



# Modicon Power Supply

Power supply for industrial use,  
rail mounting



# Modicon

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- [Modicon Power Supply](#)
- [Modicon Wiring](#)
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# Quick access to product information

## Get technical information about your product

References

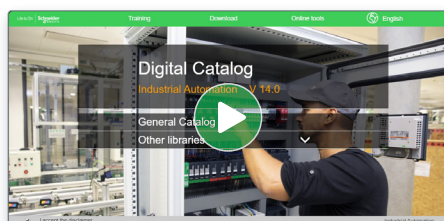
**Modicon TM3**  
I/O expansion modules for Modicon controllers  
Analog I/O modules

Number and type of channels	Input range	Output range	Resolution	Input terminal block (pinning)	Reference	Weight (kg)
2 management inputs	+10...+10 VDC 0...+10 VDC	—	10 bits of 10 000 + sign	Coma 2	TM3AI2H	0.110
	0...20 mA, 4...20 mA	—	10 000	50P2.2	TM3AI2HG	0.100
4 management inputs	+10...+10 VDC 0...+10 VDC	—	12 bits of 10 000 + sign	Coma	TM3AI4	0.110
	0...20 mA, 4...20 mA	—	10 000	50P2.2	TM3AI4HG	0.100
4 management or temperature inputs (I)	Thermocouples (K, R, S, E, T, N, E, C) RTDs (Pt100, Ni1000, Pt1000, Ni1000) 0...+10 VDC 0...20 mA, 4...20 mA	—	10 bits of 10 000 + sign	Coma	TM3AI4T	0.110
		—	10 bits of 10 000 + sign	Coma	TM3AI4T	0.110
4 differential temperature inputs (I)	Thermocouples (K, R, S, E, T, N, E, C) RTDs (Pt100, Ni1000, Pt1000, Ni1000) 0...+10 VDC 0...20 mA, 4...20 mA	—	10 bits of 10 000 + sign	Coma	TM3DI4	0.110
		—	10 bits of 10 000 + sign	Coma	TM3DI4	0.110
2 management inputs	+10...+10 VDC	—	10 bits of 10 000 + sign	Coma	TM3AI2	0.110

Each commercial reference presented in a catalog contains a hyperlink. Click on it to obtain the technical information of the product:

- Characteristics, Dimensions and drawings, Mounting and clearance, Connections and schemas, and Performance curves
- Product image, Instruction sheet, User guide, Product certifications, and End of life manual

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### ■ Functional modules

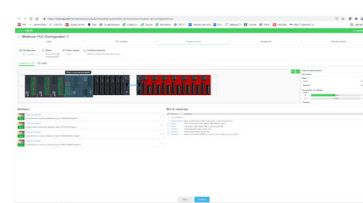
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# Modicon Power Supply

Regulated power supply for industrial use, rail mounting

Input Voltage	100...240 Vac								100...240 Vac, 140...340 Vdc (2)						100...120 Vac and 200...500 Vac			100...120 Vac, 200...240 Vac		380...500 Vac									
Nominal 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	480 W	120 W	240 W	480 W	960 W							
<b>Connection to world-wide line supplies</b>	United States: 120 V (in phase-to-neutral) / 240 V (in phase-to-phase) Europe: 230 V (in phase-to-neutral) / 400 V (in phase-to-phase) United States: 277 V (in phase-to-neutral) / 480 V (in phase-to-phase)								Single-phase (N-L1) or 2-phase (L1-L2) connection						Single-phase (N-L1) or 2-phase (L1-L2) connection						Single-phase (N-L1) or 2-phase (L1-L2) connection			-		Single-phase (N-L1) or 2-phase (L1-L2) connection			
<b>Protection against overloads and short-circuits</b>	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						Yes with 2 possible modes: - automatic restart after the source of overload/short-circuit has been corrected - manual restart, the input voltage must be interrupted after the source of overload/short-circuit has been corrected			-		Yes, depending on model									
<b>Diagnosis relay</b>	-								-						-			-		-									
<b>Certifications (1)</b>	<ul style="list-style-type: none"> <li>- CE marking</li> <li>- CB Scheme</li> <li>- cULus Listed</li> <li>- cURus Recognized</li> <li>- RCM</li> <li>- EAC</li> <li>- UKCA</li> <li>- KC</li> </ul>								<ul style="list-style-type: none"> <li>- CE marking</li> <li>- CB Scheme</li> <li>- cULus Listed</li> <li>- cURus Recognized</li> <li>- RCM</li> <li>- EAC</li> <li>- UKCA</li> <li>- KC</li> </ul>						<ul style="list-style-type: none"> <li>- CE marking</li> <li>- CB Scheme</li> <li>- cULus Listed</li> <li>- CSA</li> <li>- RCM</li> <li>- EAC</li> <li>- UKCA</li> </ul>			<ul style="list-style-type: none"> <li>- CE marking</li> <li>- CB Scheme</li> <li>- cULus Listed</li> <li>- UL Hazardous Locations: Class 1, Division 2</li> <li>- cURus Recognized</li> <li>- RCM</li> <li>- EAC</li> <li>- UKCA</li> <li>- KC</li> </ul>		-									
<b>Power supply type</b>	Modicon ABLM Modular power supplies								Modicon ABLS Optimized power supplies						Modicon ABL8RP/WP Universal power supplies			Modicon ABLU Universal power supplies											
<b>Output voltage 5V</b>	-	-	-	ABLM 1A05036	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
<b>Output voltage 12V</b>	-	ABLM 1A12010	-	-	ABLM 1A12021	-	ABLM 1A12042	-	-	ABLS 1A12062	-	ABLS 1A12100	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
<b>Output voltage 24V</b>	ABLM 1A24004	-	ABLM 1A24006	-	-	ABLM 1A24012	-	ABLM 1A24025	ABLS 1A24021	ABLS 1A24031	ABLS 1A24038	ABLS 1A24050	ABLS 1A24100	ABLS 1A24200	ABL8 RPS24030	ABL8 RPS24050	ABL8 RPS24100	ABL8 RPM24200	ABLU 3A24050	ABLU 3A24100	ABLU 3A24200	ABLU 3A24400							
<b>Output voltage 48V</b>	-	-	-	-	-	-	-	-	-	-	-	ABLS 1A48025	ABLS 1A48050	ABLS 1A48100	-	-	-	-	-	-	ABLU 3A48100	ABLU 3A48200							
<b>Output rating</b>	NEC Class 2, Limited Power Source								NEC Class 2, Limited Power Source (2)						-			-											
<b>Compatible functional modules</b> See page 14	-								- Easy UPS Battery control module DC-DC (see page 24)						-			<ul style="list-style-type: none"> <li>- Converter module (see page 16)</li> <li>- Redundancy module (see page 17)</li> <li>- Buffer module (see page 22)</li> <li>- Universal Battery control module (see page 22)</li> <li>- Protection module (see page 23)</li> <li>- Easy UPS Battery control module DC-DC (see page 25)</li> </ul>											
<b>Page</b>	6								8						10 to 13														

(1) Consult detail on certification for each reference in the product data sheet, click on [product reference](#) to open it.  
(2) Except ABL1A24021 and ABL1A24038.



**Modicon PLC configurator**

- Online tool to Select your architecture of controller and I/O by
- Usage and application
  - Connectivity, services and IIOT (Protocols, WeB and communication services)
  - I/O
  - Power supply

Regulated power supply for industrial use, rail mounting

Modicon switch mode power supply offer is designed to provide the DC voltage necessary for the automation system equipment control circuits.

Modicon industrial power supplies are regulated switch mode power supplies, available in 3 types: **ABLM Modular**, **ABLS Optimized**, **ABLU** 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 ABLU, 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 ABLU, 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 supplies



Modicon ABLS Optimized power supplies



Modicon ABLU Universal power supplies



Modicon ABL8RP/WP Universal power supplies

Modicon ABLM Modular power supplies

- 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 supplies 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 supplies

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 ABLU and ABL8RP/WP Universal power supplies

- The ABL8RP Universal type covers power ratings from 72 to 480 W in 24Vdc 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-phase) for line supplies ranging from 100 Vac to 500 Vac nominal.
- The ABLU 3-phase and ABL8WP Universal type covers power ratings from 120 to 960 W in 24Vdc (24 or 48 Vdc for ABLU 3-phase, 480W to 960W for ABL8WP) and adapts to the majority of power distribution networks used throughout the world ranging from 380 Vac to 500 Vac nominal 3 phases.
- ABLU 3-phase and ABL8RP/WP Universal type offer:
  - 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 ABLU and ABL8RP/WP Universal power supplies, it is possible to meet the need for auxiliary voltage (5 to 15 Vdc) using DC/DC converter modules (ABLU3A24●●● and ABL8RP/WP only).

(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](#).

## 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 protective extra low voltage (PELV) or safety extra low voltage (SELV) control circuits in compliance with standard IEC/EN 60364-4-41.

They have the following characteristics:

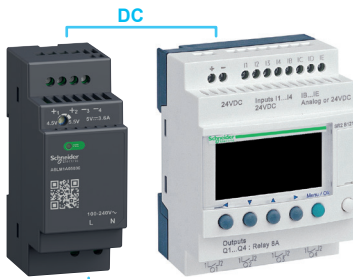
- Double insulated between the input circuit (connected to the line supply) and the low voltage output circuit via an integrated isolation transformer
- Internal circuitry limiting the output voltage to less than 60 V under single fault conditions.

### 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 ABLU, ABL8RP/WP Universal and ABL S 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, ABL S1A12062, ABL S1A24021, and ABL S1A24031 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. Above this temperature and/or with other mounting positions, derating is necessary up to a maximum temperature of 60 or 70 °C (140 or 158 °F). An additional derating may be applied for the lowest input voltages (see product data sheet).
- 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 accessible via the QR code printed in front of the product (except on ABL8RP/WP and BVS products).
- It is considered good practice to select a power supply with a nominal output current at least 20% greater than required.



Modicon ABLM Modular power supply  
Zelio Logic Smart relay

Modicon ABLM Modular power supplies are the right choice for use with Zelio logic Smart relays (1).

## Modicon ABLM Modular power supplies

### Presentation

- The Modicon ABLM Modular are regulated power supplies designed to supply control circuits in industrial and building automation up to 60 W.
- Thanks to their modular housing, they can be installed either in enclosures ([Special and Thalassa](#)) or industrial panels by clipping on omega (DIN) rail.
  - Direct, fixed mounting on panel is also possible without additional parts thanks to the integrated mounting lugs.
  - Available with 18, 36 and 53 mm (0.70, 1.41, and 2.09 in) widths, ABLM modular power supplies are one of the most compact ranges on the market.
  - Modicon ABLM Modular power supplies meet NEC Class 2 and LPS (Limited Power Source) requirements.
  - Modicon ABLM Modular power supplies conform to the Overvoltage Category III and therefore can be directly connected to central distribution boards.
  - A QR code is printed on the front of the power supply and gives a direct access to the latest technical documentation.

### Main Features

Nominal input voltage	100...240 Vac
Network system compatibility	TN, TT, IT
Nominal output voltage	5, 12 and 24 Vdc
Operating temperature	-25°C...+70°C (-13 ... 158°F) (2)
Operating altitudes	0...2000 m (6561.6 ft) 0...5000 m (16404.2 ft) with derating (3) (4)
Product certifications	<ul style="list-style-type: none"> <li>- CE marking</li> <li>- CB Scheme</li> <li>- cULus Listed</li> <li>- cURus Recognized</li> <li>- RCM</li> <li>- EAC</li> <li>- UKCA</li> <li>- KC</li> </ul>
Conformity to standards (5)	<ul style="list-style-type: none"> <li>- IEC/EN 61010-1</li> <li>- UL/CSA 61010-1</li> <li>- UL/CSA 61010-2-201</li> </ul>

### Description

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



(1) Consult our catalog Ref. [DIA3ED2111202EN](#).  
 (2) Derating for temperature higher than 55°C (131°F), and mounting on horizontal plane, Consult the product data sheet (click on [product reference](#) to open it).  
 (3) Derating for altitude > 2000 m (6561.6 ft), Consult the product data sheet (click on [product reference](#) to open it).  
 (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](#)



## Modicon ABLM Modular power supplies

### 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 supplies	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	Secondary			Reset after overload or short circuit (4)	Output voltage adjustment potentiometer	Reference	Weight kg/lb
	Output voltage (2)	Nominal power (3)	Nominal current				
<b>Modicon ABLM Modular power supplies</b>							
100...240 Vac -10%, +10% 50/60 Hz	5 Vdc	18 W	3.6 A	Automatic	With	<a href="#">ABLM1A05036</a>	0.170/ 0.37
	12 Vdc	12 W	1 A	Automatic	Without	<a href="#">ABLM1A12010</a>	0.101/ 0.22
		25 W	2.1 A	Automatic	With	<a href="#">ABLM1A12021</a>	0.170/ 0.37
		50 W	4.17 A	Automatic	With	<a href="#">ABLM1A12042</a>	0.221/ 0.48
	24 Vdc	10 W	0.42 A	Automatic	Without	<a href="#">ABLM1A24004</a>	0.099/ 0.21
		15 W	0.625 A	Automatic	Without	<a href="#">ABLM1A24006</a>	0.101/ 0.22
		30 W	1.25 A	Automatic	With	<a href="#">ABLM1A24012</a>	0.170/ 0.37
		60 W	2.5 A	Automatic	With	<a href="#">ABLM1A24025</a>	0.221/ 0.48



ABLM1A05036  
ABLM1A12021  
ABLM1A24012



ABLM1A12010  
ABLM1A24004  
ABLM1A24006



ABLM1A12042  
ABLM1A24025

### Substitution of Phaseo ABL7/ABL8 with Modicon ABLM Modular power supplies

Old reference	Replaced with
<a href="#">ABL8MEM05040</a>	<a href="#">ABLM1A05036</a>
<a href="#">ABL8MEM12020</a>	<a href="#">ABLM1A12021</a>
<a href="#">ABL8MEM24003</a>	<a href="#">ABLM1A24004</a>
<a href="#">ABL8MEM24006</a>	<a href="#">ABLM1A24006</a>
<a href="#">ABL8MEM24012</a>	<a href="#">ABLM1A24012</a>
<a href="#">ABL7RM24025</a>	<a href="#">ABLM1A24025</a>

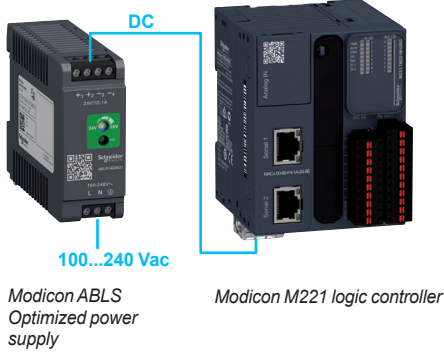
Note: in case of substitution into an existing machine, the external protection has to be adapted also.

(1) More information on Acti9 iC60 range on our [website](#).

(2) ABLM power supplies are Limited Power Source conforming NEC Class 2.

(3) Nominal power given for mounting on horizontal rail and +55°C (131°F) ambient temperature. For other temperatures and mounting positions, Consult the product data sheet ([click on product reference to open it](#)).

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



Modicon ABLS Optimized power supplies for use with (2):

- Modicon M221/M241/M251 logic controllers
- Modicon M262 logic/motion controllers
- Modicon M340 Programmable automation controller

## Modicon ABLS Optimized power supplies

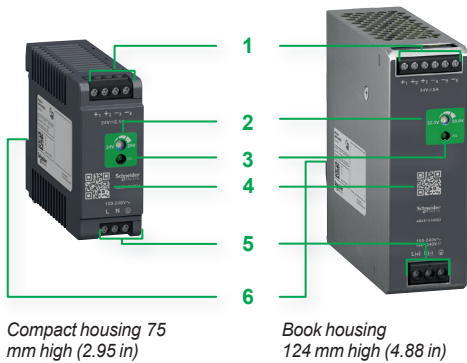
### Presentation

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 high (2.95 in)
  - or book housing 124 mm high (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 supplies (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.

### Main Features

Nominal input voltage	100...240 Vac, 140...340 Vdc (3)
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 style="list-style-type: none"> <li>- CE marking</li> <li>- CB Scheme</li> <li>- cULus Listed</li> <li>- cURus Recognized</li> <li>- RCM</li> <li>- EAC</li> <li>- UKCA</li> <li>- KC</li> </ul>
Conformity to standards (5)	<ul style="list-style-type: none"> <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
- 2 Output voltage adjustment potentiometer (except on ABLS1A24038)
- 3 Output DC status LED (green)
- 4 QR code for access to the latest technical documentation
- 5 Screw terminals for connection of the input voltage (single-phase N-L1, phase-to-phase L1-L2)
- 6 Spring clip for 35 mm (1.37 in) rail

(1) Depending on model, see page 9.  
 (2) Consult catalog Ref. [DIA3ED2140106EN](#), Ref. [DIA3ED2140107EN](#), Ref. [DIA3ED2140108EN](#), Ref. [DIA3ED2180503EN](#).  
 (3) Except ABLS1A24021 and ABLS1A24038.  
 (4) Derating for temperature higher than 55°C (131°F) at lowest input voltage and other mounting position than standard Vertical, 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).





ABLS1A24021



ABLS1A12062  
ABLS1A12100  
ABLS1A24031



ABLS1A24038



ABLS1A24050  
ABLS1A48025



ABLS1A24100  
ABLS1A48050



ABLS1A24200  
ABLS1A48100

## Modicon ABLS Optimized power supplies

### 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 ABLS Optimized power supplies	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
ABLS1A48050	6 A, B or C curve
ABLS1A48100	13 A, C curve or 16 A, B-curve

### References

Input voltage	Secondary		Housing	Reset after overload or short circuit (4)	Output voltage adjustment potentiometer	Reference	Weight kg/lb
	Output voltage	Nominal power (3)					
<b>ABLS Optimized power supplies</b>							
100...240 Vac 140...340 Vdc (2) - 15%, + 10% 50/60 Hz	12 Vdc	75 W	6.25 A	Book: 124 mm high (4.88 in)	Automatic	With	ABLS1A12062 0.220/ 0.48
		120 W	10 A	Book: 124 mm high (4.88 in)	Automatic	With	ABLS1A12100 0.520/ 1.14
24 Vdc	50 W (5)	2.1 A	Compact: 75 mm high (2.95 in)	Automatic	With	ABLS1A24021 0.180/ 0.39	
	75 W (5)	3.13 A	Book: 124 mm high (4.88 in)	Automatic	With	ABLS1A24031 0.220/ 0.48	
	91.2 W (5)	3.8 A	Compact: 75 mm high (2.95 in)	Automatic	Without	ABLS1A24038 0.325/ 0.71	
	120 W	5 A	Book: 124 mm high (4.88 in)	Automatic	With	ABLS1A24050 0.550/ 1.21	
	240 W	10 A	Book: 124 mm high (4.88 in)	Automatic	With	ABLS1A24100 0.800/ 1.76	
	480 W	20 A	Book: 124 mm high (4.88 in)	Automatic	With	ABLS1A24200 1.250/ 2.75	
48 Vdc	120 W	2.5 A	Book: 124 mm high (4.88 in)	Automatic	With	ABLS1A48025 0.550/ 1.21	
	240 W	5 A	Book: 124 mm high (4.88 in)	Automatic	With	ABLS1A48050 0.800/ 1.76	
	480 W	10A	Book: 124 mm high (4.88 in)	Automatic	With	ABLS1A48100 1.300/ 2.86	

### Substitution of Phaseo ABL7/ABL8 with Modicon ABLS Optimized power supplies

Old reference	Replaced with
ABL7RP1205	ABLS1A12062
ABL7RP4803	ABLS1A48025
ABL8REM24030	ABLS1A24031
ABL8REM24050	ABLS1A24050

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

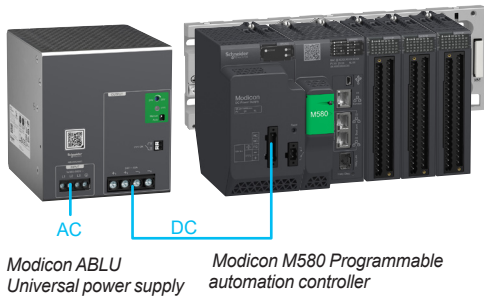
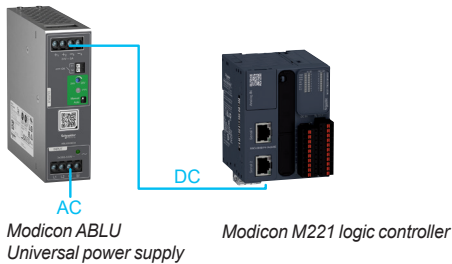
(1) More information on Acti9 iC60 range on our [website](#).

(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) ambient temperature. For other temperatures and mounting positions, Consult the product data sheet (click on [product reference](#) to open it).

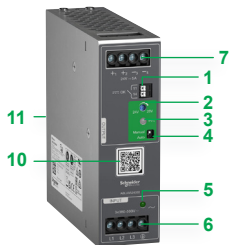
(4) In case of overtemperature or overvoltage the input power must be cycled to reset the detected error.

(5) Limited Power Source conforming NEC Class 2, except ABLS1A12062, ABLS1A12100, ABLS1A24050, ABLS1A24100, ABLS1A24200, ABLS1A48025, ABLS1A48050, and ABLS1A48100.



Modicon ABLU3A24●●● Universal power supplies for use with (2):

- Modicon M221, M241 and M251 logic controllers
- Modicon M262 motion/logic controllers
- Modicon M340, Modicon M580 PACs
- Lexium MC12 multi-carrier transportation system
- Lexium Cobot



ABLU3A24●●●, ABLU3A48100



ABLU3A24400, ABLU3A48200



[DIA3ED2140106EN](#)



[DIA6ED2151012EN](#)

## Modicon ABLU Universal power supplies

### Presentation

Modicon ABLU Universal (1) power supplies are designed to provide the necessary DC voltage for control circuits of automation equipment from 120 to 960 W.

- They are available in a single height (124 mm (4.88 in)), and four case widths for improved cabinet integration: a Book housing with a width of 38 mm (1.49 in), 50 mm (1.96 in), 85 mm (3.34 in) or 110 mm (4.33 in).
- Their combination with additional function modules (only with ABLU3A24●●●) ensures continuity of service in the event of mains interruptions. Clear guidelines are given for selecting the function modules and the upstream protection elements that are often associated with them to form a complete and workable solution.
- They 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 ABLU Universal power supplies 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 are available on the front of the device via LEDs and via a volt-free relay contact (to be connected to a PLC input for example).
- The products are equipped with an output voltage adjustment potentiometer in order to be able to compensate for any voltage drops in installations with long cable runs.
- The printed circuit board of the ABLU Universal range has a conformal coating in order to resist to common dust and humidity.
- A terminal block with up to four output terminals makes wiring easy.
- A QR code printed on the front of the power supply provides direct access to the latest technical documentation.
- These power supplies are designed for direct mounting on a 35 mm (1.37 in) rail.
- Functional modules: a range of functional modules also allows functions to be added to ABLU3A24●●● Universal power supplies to ensure continuity of service, See [page 14](#).

### Main Features

Nominal input voltage	380 ... 500 Vac
Network system compatibility	TN, TT, IT
Nominal output voltage	24 and 48 Vdc
Operating temperature	-25...+70 °C (-13...+158 °F) (3)
Product certifications	<ul style="list-style-type: none"> <li>- CE marking</li> <li>- CB Scheme</li> <li>- cULus Listed</li> <li>- UL Hazardous Locations: Class 1, Division 2</li> <li>- cURus Recognized</li> <li>- RCM</li> <li>- EAC</li> <li>- UKCA</li> <li>- KC</li> </ul>
Conformity to standards (4)	<ul style="list-style-type: none"> <li>- IEC/EN 61010-1, IEC/EN 61010-2-201</li> <li>- UL/CSA 61010-1, UL/CSA 61010-2-201</li> <li>- UL/CSA 62368-1</li> </ul>

### Description

- 1 Cage clamp terminals for connection of the diagnostic relay
- 2 Output voltage adjustment potentiometer
- 3 Output DC bicolor status LED (green and red)
- 4 Protection mode selector
- 5 Input status LED (green) – Only for 120 W & 240 W versions
- 6 Input connector: Screw terminals for connection of the input voltage (3-phase connection)
- 7 Output connector: Screw terminals for connection of the DC output voltage
- 8 Output mode selector (ABLU3A48200 only)
- 9 Cage clamp terminals for connection of the shut down input (ABLU3A48200 only)
- 10 QR code for access to the latest technical documentation
- 11 Spring clip for 35 mm (1.37 in) rail

(1) Modicon ABLU 3-phase Universal power supplies are developed to replace the Modicon ABL8WP Universal power supplies.

(2) Consult catalog Ref. [DIA3ED2140106EN](#), Ref. [DIA3ED2140107EN](#), Ref. [DIA3ED2140108EN](#), Ref. [DIA3ED2180503EN](#), Ref. [DIA6ED2110104EN](#), Ref. [DIA6ED2151012EN](#), Ref. [DIA7ED2210701EN](#), and Ref. [DIA7ED2220801EN](#).

(3) Derating for temperature higher than 55°C (131°F) at lowest input voltage and other mounting position than standard Vertical. Consult the product data sheet (click on [product reference](#) to open it).

(4) For EMC standard, Consult the product data sheet (click on [product reference](#) to open it).

## Modicon ABLU Universal power supplies

### 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 **TeSys Deca – frame 2** range of circuit breakers (1) (2).

Modicon ABLU 3-phase Universal power supplies	Type of protection
ABLU3A24050	GV2ME07 or GV2RT06
ABLU3A24100	GV2ME07 or GV2RT06
ABLU3A24200	GV2ME08 or GV2RT07
ABLU3A24400	GV2ME08 or GV2RT07
ABLU3A48100	GV2ME08 or GV2RT07
ABLU3A48200	GV2ME08 or GV2RT07

### References

Input voltage	Secondary			Reset	Reference	Weight kg/lb
	Output voltage	Nominal power	Nominal current			
<b>3-phase connection (L1-L2-L3)</b>						
380...500 Vac -15% ... +15% 50/60Hz	24 Vdc	120 W	5 A	Auto/manu	<a href="#">ABLU3A24050</a>	0.605 1.33
		240 W	10 A	Auto/manu	<a href="#">ABLU3A24100</a>	0.913 2.01
		480 W	20 A	Auto/manu	<a href="#">ABLU3A24200</a>	1.151 2.54
		960 W	40 A	Auto/manu	<a href="#">ABLU3A24400</a>	2.294 5.05
	48 Vdc	480 W	10 A	Auto/manu	<a href="#">ABLU3A48100</a>	1.151 2.54
		960 W	20 A	Auto/manu	<a href="#">ABLU3A48200</a> (2) (3)	2.294 5.05



ABLU3A24050



ABLU3A24100



ABLU3A24200  
ABLU3A48100



ABLU3A24400  
ABLU3A48200

- (1) More information on **TeSys Deca – frame 2** range on our [website](#)  
 (2) Additional functionalities; remote input and switch for parallel connection.  
 (3) This power supply is recommended for Robotic application using 48 Vdc supply.

## Modicon ABL8RP/WP Universal power supplies

### Presentation

The ABL8RP/WP 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.
- 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/WP 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:

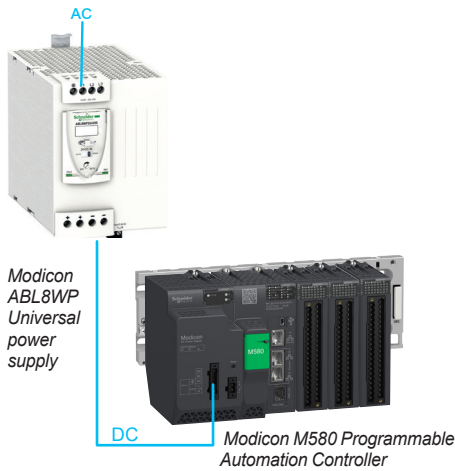
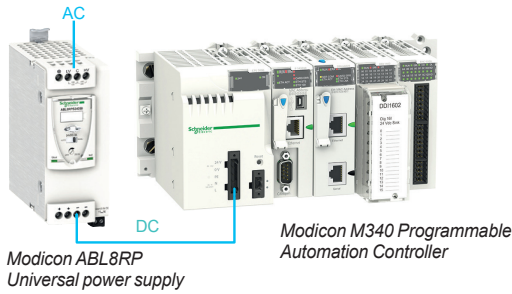
- 100 to 120 Vac and 200 to 500 Vac nominal for ABL8RPS
- 100 to 120 Vac and 200 to 240 Vac nominal for ABL8RPM
- 380 to 500 Vac nominal for ABL8WPS

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.
- ABL8RP/WP universal power supplies are equipped with a harmonic filter, giving compliance with standard IEC/EN 61000-3-2 concerning harmonic pollution.
- ABL8RP/WP 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/WP 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/WP Universal range of power supplies are available on the front of the device via LEDs (Uout and Iout) 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) rail.
- Functional modules: a range of functional modules also allows functions to be added to the Modicon ABL8RP/WP Universal power supplies to ensure continuity of service: See [page 14](#).

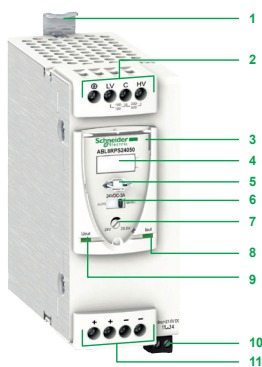
### Description

- 1 Spring clip for 35 mm (1.37 in) rail
- 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
- 4 Clip-on marker tag
- 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, 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



Modicon ABL8RP/WP Universal power supplies for use with:

- Modicon M241 logic controllers
- Modicon M262 logic/motion controller
- Modicon M340, Modicon M580, Modicon Premium PACs.



[DIA6ED2151012EN](#)



[DIA6ED2110104EN](#)

## Modicon ABL8RP/WP Universal power supplies

### Selection of protection on the power supply primary

Line supply type	115 V ~ phase-to-neutral			230 V ~ phase-to-phase			400 V ~ phase-to-phase	
Type of protection	Thermal-magnetic circuit breaker	Miniature circuit breaker	gG/gL fuse	Thermal-magnetic circuit breaker	Miniature circuit breaker	gG/gL fuse	Thermal-magnetic circuit breaker	gG/gL fuse
	GB2 (IEC, UL/CSA)	Multi9 C60 (IEC, UL/CSA)		GB2 (IEC, UL/CSA)	Multi9 C60 (IEC, UL/CSA)		GV2 (IEC/UL)	
<b>ABL8RPS24030</b>	GB2CD07	M9F22202	2 A (8 x 32)	GB2CD07	M9F22202	2 A (8 x 32)	GV2RT06 GV2ME06 (1)	2 A (14 x 51)
<b>ABL8RPS24050</b>	GB2CD08	M9F22203	4 A (8 x 32)	GB2CD07	M9F22202	2 A (8 x 32)	GV2RT06 GV2ME06 (1)	2 A (14 x 51)
<b>ABL8RPS24100</b>	GB2CD12	M9F22206	6 A (8 x 32)	GB2CD08	M9F22203	4 A (8 x 32)	GV2RT07 GV2ME07 (1)	4 A (14 x 51)
<b>ABL8RPM24200</b>	GB2CD16	M9F22210	10 A (8 x 32)	GB2CD12	M9F22206	6 A (8 x 32)	–	–
<b>ABL8WPS24200</b>	–	–	–	–	–	–	GV2ME06 (2)	2 A (14 x 51)
<b>ABL8WPS24400</b>	–	–	–	–	–	–	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).

### References

Input voltage	Secondary		Reset	Reference	Weight kg/lb
	Output voltage	Nominal power Nominal current			
<b>Single-phase (N-L1) or 2-phase (L1-L2) connection</b>					
100...120 Vac/ 200...500 Vac -15%, +10% 50/60 Hz	24 Vdc	72 W 3 A	Auto/man	<b>ABL8RPS24030</b>	0.300/ 0.661
		120 W 5 A	Auto/man	<b>ABL8RPS24050</b>	0.700/ 1.543
		240 W 10 A	Auto/man	<b>ABL8RPS24100</b>	1.000/ 2.205
100...120 Vac/ 200...240 Vac -15%, +10% 50/60 Hz	24 Vdc	480 W 20 A	Auto/man	<b>ABL8RPM24200</b>	1.600/ 3.527
	<b>3-phase connection (L1-L2-L3)</b>				
380...500 Vac ± 10% 50/60 Hz	24 Vdc	480 W 20 A	Auto/man	<b>ABL8WPS24200</b> (1)	1.600/ 3.527
		960 W 40 A	Auto/man	<b>ABL8WPS24400</b> (2)	2.700/ 5.952

(1) This commercial reference will be end of commercialisation in Q4-2025, and will be replaced with ABLU3A24200.  
(2) This commercial reference will be end of commercialisation in Q4-2025, and will be replaced with ABLU3A24400.



ABL8RPS24030



ABL8RPS24050



ABL8RPS24100  
ABL8WPS24200



ABL8RPM24200








ABL8WPS24400

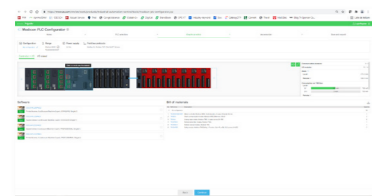
# Modicon Power Supply

Regulated power supply for industrial use, rail mounting

Functional modules for Modicon ABL5 Optimized, Modicon ABLU and Modicon ABL8RP/WP Universal power supplies

<b>Functionality</b>	Supplying 5 Vdc to 15 Vdc auxiliary voltage		Continuity of service after a failure of Power supply equipment		Continuity of service: Solutions to microbreaks and power outages			Solution for discriminating protection of the application				
<b>Compatible power supply type</b>	<ul style="list-style-type: none"> <li>- Modicon ABLU3A24●●● Universal</li> <li>- Modicon ABL8RP/WP Universal</li> </ul>		<ul style="list-style-type: none"> <li>- Modicon ABLU3A24●●● Universal</li> <li>- Modicon ABL8RP/WP Universal</li> </ul>		<ul style="list-style-type: none"> <li>- Modicon ABLU3A24●●● Universal</li> <li>- Modicon ABL8RP/WP Universal</li> <li>- Modicon ABL5A24●●● Optimized</li> </ul>		<ul style="list-style-type: none"> <li>- Modicon ABLU3A24●●● Universal</li> <li>- Modicon ABL8RP/WP Universal</li> </ul>		<ul style="list-style-type: none"> <li>- Modicon ABLU3A24●●● Universal</li> <li>- Modicon ABL8RP/WP Universal</li> </ul>			
												
<b>Input Voltage</b>	24 Vdc		24 Vdc		24 Vdc			24 Vdc				
<b>Output voltage</b>	5...6.5 Vdc	7...15 Vdc	24 Vdc		24 Vdc			24 Vdc				
<b>Certifications and standards (1)</b>	<ul style="list-style-type: none"> <li>- CE marking</li> <li>- EAC</li> <li>- CSA</li> <li>- RCM</li> <li>- UL</li> <li>- UKCA</li> </ul>		<ul style="list-style-type: none"> <li>- CE marking</li> <li>- EAC</li> <li>- CSA</li> <li>- RCM</li> <li>- UKCA</li> </ul>		<ul style="list-style-type: none"> <li>- CE marking</li> <li>- EAC</li> <li>- CSA</li> <li>- RCM</li> <li>- UL</li> <li>- UKCA</li> </ul>		<ul style="list-style-type: none"> <li>- CE marking</li> <li>- UL</li> <li>- TÜV</li> <li>- UKCA</li> </ul>		<ul style="list-style-type: none"> <li>- CE marking</li> <li>- EAC</li> <li>- CSA</li> <li>- RCM</li> <li>- UL</li> <li>- UKCA</li> </ul>			
<b>Functional module type</b>	DC/DC converter modules		Redundancy module		Universal Battery control modules		Easy UPS Battery control modules DC-DC and Battery module		Buffer module		Protection module	
<b>Output current</b>	2 A		ABL8DCC12020		-		-		-		-	
	6 A		ABL8DCC05060		-		-		-		-	
	10 A		-		-		BVS240XDPDR		-		ABL8PRP24100	
	20 A		-		ABL8BBU24200		-		BVS480XDPDR		-	
	40 A		-		ABL8RED24400		ABL8BBU24400		-		ABL8BUF24400	
<b>Diagnostic</b>	By LED's		By LED's		By LED's		With LCD display		By LED's		By LED's	
<b>Compatible battery</b>	3,2 Ah		-		-		ABL8BPK24A03		ABL8BPK24A03		-	
	4,5 Ah		-		-		-		XB005XPDR		XB005XPDR	
	7 Ah		-		-		ABL8BPK24A07		-		-	
	12 Ah		-		-		ABL8BPK24A12		-		-	
<b>Page</b>	16		17		22		24		22		23	

(1) Consult detail on conformity to standards for each reference in the product data sheet, click on [product reference](#) to open it.



### Modicon PLC configurator

Online tool to Select your architecture of controller and I/O by

- Usage and application
- Connectivity, services and IIOT (Protocols, WeB and communication services)
- I/O
- Power supply



# Modicon Power Supply

Regulated power supply for industrial use, rail mounting

Functional modules for Modicon ABLU3A24●●● and ABL8RP/WP Universal power supplies



ABL8DCC12020



ABL8DCC05060

## Supplying 5 Vdc and 12 Vdc auxiliary voltage

### DC/DC converter modules

#### Functions

**ABL8DCC●●●● converter 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

##### DC/DC converter modules

- 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

#### References

Designation	Functionality	Primary (1)		Secondary	Reference	Weight kg/lb
		Input voltage	Nominal current			
DC/DC converter modules	Supplying 5 to 12 Vdc auxiliary voltage	24 Vdc	6 A	5 Vdc Adjustable from 5 to 6.5 Vdc	<a href="#">ABL8DCC05060</a>	0.300/ 0.661
			2 A	12 Vdc Adjustable from 7 to 15 Vdc	<a href="#">ABL8DCC12020</a>	0.300/ 0.661

Designation	Composition	Unit reference	Weight kg/lb
Legend holder	Order in multiples of 100	<a href="#">LAD90</a>	0.001/ 0.002

(1) Voltage from a 24 Vdc ABLU, ABL8RP/WP Universal power supplies.

# Modicon Power Supply

Regulated power supply for industrial use, rail mounting

Functional modules for Modicon ABLU3A24●●● and ABL8RP/WP Universal power supplies

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

### Redundancy module

#### Functions

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 supply 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 additional 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 **ABLU3A24400** or **ABL8WPS24400** power supplies, two **ABL8RED24400** redundancy modules must be used.

#### Description

##### Redundancy module

- 1 Spring clip for 35 mm (1.37 in) U<sub>T</sub> 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 ≤ 20 A)
- 8 Removable screw terminal block for connection of the diagnostic contact



ABL8RED24400

#### References

Designation	Functionality	Nominal current	Reference	Weight kg/lb
Redundancy module	Continuity of service after a failure of power supply equipment	40 A	<a href="#">ABL8RED24400</a>	0.700/ 1.543

Designation	Composition	Unit reference	Weight kg/lb
Legend holder	Order in multiples of 100	<a href="#">LAD90</a>	0.001/ 0.002

# Modicon Power Supply

Regulated power supply for industrial use, rail mounting

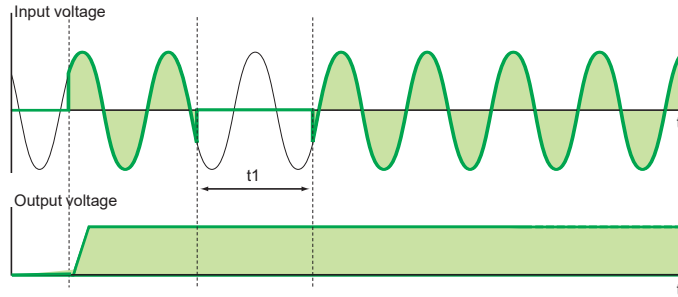
Functional modules for Modicon ABLU3A24●●● and ABL8RP/WP Universal power supplies

## Continuity of service: Solutions to microbreaks and power outages

### Buffer module

Modicon ABLU and ABL8RP/WP Universal power supplies 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 ABLU or ABL8RP/WP Universal power supplies, 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  $t_1$ .



Power supply		Typical time for immunity to microbreaks with ABL8BUF Buffer module (40 A) at $U_n$ $t_1$	
		100% load at the Buffer module output	2 A at the Buffer module output
<b>ABL8RPS24030</b>	Single-phase or 2-phase 3 A, 72 W	0.912 s	0.984 s
<b>ABL8RPS24050</b>	Single-phase or 2-phase 5 A, 120 W	0.472 s	1.33 s
<b>ABL8RPS24100</b>	Single-phase or 2-phase 10 A, 240 W	0.220 s	1.34 s
<b>ABL8RPM24200</b>	Single-phase or 2-phase 20 A, 480 W	0.206 s	1.82 s
<b>ABL8WPS24200</b>	3-phase 20 A, 480 W	0.056 s (1)	1.18 s
<b>ABL8WPS24400</b>	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. Values for ABLU are under validation.

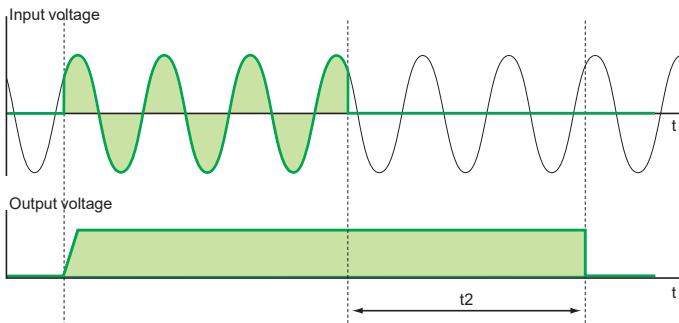
## Continuity of service: Solutions to microbreaks and power outages

### Buffer module, Battery control module

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  $t_2$  up to two seconds
  - Electronic switch mode power supply, Battery control module and Battery module for holding times  $t_2$  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.



### Buffer modules, Battery control modules and Battery modules associations

Holding current	Holding time $t_2$																											
	Seconds								Minutes								Hours											
	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+4	2+5	2+6	2+6
3 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+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	2+6	+6
5 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+4	2+4	2+4	2+4	2+5	2+5	2+5	2+6	2+6	2+6	2+6	2+6	+6
6 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+4	2+4	2+4	2+5	2+5	2+5	2+6	2+6	2+6	2+6	2+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	2+6	2+6	+6
8 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+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
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	2+6	2+6	2+6	2+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	2+6	2+6	2+6	2+6	2+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	2+6	2+6	2+6	2+6	2+6	2+6	2+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	3+6	3+6	3+6	3+6	3+6	3+6	3+6	3+6	3+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	3+6	3+6	3+6	3+6	3+6	3+6	3+6	3+6	3+6	3+6	3+6	3+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	3+6	3+6	3+6	3+6	3+6	3+6	3+6	3+6	3+6	3+6	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	3+6	3+6	3+6	3+6	3+6	3+6	3+6	3+6	3+6	3+6	3+6	3+6	3+6	3+6	3+6	+6

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

**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).

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Functional modules for Modicon ABLU3A24●●● and ABL8RP/WP Universal power supplies

## Continuity of service: Solutions to microbreaks and power outages

### Buffer module, Battery control module, Battery module

#### Functions

#### Battery control modules (ABL8BBU)

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.

#### Battery modules (ABL8BPK)

Each Battery module consists of:

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

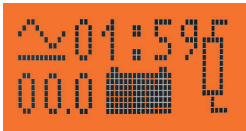
Only these modules are compatible with the **ABL8BBU** Battery control modules.

*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:*

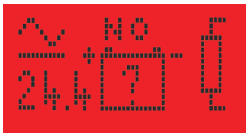
- Fully charge the Battery module beyond 72 hours,
- Remove the fuse(s) from the Battery module(s) and store them in the allocated slots



Green: Nominal status/information



Orange: Warning



Red: Fault

Examples of Battery control module diagnostic screens

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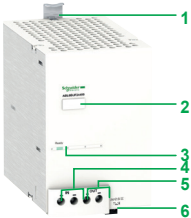
## Continuity of service: Solutions to microbreaks and power outages

### Buffer module, Battery control module, Battery module

#### Description

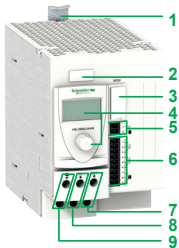
##### Buffer module (ABL8BUF)

- 1 Spring clip for 35 mm (1.37 in)  $\sqcup$  rail
- 2 Clip-on marker label
- 3 LED indicator (green): module ready (maximum load)
- 4 10 mm<sup>2</sup> enclosed screw terminals for connection of the 24 Vdc input voltage
- 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)



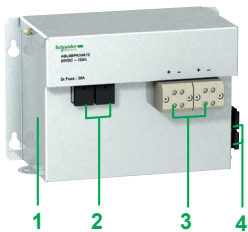
##### Universal Battery control modules (ABL8BBU)

- 1 Spring clip for 35 mm (1.37 in)  $\sqcup$  rail
- 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).
- 6 Removable screw connector for connection of the diagnostic contacts: power supply presence, battery presence (terminal block supplied)
- 7 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 (ABL8BPK)

- 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)
- 4 Fuse storage attachment



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Functional modules for Modicon ABLU3A24●●● and ABL8RP/WP Universal power supplies



ABL8BUF24400



ABL8BBU24200



ABL8BBU24400



ABL8BPK24A03, ABL8BPK24A07, ABL8BPK24A12

**Continuity of service: Solutions to microbreaks and power outages**  
**Buffer module, Universal Battery control module, Battery module**

**References**

Designation	Use	Output current	Reference	Weight kg/lb
<b>Buffer module</b>	Holding time: 100 ms at 40 A, 2 s at 1 A	40 A	<a href="#">ABL8BUF24400</a>	1.200/ 2.646
<b>Universal Battery control modules</b>	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	<a href="#">ABL8BBU24200</a>	0.500/ 1.102
		40 A	<a href="#">ABL8BBU24400</a>	0.700/ 1.543

Designation	For use with	Capacity	Reference	Weight kg/lb
<b>Battery modules</b>	ABL8BBU24200 and ABL8BBU24400 battery control modules	3.2 Ah (2)	<a href="#">ABL8BPK24A03</a>	3.500/ 7.716
		7 Ah (2)	<a href="#">ABL8BPK24A07</a>	6.500/ 14.330
		12 Ah (2)	<a href="#">ABL8BPK24A12</a>	12.000/ 26.455

Designation	For use with	Composition	Unit reference	Weight kg/lb
<b>Legend holder</b>	All functional modules except ABL8PRP24100	Order in multiples of 100	<a href="#">LAD90</a>	0.001/ 0.002
<b>EEPROM memory cartridge for backup and duplication of parameters</b>	ABL8BBU24200 and ABL8BBU24400 battery control modules	—	<a href="#">SR2MEM02</a>	0.010/ 0.022

(1) Battery control module-battery unit association table with holding time according to the load, see [page 19](#).

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

# Modicon Power Supply

Regulated power supply for industrial use, rail mounting

Functional modules for Modicon ABLU3A24●●● and ABL8RP/WP Universal power supplies

## Solution for discriminating protection of the application

### Protection module

#### Functions

To provide discriminating protection in the event of an overload or short-circuit, the Modicon ABLU3A24●●● and ABL8RP/WP Universal power supplies electronic protection 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

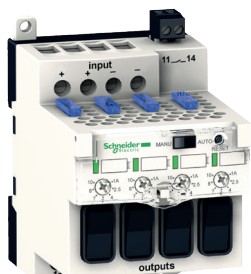
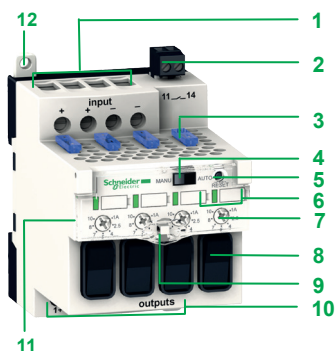
- 1 Enclosed screw terminals for connection of the 24 Vdc voltage
- 2 Enclosed screw terminals for connection of the diagnostic relay contact
- 3 Line protection fuses (one 15 A fuse per channel by default)
- 4 Automatic or manual reset mode selector
- 5 Reset pushbutton
- 6 Diagnostic LEDs (green and red) and clip-on marker tag holder (1 per channel)
- 7 1...10 A output nominal current selector (1 per channel)
- 8 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 (D-rail mounting also possible)

### References

Designation	Functionality	Use	Reference	Weight kg/lb
Protection module with 2-pole breaking by channel (1) (2)	Discriminating downstream protection	Electronic protection (1...10 A overload or short-circuit) of 4 output terminals from a ABL8RP/WP Universal power supply	<a href="#">ABL8PRP24100</a>	0.470/ 1.036

(1) Local reset via pushbutton or automatic reset.

(2) Supplied with four 15 A fuses.



ABL8PRP24100



# Modicon Power Supply

Regulated power supply for industrial use, rail mounting

Functional modules for Modicon ABL5 Optimized, Modicon ABLU3A24●●● and ABL8RP/WP Universal power supplies

## Continuity of service: Solutions to microbreaks and power outages

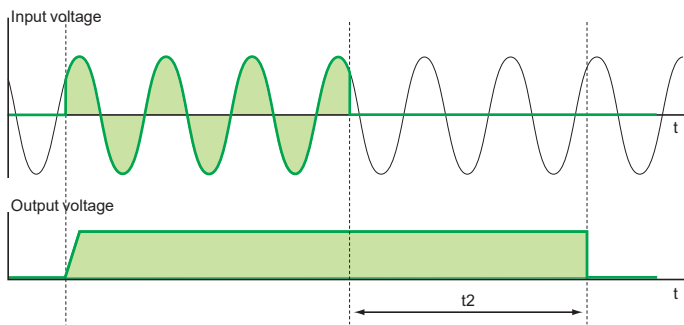
### Easy UPS Battery control module DC-DC

#### Presentation

For applications that are sensitive to unintended stopping, **Easy UPS Battery control modules DC-DC** offer a solution comprising:

- Electronic switch mode power supply and Buffer module for holding times  $t_2$  up to two seconds
  - Electronic switch mode power supply, Battery control module and Battery module for holding times  $t_2$  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.



#### Easy UPS battery control modules and Easy UPS battery module associations

Holding current	Holding time																		
	Minutes														Hours				
	1	2	3	4	5	6	7	8	9	10	15	20	30	40	50	1	2	3	5
1A	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3+3
2A	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3+3	1+3+3	1+3+3+3
3A	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3+3	1+3+3	1+3+3	1+3+3+3	1+3+3+3	1+3+3+3+3
4A	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3+3	1+3+3	1+3+3	1+3+3+3	1+3+3+3	1+3+3+3	1+3+3+3+3
5A	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3+3	1+3+3	1+3+3	1+3+3+3	1+3+3+3		
6A	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3+3	1+3+3	1+3+3	1+3+3+3	1+3+3+3	1+3+3+3		
7A	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3+3	1+3+3	1+3+3	1+3+3+3	1+3+3+3			
8A	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3+3	1+3+3	1+3+3	1+3+3+3	1+3+3+3	1+3+3+3		
10A	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3	1+3+3	1+3+3	1+3+3	1+3+3+3	1+3+3+3	1+3+3+3		
15A	2+3	2+3	2+3	2+3	2+3	2+3+3	2+3+3	2+3+3	2+3+3	2+3+3	2+3+3	2+3+3+3	2+3+3+3	2+3+3+3					
20A	2+3	2+3	2+3	2+3+3	2+3+3	2+3+3	2+3+3	2+3+3	2+3+3	2+3+3	2+3+3	2+3+3+3	2+3+3+3	2+3+3+3					
	<i>Code</i>	<i>Designation</i>														<i>Reference</i>			
	1	10 A Easy UPS Battery control module DC-DC														BVS240XDPDR			
	2	20 A Easy UPS Battery control module DC-DC														BVS480XDPDR			
	3	4.5 Ah Easy UPS Battery module														XB005XPDR			

# Modicon Power Supply

Regulated power supply for industrial use, rail mounting

Functional modules for Modicon ABL5 Optimized, Modicon ABLU3A24●●● and ABL8RP/WP Universal power supplies

## Continuity of service: Solutions to microbreaks and power outages

### Easy UPS Battery control module DC-DC

#### Functions

The main module functions are:

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

The status of the product is given by 2 LED's (status and alarm).

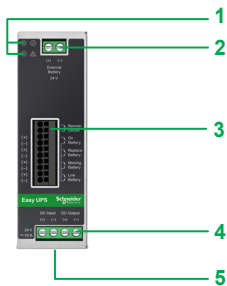
These control modules also have 4 diagnostic relays (C/O contacts) relating to the battery state :

- DC output supplied by the battery
- Replacement needed
- Battery missing
- Low level of charge

#### Description

##### Easy UPS Battery control module DC-DC

- 1 LED indicator for battery mode (Green), LED indicator for defaults (Red)
- 2 4 mm<sup>2</sup> (0.006 in<sup>2</sup>) screw terminals for connection of the battery module
- 3 10 mm<sup>2</sup> (0.015 in<sup>2</sup>) spring terminals for connection of remote input and diagnosis outputs
- 4 4 mm<sup>2</sup> (0.006 in<sup>2</sup>) screw terminals for connection of 24 V input and 24 V output
- 5 Spring clip for 35 mm (1.37 in) U rail



##### Easy UPS Battery module

- 1 4 mm<sup>2</sup> (0.006 in<sup>2</sup>) screw terminals for connection to the BVS Battery control module
- 2 4 mm<sup>2</sup> (0.006 in<sup>2</sup>) screw terminals for connection to additional battery pack
- 3 Spring clip for 35 mm (1.37 in) U rail



BVS240XDPDR  
BVS480XDPDR



XB005XPDR

#### References

Designation	Holding time	Output current	Reference	Weight kg/lb
Easy UPS Battery control modules DC-DC	20 min at 20 A to 5 hrs at 1 A (depending on use (1) and load)	10 A	BVS240XDPDR	0.500/ 1.10
		20 A	BVS480XDPDR	0.500/ 1.10

Designation	For use with	Capacity	Reference	Weight kg/lb
Easy UPS Battery module	Easy UPS Battery control module DC-DC (BVS240XDPDR, BVS480XDPDR)	4.5 Ah (2)	XB005XPDR	5.500/ 12.12
Fuse	Easy UPS Battery module XB005XPDR	4x 20 A and 6x 30 A	ABL8FUS02	-

(1) Control module-battery unit association table with holding time according to the load, see page 24.

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

<b>A</b>		<b>BVS240XDPDR</b>	14 25
ABL7RM24025	7	<b>BVS480XDPDR</b>	25
ABL7RP1205	9	<b>L</b>	
ABL7RP4803	9	<b>LAD90</b>	16 17 22
ABL8BBU24200	14 22	<b>S</b>	
ABL8BBU24400	14 22	<b>SR2MEM02</b>	22
ABL8BPK24A03	14 22	<b>X</b>	
ABL8BPK24A07	14 22	<b>XB005XPDR</b>	14 25
ABL8BPK24A12	14 22		
ABL8BUF24400	14 22		
ABL8DCC05060	14 16		
ABL8DCC12020	14 16		
ABL8FUS02	25		
ABL8MEM05040	7		
ABL8MEM12020	7		
ABL8MEM24003	7		
ABL8MEM24006	7		
ABL8MEM24012	7		
ABL8PRP24100	14 23		
ABL8RED24400	14 17		
ABL8REM24030	9		
ABL8REM24050	9		
ABL8RPM24200	13		
ABL8RPS24030	13		
ABL8RPS24050	13		
ABL8RPS24100	13		
ABL8WPS24200	13		
ABL8WPS24400	13		
ABLM1A05036	7		
ABLM1A12010	7		
ABLM1A12021	7		
ABLM1A12042	7		
ABLM1A24004	7		
ABLM1A24006	7		
ABLM1A24012	7		
ABLM1A24025	7		
ABLS1A12062	9		
ABLS1A12100	9		
ABLS1A24021	9		
ABLS1A24031	9		
ABLS1A24038	9		
ABLS1A24050	9		
ABLS1A24100	9		
ABLS1A24200	9		
ABLS1A48025	9		
ABLS1A48050	9		
ABLS1A48100	9		
ABLU3A24050	11		
ABLU3A24100	11		
ABLU3A24200	11		
ABLU3A24400	11		
ABLU3A48100	11		
ABLU3A48200	11		
<b>B</b>			
BVS480XDPDR	14		

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