Power supplies
Phaseo ABL7, ABL8

Single phase and 3-Phase power supplies
100 V to 500 V - 7 W to 960 W

Catalog

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Schneider Electric

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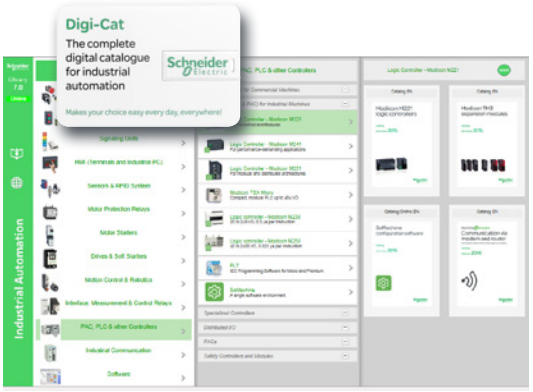

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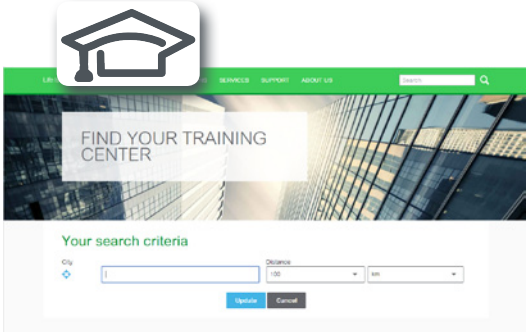

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General contents

Power supplies
Phaseo ABL7, ABL8

Power supplies
Phaseo ABL7, ABL8
Regulated switch mode power supplies and function modules

Applications	**Regulated switch mode power supplies**		**Function modules** *Only compatible with Phaseo ABL8RP/ABL8WPS (Universal) power supplies*			
	ABL8MEM/ABL7RM (Modular): 7 to 60 W - Mounting on rail **ABL8REM/ABL7RP (Optimum): 60 to 144 W - Mounting on rail**	**ABL8RP/ABL8WP (Universal):** **72 to 960 W - Wide input voltage range. Mounting on rail**	**ABL8DCC: converter modules ⎓ 24 V/⎓ 5-12 V**	**ABL8B: solutions to microbreaks and power outages**	**ABL8RED24400 : redundancy solution**	**ABL8PRP24100: solution for discriminating protection of the application**
						
Input voltage	100...240 V ∿ 120...250 V ⎓	100...120 V ∿ and 200...500 V ∿ *(3)*	380...500 V ∿	24 V ⎓	24 V ⎓	24 V ⎓	24 V ⎓
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	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		3-phase (L1-L2-L3) connection	–	–	–	–
United States - 277 V (in phase-to-neutral) - 480 V (in phase-to-phase)	–		3-phase (L1-L2-L3) connection	–	–	–	–
Certifications	CE marking, UL (508), CSA (60950-1), EAC, RCM, TÜV, KC *(1)*	CE marking, UL (508), CSA (60950-1), CB Scheme, EAC, RCM, TÜV, KC *(1)*		CE marking, UL (508), CSA (60950-1), EAC, RCM *(1)*			
Conformity to standards	EN 60950-1, EN 61000-3-2, EN 61000-3-3, EN 61000-6-2, EN 61000-6-3, EN 55022, EN 55024 *(2)*	EN 60950-1, EN 61000-3-2, EN 61000-3-3, EN 61000-6-2, EN 61000-6-3, EN 55022, EN 55024 *(2)*		EN 60950-1, EN 61000-6-2, EN 61000-6-3, EN 55022, EN 55024 *(2)*			
IEC/EN 61000-3-2 conformity	Yes for ABL7RP, not for ABL8REM and not applicable for ABL8MEM and ABL7RM	Yes		–	–	–	–
Protection against undervoltage	Yes	Yes		–	–	–	–
Protection against overloads and short-circuits	Yes, voltage detection. Automatic restart on elimination on the fault	Yes, current limitation or undervoltage detection		Yes, current limitation	–	–	–
Diagnostic relay	–	Yes, depending on model		Yes, depending on model	Yes	Yes	–
Compatibility with function modules	–	Yes with buffer module, battery and battery control modules, redundancy module and discriminating downstream protection module		Yes with buffer module, battery and battery control modules, redundancy module and discriminating downstream protection module	–	–	–
with power supplies	–	–		ABL8RP/ABL8WP (Universal)			
Power reserve (Boost)	1,25 to 1,4 In during 1 minute, depending on model (with ABL8MEM)	1,5 In during 4 secondes		No	–	–	–
Output voltage	**5 V ⎓**	**12 V ⎓**	**24 V ⎓**	**48 V ⎓**	**24 V ⎓**	**5 V ⎓**	**7...12 V ⎓**	**24 V ⎓**	**24 V ⎓**	**24 V ⎓**
Output current 0.3 A			ABL8MEM24003							
0.6 A			ABL8MEM24006							
1.2 A			ABL8MEM24012							
2 A		ABL8MEM12020					ABL8DCC12020			
2.5 A			ABL7RM24025	ABL7RP4803						
3 A			ABL8REM24030		ABL8RPS24030					
4 A	ABL8MEM05040									
5 A		ABL7RP1205	ABL8REM24050		ABL8RPS24050					
6 A						ABL8DCC05060				
10 A					ABL8RPS24100					ABL8PRP24100
20 A					ABL8RPM24200	ABL8WPS24200			ABL8BBU24200	ABL8RED24400	
40 A						ABL8WPS24400			ABL8BUF24400 ABL8BBU24400	2x ABL8RED24400	
Pages	6	6: *ABL8MEM/ABL7RM (Modular)* 8: *ABL8REM/ABL7RP (Optimum)*		8	10	14		16	20	22

(1) Please consult detail on certifications for each reference in the individual data sheet, see on our web site www.schneider-electric.com
(2) Please consult detail on conformity to standards for each reference in the individual data sheet, see on our web site www.schneider-electric.com
(3) Except **ABL8RPM24200**. ∿ 100...120 V and ∿ 200...240 V.

Phaseo power supplies and transformers
Regulated switch mode power supplies

Phaseo ABL8MEM/ABL7RM (Modular)

Phaseo ABL8REM/ABL7RP (Optimum)

Phaseo ABL8RP/ABL8WP (Universal)

Presentation

The Phaseo electronic switch mode power supply offer is designed to provide the DC voltage necessary for the PLC and automation system equipment control circuits.

■ Phaseo industrial regulated switch mode power supplies are available in 3 ranges: ABL8MEM/ABL7RM (Modular), ABL8REM/ABL7RP (Optimum), and ABL8RP/ABL8WP (Universal).

■ Phaseo switch mode power supplies are fully electronic and their output voltage is regulated. 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 *(1)*
- Wide input voltage range for the ABL8RP/ABL8WP (Universal) range
- High degree of output voltage stability
- Efficiency
- Diagnostics via LEDs on the front panel or remote diagnostics via relay contact for the ABL8RP/ABL8WP (Universal) range

■ Phaseo power supplies deliver a stabilized ⎓ output voltage that is precise to 3%, whatever the load from a ∿ line supply, within the following ranges:
□ 100 to 240 V ∿ for phase-to-neutral (N-L1) or phase-to-phase (L1- L2) connections for the ABL8MEM/ABL7RM (Modular) and ABL8REM/ABL7RP (Optimum) ranges
□ 85 to 550 V ∿ for phase-to-neutral (N-L1) or phase-to-phase (L1- L2) connections for the ABL8RP/ABL8WP (Universal) range
□ 360 to 550 V ∿ for 3-phase connections (L1-L2-L3) for the ABL8RP/ABL8WP (Universal) range

■ They comply with IEC standards and are UL, CSA, TÜV, and C-Tick certified for industrial use. The inclusion of overload and short-circuit protection makes downstream protection unnecessary if discrimination is not required. To achieve discrimination, it is advisable to use discriminating electronic downstream protection modules.

■ Phaseo power supplies incorporate:
□ An output voltage adjustment potentiometer to help compensate for any line voltage drops in installations with long cable runs
□ Direct mounting on 35 mm *(1.37 in.)*, ⊔ rails (optional for the ABL1REM/1RPM range) and 75 mm *(2.95 in.)* ⊔ rails (for the ABL8REM/ABL7RP (Optimum) range)

Phaseo ABL8MEM/ABL7RM (Modular)

■ The ABL8MEM/ABL7RM (Modular) range meets all the needs of simple automation systems with power ratings from 7 to 60 W and an output voltage of 5 V ⎓, 12 V ⎓, or 24 V ⎓.
□ The shape and compact nature of its casing mean that it can be mounted directly on a panel in a modular distribution panel (by means of retractable fixing lugs) or on a ⊔ rail in a cabinet.
□ Wires can exit at the top or bottom of the unit as required (except on the **ABL7RM24025** model).

Phaseo ABL8REM/ABL7RP (Optimum)

■ The ABL8REM/ABL7RP (Optimum) range is the low-cost solution for applications supplied with 12 V ⎓, 24 V ⎓, or 48 V ⎓ and requiring currents between 3 and 5 A.
□ The ABL8REM/ABL7RP (Optimum) range of Phaseo power supplies delivers a voltage that can give the PLC logic states. In the event of an overload the power supply protection trips; when the overload has disappeared, the power supply reverts to its nominal state.
□ Since the ABL8REM/ABL7RP (Optimum) power supplies do not have PFC (power factor correction), they do not meet the requirements of standard IEC/EN 61000-3-2 (except models **ABL7RP1205 and ABL7RP4803**).

Phaseo ABL8RP/ABL8WP (Universal)

■ The ABL8RP/ABL8WP (Universal) range covers power ratings from 72 to 960W in 24 V ⎓ 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 for line supplies ranging from 100 V ∿ to 500 V ∿ nominal. This ranges offers:
□ Diagnostic functions (local or remote)
□ User choice of operating mode in the event of an overload (current limiting or stop)
□ Function modules to ensure continuity of service:
- Buffer module and Battery check modules for protection against microbreaks or prolonged outages
- Redundancy module for paralleling and redundancy functions
- Protection modules for discriminating protection against application overloads

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

■ With the ABL8RP/ABL8WP (Universal) power supplies, it is possible to meet the need for auxiliary voltage (5 V ⎓ to 15 V ⎓) using ⎓/⎓ converter modules.

■ The incorporation of a PFC (power factor correction) input filter reduces harmonic pollution to a minimum level across the entire ABL8RP/ABL8WP (Universal) range, ensuring compliance with the requirements of standard IEC/EN 61000-3-2.

(1) The inclusion of overload and short-circuit protection makes downstream protection unnecessary if discrimination is not required (see page 22).

Phaseo power supplies and transformers
Regulated switch mode power supplies

Characteristics of the 24 V ⎓ operating voltage

The permissible tolerances for the operating voltage are listed in publications IEC/EN 61131-2 and DIN 19240.

For a nominal voltage Un of 24 V ⎓, the extreme operating values range from -15% to +20% of the voltage Un, whatever the supply fluctuations in the range -10% to +6% (defined by standard IEC 38) with load variations of 0 to 100% of nominal current In.

The 24 V ⎓ Phaseo power supplies are designed to provide an output voltage within these ranges.
It may be necessary to use a voltage measurement relay to detect when the normal voltage limits are being surpassed and to deal with the consequences of this. The ABL8RP/ABL8WP (Universal) range has integrated voltage detection.

Recommendations for use of the 24 V ⎓ voltage

The Phaseo 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 insulation between the input circuit (connected to the line supply) and the low voltage output circuit via an integrated isolation transformer
- Internal device limiting the output voltage to less than 60 V

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 all devices between 75 and 1000 W, drawing up to 16 A per phase, and connected directly to the public distribution network. Devices connected downstream of a private, low voltage, general transformer are therefore excluded.
Regulated switch mode supplies always consume harmonic currents; it is therefore recommended that a filter circuit (power factor correction or PFC) is added to comply with standard IEC/EN 61000-3-2.

Phaseo ABL8RP/8WP (Universal), ABL1RPM12083, ABL1RPM24042, and ABL1REM24042 power supplies conform to IEC/EN 61000-3-2 and can therefore be connected directly to public distribution networks.

Since Phaseo ABL8MEM240●●, ABL7RM24025, ABL1REM12050, and ABL1REM24025 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.

Phaseo ABL8REM, ABL1REM24062, ABL1RPM24062, ABL1REM24100, and ABL1RPM24100 power supplies must only be connected downstream of a private, low voltage, general transformer.

Power supplies

Phaseo ABL7, ABL8

Regulated switch mode power supplies ABL8MEM/ ABL7RM (Modular) 7 to 60 W - Rail mounting

ABL8MEM●●●●● *Zelio Logic*

Regulated switch mode power supplies ABL8MEM/ABL7RM (Modular)

The ABL8MEM/ABL7RM (Modular) power supply offer is designed to provide the DC voltage necessary for the control circuits of automation system equipment consuming 7 to
60 W in 5, 12 and 24 V ⎓.
Comprising six products, this range meets the needs encountered in industrial, commercial and residential 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 **Zelio Logic** and **Modicon M221** ranges, and the small **Modicon M340**, **Premium** and **Quantum** configurations.
Clear guidelines are given on selecting the upstream protection devices which are often used with them, and thus a comprehensive solution is provided that can be used.
ABL8MEM/ABL7RM (Modular) power supplies can be connected in phase-to-neutral (N-L1) or in phase-to-phase *(1)* (L1-L2). They deliver a voltage that is precise to 3%, whatever the load and whatever the type of line supply, within a range of 85 to 264 V ∿. Conforming to IEC standards and UL, CSA and TUV certified, they are suitable for universal use. The inclusion of overload and short-circuit protection makes downstream protection unnecessary if discrimination is not required.
Due to their low power, ABL8MEM/ABL7RM (Modular) power supplies consume very little harmonic current and thus are not subject to the requirements of standard IEC/EN 61000-3-2 concerning harmonic pollution.
ABL8MEM/ABL7RM (Modular) power supplies have protection devices to ensure optimum performance of the automation system with an automatic reset mode .
The products are equipped with an output voltage adjustment potentiometer to compensate for any line voltage drops in installations with long cable runs.
These power supplies also have a cable run inside the case so that the outputs can be connected at the top or bottom of the product as required.
These power supplies are designed for direct mounting on 35 mm ⊔ rails, or on a mounting plate using their retractable fixing lugs.

There are six references available in the Phaseo ABL8MEM/ABL7RM (Modular) range:

■ **ABL8MEM24003**	7 W	0.3 A	24 V ⎓
■ **ABL8MEM24006**	15 W	0.6 A	24 V ⎓
■ **ABL8MEM24012**	30 W	1.2 A	24 V ⎓
■ **ABL7RM24025**	60 W	2.5 A	24 V ⎓
■ **ABL8MEM05040**	20 W	4 A	5 V ⎓
■ **ABL8MEM12020**	25 W	2 A	12 V ⎓

(1) 240 V ∿ nominal.

Description

ABL8MEM●●●●

ABL7RM24025

1 2.5 mm² screw terminal for connection of the incoming AC voltage
2 Output voltage adjustment potentiometer
3 2.5 mm² screw terminal for connection of the output voltage
4 LED indicating presence of the DC output voltage
5 Duct for throughwiring of the output voltage conductors at the bottom (except for model ABL7RM24025)
6 Clip-on marker tag (except for model ABL7RM24025)
7 Retractable fixing lugs for panel mounting

Power supplies
Phaseo ABL7, ABL8
Regulated switch mode power supplies ABL8MEM/ ABL7RM (Modular) 7 to 60 W - Rail mounting

Selection of protection on the power supply primaries

Type of line supply	100 to 240 V ∿ single-phase		
Type of protection	Thermal-magnetic circuit breaker		gG fuse
	GB2 (IEC/CSA-c/US)	C60N (IEC) C60N (UL/CSA)	
ABL8MEM05040	GB2●●07 *(1)*	24581 24517	2 A
ABL8MEM12020			
ABL8MEM24003			
ABL8MEM24006			
ABL8MEM24012			
ABL7RM24025	GB2●●08 *(1)*	24582 24518	3 A

(1) Complete the reference by replacing ●● with:
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*

References

ABL8MEM05040/12020/24012

ABL8MEM24003/24006

ABL7RM24025

Input voltage	Secondary			Reset	Conformity to standard IEC/EN 61000-3-2 *(1)*	Reference	Weight kg/*lb*
	Output voltage	Nominal power	Nominal current				
Single-phase (N-L1) **or 2-phase** (L1-L2) **connection**							
100…240 V -15%, + 10% 50/60 Hz	5 V ⎓	20 W	4 A	Automatic	Not applicable	**ABL8MEM05040**	0.195/ *0.430*
	12 V ⎓	25 W	2 A	Automatic	Not applicable	**ABL8MEM12020**	0.195/ *0.430*
	24 V ⎓	7 W	0.3 A	Automatic	Not applicable	**ABL8MEM24003**	0.100/ *0.220*
		15 W	0.6 A	Automatic	Not applicable	**ABL8MEM24006**	0.100/ *0.220*
		30 W	1.2 A	Automatic	Not applicable	**ABL8MEM24012**	0.195/ *0.430*
		60 W	2.5 A	Automatic	Not applicable	**ABL7RM24025**	0.255/ *0.562*

Description	Use	Order in multiples of	Unit reference	Weight kg/*lb*
Clip-on marker tags	Replacement parts for ABL8MEM power supplies	100	**LAD90**	0.030/ *0.066*

*(1) Due to their power < 75 W, **ABL8MEM/ABL7RM (Modular)** power supplies are not subject to the requirements of standard IEC/EN 61000-3-2.*

Power supplies
Phaseo ABL7, ABL8
Regulated switch mode power supplies ABL8REM/ ABL7RP (Optimum) 60 to 144 W - Rail mounting

ABL8REM24030 *Modicon M221 logic controller*

Switch mode power supplies: range ABL8REM/ABL7RP (Optimum)

The ABL8REM/ABL7RP (Optimum) power supply offer is designed to provide the DC voltage necessary for the control circuits of automation system equipment consuming 60 to 144 W in 12, 24 and 48 V ⎓. Comprising four products, this range meets the needs encountered in industrial, commercial, and residential applications. With phase-to-neutral (N-L1) or phase-to-phase *(1)* (L1-L2) connection, these slim electronic switch mode power supplies provide a quality of output current that is suitable for the loads supplied and compatible with both Modicon logic controllers and small **Modicon M340**, **Premium** and **Quantum** configurations, making them ideal partners.
Their simplified characteristics in comparison with the **ABL8RP/8WP** offer also make them the low-cost solution for applications less affected by constraints with the line supply, such as harmonic pollution and outages. Clear guidelines are given on selecting the upstream protection devices which are often used with them, and thus a comprehensive solution is provided that can be used in total safety.

The ABL8REM/ABL7RP (Optimum) power supplies delivers a voltage that is precise to 3%, whatever the load and whatever the type of line supply, within a range of 85 to 264 V ∿. Conforming to IEC standards and UL, CSA and TUV certified, they are suitable for universal use. The inclusion of overload and short-circuit protection makes downstream protection unnecessary if discrimination is not required.

■ **ABL8REM** power supplies do not have an anti-harmonic filter and do not satisfy the requirements of standard IEC/EN 61000-3-2 concerning harmonic pollution.
■ **ABL7RP** power supplies, however, are equipped with a PFC *(Power Factor Correction)* filter, thus ensuring compliance with standard IEC/EN 61000-3-2.

ABL8REM/ABL7RP (Optimum) power supplies have protection devices to give optimum performance of the automation system with an automatic reset mode.
In the event of an overload or short-circuit, the integrated protection interrupts the current supply before the output voltage drops below 19 V ⎓. The protection device resets itself automatically (no action or change a fuse).

Each product is equipped with an output voltage adjustment potentiometer to compensate for any line voltage drops in installations with long cable runs.
The power supplies are designed for direct mounting on 35 and 75 ⊔ rails.

There are four references available in the ABL8REM/ABL7RP (Optimum) Phaseo range:

■ **ABL8REM24030**	72 W	3 A	24 V ⎓
■ **ABL8REM24050**	120 W	5 A	24 V ⎓
■ **ABL7RP1205**	60 W	5 A	12 V ⎓
■ **ABL7RP4803**	144 W	3 A	48 V ⎓

Description

1 2.5 mm² enclosed screw terminals for connection of the input voltage (single-phase N-L1, phase-to-phase L1-L2 *(1)*)
2 Protective glass flap
3 Input voltage status LED (orange)
4 Output DC voltage status LED (green)
5 Locking catch for the glass flap (sealable)
6 Clip-on marker tag
7 Output voltage adjustment potentiometer
8 2.5 mm² enclosed screw terminal block for connection of the DC output voltage

(1) 240 V ∿ nominal

Power supplies
Phaseo ABL7, ABL8
Regulated switch mode power supplies ABL8REM/ ABL7RP (Optimum) 60 to 144 W - Rail mounting

Selection of protection on the power supply primaries

Type of line supply	100 V ∿			240 V ∿		
Type of protection	Thermal-magnetic circuit breaker		gG fuse	Thermal-magnetic circuit breaker		gG fuse
	GB2 (IEC/ CSA-c/US)	C60N (CEI) C60N (UL)		GB2 (IEC/ CSA-c/US)	C60N (CEI) C60N (UL)	
ABL8REM24030	GB2●●07 *(1)*	24581 24517	2 A	GB2●●06 *(1)*	24580 24516	2 A *(2)*
ABL8REM24050	GB2●●08 *(1)*	24582 24518	4 A	GB2●●07 *(1)*	24581 24517	2 A
ABL7RP1205	GB2●●06 *(1)*	24580 24516	2 A	GB2●●06 *(1)*	24580 24516	2 A *(2)*
ABL7RP4803	GB2●●08 *(1)*	24582 24518	4 A	GB2●●07 *(1)*	24581 24517	2 A

(1) Complete the reference by replacing ●● with:
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
(2) 1 A version not available.

ABL8REM/ABL7RP (Optimum) range of Phaseo regulated switch mode power supplies

Input voltage	Secondary			Reset	Conformity to standard IEC/EN 61000-3-2	Reference	Weight kg/*lb*
	Output voltage	Nominal power	Nominal current				
Single-phase (N-L1) or phase-to-phase (L1-L2) connection							
100...240 V ∿ - 15%, + 10% 50/60 Hz and **120...220 V** ⎓ *(1)*	24 V ⎓	72 W	3 A	Automatic	No	**ABL8REM24030**	0.520/ *1.146*
		120 W	5 A	Automatic	No	**ABL8REM24050**	1.000/ *2.205*
100...240 V ∿ - 15%, + 10% 50/60 Hz	12 V ⎓	60 W	5 A	Automatic or manual	Yes	**ABL7RP1205**	1.000/ *2.205*
	48 V ⎓	144 W	2.5 A	Automatic or manual	Yes	**ABL7RP4803**	1.000/ *2.205*

(1) CULus 508, CCSAus and TUV 60950-1 certifications are not valid for DC input voltage.

ABL8REM24030

ABL8REM24050

ABL7RP1205, ABL7RP4803

Power supplies
Phaseo ABL7, ABL8
Regulated switch mode power supplies ABL8RP/ ABL8WP (Universal) 72 to 960 W - Wide input voltage range - Mounting on rail

ABL8RPS24050

Modicon M340 automation platform

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

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

The ABL8RP/ABL8WP (Universal) range of Phaseo power supplies must be connected in
phase-to-neutral or phase-to-phase for **ABL8RPS/RPM**, and in three-phase for **ABL8WPS**. They deliver a voltage that is precise to 3%, whatever the load and whatever the type of line supply, within the ranges:
- 85 to 132 V ∼ and 170 to 550 V ∼ for **ABL8RPS**
- 85 to 132 V ∼ and 170 to 264 V ∼ for **ABL8RPM**
- 340 to 550 V ∼ for **ABL8WPS**

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

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

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

The ABL8RP/ABL8WP (Universal) power supplies have protection devices to ensure optimum performance of the automation system. Their operating mode can be configured as required by the user:
- **Manual reset protection mode:** Priority is given to the voltage so as to guarantee the PLC logic states and nominal operation of the supplied actuators.
- **Automatic reset protection mode:** Priority is given to the continuity of service until the arrival of the maintenance team.

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

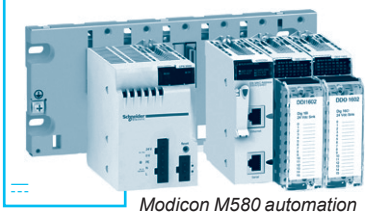
The diagnostics for the ABL8RP/ABL8WP (Universal) range of Phaseo power supplies are available on the front of the device via LEDs (U_{out} and I_{out}) and via a volt-free relay contact (PLC state).

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

These power supplies are designed for direct mounting on a 35 mm ⊔ rail.

Power supplies
Phaseo ABL7, ABL8
Regulated switch mode power supplies ABL8RP/ABL8WP (Universal) 72 to 960 W - Wide input voltage range - Mounting on rail

ABL8WPS24200



Modicon M580 automation platform

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

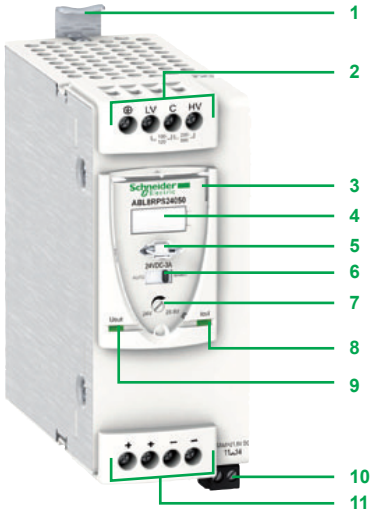
There are four references available in the ABL8RP/ABL8WP (Universal) range of Phaseo power supplies for phase-to-neutral or phase-to-phase connection:

■ **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 ⎓

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

■ **ABL8WPS24200**	480 W	20 A	24 V ⎓
■ **ABL8WPS24400**	960 W	40 A	24 V ⎓

A range of function modules also allows functions to be added to the ABL8RP/ABL8WP (Universal) range of Phaseo power supplies so as to give continuity of service:
- □ A Buffer module or Battery control modules combined with their batteries to give continuity of service in the event of a network power outage
- □ A Redundancy module to meet the requirements for continuity of service even if the power supply is cut off.
- □ Downstream electronic Protection modules to ensure that the protection in the application is discriminating
- □ Converter modules delivering nominal voltages of 5 and 12 V ⎓ from the 24 V ⎓ output of the ABL8RP/ABL8WP (Universal) range of Phaseo power supplies



Description
ABL8RP/ABL8WP (Universal) range of power supplies

The ABL8RP/ABL8WP (Universal) range of Phaseo regulated switch mode power supplies, **ABL8RPS24●●0/RPM**24200/**WPS24●00**, comprise:

1 Spring clip for 35 mm ⊥ rail
2 4 mm² enclosed screw terminals for connection of the AC voltage (single-phase, phase-to-phase or three-phase connection)
3 Protective glass flap
4 Clip-on marker label
5 Locking catch for the glass flap (sealable)
6 Protection mode selector
7 Output voltage adjustment potentiometer
8 Output voltage status LED (green and red)
9 Output current status LED (green, red and orange)
10 Screw terminals for connection of the diagnostic relay contact, except **ABL8RPS24030**
11 4 mm² (10 mm² on **ABL8WPS24●00** and **ABL8RPM24200**) enclosed screw terminals for connection of the DC output voltage

Power supplies
Phaseo ABL7, ABL8
Regulated switch mode power supplies ABL8RP/ ABL8WP (Universal) 72 to 960 W - Wide input voltage range - Mounting on rail

Selection of protection on the power supply primaries

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

(1) Automation and Control offer.
(2) Electrical Distribution offer.
(3) Connection in single-phase (L-N) or phase-to-phase (L1-L2).
(4) Connection in 3 phase (L1-L2-L3).

Power supplies
Phaseo ABL7, ABL8
Regulated switch mode power supplies ABL8RP/ABL8WP (Universal) 72 to 960 W - Wide input voltage range - Mounting on rail


ABL8RPS24050


ABL8RPM24200


ABL8WPS24200


ABL8BUF24400


ABL8BBU24200


ABL8RED24400

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

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

Function modules for continuity of service *(1)*

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

⎓ / ⎓ converters *(1)*

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

Separate and replacement parts

Designation	Use	Composition	Unit reference	Weight kg/*lb*
Fuse assemblies	For ABL8PRP24100 discriminating Protection modules	4 x 5 A, 4 x 7.5 A and 4 x 10 A	**ABL8FUS01**	–
	For ABL8BKP24A●● Battery	4 x 20 A and 6 x 30 A	**ABL8FUS02**	–
Clip-on marker labels	Each products except ABL8PRP24100	Order in multiples of 100	**LAD90**	0.030/ *0.066*
	ABL8PRP24100 selective Protection Module	Order in multiples of 22	**ASI20MACC5**	–
DIN rail mounting kit	ABL8BPK2403 Battery Module	–	**ABL1A02**	–
EEPROM memory	Backup and duplication of ABL8 BBU24●00 battery control module parameters	–	**SR2MEM02**	0.010/ *0.022*

(1) For use with ABL8RP/ABL8WP (Universal) range of Phaseo power supplies.
(2) For table of compatibility of Battery control module-battery unit with holding time depending on the load.
(3) Supplied with 20 or 30 A fuse depending on the model.
(4) Supplied with four 15 A fuses.
(5) Local reset via pushbutton or automatic reset.
(6) Voltage from a 24 V ⎓ ABL8RP/ABL8WP (Universal) range Phaseo power supply.

Power supplies
Phaseo ABL7, ABL8
ABL8DCC Function modules: ⎓/⎓ Converter modules

Supplying 5 V ⎓ and 12 V ⎓ auxiliary voltages

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

These modules can be used to make savings in the:
- Upstream protection normally used with the 5 to 15 V ⎓ power supply
- Connection to the line supply

There are two references available for this solution:
- **ABL8DCC05060 :** 5...6.5 V ⎓, 6 A converter module
- **ABL8DCC12020 :** 7...15 V ⎓, 2 A converter module

Description

5 V ⎓ and 12 V ⎓ Converter modules

The **ABL8DCC●●0●0** ⎓ / ⎓ Converter modules comprise:
1. Spring clip for 35 mm ⊔ 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^2 enclosed screw terminals for connection of the 24 V ⎓ input voltage
8. 4 mm^2 enclosed screw terminals for connection of the 5 V ⎓ or 12 V ⎓ output voltage

Power supplies
Phaseo ABL7, ABL8
ABL8DCC Function modules: ⎓/⎓ Converter modules

ABL8DCC050060/12020

References

⎓ / ⎓ converters (compatible only with ABL8RP/ABL8WP (Universal) Phaseo power supplies)

Primary *(1)*		Secondary		Reference	Weight
Input voltage	ABL8RP/ABL8WP (Universal) range power supply module output current	Output voltage	Nominal current		kg/*lb*
24 V c - 9%,+ 24%	2.2 A	5...6.5 V ⎓	6 A	**ABL8DCC05060**	0.300/ *0.661*
	1.7 A	7...15 V ⎓	2 A	**ABL8DCC12020**	0.300/ *0.661*

Replacement part

Designation	Composition	Unit reference	Weight kg/*lb*
Clip-on marker labels	Order in multiples of 100	**LAD90**	0.030/ *0.066*

(1) Voltage from a 24 V ⎓ Phaseo ABL8RP/ABL8WP (Universal) range power supply

Power supplies
Phaseo ABL7, ABL8
ABL8B Function modules: Solutions to microbreaks and power outages

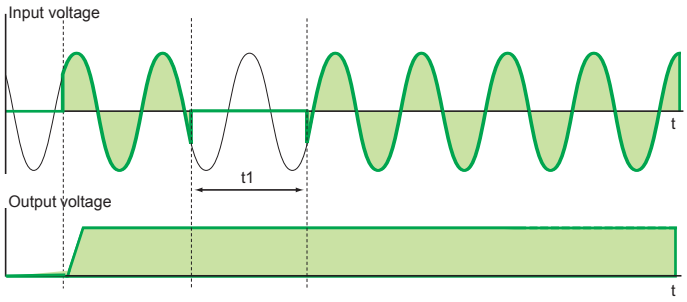
Presentation

The **ABL8B** Function module offer complements the **ABL8RP/ABL8WP (Universal)** regulated switch mode power supply offer, thus forming a set of solutions to meet the needs for continuity of service in demanding applications.

These modules, connected to the electronic switch mode power supply outputs, offer solutions such as:
- Immunity to microbreaks (see page 16)
- Voltage holding in the event of power outages (see page 17)
- Voltage holding in the event of power supply equipment impairment (see page 20)
- Discrimination in the application's protection against overloads and short-circuits (see page 22)

Continuity of service: Immunity to microbreaks

ABL8RP/ABL8WP (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 **ABL8BUF24400** Buffer Function module, combined with an **ABL8RP/ABL8WP (Universal)** power supply, is used. In the event of short interruptions, the Buffer module takes over and continues to provide the 24 V ⎓ voltage.
The table below indicates the maximum time for immunity to microbreaks t1.



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

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

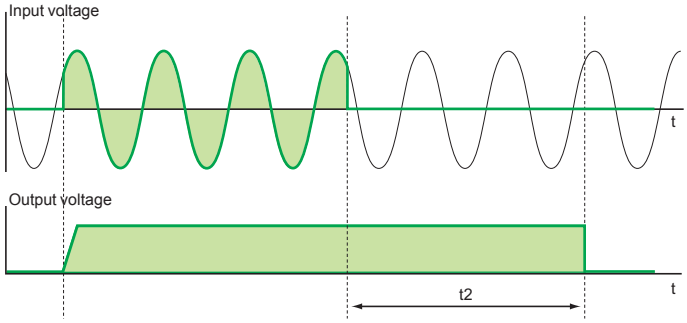
(1) Values liable to increase significantly. Please consult our website **www.schneider-electric.com**

Power supplies
Phaseo ABL7, ABL8
ABL8B Function modules: Solutions to microbreaks and power outages

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

For applications that are sensitive to unintended stopping, the **ABL8B** range of Function modules offers a solution comprising:
- Electronic switch mode power supply and Buffer module for holding times t2 up to two seconds
- Electronic switch mode power supply, Battery control module and Battery module for holding times t2 of between two seconds and a few hours

These solutions are used to supply voltage after loss of the line supply, thus enabling saving of current values or fallback of some actuators supplied with 24 V ⎓.
The table below indicates the possible holding times according to the equipment combinations and the current required.

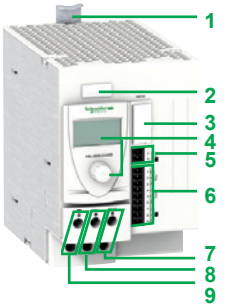


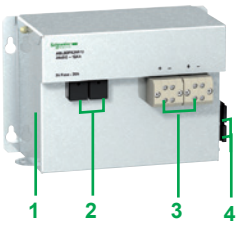
Holding current	Holding time t2																											
	Seconds								Minutes																Hours			
	0.1	0.2	0.5	1	2	5	10	30	1	2	3	4	5	6	7	8	9	10	15	20	30	40	50	1	2	3	5
1 A	1	1	1	1	1	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+5	2+5
2 A	1	1	1	1	1	2+4	2+4	2+4	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 +6
4 A	1	1	1	1	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+5	2+5	2+5	2+5	2+6	2+6 +6	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 +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 +6	2+6 +6	
7 A	1	1	1	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+5	2+5	2+5	2+5	2+5	2+6	2+6	2+6	2+6	2+6 +6		
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 +6	2+6 +6		
10 A	1	1	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+5	2+5	2+5	2+5	2+5	2+5	2+5	2+6	2+6	2+6 +6	2+6 +6	2+6 +6			
15 A	1	1	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+4	2+5	2+5	2+5	2+5	2+5	2+6	2+6	2+6	2+6	2+6 +6	2+6 +6	2+6 +6				
20 A	1	1	2+5	2+5	2+5	2+5	2+5	2+5	2+5	2+5	2+5	2+5	2+6	2+6	2+6	2+6	2+6	2+6	2+6 +6	2+6 +6	2+6 +6						
25 A	1	3+5	3+5	3+5	3+5	3+5	3+5	3+5	3+5	3+5	3+5	3+6	3+6	3+6	3+6	3+6	3+6 +6	3+6 +6	3+6 +6	3+6 +6							
30 A	1	3+5	3+5	3+5	3+5	3+5	3+5	3+5	3+5	3+5	3+6	3+6	3+6	3+6 +6	3+6 +6	3+6 +6	3+6 +6	3+6 +6	3+6 +6	3+6 +6							
35 A	1	3+5	3+5	3+5	3+5	3+5	3+5	3+5	3+5	3+6	3+6	3+6	3+6 +6	3+6 +6	3+6 +6	3+6 +6	3+6 +6	3+6 +6	3+6 +6								
40 A	1	3+6	3+6	3+6	3+6	3+6	3+6	3+6	3+6	3+6	3+6	3+6 +6	3+6 +6	3+6 +6	3+6 +6	3+6 +6	3+6 +6	3+6 +6									

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

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).*

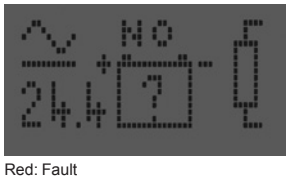
Power supplies
Phaseo ABL7, ABL8
ABL8B Function modules: Solutions to microbreaks and power outages





Green: Nominal status/information

Orange: Warning



Red: Fault

Examples of Battery control module diagnostic screens

Description

40 A Buffer module

The **ABL8BUF24400** Buffer Function module comprises:
1 Spring clip for 35 mm ⊔ 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 V ⎓ input voltage
5 10 mm² enclosed screw terminals for connection of the 24 V ⎓ output voltage
6 Removable screw terminal block for connection of the diagnostic contact: module ready (maximum load)

20 A and 40 A Battery control modules

The **ABL8BBU24●00** Battery control Function modules comprises:
1 Spring clip for 35 mm ⊔ 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 V ⎓ output voltage
8 10 mm² enclosed screw terminals for connection of the power supply 24 V ⎓ input voltage
9 10 mm² enclosed screw terminals for connection of the battery voltage 24 V ⎓ input voltage

3.2 Ah, 7 Ah, and 12 Ah Battery modules

The front panel of the **ABL8BPK24A●●** Battery Function modules comprises:
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 V ⎓ output voltage (depending on the model, allows two Battery modules to be connected in parallel)
4 Fuse storage attachment

Functions

ABL8BBU24●00 Battery control modules

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
- 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.

Power supplies
Phaseo ABL7, ABL8
ABL8B Function modules: Solutions to microbreaks and power outages

ABL8BUF24400

ABL8BBU24200

ABL8BBU24200

Functions

ABL8BPK24A●● 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 **2**

References

Function modules (compatible only with ABL8RP/ABL8WP (Universal) Phaseo power supplies)

Function	Use	Designation	Reference	Weight kg/*lb*
Continuity after a power outage	Holding time 100 ms at 40 A and 2 s at 1 A	Buffer module	**ABL8BUF24400**	1.200/ *2.646*
	Holding time 9 min at 40 A...2 hrs at 1 A (depending on use with a battery control module-battery unit and load) *(1)*	Battery control module 20 A output current	**ABL8BBU24200**	0.500/ *1.102*
		Battery control module, 40 A output current	**ABL8BBU24400**	0.700/ *1.543*
		3.2 Ah battery module *(2)*	**ABL8BPK24A03**	3.500/ *7.716*
		7 Ah battery module *(2)*	**ABL8BPK24A07**	6.500/ *14.330*
		12 Ah battery module *(2)*	**ABL8BPK24A12**	12.000/ *26.455*

Separate and replacement parts

Designation	Description	Composition	Unit reference	Weight kg/*lb*
Fuse assemblies	For ABL8BKP24A●● battery	4 x 20 A and 6 x 30 A	**ABL8FUS02**	–
Clip-on marker labels	All products except ABL8PRP24100	Order in multiples of 100	**LAD90**	0.030/ *0.066*
Kit for mounting on ⊥ rail	For ABL8BPK2403 Battery module	–	**ABL1A02**	–
EEPROM memory	Backup and duplication of ABL8 BBU parameters	–	**SR2MEM02**	0.010/ *0.022*

(1) For table of compatibility of battery control module-battery unit with holding time depending on the load, see page 17.
(2) Supplied with 20 or 30 A fuse depending on the model.

Power supplies
Phaseo ABL7, ABL8
ABL8RED24400 Function module: Redundancy solution

Continuity of service: Failure of power supply equipment

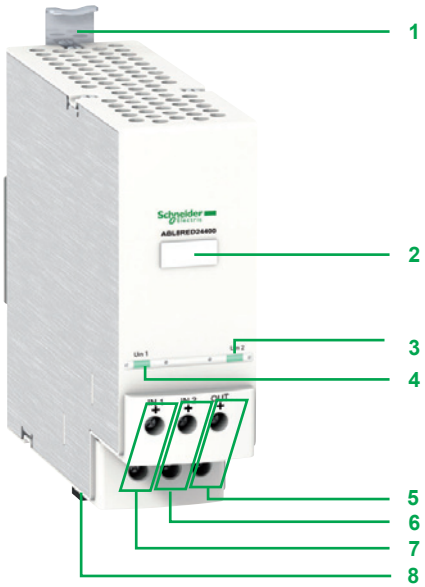
Where continuous operation of the application is the prime concern, it is necessary to know that when one power supply malfunctions, a second power supply takes over. The **ABL8RED24400** Redundancy module can perform this function, allowing that the failure of one power supply does not disturb the second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

The **ABL8RED24400** Redundancy module, used with two electronic switch mode power supplies of the same type, can be used to supply the nominal power to the application even if one of the power supplies fails.

The various diagnostics - on the front panel (LED) and remote (relay) - inform the maintenance team as soon as the first fault occurs on one of the power supplies.

When continuity of service is critical for the application, it may be necessary to provide redundancy for the Redundancy module.

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

2 x 20 A Redundancy module

The **ABL8RED24400** Redundancy Function module comprises:

1 Spring clip for 35 mm ⊥ rail
2 Clip-on marker label
3 Input voltage status LED (green) for the first 24 V ⎓ power supply
4 Input voltage status LED (green) for the second 24 V ⎓ power supply
5 10 mm² enclosed screw terminals for connection of the 24 V ⎓ output voltage
6 10 mm² enclosed screw terminals for connection of the input voltage for the second 24 V ⎓ power supply (I ⩽ 20 A)
7 10 mm² enclosed screw terminals for connection of the input voltage for the first 24 V ⎓ power supply (I ⩽ 20 A)
8 Removable screw terminal block for connection of the diagnostic contact

Power supplies
Phaseo ABL7, ABL8
ABL8RED24400 Function module: Redundancy solution

ABL8RED24400

Function module (compatible only with ABL8RP/ABL8WP (Universal) Phaseo power supplies)

Function	Use	Designation	Reference	Weight kg/*lb*
Continuity after a failure	Paralleling and redundancy of the power supply to ensure uninterrupted operation of the application excluding AC line failures and application overloads	Redundancy module	**ABL8RED24400**	0.700/ *1.543*

Replacement part

Designation	Composition	Unit reference	Weight kg/*lb*
Clip-on marker labels	Order in multiples of 100	**LAD90**	0.030/ *0.066*

Power supplies
Phaseo ABL7, ABL8
Function modules ABL8PRP24100: Solution for discriminating protection of the application

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

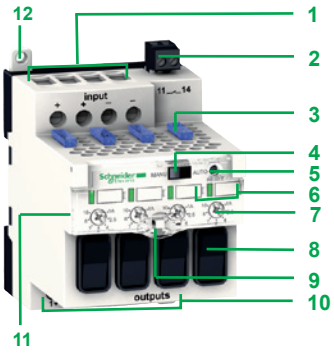
There is no point in using thermal-magnetic circuit-breakers or fuses downstream of an electronic switch mode power supply in the majority of cases. When a short-circuit or very quick overload occurs in the application, the electronic protection is faster than the thermal-magnetic circuit-breaker or fuse. In this case, none of the circuits are powered.

To provide discriminating protection in the event of an overload or short-circuit, the **ABL8RP/ABL8WP (Universal)** Phaseo 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** discriminating downstream Protection module have:
- Overload and short-circuit protection on each of their 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 channels
- An automatic or manual reset mode for the protection
- Memorization of the fault even in the event of failure of the 24 V ⎓ 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



The **ABL8PRP24100** 4-channel downstream electronic Protection module comprises:
1 10 mm² enclosed screw terminals for connection of the 24 V ⎓ 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 4 mm² 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)

Power supplies
Phaseo ABL7, ABL8
Function modules ABL8PRP24100: Solution for discriminating protection of the application

ABL8PRP24100

References

Function modules (compatible only with ABL8RP/ABL8WP (Universal) Phaseo power supplies)

Function	Use	Designation	Reference	Weight kg/*lb*
Discriminating downstream protection	Electronic protection (1...10 A overload or short-circuit) of 4 output terminals from a Phaseo ABL8RP/ABL8WP (Universal) range power supply	Universal Protection module with 2-pole breaking *(1)*	**ABL8PRP24100**	0.470/ *1.036*

Separate part

Designation	Use	Composition	Unit reference	Weight kg/*lb*
Fuse set	For ABL8PRP24100 module	4 x 5 A, 4 x 7.5 A and 4 x 10 A	**ABL8FUS01**	0.018/ *0.040*

Replacement part

Designation	Use	Composition	Unit reference	Weight kg/*lb*
Clip-on marker labels	For ABL8PRP24100 module	**Order in multiples of 22**	**ASI20MACC5**	0.015/ *0.033*

(1) Local reset via pushbutton or automatic reset.

Power supplies
Phaseo ABL7, ABL8
Product reference index

Schneider Electric Industries SAS

Head Office
35, rue Joseph Monier
F-92500 Rueil-Malmaison
France

www.schneider-electric.com

Design: Schneider Electric
Photos: Schneider Electric

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