Power Supplies




WAGO
2787-2147
Eco 2
Base
2787-2147
2789-9023
EtherNet/IP



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POWER SUPPLIES

FEATURES OVERVIEW

We understand power supplies are not a one-size-fits-all proposition. WAGO offers a family of power supplies that can be scaled to best fit your application needs. Select the best solution for your demands using the charts on the following pages.

PRO 2 — up to 960 W

Performance power supply with high requirements for reliability, efficiency, and size. Advanced features such as a built-in electronic circuit breaker, intelligent load management, configuration options, and communication capabilities – plus hazardous location approvals.

ECO 2 — up to 240 W

WAGO's robust Eco 2 Power Supplies feature a wide input range and offer many mid-level features such as DC OK contacts and UL HazLoc C1D2 approval.

BASE — up to 480 W

WAGO's Base Power Supply is a high efficient and cost effective DC Power Supply offering. With a base set of approvals and compact design, this quality offering is ideally suited for many OEM type applications.

COMPACT — up to 144 W

The low-profile power supply for standard applications – DIN-Rail or chassis mount options available.






		PRO 2	ECO 2	BASE	COMPACT
Single Phase Inputs Available		x	x	x	x
Three Phase Inputs Available		x	x		
Output Voltage Available	**12 VDC**	x			x
	24 VDC	x	x	x	x
	48 VDC	x			
Output Boosts		TopBoost (600%, 15ms) PowerBoost (150%, 5s)			
Wire Termination		CAGE-CLAMP® Plugable - Tool Operated	Push-In CAGE-CLAMP® Lever Operated	Push-In CAGE-CLAMP® Tool Operated	Push-In CAGE-CLAMP® picoMax - Push Button Operated
DC OK LED		x	x	x	x
DC OK Contact		x	x		
Overload LED		x	x		
Industrial Communication Capable		x			
Efficiceny		Up to 96.3%	Up to 95%	Up to 94%	Up to 91%
Continuous Marking Strip Options		x	x		
DIN Rail Mounting		x	x	x	x
Chassis Mounting					x
UL Approval		x	x	x	x
Hazardous Locations Approvals		x	x		
Marine Approvals Available		x			
Conformal Coating Available		x			



Power Supplies - Pro 2

Power Supplies are the heart of a control cabinet's DC power supply. Therefore, they must meet particularly high requirements for reliability, efficiency, and installation size. However, increasing networking and digitalization also require new features such as configuration options for adapting to the corresponding applications as well as providing service and operating data in order to implement a digital twin over many years of operation. The Pro 2 Power supply family takes the challenges of today and tomorrow, turning them into concrete possibilities.

- Intelligent power management that supplies 150% power for 5 s, and up to 600% output power for 15 ms in the event of short circuits
- High-level resistance to heat, cold, and elevation
- Pioneering communication capabilities that keep you informed about all important status information and data – ready for Industry 4.0
- Easy planning and installation thanks to compact dimensions and 2D/3D data in the most important formats

1-Phase 24 VDC Pro 2 Power Supplies

Picture				
	2787-2144	**2787-2146**	**2787-2147**	**2787-2448**
Input	1-ph; 90 ... 264 VAC; 50/60Hz 130 ... 373 VDC			1-ph 180 ... 264 VAC; 50/60Hz 255 ... 373 VDC
Output Voltage	24 VDC			
Output Power	120 W	240 W	480 W	960 W
Output Current	5 A	10 A	20 A	40 A
Overload Behavior	Selectable (Any Combination) Constant Current; TopBoost; PowerBoost			
Efficiency	93.8%	95.3%	95.4%	96.3%
Tempature Range	-25...70 °C (type-tested -40 °C start)			
DC OK LED	Yes			
DC OK CONTACT	Yes			
Overload LED	Yes			
Housing	Metal			
Dimensions (W x H x D) mm	35 x 130 x 166	50 x 130 x 166	70 x 130 x 169	120 x 130 x 169
Optional DNV	Yes			
Optional Conformal Coating	Yes			

3-Phase 24 VDC Pro 2 Power Supplies

Picture				
	2787-2344	**2787-2346**	**2787-2347**	**2787-2348**
Input	3-ph; 340 ... 550 VAC; 50/60Hz			
Output Voltage	24 VDC			
Output Power	120 W	240 W	480 W	960 W
Output Current	5 A	10 A	20 A	40 A
Overload Behavior	Selectable (Any Combination) Constant Current; TopBoost; PowerBoost			
Efficiency	92.5%	94.1%	95.9%	96.1%
Tempature Range	-25...70 °C (type-tested -40 °C start)			
DC OK LED	Yes			
DC OK CONTACT	Yes			
Overload LED	Yes			
Housing	Metal			
Dimensions (W x H x D) mm	35 x 130 x 166	50 x 130 x 166	70 x 130 x 169	120 x 130 x 169
Optional DNV	Yes			
Optional Conformal Coating	Yes			

12 VDC Pro 2 Power Supplies

Picture		
	2787-2134	**2787-2135**
Input	1-ph; 90 … 264 VAC; 50/60Hz	
Output Voltage	12 VDC	
Output Power	120 W	180 W
Output Current	10 A	15 A
Overload Behavior	Selectable (Any Combination) Constant Current; TopBoost; PowerBoost	
Efficiency	93.8%	95.3%
Tempature Range	-25…70 °C (type-tested -40 °C start)	
DC OK LED	Yes	
DC OK CONTACT	Yes	
Overload LED	Yes	
Housing	Metal	
Dimensions (W x H x D) mm	35 x 130 x 166	70 x 130 x 166
Optional DNV	No	
Optional Conformal Coating	No	

48 VDC Pro 2 Power Supplies

Picture				
	2787-2154	**2787-2157**	**2787-2357**	**2787-2358**
Input	1-ph; 90 … 264 VAC; 50/60Hz		3-ph; 340 … 550 VAC; 50/60Hz	
Output Voltage	48 VDC			
Output Power	120 W	480 W		960 W
Output Current	5 A	10 A		20 A
Overload Behavior	Selectable (Any Combination) Constant Current; TopBoost; PowerBoost			
Efficiency	95.3%	95.3%	95%	96%
Tempature Range	-25…70 °C (type-tested -40 °C start)			
DC OK LED	Yes			
DC OK CONTACT	Yes			
Overload LED	Yes			
Housing	Metal			
Dimensions (W x H x D) mm	35 x 130 x 166	70 x 130 x 169		120 x 130 x 169
Optional DNV	No			
Optional Conformal Coating	No			



Communication Add-Ons

Picture				
	2789-9080	**2789-9015**	**2789-9052**	**2789-9023**
Fieldbus Network	IO-Link	Modbus RTU	Modbus TCP	EtherNet\IP + MQTT
Dimensions (W x H x D) mm	22 x 35 x 95	22 x 35 x 80		

Accessories

Picture				
	2789-1233	**2789-1223**	**2789-1300**	**2789-9915**
Description	Marking Carrier (33mm)*	Marking Carrie (23mm)**	Interface Cover	Modbus RTU Termination Resistor

*Can be used on 2687, 2787, and 2789 series products

**Can be used on select 2687-2142 product

Communication

Connecting the PRO 2 power supply to a fieldbus network is a snap... simply plug in the communication module to monitor and share important data like output current and voltage. This modular approach makes the PRO 2 power supplies fieldbus independent and adaptable to popular protocols like Modbus RTU, I/O Link, Modbus TCP/IP, and coming soon, EtherNet/IP.

IIoT Ready

Continuous monitoring of all data and values of your system's power supply

Predictive maintenance for greater system up-time



Configuration

Our free interface configuration software offers local and remote parameter setting. Easily tailor your power supply to meet your system requirements.

Customizable parameters and configuration options provide application **flexibility**

Connect to PLCs with *e!*COCKPIT function blocks



Load Management

PowerBoost allows for easy switching of capacitive loads and high start-up currents thanks to 150% output power for 5 seconds. TopBoost allows for reliable tripping of circuit breakers by providing 600% power reserves for 15 ms.

Fast and reliable tripping of secondary-side circuit breakers

Power reserve **eliminates expensive oversizing**

Built-in single channel, **configurable** Electronic Circuit Breaker



Efficiency

Save cabinet space and increase energy savings with up to 96.3% efficiency. Highly efficient power supplies provide a smaller footprint, produce less heat, and reduce energy waste resulting in:

Lower CO2 emissions - Just a 5% increase in efficiency saves 1 ton of CO2 (over 5 years)

Put your PLC into standby mode via your PRO 2 power supply to **save energy costs**

Save cabinet space



96.3 %

*measured on 2787-2448

Challenging Environments

PRO 2 power supplies can be used in extreme temperature ranges from -40 °C ... +70 °C with minimal derating starting at +60 °C. Expect reliable operation in high-vibration and shock-prone areas, as well as altitudes up to 5000 m.

Wide temperature range offers application flexibility

Tested according to applicable **shock, vibration, and altitude standards**

Overvoltage **category III** provides greater operational reliability



–40 … +70 °C

Design

Slim design and less spacing required between devices saves valuable cabinet space. 2D/3D data is available in all relevant formats. The pluggable connectors are labeled in accordance with EN 81346-2 to eliminate wiring errors

Compact design improves control cabinet **cooling and reduces panel size**

E-CAD drawings **reduce time and save costs** during implementation

Connections labeled according to **EN 81346-2**

ePLAN® data portal

Smart Designer

Reliability

An MTBF > 1,000,000 hours and long service life of the components mean lower costs compared to other power supplies.

Reliable operation of **more than 114 years**

Reduce maintenance and replacement costs



MTBF:
1,000,000 h

Installation

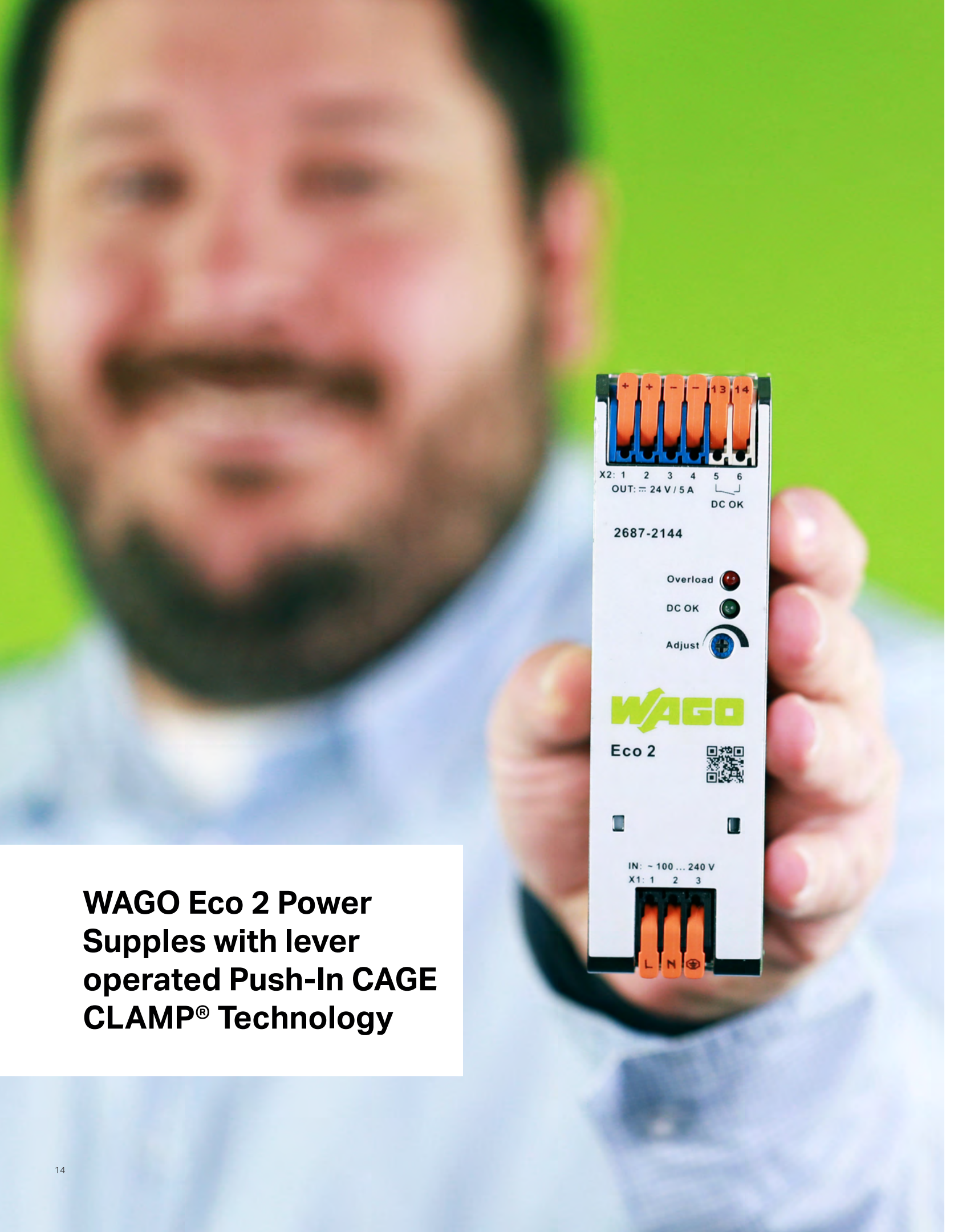
CAGE CLAMP® spring pressure connection technology provides fast, vibration-proof, and maintenance –free termination of solid, fine-stranded or ferruled conductors. Pluggable connectors offer pre-assembled wiring and ease of installation.
Saving time in commissioning, the front panel interface allows for fast and easy configuration, while an LED bar chart intuitively indicates the current load.

CAGE CLAMP® connectors **save both wiring and installation time**

Pluggable connectors allow for **pre-wiring**

Both LED bar chart and connection point labeling **simplify** system commissioning





WAGO Eco 2 Power Supples with lever operated Push-In CAGE CLAMP® Technology

Power Supplies - Eco 2

WAGO's Eco 2 power supplies offer a highly efficient, economical alternative while maintaining simple control functionality. Installation is made easy with DIN rail mounting and lever operated push-in wire connections. Eco 2 power supplies are compact and their high efficiency reduces heat generation as well as overall space and energy consumption. With a DC OK LED and Contact (on 120 W or greater) units, these devices offer simple feedback on the health of the DC subsystem.

Key Features:

- Lever operated connections
- High efficiency
- UL 61010-2-201 and UL HazLoc
- Class 1 Div 2 approvals
- Wide operating temperatures
- MTBF of >1,000,000 hrs

24 VDC Eco 2 Power Supplies

Pictures					
	2687-2142	**2687-2143**	**2687-2144**	**2687-2146**	**2687-2346**
Input	1-ph; 90...264 VAC; 50/60Hz				3-ph; 340 ... 550 VAC; 50/60Hz
Ouput Voltage	24 VDC				
Ouput Power	30 W	60 W	120 W	240 W	
Output Current	1.25 A	2.5 A	5 A	10 A	
Overload Behavior	Constant Current up to 125%; Shutdown and auto restart in the event of short circuit	Constant Current up to 130%; Shutdown and auto restart in the event of short circuit	Constant Current up to 125%; Shutdown and auto restart in the event of short circuit	Constant Current up to 110%; Shutdown and auto restart in the event of short circuit	
Efficiency	88%	90.5%	90%	93%	92.5%
Tempature Range	-25...70°C (type-tested -40°C start)				
DC OK LED	Yes				
DC OK Contact	No		Yes		
Overload LED	No		Yes		
Housing	Plastic		Metal		
Dimensions (W x H x D) mm	25 x 100 x 90	35 x 100 x 90	38 x 130 x 130	50 x 130 x 130	55 x 130 x138

Communication/Adjustments

Basic feedback is standard on the 120 W models and above through a DC OK contact. Along with easy on-unit voltage adjustment, additional visual LEDs alert attention to technicians when in a panel.

DC OK LED and Contact indicates if the supplies output is **preforming nominally**

Overload LED provides **easy indication** of higher current draws

Voltage adjustment potentiometer **enables higher voltage** at the source allowing for some voltage drop over longer cable runs



Fast Wiring

With WAGO's lever-operated, Push-In CAGE CLAMP® connection technology, wiring is simple and tool-free. The intuitive orange lever provides secure connections, with a tactile and audible click indicating whether the lever is open or closed.

Quick and easy wiring thanks to lever-actuated terminals

Push-In CAGE CLAMP® connection further **reduces wiring time**

Integrated test slot for quick measurements



Push-In CAGE CLAMP®

Efficiency/Reliability

Save cabinet space and increase energy savings with up to 93% efficiency. Highly efficient power supplies provide a smaller footprint, produce less heat, and reduce energy waste resulting in operational savings.

Low heat generation **increase the life** of electrical components allowing for a MTBF > 1,000,000 hours

Low maintenance thanks to torque free spring pressure wire terminations

Efficient, reducing heat generation, and allowing for **more cabinet space**



93% efficient & MTBF > 1,000,000 hrs

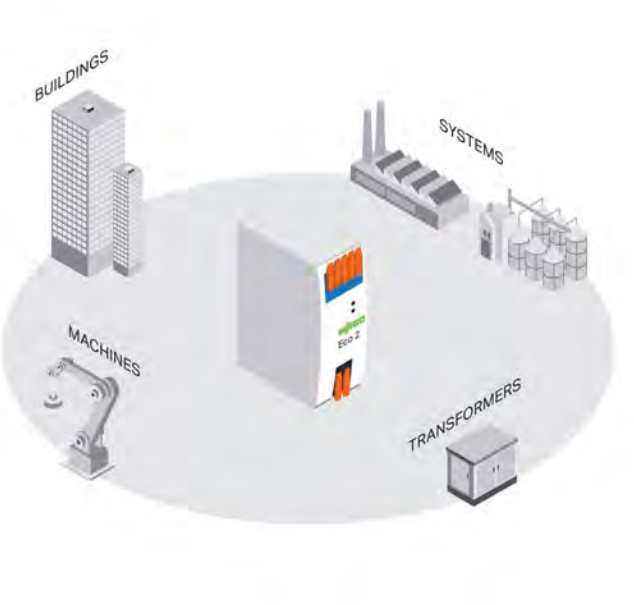
Advance Approvals

The Eco 2 provides greater versatility because of enhanced approvals. Whether in process or manufacturing industries they provide an easy one-part solution for use in any part of the operation.

Standard with UL Ordinary Location and Hazardous location approvals

UL Hazardous Location Class 1 Division 2 means **use in challenging environments** where there is the potential for flammable gasses, vapors, or combustible dusts

CE and other international approvals make the Eco 2 a truly **global product**





Base Power Supplies

Compact. Efficient. Economical.

Power Supplies - Base

WAGO's Base Series power supplies provide a well-balanced price to performance ratio offering. Equipped with a basic approvals package, front-entry Push-In CAGE CLAMP® connection technology and a wide temperature range, the Base power supply family is well suited for high volume applications.

Key Features:

- Best price-to-performance ratio with high efficiency at an economical price
- Reliable spring pressure connections remain unaffected in high vibration environment
- Effective protection in harsh operating environments thanks to wide temperature range

24 VDC Base Power Supplies

Pictures			
	2587-2144	**2587-2146**	**2587-2147**
Input	1-ph; 90...264 VAC; 50/60Hz		
Ouput Voltage	24 VDC		
Ouput Power	120 W	240 W	480 W
Output Current	5 A	10 A	20 A
Overload Behavior	Shutdown and auto restart in the event of short circuit		
Efficiency	88%	91%	94%
Tempature Range	-30...70 °C (type-tested -40°C start)		
DC OK LED	Yes		
DC OK Contact	No		
Overload LED	No		
Housing	Metal		
Dimensions (W x H x D) mm	35 x 125 x 110	52 x 125 x 117	56 x 125 x 138

Sturdy and Durable

The Base power supplies pack a punch in a rugged metal frame giving you peace of mind that they will thrive the most challenging environments.

Designed for use in a **wide temperature range** (-30 º to 70 º C)

Meal frames offering **rugged** product

Overvoltage **category III** provides greater operational reliability



-30...+70 ˚C

Easy Installation

With the use of WAGO's core spring pressure technology, the Base power supply make wiring simple and easy. With maintenance-free, gas-tight, vibration-proof connections, you never have to worry about a loose connection again.

Front entry Push-In CAGE CLAMP® terminations allow for **easy wiring**

Maintenance-free, spring pressure technology

Easy **DIN Rail mounting**



Efficiency/Reliability

Save cabinet space and increase energy savings with up to 94% efficiency. Highly efficient power supplies provide a smaller footprint, produce less heat, and reduce energy waste resulting in operational savings.

Low heat generation **increase the life** of electrical components allowing for a MTBF > 1,000,000 hours

Low maintenance thanks to torque free spring pressure wire terminations

Efficient, reducing heat generation, and allowing for **more cabinet space**



Up to 94%

Compact Design

Customers demand smaller panels and require the most compact offerings. Base Power Supplies can ease these concerns with minimal side, top, and bottom clearances.

Maximum 52 mm wide **saves valuable space** in the control cabinet

Front wiring reduces space constraints above and below power supply

Product depth reduces one lower powered offerings, allowing for **shallower panels**



52 mm (10A)

Power Supplies - Compact

WAGO's Compact power supplies offer great versatility with their low profile depth and multiple mounting methods options. These single-phase input devices come with a variety of DC outputs including, 5, 12, 18, and 24 VDC and can provide as much as 6.5 A of current.

Key Features:

- Best price to performance ratio: high efficiency at an economical price
- Reliable spring pressure connections remain unaffected in high vibration environment
- Effective protection in harsh operating environments thanks to wide temperature range

Fast Wiring

The Push-Button Operated picoMAX® Connection Technology offers customers easy wire installation. With the pliable solution, a wiring harness is created, making product changeouts simple.

CAGE CLAMP® Connection Technology – vibration-proof, fast, maintenance-free

Pre-assembly via pluggable **picoMAX® Connection** Technology*

Front entry wiring saving additional space **above and below** power supply

*only for 787-12xx



Flexible Mounting

With limited panel space, not every application is suitable for DIN Rail mounting. With the Compact series, panel mounting and other product orientations are supported.

DIN Rail **mounting on all** variants

Panel mounting clips for side/back wiring*

Removal front cover and allow for **overhead mounting****

*787-12xx only
** 787-1202, -01212 only



24 VDC Compact Power Supplies

Pictures					
	787-1200	**787-1202**	**787-1212**	**787-1216**	**787-1226**
Input	1-ph; 90 ... 264 VAC; 50/60Hz	1-ph; 85 ... 264 VAC; 50/60Hz 125 ... 375 VDC			1-ph; 90 ... 132 VAC; 180 ... 264 VAC; 250 ... 375 VDC
Ouput Voltage	24 VDC				
Ouput Power	12 W	31.2 W	60 W	100 W	150 W
Output Current	0.5 A	1.3 A	2.5 A	4.2 A	6 A
Overload Behavior	Shutdown and automatic restart in the event of a short circuit	Constant Power up to 135% Output Current; Shutdown and auto restart in the event of short circuit			
Efficiency	83%	87%	89%	90%	90%
Tempature Range	-25...70 °C				
DC OK LED	Yes				
DC OK Contact	No				
Overload LED	No				
Housing	Plastic	Plastic (with removable faceplate)		Plastic	
Dimensions (W x H x D) mm	18 x 90 x 55	54 x 90 x 56 (48 without faceplate)	72 x 90 x 56 (48 without faceplate)	108 x 90 x 56	114 x 90 x 56

12 VDC Compact Power Supplies

Pictures			
	787-1201	**787-1211**	**787-1221**
Input	1-ph; 90 ... 264 VAC; 50/60Hz125 ... 375 VDC		
Ouput Voltage	12 VDC		
Ouput Power	30 W	60 W	96 W
Output Current	2.5 A	5 A	8 A
Overload Behavior	Constant Power up to 135% Output Current; Shutdown and auto restart in the event of short circuit		
Efficiency	88%	88.5%	91.5%
Tempature Range	-25...70 °C		
DC OK LED	Yes		
DC OK Contact	No		
Overload LED	No		
Housing	Plastic (with removable faceplate)		Plastic
Dimensions (W x H x D) mm	54 x 90 x 56 (48 wihtout faceplate)	72 x 90 x 56 (48 wihtout faceplate)	108 x 90 x 56

Power Supplies - Legacy Offerings

WAGO has a rich portfolio of legacy power supplies maintained for existing installation bases. Product families include Frame Eco, Eco, Classic, and Pro each offering many of the same capabilities as the current portfolio.

Frame Eco

The Frame Eco power supply is a great DIN Rail or Chassis mount power supply with very basic functionality. Frame Eco Power Supplies come with single phase inputs and 12 or 24 VDC outputs up to 240 W.

Wide Input Voltage Range: 90-264 VAC for global use

CAGE CLAMP® Technology: **Maintenance-free,** time-saving connections

Compact & Rugged Design: Flat metal housing for **easy DIN-rail or screw-mount installation**



Eco

The Eco family has a mix of options and a low height profile but is generally wider than other WAGO power supplies with the same output characteristics.

Full family of product with **single and three phase inputs**

CAGE CLAMP® Technology: Maintenance-free, time-saving connections

24 VDC output options up to 960 W.



Classic

Our Classic Power Supplies offer some minimal boost options such as TopBoost helping to ensure thermal magnetic breakers trip. Classic Power Supplies come in single and three phase inputs and 12, 24, or 48 VDC outputs up to 960 W.

TopBoost for **cost-effective** secondary-side fusing (≥ 120 W)

Wide input voltage range with **UL/GL approvals** for global applications

NEC Class 2 output option right from the power source



Pro

Like the Pro 2, the original Pro features PowerBoost functionality however does not come with any advance communications. Pro Power Supplies come with 12, 24, or 48 VDC outputs up to 960 W.

Delivers up to **50 ms of multiplied nominal current** for power peaks

PowerBoost Function: Provides 200% of output power for up to four seconds

Available in **single- and three-phase models**, with 12-48 VDC output and 5-40 A currents



Supplemental DC Power System Offerings

In addition to converting AC to DC power, WAGO offers a vast array of product on the DC side to further convert, buffer, combine, and/or protect equipment.

DC/DC Converters

WAGO's DC/DC Converters are ideal for specialty voltages, allowing sensors and actuators to be reliably supplied.

DC/DC converters can be used instead of an additional power supply

Slim design **saving cabinet space**

Common profile with 857 and 2857 Series Signal Conditioners and Relays: **Enables full commoning** of the supply voltage



UPS and Capacitive Buffers

Consisting of a 24 VDC UPS charger and controller with one or more connected batteries or capacitive buffer modules, WAGO's Uninterruptible Power Supply reliably powers an application for several hours.

Integrated display and RS-232 interface (option) **simplify visualization** and configuration

Battery control technology for predictive maintenance-free and **time savings**

Trouble-free machine or **system operation guaranteed** – even in the event of brief power supply failures.



Redundancy

WAGO's redundancy modules have the ability to decouple two parallel-connected power supplies and have a built-in redundancy output circuit thus eliminating a separate part and offering n + 1 system redundancy.

Ideal for applications where an electrical load must be reliably supplied – even in the event of a power supply failure, reliably **increasing power supply availability**

Integrated power diodes with overload capability: **suitable for TopBoost or PowerBoost**

Potential-free contact (option) for input voltage monitoring



Electronic Circuit Breakers

WAGO's ECBs come in 1-, 2-, 4- and 8- channels with fixed or adjustable currents ranging from 0.5 to 16 A. They are the space-saving and precision solutions for fusing DC voltage circuits.

High switch-on capacity: >50,000 µF

Communication capability: **remote monitoring and reset**

Single Channel ECBs 6mm wide and Multi-Channel ECBs starting at 32mm wide allow for **high channel density in a small space**



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