		
10 A	1	1	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+5	2+5	2+5	2+5	2+5	2+5	2+5	2+6	2+6	2+6 +6	2+6 +6	2+6 +6			
15 A	1	1	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+5	2+5	2+5	2+5	2+5	2+6	2+6	2+6	2+6	2+6 +6	2+6 +6					
20 A	1	1	2+5	2+5	2+5	2+5	2+5	2+5	2+5	2+5	2+5	2+5	2+6	2+6	2+6	2+6	2+6	2+6	2+6 +6	2+6 +6	2+6 +6						
25 A	1	3+5	3+5	3+5	3+5	3+5	3+5	3+5	3+5	3+5	3+5	3+6	3+6	3+6	3+6	3+6	3+6 +6	3+6 +6	3+6 +6	3+6 +6							
30 A	1	3+5	3+5	3+5	3+5	3+5	3+5	3+5	3+5	3+5	3+6	3+6	3+6	3+6 +6	3+6 +6	3+6 +6		3+6 +6	3+6 +6	3+6 +6							
35 A	1	3+5	3+5	3+5	3+5	3+5	3+5	3+5	3+5	3+6	3+6	3+6	3+6 +6		•												
40 A	1	3+6	3+6	3+6	3+6	3+6	3+6	3+6	3+6	3+6	3+6	3+6 +6	3+6 +6		3+6 +6	3+6 +6	3+6 +6	3+6 +6									

Code	Functional module									
	Designation	Reference								
1	40 A Buffer module	ABL8BUF24400								
2	20 A Battery control module	ABL8BBU24200								
3	40 A Battery control module	ABL8BBU24400								
4	3.2 Ah Battery module	ABL8BPK24A03								
5	7 Ah Battery module	ABL8BPK24A07								
6	12 Ah Battery module	ABL8BPK24A12								

**Note:** Several Buffer modules (up to a maximum of three) can be connected in parallel to increase the immunity time. The times given in the table above (boxes marked 1) should be multiplied by the number of modules used (2 or 3).

## Functions



Green: Nominal status/information



Orange: Warning



Red: Fault

Examples of Battery control module diagnostic screens

## Modicon Power Supply

Regulated power supply for industrial use, rail mounting

Functional modules for Modicon ABL8RP/WP Universal Power Supply

## Continuity of service: Voltage holding in the event of a power outage

#### Functions

#### ABL8BBU Battery control modules

The main module function are:

- Charging and checking the associated battery
- Automatic switching between the power supply and the battery in the event of a power outage
- Diagnostics

The Battery control modules offer a three-color LCD screen and a navigation button that can be used to:

- Display the status and diagnostic data
- Access the service and maintenance functions
- Set the module parameters

These modules also have a diagnostic relay (C/O contacts) relating to:

- The power supply status
- The Battery module status
- The alarm

#### The following functions are available:

- Inhibition or activation (local or remote) of the battery in order to do maintenance operations on the application

Battery test

- Backup and download of a configuration via a memory card enabling storage and duplication of the configuration parameters

The module parameters can be set in order to define:

- The user language
- The rating of the battery connected to the Battery control module
- The operating temperature for the battery in order to optimize its life
- The length and cross-section of the connection to compensate for voltage losses due to the length of the line
- The duration of the battery-powered supply

- The threshold voltage provided by the power supply below which the battery takes over

Whichever solution is used, the output terminals for the power supplies, Buffer modules and Battery control modules have been designed to make it easier to isolate a backed-up circuit and a non-backed-up circuit to maintain continuity of service after a power outage.

#### ABL8BPK Battery modules

Each Battery module consists of:

- Lead-sealed batteries (two in series)
- Its automotive type fuse protection

Only these modules are compatible with the ABL8BBU Battery control modules.

- In the event of the Battery control module-Battery module combination not being used for long periods (approximately 1 week minimum) the following is recommended: - Fully charge the Battery module beyond 72 hours,
- Remove the fuse(s) from the Battery module(s) and store them in the allocated slots

## Description, references

## Modicon Power Supply

Regulated power supply for industrial use, rail mounting

Functional modules for Modicon ABL8RP/WP Universal Power Supply









ABI 8BUE24400



ABL8BBU24200



ABL8BBU24400



ABL8BPK24A03, ABL8BPK24A07, ABL8BPK24A12

#### Continuity of service: Voltage holding in the event of a power outage Description

#### **Buffer module**

- Spring clip for 35 mm (1.37 in) Lr rail 1
- 2 Clip-on marker label
- 3 LED indicator (green): module ready (maximum load)
- 10 mm<sup>2</sup> enclosed screw terminals for connection of the 24 Vdc input voltage 4
- 5 10 mm<sup>2</sup> enclosed screw terminals for connection of the 24 Vdc output voltage 6
  - Removable screw terminal block for connection of the diagnostic contact: module ready (maximum load)

#### **Battery control modules**

- Spring clip for 35 mm (1.37 in) Lr rail 1
- 2 Clip-on marker label
- 3 Memory card slot for backup and duplication of the configuration parameters
- 4 Display and configuration parameter browse/selection button
- 5 Removable screw connector for connection of the battery voltage inhibit input (terminal block supplied) (This contact must always be volt-free).
- Removable screw connector for connection of the diagnostic contacts: power supply presence, battery 6 presence (terminal block supplied)
- 10 mm<sup>2</sup> enclosed screw terminals for connection of the 24 Vdc output voltage
- 8 10 mm<sup>2</sup> enclosed screw terminals for connection of the power supply 24 Vdc input voltage
- 9 10 mm<sup>2</sup> enclosed screw terminals for connection of the battery voltage 24 Vdc input voltage

#### **Battery modules**

- 1 A metal box that can be fixed on a vertical or horizontal panel
- 2 Fuse carrier (one or two depending on the model), which, in addition to protect the output, can be used to disable the battery module (fuse supplied but not fitted)
- 3 10 mm<sup>2</sup> enclosed screw terminals for connection of the Battery module 24 Vdc output voltage
  - (depending on the model, allows two Battery modules to be connected in parallel)

References				
Functional mode	ule for Solutions to microbreaks and po	ower outages		
Designation	Use	Output current	Reference	Weight kg/ <i>lb</i>
Buffer module	Holding time: 100 ms at 40 A, 2 s at 1 A	40 A	ABL8BUF24400	1.200/ 2.646
Battery control modules	Holding time: 9 min at 40 A to 2 hrs at 1 A (depending on use with a battery control module-battery unit and load) (1)	20 A	ABL8BBU24200	0.500/ 1.102
		40 A	ABL8BBU24400	0.700/ 1.543

Designation	Use	Capacity	Reference	Weight kg/ <i>lb</i>
Battery modules	Holding time: 9 min at 40 A to 2 hrs at 1 A (depending on use with a battery control module-battery unit and load) <i>(1)</i>	3.2 Ah <i>(2)</i>	ABL8BPK24A03	3.500/ 7.716
		7 Ah <i>(2)</i>	ABL8BPK24A07	6.500/ 14.330
		12 Ah <i>(2)</i>	ABL8BPK24A12	12.000/

ABL8BPK24A12

Separate and replace	For use with	Composition	Unit reference	Mainht
Designation	For use with	Composition	Unit reference	Weight kg/ <i>lb</i>
Fuse set	ABL8BPK24A03, ABL8BPK24A07, and ABL8BPK24A12 Battery modules	4 x 20 A and 6 x 30 A	ABL8FUS02	-
Legend holder	All functional modules except ABL8PRP24100	Order in multiples of 100	LAD90	0.001/ 0.002
EEPROM memory cartridge for backup and duplication of parameters	ABL8BBU24200 and ABL8BBU24400 Battery control modules	-	SR2MEM02	0.010/ 0.022

(1) Compatibility table for battery check module-battery unit with holding time depending on the load, see page 19. (2) Supplied with 20 or 30 A fuse depending on the model.



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## Presentation. decription

## **Modicon** Power Supply

Regulated Regulated power supply for industrial use, rail mounting

Functional modules for Modicon ABL8RP/WP Universal Power Supply

#### Continuity of service: Discrimination of protection against overloads and short-circuits

To provide discriminating protection in the event of an overload or short-circuit, the Modicon ABL8RP/WP Universal power supply electronic protection function has been integrated in four-channel modules. These discriminating downstream Protection modules can be daisy-chained to provide protection discrimination on as many application segments as necessary.

The ABL8PRP24100 Protection module has:

- Overload and short-circuit protection on each of its four channels:
  - Each channel can be calibrated by the user from 1 to 10 A, according to the needs of the application.
  - One fuse per channel (15 A supplied by default) gives ultimate protection in the event of a module fault. This fuse can be replaced by a fuse with a lower rating that is appropriate for the conductor c.s.a. used for cabling.
- A 2-pole isolator on each of its channel
- An automatic or manual reset mode for the protection
- Memorization of the fault even in the event of failure of the 24 Vdc voltage
- A diagnostic relay indicating that each channel is operational
  - One diagnostic LED per channel
- Manual reset on the front panel
- One switch per channel that can be used, like thermal-magnetic circuit-breakers,
- to open or close the circuits during test, maintenance or installation periods

#### Description

#### Single-pole and 2-pole downstream electronic Protection module

- 1 Enclosed screw terminals for connection of the 24 Vdc voltage
- Enclosed screw terminals for connection of the diagnostic relay contact 2
- Line protection fuses (one 15 A fuse per channel by default) 3
- 4 Automatic or manual reset mode selector
- 5 Reset pushbutton
- 6 Diagnostic LEDs (green and red) and clip-on marker tag holder (1 per channel)
- 1...10 A output nominal current selector (1 per channel) 7
- Channel isolator switch (1 per channel)
- 9 Locking catch for the glass flap (sealable).
- 10 Enclosed screw terminals for connection of the four channels (2-pole)
- 11 Protective glass flap
- 12 Retractable fixing lugs for panel mounting (1r rail mounting also possible)

Note: Phaseo Functional modules shown in this document are identified as Modicon as they will undergo a future brand change. All other product documentation will reference Phaseo until the brand change occurs.



## References

**Modicon** Power Supply Regulated power supply for industrial use, rail mounting

Functional modules for Modicon ABL8RP/WP Universal Power Supply

Functional module											
Designation	Functionality	Use	Reference	Weight kg/lb							
Protection module with 2-pole breaking by channel (1) (2)	Discriminating downstream protection	Electronic protection (110 A overload or short-circuit) of 4 output terminals from a ABL8RP/WP Universal power supply	ABL8PRP24100	0.470/ 1.036							

(1) Local reset via pushbutton or automatic reset. (2) Supplied with four 15 A fuses.



ABL8PRP24100

Selection guide

Modicon Power Supply Rectified power supply for industrial use, rail mounting

Input Voltage		230400 Vac					230400 Vac			400 Vac		
Nominal outpu	ut power	12 W	24 W	48 W	96 W	144 W	240 W	360 W	480 W	240 W	480 W	720
Connection to world-wide line supplies	United States: 120 V (in phase-to- neutral) / 240 V (in phase-to- phase)	3-phase (L1-L2-L3)	connection				3-phase (L1-L2-L3) connection	3-phase (L1-L2-L3)	) connection	3-phase (L1-L2-L3	) connection	
	Europe: 230 V (in phase-to- neutral) / 400 V (in phase-to- phase)		) or 2-phase (L1-L2) ca	onnection			Single-phase (N-L1) or 2-phase (L1-L2) connection	Single-phase (N-L1 connection	) or 2-phase (L1-L2)	Single-phase (N-L	1) or 2-phase (L1-L2)	conne
	United States: 277 V (in phase-to- neutral) / 480 V (in phase-to- phase)	3-phase (L1-L2-L3)	connection				3-phase (L1-L2-L3) connection	3-phase (L1-L2-L3)	) connection	3-phase (L1-L2-L3	) connection	
Protection aga and short-circ	ainst overloads suits	Yes, by internal 5x2	0 glass fuse (replacab	le)			No	No		No		
Certifications	(1)	- C€ marking - UL - EAC					- C€ marking - UL - EAC	- C€ marking - UL - EAC		- C€ marking - UL - EAC		
Power supply	type	Modicon ABL8F	/T Rectified power	supply								
Output voltage	24V	ABL8FEQ24005	ABL8FEQ24010	ABL8FEQ24020	ABL8FEQ24040	ABL8FEQ24060	ABL8FEQ24100	ABL8FEQ24150	ABL8FEQ24200	ABL8TEQ24100	ABL8TEQ24200	AB
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(1) Consult detail on conformity to standards for each reference in the product data sheet, click on product reference to open it. Note: Phaseo Rectified power supplies shown in this document are identified as Modicon as they will undergo a future brand change. All other product documentation will reference Phaseo until the brand change occurs.



## Presentation

## Modicon Power Supply

Rectified power supply for industrial use, rail mounting

Modicon ABL8F/T Rectified Power Supply



Modicon ABL8F Rectified power supply



Modicon ABL8T Rectified and filtered power supply

#### Modicon ABL8F/T Rectified power supply Presentation

The Modicon ABL8F/T power supplies are designed to provide the DC voltage required by the control circuits of automation system equipment and to meet the needs encountered in industrial, commercial, and residential applications.

■ With phase-to-neutral or 3-phase connection, of the conventional type with rectifier, they provide a quality of output current that is suitable for the loads supplied and compatible with the line supply available in the equipment. Clear guidelines are given for selecting the protection devices that are often used with them to provide a comprehensive, usable solution

The Modicon ABL8F/T rectified and filtered power supplies are built using a SELV (safety extra low voltage) transformer equipped with a bridge rectifier and smoothing capacitors

With no regulation system, their output voltage will withstand line voltage variations and load variations while remaining within the range defined in standard IEC/EN 61131-2.

Main Features	
Nominal input voltage	<ul> <li>ABL8FEQ: 230/400 Vac, Single-phase (N-L1) or 2-phase (L1-L2) connection, for connection to European 230/400 V line supplies</li> <li>ABL8TEQ: 400 Vdc, 3-phase connection (L1-L2-L3) suitable where a high power level is required for controlling actuators and preactuators ("24 Vdc" equipment, or for pilot operation of DC valves and solenoid valves)</li> </ul>
Network system compatibility	TN, TT, IT
Nominal output voltage	24 Vdc
Operating temperature	-25 °C+ 70 °C (-13 158 °F) (1)
Product certifications	- C€ marking - UL - EAC
Conformity to standards	- EN 61558-1 - EN 61558-2-6 - EN 62041

#### Quality of the line supply

Rectified power supplies provide a non-regulated voltage, sensitive to load and line supply fluctuations. They can only be used on good-quality line supplies, with fluctuations limited to -10%...+10% of the nominal value.

Graphs showing the output voltage as a function of the current, load, and input voltage for Modicon **ABL8F/T** power supplies are available on the product data sheet (click on product reference to open it)

If the quality of the line supply is not suitable for a rectified power supply, a regulated supply must be used.

#### Harmonic pollution (power factor)

By design, Modicon **ABL8F/T** power supplies consume very little harmonic current; they meet the requirements of standard IEC/EN 61000-3-2 and can therefore be connected directly to public distribution systems.

#### Behavior in the event of short circuits

In the event of an overload or short-circuit, rectified power supplies need a downstream fuse or circuit-breaker to prevent their destruction. **ABL8FEQ** models up to 6 A are equipped with a 5x 20 glass fuse and do not need any external downstream protection.

(1) Derating for temperature higher than 55°C (131°F), Consult the product data sheet (click on product reference to open it).

Note: Phaseo Rectified power supplies shown in this document are identified as Modicon as they will undergo a future brand change. All other product documentation will reference Phaseo until the brand change occurs.

## Description

## **Modicon** Power Supply Rectified power supply for industrial use, rail

Rectified power supply for industrial use, rail mounting

Modicon ABL8F/T Rectified Power Supply



#### Modicon ABL8F/T Rectified power supply Description

Modicon ABL8F Rectified power supply

- 1 Screw terminals for connection of the DC output voltage
- 2 LED indicating presence of DC output voltage (orange)
- 3 Label holder
- 4 Signaling LED (green) output voltage status
- 5 Screw terminal for connection of the AC input voltage
- 6 35 mm (1.37 in) Trail mounting clip



#### Modicon ABL8T Rectified power supply

- 1 Screw terminals for connection of the DC output voltage
- 2 Signaling LED (green) output voltage status
- 3 Screw terminal for connection of the AC input voltage
- 4 Functional earth connector

#### **Modicon** Power Supply Rectified power supply for industrial use, rail mounting

Modicon ABL8F/T Rectified Power Supply

#### Modicon ABL8F/T Rectified power supply

Line supply type		400 V $\sim$ single-phase, p	rimary voltage			230 V $\sim$ single-phase, p	rimary voltage		
Type of protection	Nominal power	3-pole thermal-magnetic circuit breaker	Miniature circuit breaker	UL listed FNQ type fuse	aM type fuse	3-pole thermal-magnetic circuit breaker	Miniature circuit breaker	UL listed MDL type fuse	aM type fuse
		TeSys	Multi9 C60 (IEC, UL/ CSA)			TeSys	Multi9 C60 (IEC, UL/ CSA)		
ABL8FEQ24005	12 W	GB2DB05	M9F23201	0.1 A	0.25 A	GB2CB05 (1)	M9F23170	0.125 A	0.25 A
ABL8FEQ24010	24 W	GB2DB05	M9F23201	0.15 A	0.25 A	- GB2CD05 (1) GB2DB05 (1)	M9F23170	0.2 A	0.25 <i>A</i>
ABL8FEQ24020	48 W	GB2DB05	M9F23201	0.3 A	0.25 A	GB2CS05 (1)	M9F23170	0.5 A	0.25 <i>A</i>
ABL8FEQ24040	96 W	GB2DB06	M9F23201	0.5 A	0.5 A	GB2CB06 (1) GB2CD06 (1) GB2DB06 (1) GB2CS06(1)	M9F23101	1 A	0.5 A
ABL8FEQ24060	144 W	GB2DB06	M9F23201	1 A	0.5 A	GB2CB07(1)	M9F23101	1.25 A	1A
ABL8FEQ24100	240 W	GB2DB06	M9F23201	1.25 A	1 A	- GB2CD07 (1) GB2DB07(1) GB2CS07 (1)	M9F23102	2 A	1A
ABL8FEQ24150	360 W	GB2DB07	M9F23202	2A	1A	GB2CB08(1) GB2CD08(1) GB2DB08(1) GB2CS08(1)	M9F23103	3 A	2A
ABL8FEQ24200	480 W	GB2DB07	M9F23202	2.5 A	1A	GB2CB09 (1) GB2CD09 (1) GB2DB09 (1) GB2CS09 (1)	M9F23104	4 A	2A
Line supply type		24 V , secondary volta	ige						
Type of protection	Nominal power	gC type fuse		T type fuse					
ABL8FEQ24005	12 W	-		0.5 A (inte	ernal fuse)				
BL8FEQ24010	24 W	-		1 A (inter	nal fuse)				
ABL8FEQ24020	48 W	-		2 A (interi	nal fuse)				
ABL8FEQ24040	96 W	-		4 A (interi	nal fuse)				
ABL8FEQ24060	144 W	-		6.3 A (internal fuse)					
ABL8FEQ24100	240 W	12 A		12 A					
ABL8FEQ24150	360 W	20 A		20 A					
ABL8FEQ24200	480 W	25 A		25 A					

Line supply type		400 V $\sim$ 3-phase, primary voltage				24 V, so voltage	econdary
Type of protection	Nominal power	3-pole thermal-magnetic circuit breaker TeSys	Miniature circuit breaker Multi9 C60 (IEC, UL/CSA)	UL listed FNQ type fuse	aM type fuse	gC type fuse	T type fuse
ABL8TEQ24100	240 W	GV2RT04	M9F23302	0.8 A	1 A	12 A	12 A
ABL8TEQ24200	480 W	GV2RT06	M9F23302	1.5 A	1A	25 A	25 A
ABL8TEQ24300	720 W	GV2RT07	M9F23302	2A	2 A	40 A	-
ABL8TEQ24400	960 W	GV2RT07	M9F23302	3A	2 A	50 A	-
ABL8TEQ24600	1440 W	GV2RT08	M9F23306	4 A	4 A	80 A	-

(1) CB: for single-pole circuit breaker with magnetic trip threshold 12 to 16 In; CD: for single-pole + neutral circuit breaker with magnetic trip threshold 12 to 16 In; CB: for single-pole circuit breaker with magnetic trip threshold 12 to 16 In; CS: for single-pole circuit breaker with magnetic trip threshold 12 to 16 In; CS: for single-pole circuit breaker with magnetic trip threshold 12 to 16 In; CB: for single-pole circuit breaker with magnetic trip threshold 12 to 16 In; CB: for single-pole circuit breaker with magnetic trip threshold 12 to 16 In; CB: for single-pole circuit breaker with magnetic trip threshold 12 to 16 In; CB: for single-pole circuit breaker with magnetic trip threshold 5 to 7 In.

References

## **Modicon** Power Supply Rectified power supply for industrial use, rail mounting

Modicon ABL8F/T Rectified Power Supply



ABL8FEQ24005 ABL8FEQ24010 ABL8FEQ24020 ABL8FEQ24040



ABL8FEQ24060 ABL8FEQ24100



ABL8FEQ24150 ABL8FEQ24200



ABL8TEQ24100



ABL8TEQ24200 ABL8TEQ24300



ABL8TEQ24400 ABL8TEQ24600

	BL8F/T Recti	neu power s	арріу			
References						
Input voltage	Secondary	<u>.</u>			Reference	Weight kg/ <i>lb</i>
	Output voltage	Nominal power	Output current	Protection by 5 x 20 fuse		Kgrib
Modicon ABL	8F Rectified pow	er supply				
Single-phase (N	I-L1) or 2-phase (L1	I-L2) connection				
<b>230400 Vac</b> ±15 V 50/60 Hz	24 Vdc	12 W	0.5 A	Yes	ABL8FEQ24005	1.280/2.82
		24 W	1A	Yes	ABL8FEQ24010	1.300/2.86
		48 W	2A	Yes	ABL8FEQ24020	2.200/4.85
		96 W	4A	Yes	ABL8FEQ24040	2.900/6.393
		144 W	6 A	Yes	ABL8FEQ24060	4.940/10.89
		240 W	10 A	No	ABL8FEQ24100	7.660/16.88
		360 W	15 A	No	ABL8FEQ24150	8.820/19.44
		480 W	20 A	No	ABL8FEQ24200	13.220/29.14

	BL8T Rectified   nection (L1-L2-L3)					
<b>400 Vac</b> ± 20 V 50/60 Hz	24 Vdc	240 W	10 A	No	ABL8TEQ24100	4.720/10.406
		480 W	20 A	No	ABL8TEQ24200	9.900/21.826
		720 W	30 A	No	ABL8TEQ24300	13.000/28.660
		960 W	40 A	No	ABL8TEQ24400	17.500/38.581
		1440 W	60 A	No	ABL8TEQ24600	26.500/58.422

Marking accessory				
Description	Size	Order in multiples of	Unit reference	Weight kg/lb
arking support adhesive	20 x 10 mm/0.4 in	50	AR1SB3	0.010/0.022



**Modicon** Power Supplies Power supplies for industrial uses, rail mounting

Product reference index

Α		ABL8TEQ24300	2
ABL7RM24025	7		2
ABL7RP1205	9	ABL8TEQ24400	2
ABL7RP4803	9	ABL8TEQ24600	2
ABL8BBU24200	14	ADLOTEQ24000	2
	19 21	ABL8WPS24200	1
ABL8BBU24400	14		1
ADEODDO24400	19		1
	21		1
ABL8BPK24A03	14	ABL8WPS24400	1
	19		1
	21		1
ABL8BPK24A07	14 19	ABLM1A05036	
	21	ABLM1A12010	
ABL8BPK24A12	14	ABLM1A12021	
	19	ABLM1A12042	
	21	ABLM1A24004	
ABL8BUF24400	14	ABLM1A24006	
	19 21	ABLM1A24012	
ABL8DCC05060	14	ABLM1A24025	
ABLODGC05000	14	ABLS1A12062	
ABL8DCC12020	10	ABLS1A12100	
	16	ABLS1A24021	
ABL8FEQ24005	28	ABLS1A24031	
	29	ABLS1A24038	
ABL8FEQ24010	28	ABLS1A24050	
	29	ABLS1A24100	
ABL8FEQ24020	28	ABLS1A24200	
	29	ABLS1A48025	
ABL8FEQ24040	28 29	AR1SB3	2
ABL8FEQ24060	23	G	
DECI EQLIVOU	29	G GB2CB05	2
ABL8FEQ24100	28	GB2CB05 GB2CB06	2
	29	GB2CB07	2
ABL8FEQ24150	28	GB2CB08	2
	29	GB2CB09	2
ABL8FEQ24200	28 29	GB2CD05	2
ABL8FUS02	23	GB2CD06	2
ABL8MEM05040	7	GB2CD07	2
ABL8MEM12020	7	GB2CD08	2
ABL8MEM24003	7	GB2CD09	2
ABL8MEM24006	7	GB2CS05	2
ABL8MEM24012	7	GB2CS06	2
ABL8PRP24100	14	GB2CS07	2
	23	GB2CS08	2
ABL8RED24400	14	GB2DB05	2
	17	GB2DB06	2
ABL8REM24030	9	GB2DB07	2
ABL8REM24050	9	GB2DB08	2
ABL8RPM24200	10	GB2DB09	2
	12	GB2CS09	2
	13 18	L	
ABL8RPS24030	10	LAD90	1
	12		1
	13		2
	18	Μ	
ABL8RPS24050	10	M9F23101	2
	12	M9F23101 M9F23102	2
	13 18	M9F23102	2
ABL8RPS24100	10		
-DLUNP 324 100	10	M9F23104	2
	13	M9F23170	2
	18	M9F23201	2
ABL8TEQ24100	28	M9F23202	2
	29	S	
ABL8TEQ24200	28	SR2MEM02	

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