



Modicon Power Supply

Power supply for industrial use,
rail mounting



Modicon

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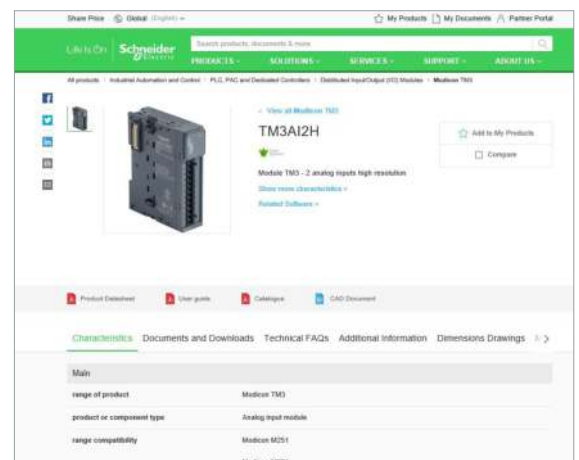
Quick access to product information

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References

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

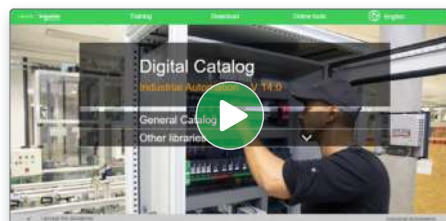
Module type	Input range	Output range	Resolution	Input/Output range	Reference	Price
2 differential inputs	-10...+10 VDC 0...20 mA, 4...20 mA	10 mA, 0...10 VDC	12 bits	10 mA, 0...10 VDC	TM3AI2H	\$ 110
4 differential inputs	-10...+10 VDC 0...20 mA, 4...20 mA	10 mA, 0...10 VDC	12 bits	10 mA, 0...10 VDC	TM3AI4H	\$ 130
2 differential inputs and 2 differential outputs	-10...+10 VDC 0...20 mA, 4...20 mA	10 mA, 0...10 VDC	12 bits	10 mA, 0...10 VDC	TM3AI2H	\$ 130
2 differential inputs and 2 differential outputs	-10...+10 VDC 0...20 mA, 4...20 mA	10 mA, 0...10 VDC	12 bits	10 mA, 0...10 VDC	TM3AI4H	\$ 150



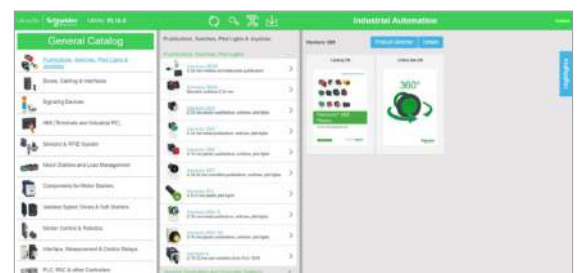
Each commercial reference presented in a catalog contains a hyperlink. Click on it to obtain the technical information of the product:

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

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General content

Modicon Power Supply

■ Regulated power supply for industrial use, rail mounting

Selection guide page 2

General presentation page 4

- Modicon ABLM Modular power supply
 - Presentation, Description page 6
 - Selection of protection, References page 7
- Modicon ABLS Optimized power supply
 - Presentation, Description page 8
 - Selection of protection, References page 9
- Modicon ABL8RP/WP Universal power supply
 - Presentation page 10
 - Description page 11
 - Selection of protection page 12
 - References page 13

■ Functional modules for Modicon ABL8RP/WP Universal power supply

Selection guide for functional modules: page 14

- Converter modules
 - Presentation, Description, References page 16
- Redundancy module
 - Presentation, Description, References page 17
- Buffer module, Battery control modules, Battery modules
 - Presentation page 18
 - Function page 20
 - Description, References page 21
- Protection module
 - Presentation, Description page 22
 - References page 23

■ Rectified power supply for industrial use, rail mounting


- Modicon ABL8F/T Rectified power supply

Selection guide page 24



- Presentation page 26
- Description page 27
- Selection of protection page 28
- References page 29

■ Product reference index page 30

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

Input Voltage	100...240 Vac															
Nominal output power	10 W	12 W	15 W	18 W	25 W	30 W	50 W	60 W								
																
Connection to world-wide line supplies	United States: 120 V (in phase-to-neutral) / 240 V (in phase-to-phase)								Single-phase (N-L1) or 2-phase (L1-L2) connection							
	Europe: 230 V (in phase-to-neutral) / 400 V (in phase-to-phase)								Single-phase (N-L1) connection							
	United States: 277 V (in phase-to-neutral) / 480 V (in phase-to-phase)								-							
Protection against overloads and short-circuits	Yes, with automatic restart after the source of overload/short-circuit has been corrected															
Diagnostic relay	-															
Certifications (1)	<ul style="list-style-type: none">- CE marking- CB Scheme- cULus Listed- cURus Recognized- RCM- EAC															
Power supply type	Modicon ABLM Modular power supply															
Output voltage5V				ABLM1A05036												
12V		ABLM1A12010			ABLM1A12021		ABLM1A12042									
24V	ABLM1A24004		ABLM1A24006			ABLM1A24012		ABLM1A24025								
48V																
Output rating	NEC Class 2, Limited Power Source															
Compatibility with functionnal modules	-															
Page	6															

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

100...240 Vac, 140...340 Vdc (2)						100...120 Vac and 200...500 Vac			100...120 Vac, 200...240 Vac	380...500 Vac	
50 W	75 W	91.2 W	120 W	240 W	480 W	75 W	120 W	240 W	480 W	480 W	960 W
											
Single-phase (N-L1) or 2-phase (L1-L2) connection						Single-phase (N-L1) or 2-phase (L1-L2) connection			—		
Single-phase (N-L1) connection						Single-phase (N-L1) or 2-phase (L1-L2) connection			3-phase (L1-L2-L3) connection		
—						Single-phase (N-L1) or 2-phase (L1-L2) connection			3-phase (L1-L2-L3) connection		
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					
— - CE marking - CB Scheme - cULus Listed - cURus Recognized - RCM - EAC						Yes, depending on model - CE marking - CB Scheme - cULus Listed - CSA - RCM - EAC					
Modicon ABLS Optimized power supply						Modicon ABL8RP/WP Universal power supply					
	ABLS1A12062		ABLS1A12100								
ABLS1A24021	ABLS1A24031	ABLS1A24038	ABLS1A24050	ABLS1A24100	ABLS1A24200	ABL8RPS24030	ABL8RPS24050	ABL8RPS24100	ABL8RPM24200	ABL8WPS24200	ABL8WPS24400
			ABLS1A48025								
NEC Class 2, Limited Power Source (except 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 supplies equipment - 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					
8						10					

(2) Except ABLS1A24021 and ABLS1A24038.

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.

Modicon Power Supply

Regulated power supply for industrial use, rail mounting

Regulated power supply for industrial use, rail mounting



Modicon ABLM Modular power supply



Modicon ABLS Optimized power supply



Modicon ABL8RP/WP Universal power supply

The 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**, 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 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.

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 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 accessible 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.



Modicon ABLM Modular power supply

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 ([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 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 supply meet NEC Class 2 and LPS (Limited Power Source) requirements
- Modicon ABLM Modular power supply 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 supplies and gives a direct access to the latest technical documentation

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

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"> - CE marking - CB Scheme - cULus Listed - cURus Recognized - RCM - EAC
Conformity to standards (5)	<ul style="list-style-type: none"> - IEC/EN 62368-1 - IEC/EN 61010-1 - UL/CSA 61010-1 - UL/CSA 61010-2-201



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](#) (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 [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](#) (click to open catalog)

Modicon ABLM Modular power supply

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	Secondary Output voltage (2)	Nominal power (3)	Nominal current	Reset after overload or short circuit (4)	Output voltage adjustment potentiometer	Reference	Weight kg/lb
Modicon ABLM Modular power supply							
100...240 Vac - 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	



ABLM1A05036



ABLM1A12010



ABLM1A24004



ABLM1A24006



ABLM1A12021



ABLM1A12042



ABLM1A24012



ABLM1A24025

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 Acti9 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) 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 Power Supply

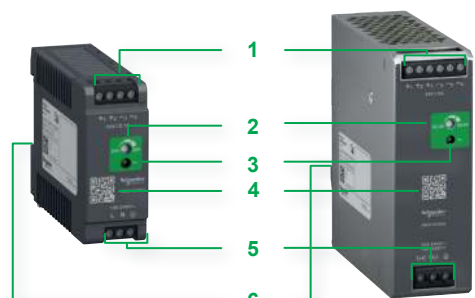
Regulated power supply for industrial use, rail mounting

Modicon ABLS Optimized Power Supply



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	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"> - CE marking - CB Scheme - cULus Listed - cURus Recognized - RCM - EAC
Conformity to standards (5)	<ul style="list-style-type: none"> - IEC/EN 62368-1 - IEC/EN 61010-1, IEC/EN 61010-2-201 (except ABLS1A24050, ABLS1A24100, ABLS1A48025) - UL/CSA 61010-1, UL/CSA 61010-2-201 (except ABLS1A24050, ABLS1A24100 and ABLS1A48025) - UL 508/CSA C22.2 No. 107.1 (only for ABLS1A24050, ABLS1A24100 and ABLS1A48025)

Description

- 1 Screw terminals for connection of the DC output voltage
- 2 Output voltage adjustment potentiometer (except on ABLM1A24038)
- 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](#) (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).



[DIA3ED2140106EN](#)



[DIA3ED2140107EN](#)



[DIA3ED2140108EN](#)



[DIA3ED2180503EN](#)

Modicon Power Supply

Regulated power supply for industrial use, rail mounting

Modicon ABLS Optimized Power Supply

Modicon ABLS Optimized power supply

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 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

References

Input voltage	Secondary Output voltage	Nominal power (3)	Nominal current	Housing	Reset after overload or short circuit (5)	Output voltage adjustment potentiometer	Reference	Weight kg/lb
100...240 Vac 140...340 Vdc (2) - 15%, + 10% 50/60 Hz	12 Vdc	75 W	6.25 A	Book: 124 mm height (4.88 in)	Auto.	With	ABLS1A12062	
		120 W	10 A	Book: 124 mm height (4.88 in)	Auto.	With	ABLS1A12100	
	24 Vdc	50 W (4)	2.1 A	Compact: 75 mm height (2.95 in)	Auto.	With	ABLS1A24021	
		75 W (4)	3.13 A	Book: 124 mm height (4.88 in)	Auto.	With	ABLS1A24031	
		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 (4.88 in)	Auto.	With	ABLS1A24050	
		240 W	10 A	Book: 124 mm height (4.88 in)	Auto.	With	ABLS1A24100	
		480 W	20 A	Book: 124 mm height (4.88 in)	Auto.	With	ABLS1A24200	
	48 Vdc	120 W	2.5 A	Book: 124 mm height (4.88 in)	Auto.	With	ABLS1A48025	

Substitution of Phaseo ABL7/ABL8 with Modicon ABLS Optimized power supply

Old reference (End of commercialization)	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) Limited Power Source conforming IEC 62368-1 and NEC Class 2, except ABLS1A12062, ABLS1A12100, ABLS1A24050, ABLS1A24100, ABLS1A24200 and ABLS1A48025.

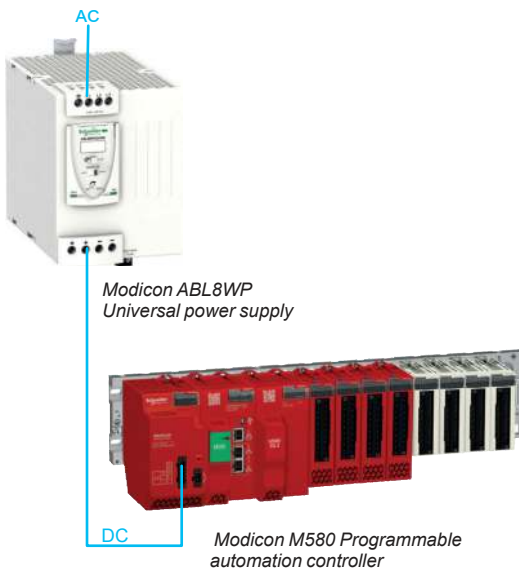
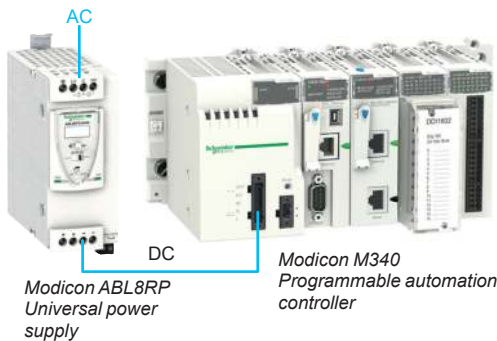
(5) In case of overtemperature or overvoltage the input power must be cycled to reset the detected error.



Modicon Power Supply

Regulated power supply for industrial use, rail mounting

Modicon ABL8RP/WP Universal Power Supply



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 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.

There are four references available in the Modicon ABL8RP range with phase-to-neutral 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 ---

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.



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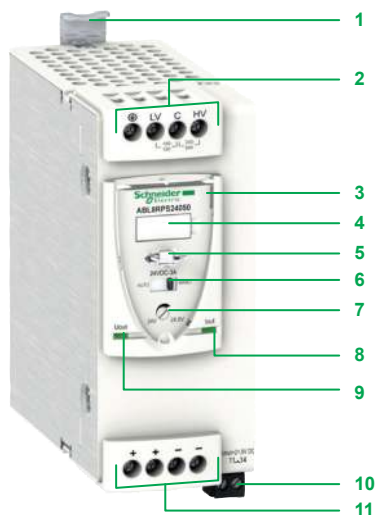


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Modicon Power Supply

Regulated power supply for industrial use, rail mounting

Modicon ABL8RP/WP Universal Power Supply



Modicon ABL8RP/WP Universal power supply

Description

- 1 Spring clip for 35 mm (1.37 in) rail
- 2 4 mm² 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 mm² (10 mm² 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:

- ☐ 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
- ☐ Converter modules delivering nominal voltages of 5 and 12 V \pm from the 24 V \pm output of the Modicon ABL8RP/ABL8WP Universal power supplies.

See [pages 16 to 22](#).

Modicon Power Supply

Regulated power supply for industrial use, rail mounting

Modicon ABL8RP/WP Universal Power Supply

Modicon ABL8RP/WP Universal power supply								
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)	
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



ABL8RPS24030



ABL8RPS24050



ABL8RPS24100



ABL8RPM24200



ABL8WPS24200



ABL8WPS24400

Modicon ABL8RP/WP Universal power supply

References

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




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](#).

Modicon Power Supply

Regulated power supply for industrial use, rail mounting

Functional modules for Modicon ABL8RP/WP Universal Power Supply

Functionality		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	
									
Input Voltage		24 Vdc		24 Vdc		24 Vdc		24 Vdc	
Output voltage		5...6.5 Vdc	7...15 Vdc	24 Vdc		24 Vdc		24 Vdc	
Certifications and standards (1)		<ul style="list-style-type: none">- CE marking- EAC- CSA- RCM- UL		<ul style="list-style-type: none">- CE marking- EAC- CSA- RCM- UL		<ul style="list-style-type: none">- CE marking- EAC- CSA- RCM- UL		<ul style="list-style-type: none">- CE marking- EAC- CSA- RCM- UL	
Functional module type		Converter module		Redundancy module		Battery control modules		Buffer module	
Output current	2 A	ABL8DCC12020							
	6 A	ABL8DCC05060							
	10 A								
	20 A								
	40 A			ABL8RED24400					
Battery capacity	3.2 Ah								
	7 Ah								
	12 Ah								
Page		16		17		18		21	

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

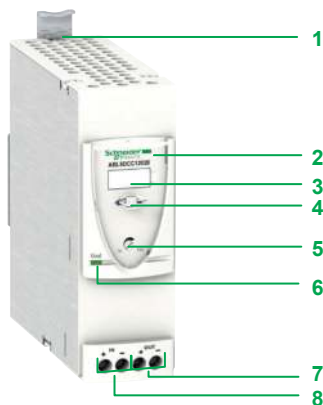
Note: Phaseo Functional modules shown in this document are identified as Modicon as they will undergo a future brand change.

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

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

ABL8DCC●●●● 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 mm² enclosed screw terminals for connection of the 24 Vdc input voltage
- 8 4 mm² enclosed screw terminals for connection of the 5 Vdc or 12 Vdc output voltage

References

Functional module

Designation	Functionality	Primary (1)		Secondary		Reference	Weight kg /lb
		Input voltage	Output current power supply ABL8RP/WP Universal	Output voltage	Nominal current		
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	2 A	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.



ABL8DCC12020



ABL8DCC05060

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) 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 mm² enclosed screw terminals for connection of the 24 Vdc output voltage
- 6 10 mm² enclosed screw terminals for connection of the input voltage for the second 24 Vdc power supply ($I \leq 20$ A)
- 7 10 mm² 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

Functional module

Designation	Functionality	Nominal current	Reference	Weight kg/lb
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



ABL8RED24400

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Modicon Power Supply

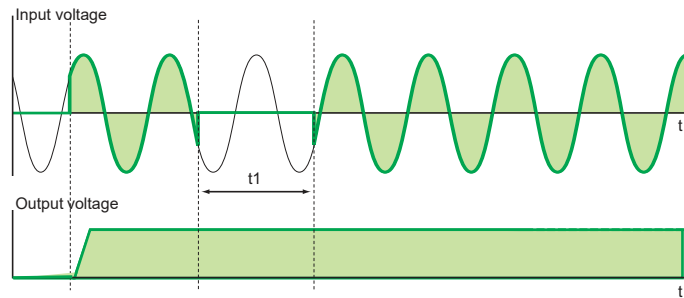
Regulated power supply for industrial use, rail mounting

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 t_1 .



Power supply		Typical time for immunity to microbreaks with ABL8BUF Buffer module (40 A) at Un t_1	
		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.

Modicon Power Supply

Regulated power supply for industrial use, rail mounting

Functional modules for Modicon ABL8RP/WP Universal Power Supply

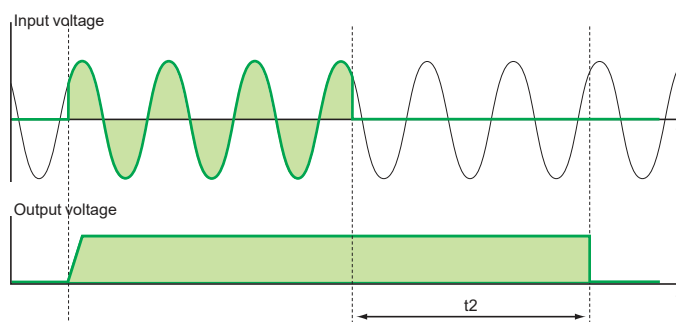
Continuity of service: Voltage holding in the event of a power outage

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 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.



Holding current	Holding time t2																											
	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+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	
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	
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 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	
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	
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	
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	
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	
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	
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	
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	
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	
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	

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).

Modicon Power Supply

Regulated power supply for industrial use, rail mounting

Functional modules for Modicon ABL8RP/WP Universal Power Supply



Green: Nominal status/information



Orange: Warning



Red: Fault

Examples of Battery control module diagnostic screens

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.

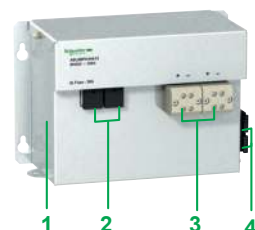
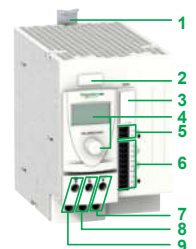
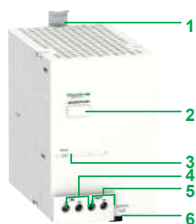
In the event of the Battery control module-Battery module combination not being used for long periods (approximately 1 week minimum) the following is recommended:

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

Modicon Power Supply

Regulated power supply for industrial use, rail mounting

Functional modules for Modicon ABL8RP/WP Universal Power Supply



ABL8BUF24400



ABL8BBU24200



ABL8BBU24400



ABL8BPK24A03, ABL8BPK24A07,
ABL8BPK24A12

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

Description

Buffer module

- 1 Spring clip for 35 mm (1.37 in) rail
- 2 Clip-on marker label
- 3 LED indicator (green): module ready (maximum load)
- 4 10 mm² enclosed screw terminals for connection of the 24 Vdc input voltage
- 5 10 mm² 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

- 1 Spring clip for 35 mm (1.37 in) 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 mm² enclosed screw terminals for connection of the 24 Vdc output voltage
- 8 10 mm² enclosed screw terminals for connection of the power supply 24 Vdc input voltage
- 9 10 mm² 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 mm² 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

References

Functional module for Solutions to microbreaks and power outages

Designation	Use	Output current	Reference	Weight kg/lb
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/lb
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) (1)	3.2 Ah (2)	ABL8BPK24A03	3.500/ 7.716
		7 Ah (2)	ABL8BPK24A07	6.500/ 14.330
		12 Ah (2)	ABL8BPK24A12	12.000/ 26.455

Separate and replacement parts

Designation	For use with	Composition	Unit reference	Weight kg/lb
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.

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.

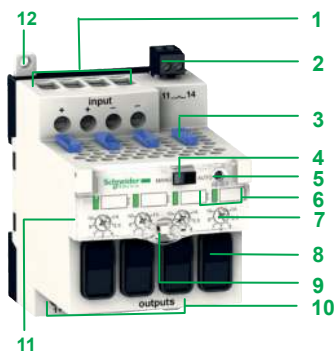
The **ABL8PRP24100** Protection module has:

- 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
- 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 (┐ 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.

Modicon Power Supply

Regulated power supply for industrial use, rail mounting

Functional modules for Modicon ABL8RP/WP Universal Power Supply





ABL8PRP24100

References				
Functional module				
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	ABL8PRP24100	0.470/ 1.036

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

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

Input Voltage		230...400 Vac					230...400 Vac				400 Vac					
Nominal output power		12 W	24 W	48 W	96 W	144 W	240 W		360 W	480 W	240 W	480 W	720 W	960 W	1440 W	
																
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					
	Europe: 230 V (in phase-to-neutral) / 400 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					
	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					
Protection against overloads and short-circuits		Yes, by internal 5x20 glass fuse (replacable)					No				No					
Certifications (1)		- CE marking - UL - EAC					- CE marking - UL - EAC				- CE 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	ABL8TEQ24300	ABL8TEQ24400	ABL8TEQ24600	
Page		26										26				

(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.

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 style="list-style-type: none"> ■ ABL8FEQ: 230/400 Vac, Single-phase (N-L1) or 2-phase (L1-L2) connection, for connection to European 230/400 V line supplies ■ 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)
Network system compatibility	TN, TT, IT
Nominal output voltage	24 Vdc
Operating temperature	-25 °C...+ 70 °C (-13 ... 158 °F) (1)
Product certifications	<ul style="list-style-type: none"> - CE marking - UL - EAC
Conformity to standards	<ul style="list-style-type: none"> - 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.

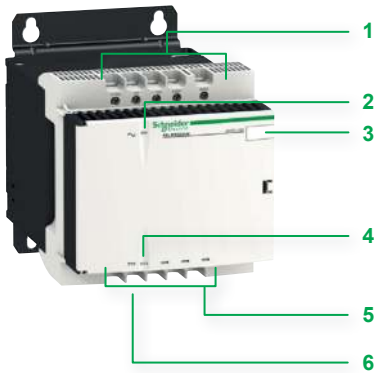
(1) Derating for temperature higher than 55°C (131°F), Consult the product data sheet ([click on product reference](#) to open it)..

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.

Modicon Power Supply

Rectified power supply for industrial use, rail mounting

Modicon ABL8F/T Rectified Power Supply

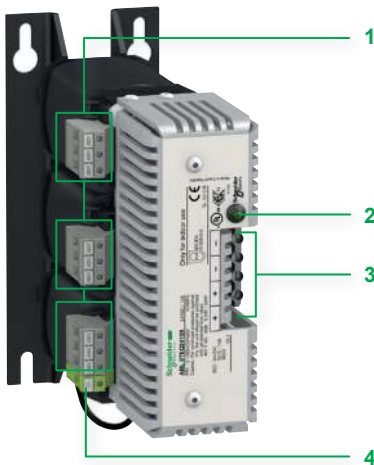


Modicon ABL8F/T Rectified power supply

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) rail 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

Selection of protection

ABL8F power supply: protection of the primary and secondary voltages

Line supply type		400 V ~ single-phase, primary voltage				230 V ~ single-phase, primary voltage			
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	3-pole thermal-magnetic circuit breaker TeSys	Miniature circuit breaker Multi9 C60 (IEC, UL/CSA)	UL listed MDL type fuse	aM type fuse
ABL8FEQ24005	12 W	GB2DB05	M9F23201	0.1 A	0.25 A	GB2CB05 ⁽¹⁾ GB2CD05 ⁽¹⁾ GB2DB05 ⁽¹⁾ GB2CS05 ⁽¹⁾	M9F23170	0.125 A	0.25 A
ABL8FEQ24010	24 W	GB2DB05	M9F23201	0.15 A	0.25 A		M9F23170	0.2 A	0.25 A
ABL8FEQ24020	48 W	GB2DB05	M9F23201	0.3 A	0.25 A		M9F23170	0.5 A	0.25 A
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⁾ GB2CD07 ⁽¹⁾ GB2DB07 ⁽¹⁾ GB2CS07 ⁽¹⁾	M9F23101	1.25 A	1 A
ABL8FEQ24100	240 W	GB2DB06	M9F23201	1.25 A	1 A		M9F23102	2 A	1 A
ABL8FEQ24150	360 W	GB2DB07	M9F23202	2 A	1 A	GB2CB08 ⁽¹⁾ GB2CD08 ⁽¹⁾ GB2DB08 ⁽¹⁾ GB2CS08 ⁽¹⁾	M9F23103	3 A	2 A
ABL8FEQ24200	480 W	GB2DB07	M9F23202	2.5 A	1 A	GB2CB09 ⁽¹⁾ GB2CD09 ⁽¹⁾ GB2DB09 ⁽¹⁾ GB2CS09 ⁽¹⁾	M9F23104	4 A	2 A

Line supply type		24 V ~, secondary voltage	
Type of protection	Nominal power	gC type fuse	T type fuse
ABL8FEQ24005	12 W	—	0.5 A (internal fuse)
ABL8FEQ24010	24 W	—	1 A (internal fuse)
ABL8FEQ24020	48 W	—	2 A (internal fuse)
ABL8FEQ24040	96 W	—	4 A (internal 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

ABL8T power supply: protection of the primary and secondary voltages

Line supply type		400 V ~ 3-phase, primary voltage				24 V ~, secondary voltage	
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	1 A	25 A	25 A
ABL8TEQ24300	720 W	GV2RT07	M9F23302	2 A	2 A	40 A	—
ABL8TEQ24400	960 W	GV2RT07	M9F23302	3 A	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; DB: for 2-pole circuit breaker with magnetic trip threshold 12 to 16 In; CS: for single-pole circuit breaker with magnetic trip threshold 5 to 7 In.

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

Modicon ABL8F/T Rectified power supply						
References						
Input voltage	Secondary				Reference	Weight kg//lb
	Output voltage	Nominal power	Output current	Protection by 5 x 20 fuse		
Modicon ABL8F Rectified power supply						
Single-phase (N-L1) or 2-phase (L1-L2) connection						
230...400 Vac ±15 V 50/60 Hz	24 Vdc	12 W	0.5 A	Yes	ABL8FEQ24005	1.280/2.822
		24 W	1 A	Yes	ABL8FEQ24010	1.300/2.866
		48 W	2 A	Yes	ABL8FEQ24020	2.200/4.850
		96 W	4 A	Yes	ABL8FEQ24040	2.900/6.393
		144 W	6 A	Yes	ABL8FEQ24060	4.940/10.891
		240 W	10 A	No	ABL8FEQ24100	7.660/16.887
		360 W	15 A	No	ABL8FEQ24150	8.820/19.445
		480 W	20 A	No	ABL8FEQ24200	13.220/29.145
Modicon ABL8T Rectified power supply						
3-phase connection (L1-L2-L3)						
400 Vac ± 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
Marking support adhesive		20 x 10 mm/0.4 in		50	AR1SB3	0.010/0.022

A		ABL8TEQ24300	28
ABL7RM24025	7		29
ABL7RP1205	9	ABL8TEQ24400	28
ABL7RP4803	9		29
ABL8BBU24200	14	ABL8TEQ24600	28
	19		29
	21	ABL8WPS24200	10
ABL8BBU24400	14		12
	19		13
	21		18
ABL8BPK24A03	14	ABL8WPS24400	10
	19		12
	21		13
			18
ABL8BPK24A07	14	ABLM1A05036	7
	19	ABLM1A12010	7
	21	ABLM1A12021	7
ABL8BPK24A12	14	ABLM1A12042	7
	19	ABLM1A24004	7
	21	ABLM1A24006	7
ABL8BUF24400	14	ABLM1A24012	7
	19	ABLM1A24025	7
	21	ABLS1A12062	9
ABL8DCC05060	14	ABLS1A12100	9
	16	ABLS1A24021	9
ABL8DCC12020	14	ABLS1A24031	9
	16	ABLS1A24038	9
ABL8FEQ24005	28	ABLS1A24050	9
	29	ABLS1A24100	9
ABL8FEQ24010	28	ABLS1A24200	9
	29	ABLS1A48025	9
ABL8FEQ24020	28	AR1SB3	29
	29		
ABL8FEQ24040	28	G	
	29	GB2CB05	28
ABL8FEQ24060	28	GB2CB06	28
	29	GB2CB07	28
ABL8FEQ24100	28	GB2CB08	28
	29	GB2CB09	28
ABL8FEQ24150	28	GB2CD05	28
	29	GB2CD06	28
ABL8FEQ24200	28	GB2CD07	28
	29	GB2CD08	28
ABL8FUS02	21	GB2CD09	28
ABL8MEM05040	7	GB2CS05	28
ABL8MEM12020	7	GB2CS06	28
ABL8MEM24003	7	GB2CS07	28
ABL8MEM24006	7	GB2CS08	28
ABL8MEM24012	7	GB2DB05	28
ABL8PRP24100	14	GB2DB06	28
	23	GB2DB07	28
ABL8RED24400	14	GB2DB08	28
	17	GB2DB09	28
ABL8REM24030	9	GB2CS09	28
ABL8REM24050	9	L	
ABL8RPM24200	10	LAD90	16
	12		17
	13		21
	18		
ABL8RPS24030	10	M	
	12	M9F23101	28
	13	M9F23102	28
	18	M9F23103	28
ABL8RPS24050	10	M9F23104	28
	12	M9F23170	28
	13	M9F23201	28
	18	M9F23202	28
ABL8TEQ24100	28	S	
	29	SR2MEM02	21
ABL8TEQ24200	28		
	29		

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