Pro2 Series Switching Power Supplies

Overview

The WAGO Pro2 Power Supplies are compact switched-mode power supplies with a wide range of uses. The power supplies can be fitted on a DIN-rail. The power supplies can be configured directly via buttons on the product or via the integrated communication interface. For this purpose, the connection is established via the WAGO USB configuration cable. It is also possible to record and evaluate various output parameters via the WAGO Interface Configuration software, which is available separately.

The pluggable connection technology uses WAGO CAGE CLAMP® connectors. These allow pre-wiring for quicker installation, as well as quicker and easier product replacement.

Features

- Power supply with TopBoost, PowerBoost and configurable overload behavior
- Configurable digital signal input and output, optical status indication, function keys
- Communication interface for configuration and monitoring
- Suitable for both parallel and series operation
- Natural convection cooling when horizontally mounted
- Free WAGO configuration software (download only)
- 2-year warranty

2787-2348

2787-2144

WAGO Pro2 Series Switching Power Supplies						
Part Number	*Price*	*Output Voltage (V_{nom})*	*Output Current (I_{max})*	*Output Power (P_{max})*	*Weight grams [oz]*	*Drawing Link*
Single Phase Input						
2787-2144	$160.00	24 VDC	5A	120W	700 [24.69]	PDF
2787-2146	$225.00		10A	240W	1000 [35.27]	PDF
2787-2147	$325.00		20A	480W	1450 [51.14]	PDF
2787-2448	$510.00		40A	960W	1950 [68.78]	PDF
Three Phase Input						
2787-2347	$400.00	24 VDC	20A	480W	1450 [51.14]	PDF
2787-2348	$575.00		40A	960W	1980 [69.84]	PDF

WAGO Pro2 Series Power Supplies Accessory		
Part Number	*Price*	*Description*
750-923	$35.00	WAGO cable, 8.2ft/2.5m cable length. For use with WAGO Pro2 power supplies.

750-923

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WAGO Pro2 Series Input Specifications

Part Number	Nominal Input Voltage [V_{nom}]	Input Voltage Range	Input Frequency Range	Input Current [Typ. @ full load]	Inrush Current Limitation @+25°C	Max Power Dissipation	Efficiency [Typ.]	Circuit Breaker [Minimum]
2787-2144	100-240 VAC [1-phase input]	90-264 VAC 130-373 VDC	47-63 Hz	≤ 1A @ 240 VAC ≤ 1.8 A @ 100 VAC	≤ 9A [after 1ms]	≤ 1W [Standby]; ≤ 2W [No load]; ≤ 10W [230 VAC; Nominal load]	93.8 % [230 VAC; 5A; 25°C]	16A
2787-2146				≤ 1.2 A @ 240 VAC ≤ 2.7 A @ 100 VAC	≤ 11A [after 1ms]	≤ 1W [Standby]; ≤ 2.2 W [No load]; ≤ 12W [230 VAC; Nominal load]	95.3 % [230 VAC;10A; 25°C]	
2787-2147				≤ 2.2 A @ 240 VAC ≤ 5.9 A @ 100 VAC	≤ 12A [after 1ms]	≤ 1.3 W [Standby]; ≤ 2.6 W [No load]; ≤ 24W [230 VAC; Nominal load]	95.4 % [230 VAC; 20A; 25°C]	
2787-2448	200-240 VAC [1-phase input]	180-264 VAC 255-373 VDC		≤ 4.3 A @ 240 VAC ≤ 5.1 A @ 200 VAC	≤ 10A [after 1ms]	≤ 1.5 W [Standby]; ≤ 2.4 W [No load]; ≤ 40W [230 VAC; Nominal load]	96.1 % [230 VAC; 40A; 25°C]; 96.3 % [230 VAC; 30A; 25°C]	
2787-2347	400-500 VAC [3-phase input]	340-550 VAC 480-780 VDC		≤ 0.8 A @ 400 VAC	≤ 15A [after 1ms]	≤ 3.6 W [Standby]; ≤ 4.4 W [No load]; ≤ 21W [400 VAC; Nominal load]	95.9 % [400 VAC; 20A; 25°C]	
2787-2348				≤ 1.7 A @ 400 VAC			96.3 % [400 VAC; 40A; 25°C]	

WAGO Pro2 Series Output Specifications

Part Number	Output Voltage	Output Voltage Adj. Range	Output Current (Max.)	Power Boost (5s)	Top Boost (15ms)	Switch on Delay	Output Overvoltage Protection	MTBF (@ 25°C)
2787-2144	24 VDC	24-28 VDC	5A	7.5 A	30A	< 2.2 sec	Internal protective circuit ≤ 35 VDC (in the event of a fault)	> 1,000,000 h [per IEC 61709]
2787-2146			10A	15A	60A	< 1.8 sec		> 1,200,000 h [per IEC 61709]
2787-2147			20A	30A	120A	< 1.5 sec		> 800,000 h [per IEC 61709]
2787-2448			40A	60A	200A	< 1.5 sec		> 900,000 h [per IEC 61709]
2787-2347			20A	30A	120A	< 1.4 sec		> 800,000 h [per IEC 61709]
2787-2348			40A	60A	200A	< 1.5 sec		> 800,000 h [per IEC 61709]

Continued on next page.

Digital I/O Functions

Section	Operation	Description
Digital Input	Power supply standby on/off	If this checkbox is selected, the product can be switched on and off via the digital input.
	Inversion DI	If this checkbox is selected, the digital input is inverted.
	Function triggered by low/high transition	If this checkbox is selected, the digital input is activated in the event of an edge change from 0 to 1.
	Function triggered by high/low transition	If this checkbox is selected, the digital input is activated in the event of an edge change from 1 to 0.
Digital Output	DC OK	If this checkbox is selected, the digital output is set if the DC output voltage is OK.
	Load current warning level exceeded	If this checkbox is selected, the digital output is set if the overload warning threshold is exceeded.
	Electronic circuit breaker tripped	If this checkbox is selected, the digital output is set if the electronic circuit breaker has tripped.
	Power supply switched off (Latched)	If this checkbox is selected, the digital output is set if latching shutdown occurs.
	Digital output via process data/communication	If this checkbox is selected, the digital output can be controlled via the process data.
	Digital output on	If this checkbox is selected, the digital output is switched on.
	Inversion DO	If this checkbox is selected, the digital output is inverted.
Warning thresholds (Software Config.)	Overload limit active	If this checkbox is selected, warning is triggered if the overload warning threshold is exceeded.
	Warning threshold	Here you can enter the value for current (unit: mA) at or above which a warning message is generated.
	Operating hour counter warning limit	You can enter after how many operating hours (unit: h) after which a warning message is generated.

Note: Digital I/O function checkboxes are available in the WAGO configuration software.

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WAGO Pro2 Series Output Specifications (continued)							
Specification		***2787-2144***	***2787-2146***	***2787-2147***	***2787-2448***	***2787-2347***	***2787-2348***
Temperature		Operating [ambient] -25 to +70°C [-13 to +158°F] Storage [non-operating] -40 to +85°C [-40 to +185°F]					
Humidity		5 to 96 % [no condensation permissible]					
Isolation	***Primary - Secondary***	3510 VAC					
	Primary - Ground	2200 VAC					
	Secondary - Ground	DC, 0.5 kV					
	Secondary Signal	DC, 0.5 kV					
Line Regulation		< 0.02%	< 0.02 %	< 0.02 %	< 0.1 %	< 0.02 %	< 0.01 %
Load Regulation		< 2.0%	< 2.0 %	< 2.0 %	< 2.6 %	< 2.0 %	< 2.0%
Overload Behavior [1]		Constant Current [Factory Default], Constant Current with Latching Mode, Hiccup, Electronic Circuit Breaker, Latching Shutdown on Thermal Overload, Power Boost, Top Boost					
Overvoltage Protection (Secondary)		Internal protective circuit ≤ 35 VDC [in the event of a fault]					
Status Indicators		Optical status indication [DC OK; load; warning and error states] Digital signal input and output [DI/DO]					
Vibration		IEC 60068-2-6 [5 to 150 Hz / 1g]					
Shock		IEC 60068-2-27 [15g / 11ms]					
Enclosure Rating		IP20					
Mounting		35mm DIN rail					
Connection		Cage Clamp®					

[1] **All functions are described in detail in the user manual.**

Operation via Buttons

Using the + and - buttons on the front of the product, you can make the following settings:

Operation via Buttons		
Button [+]	***Button [–]***	***Function***
Switch product on or off		
Hold down simultaneously for 3 seconds		The product is switched on or off.
Set output voltage		
Press once	–	The output voltage increases in steps.
Press and hold	–	The output voltage increases continuously.
–	Press once	The output voltage is reduced in steps.
–	Press and hold	The output voltage is reduced continuously.
Reset product for factory settings		
Hold down simultaneously for 10 seconds		The product is reset to the factory settings

During ongoing operation, you can set the output voltage and reset the product to factory settings. These settings can be saved and then remain available when the product is switched off and back on.

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WAGO Pro2 Series General Specifications			
Specification	***Standard***	***Document Number***	
Harmonic Limits	Harmonic Current Limits	EN 61000-3-2, Class A for limited output power	
Safety Standards	Information technology equipment	UL/C-UL recognized to UL60950-1 and CSA C22.2 No. 60950-1 [File No. E198298]	
	Industrial control equipment	UL508 and CSA C22.2 No. 107.1-01 [File No. E197592]	
	Electrical equipment of machines	IEC60204-1 [over voltage category III]	
	Electronic equipment for power installation	IEC/EN 62477-1 / IEC62103	
	Safety, Transient surge voltage protection	VARISTOR	
Safety Approvals	CB-Report per IEC 60950	IEC 60950-1, IEC 61010-1, IEC 61010-2-201	
Safety Class	Degree of electrical protection Class1	Class I with GND connection	
CE	In conformance with EMC directive 2014/30/EU and low voltage directive 2014/35/EU		
RoHS Compliant	RoHS Directive [EU] 2015/863 Compliant [EN 50581]		
Electromagnetic Compatibility (EMC), Emissions	EMC, Emissions	EN55032, EN55011, EN61000-3-2 Class A, EN61000-3-3, EN61000-6-3	
Electromagnetic Compatibility (EMC), Immunity	EMC, Immunity	EN 55024, EN 61000-6-2 [EN61000-4-2, 3, 4, 5, 6, 8, 11, 12]	
	Electrostatic Discharge [ESD]	IEC 61000-4-2 Level 4 Criteria A Air Discharge: 15kV; Contact Discharge: 8kV	
	Radiated RF field immunity [80-1000 MHz]	IEC / EN 61000-4-3: 120W&240W: 80MHz-1GHz, 10V/M, 80% modulation [1kHz] 1.4GHz-2GHz, 3V/M, 80% modulation [1KHz] 2GHz-2.7GHz, 1V/M, 80% modulation [1KHz]	IEC / EN 61000-4-3: 480W: 80MHz-1GHz, 10V/ M, 80% modulation [1kHz] 1.4GHz-2GHz, 10V/M, 80% modulation [1KHz] 2GHz-2.7GHz, 10V/M, 80% modulation [1KHz]
	Electrical fast transient / burst immunity	IEC / EN 61000-4-4 Level 4 Criteria A 4kV	
	Surge immunity	IEC / EN 61000-4-5 Level 4 Criteria A Common Mode: 4kV Differential Mode: 2kV	
	Immunity to conducted RF disturbances [0.15 to 80 MHz]	IEC / EN 61000-4-6 Level 3 Criteria A 150kHz-80MHz, 10Vrms	
	Power frequency field immunity	IEC / EN 61000-4-8 30 A / m	
	Voltage dips	IEC / EN 61000-4-11[70% UN Crit. B/40%/100% UN Crit. C]	
Pollution Degree	2		

To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page.