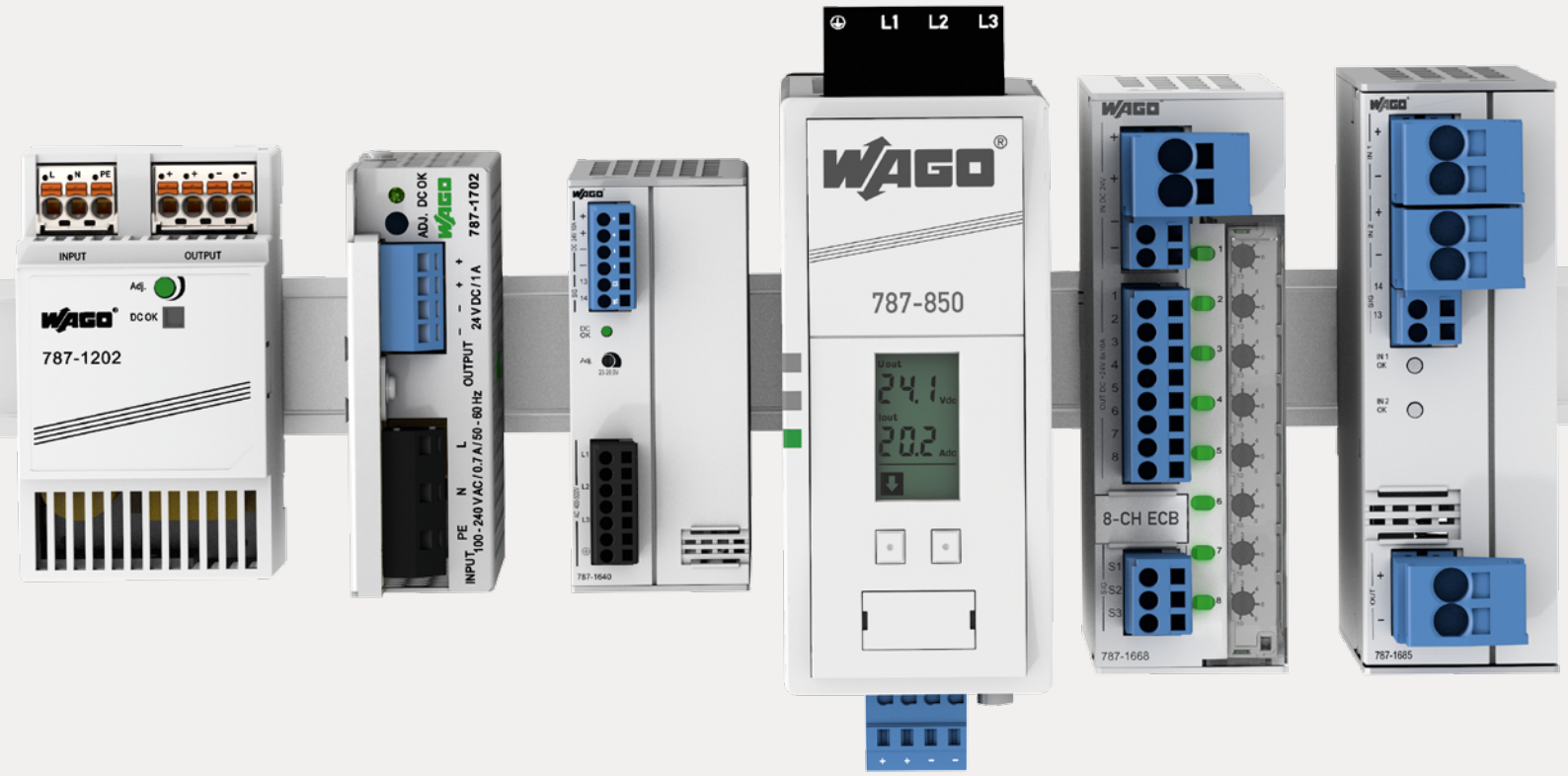
EPSITRON®

Advanced Power Supply System



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digitalvision/DV807/Getty Images

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EPSITRON® – SYSTEM MODULES

Electronic Circuit Breakers (ECBs)

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Redundancy Modules

Clear, Quick Connections

WAGO's CAGE CLAMP® Spring Pressure Connection Technology provides fast, vibration-proof and maintenance-free connection of solid, fine-stranded or ferruled conductors.

EPSITRON® – POWER SUPPLIES

Selection Guide

Switched-Mode Power Supplies

Nominal Voltage Output	Nominal output current [ADC]	Input, 1-phase	Input, 2-/3-phase	Approvals: EN 60335	cURus 60950	cULus 508	DNV/GL	ANSI/ISA 12.12.1	ATEX / IEC Ex	DC OK signal/contact	RS-232 interface	TopBoost[1]	Efficiency typ. [%]	Ambient temperature [°C][4]	Item Number	Page
24 VDC	1.0	■		■	■	■	■			■			86,0	–25 … +70	787-1602	16
	1.25	■		■	■	■							80.0	–20 … +60	787-1702	20
	1.3	■			■	■	■						82.0	–25 … +60	787-1002	24
	1.3	■			■	■	■						82.0	–25 … +60	787-1102	24
	1.3	■		■	■	■							87.0	–25 … +70	787-1202	24
	2.0	■		■	■	■				■			89.0	–25 … +70	787-1606	16
	2.5	■			■	■		■	■				86.0	–10 … +70	787-712	20
	2.5	■		■	■	■							81.0	–20 … +60	787-1712	20
	2.5	■			■	■	■						88.0	–25 … +60	787-1012	24
	2.5	■			■	■	■						88.0	–25 … +60	787-1112	24
	2.5	■		■	■	■							88.0	–25 … +70	787-1212	24
	3.0	■			■	■				■		■	87.8	–25 … +70	787-818	12
	3.8	■		■	■	■	■			■			87.0	–25 … +70	787-1616/0000-1000[2]	16
	4.0	■		■	■	■	■			■			89.0	–25 … +70	787-1616[5]	16
	4.0	■			■	■	■						88.0	–25 … +60	787-1022	24
	4.0	■			■	■	■						88.0	–25 … +60	787-1122	24
	4.0	■				■							92.3	–40 … +85	787-6716	26
	4.2	■		■	■	■							90.0	–25 … +70	787-1216	24
	5.0	■			■	■				■		■	87.8	–25 … +70	787-822	12
	5.0	■		■	■	■	■			■		■	89.0	–25 … +70	787-1622	16
	5.0	■	■		■	■	■			■		■	89.0	–25 … +70	787-1628	17
	5.0	■			■	■	■			■	■	■	89.0	–25 … +70	787-1675[3]	34
	5.0	■			■	■		■	■				86.0	–10 … +60	787-722	20
	5.0	■		■	■	■							84.0	–20 … +60	787-1722	20
	6.0	■		■	■	■							90.0	–25 … +70	787-1226	24
	6.25		■		■	■				■			87.0	–25 … +70	787-738	20
	10.0	■			■	■				■		■	90.0	–25 … +70	787-832	12
	10.0	■			■	■	■			■		■	91.0	–25 … +70	787-1632[5]	16
	10.0	■	■		■	■	■			■		■	90.0	–25 … +70	787-1638	17
	10.0	■			■	■		■	■				86.0	–10 … +70	787-732	20
	10.0	■		■	■	■							84.0	–20 … +60	787-1732	20
	10.0		■		■	■				■	■	■	91.7	–25 … +70	787-850	13
	10.0		■		■	■				■		■	91.7	–25 … +70	787-840	13
	10.0		■		■	■	■			■		■	90.0	–25 … +70	787-1640	17
	10.0		■		■	■				■			89.0	–25 … +70	787-740	20
	20.0	■			■	■				■		■	91.0	–25 … +70	787-834	12
	20.0	■			■	■	■			■		■	92.0	–25 … +70	787-1634[5]	16
	20.0	■			■	■				■			90.0	–25 … +70	787-734	20
	20.0		■		■	■				■	■	■	92.9	–25 … +70	787-852	13
	20.0		■		■	■				■		■	92.9	–25 … +70	787-842	13
	20.0		■		■	■	■			■		■	92.0	–25 … +70	787-1642	17
	20.0		■		■	■				■			90.0	–25 … +70	787-2742	21
	40.0	■			■	■				■			90.0	–25 … +70	787-736	20
	40.0		■		■	■				■	■	■	93.6	–25 … +55	787-854	13
	40.0		■		■	■				■		■	93.6	–25 … +55	787-844	13
	40.0		■		■	■	■			■		■	92.0	–25 … +70	787-1644	17
	40.0		■		■	■				■			92.0	–25 … +70	787-2744	21

Switched-Mode Power Supplies

Nominal Voltage Output	Nominal output current [ADC]	Input, 1-phase	Input, 2-/3-phase	EN 60335	cURus 60950	cULus 508	DNV/GL	ANSI/ISA 12.12.1	ATEX / IEC Ex	DC OK signal/ contact	RS-232 interface	TopBoost[1]	Efficiency typ. [%]	Ambient temperature [°C][2]	Item Number	Page
5 VDC	5.5	■			■	■	□						75.0	−25 … +60	787-1020	25
12 VDC	2.0	■		■	■	■	■			■			82.0	−25 … +70	787-1601	16
	2.0	■		■									80.0	−20 … +60	787-1701	20
	2.0	■			■	■	■						80.0	−25 … +60	787-1001	25
	4.0	■		■	■	■	■			■			86.0	−25 … +70	787-1611	16
	4.0	■		■		■							81.0	−20 … +60	787-1711	20
	4.0	■			■	■	■						85.0	−25 … +60	787-1011	25
	6.0	■			■	■				■		■	83.0	−25 … +70	787-819	12
	6.5	■		■	■	■							87.0	−25 … +60	787-1021	25
	7.0	■		■	■	■	■			■			86.0	−25 … +70	787-1621	16
	8.0	■		■									84.0	−20 … +60	787-1721	20
	10.0	■			■	■				■		■	87.8	−25 … +70	787-821	12
	15.0	■			■	■				■		■	87.0	−25 … +70	787-831	12
	15.0	■			■	■	■			■		■	90.0	−25 … +70	787-1631	16
18 VDC	2.5	■			■	■	□						83.0	−25 … +60	787-1017	25
48 VDC	2.0	■		■	■	■	■			■			86.0	−25 … +70	787-1623	17
	5.0	■			■	■				■		■	91.0	−25 … +70	787-833	12
	5.0	■			■	■	■			■		■	92.0	−25 … +70	787-1633	17
	10.0	■			■	■				■		■	91.0	−25 … +70	787-835	12
	10.0	■			■	■	■			■		■	93.0	−25 … +70	787-1635[5]	17
	10.0		■		■	■				■		■	93.0	−25 … +70	787-845	13
	20.0		■		■	■				■		■	94.4	−25 … +70	787-847	13

DC/DC Converters

Nominal input current [VDC]	Nominal output current [VDC]	Nominal output current [A]	EN 50155	EN 60335	cURus 60950	cULus 508	DNV/GL	ANSI/ISA 12.12.1	ATEX / IEC Ex	DC OK signal/ contact	Efficiency typ. [%]	Ambient temperature [°C][4]	Item Number	Page
24.0	5.0	0.5			□	□				■	78.0	−25 … +70	787-2801	30
24.0	10.0	0.5			□	□				■	86.5	−25 … +70	787-2802	30
48.0	24.0	0.5			□	□				■	87.0	−25 … +70	787-2803	30
24.0	12.0	0.5			□	□				■	88.0	−25 … +70	787-2805	30
24.0	5/10/12	0.5			□	□				■	78.0	−25 … +70	787-2810	30
110.0	24.0	2.0	■								85.0	−40 … +70	787-1014	30
72.0	24.0	2.0	■								86.0	−40 … +70	787-1014/0072-0000	30
72.0	12.0	4.0	■								86.0	−40 … +70	787-1015/0072-0000	30
24.0	12.0	4.0									84.0	−25 … +70	787-1650	30

Safety Transformers

Nominal output voltage [VAC]	Nominal output power [VA]	Nominal input voltage [VAC]	EN 60335	EN 61558	cURus 60950	cULus 5085	DNV/GL	ANSI/ISA 12.12.1	ATEX / IEC Ex	Ambient temperature [°C][4]	Item Number	Page
12/24	40	110/230		■		■				−25 … +55	787-974	27
12/24	63	110/230		■		■				−25 … +55	787-976	27

■ yes □ pending

[1] TopBoost enables magnetic tripping of circuit breakers in the output circuit (for details, see glossary, page 59).

[2] Class 2 Power Unit per cURus 1310

[3] with uninterruptible power supply (UPS)

[4] Device starts at −40°C, type-tested for 787-8xx, -10xx, -16xx

[5] .../0000-0070 is optionally available with protective coating

EPSITRON® – SYSTEM MODULES

Selection Guide

Uninterruptible Power Supplies (UPS)

Output		Input		Approvals						Dimensions and Environmental Conditions					
Nominal voltage [VDC]	Nominal current [ADC]	Nominal voltage [VAC]	Nominal voltage [VDC]	EN 60335	cURus 60950	cULus 508	DNV/GL	ANSI/ISA 12.12.1	ATEX / IEC Ex	Width [mm]	Height [mm]	Length [mm]	Ambient temperature [°C]	Item Number	Page
24	10.0	–	24		■	■				40.0	163.0	163,0	–10 … +60	787-870	34
24	20.0	–	24		■	■				57.0	163.0	171,0	–10 … +60	787-875	34
24	5.0	100 … 240	110 … 370		■	■	■			60.0	135.5	127,0	–25 … +70	787-1675	34

Battery Modules

Output		Input	Approvals							Dimensions and Environmental Conditions					
Nominal voltage [VDC]	Nominal capacity [Ah]	Nominal voltage [VDC]	EN 60335	cURus 60950	cULus 508	DNV/GL	ANSI/ISA 12.12.1	ATEX / IEC Ex	Battery tested to VdS	Width [mm]	Height [mm]	Length [mm]	Ambient temperature [°C]	Item Number	Page
24	0.8	24			□				■	72.0	124.5	97.0	–15 … +40	787-1671	34
24	1.2	24			■				■	55.0	136.5	153.0	–15 … +40	787-876	34
24	3.2	24			■				■	76.2	175.5	168.0	–15 … +40	787-871	34
24	7.0	24			■				■	86.0	217.5	236.0	–15 … +40	787-872	34
24	12.0	24			■				■	120.5	217.5	236.0	–15 … +40	787-873	34
24	2.5	24								86	181	168	–40 … +60	787-878/0000-2500[3]	34
24	13.0	24								225	187	199	–40 … +60	787-878/0001-3000[3]	34

Capacitive Buffer Modules

Input/Output, Buffer			Approvals						Dimensions and Environmental Conditions					
Nominal input/output voltage [VDC]	Nominal output current [ADC]	Buffer time [s]	EN 60335	cURus 60950	cULus 508	GL	ANSI/ISA 12.12.1	ATEX / IEC Ex	Width [mm]	Height [mm]	Length [mm]	Ambient temperature [°C]	Item Number	Page
24	10.0	0.06 … 7.2		■	■				57.0	179.0	163.0	–10 … +50	787-880	37
24	20.0	0.17 … 16.5		■	■				57.0	179.0	181.0	–10 … +50	787-881	37

■ yes □ pending

[1] NEC Class 2

[2] .../0000-0070 is optionally available with protective coating

[3] available upon request

Redundancy Modules

Output		Input	Approvals						Dimensions and Environmental Conditions				Item Number	Page
Nominal voltage [VDC]	Nominal current [ADC]	Nominal voltage [VDC]	EN 60335	cURus 60950	cULus 508	DNV/GL	ANSI/ISA 12.12.1	ATEX / IEC Ex	Width [mm]	Height [mm]	Length [mm]	Ambient temperature [°C]		
12 … 48	12.5	12 … 48			■				50.0	92.0	130.0	–25 … +70	787-783	39
24	20.0	24		■	■				40.0	163.0	181.0	–10 … +60	787-885	39
24	40.0	24		■	■	■			42.0	139.5	127	–40 … +70	787-1685[2]	39
12 … 48	40.0	12 … 48			■				83.0	153.0	130.0	–25 … +70	787-785	39
48	20.0	48							40.0	163.0	181.0	–10 … +60	787-886	39

Electronic Circuit Breakers

Input/Output					Approvals						Dimensions and Environmental Conditions				Item Number	Page
Nominal input/ output voltage [VDC]	Output Channels	Nominal output current [ADC]	Communication	Active Current Limitation	UL 61010	UR 2367	cULus 508	GL	ANSI/ISA 12.12.1	ATEX / IEC Ex	Width [mm]	Height [mm]	Length [mm]	Ambient temperature [°C]		
24	1	1	S		□	□		□			6	97.8	94	–25 … +70	787-2861/0100-0000	45
	1	2	S		□	□		□			6	97.8	94	–25 … +70	787-2861/0200-0000	45
	1	4	S		□	□		□			6	97.8	94	–25 … +70	787-2861/0400-0000	45
	1	6	S		□	□		□			6	97.8	94	–25 … +70	787-2861/0600-0000	45
	1	8	S		□	□		□			6	97.8	94	–25 … +65	787-2861/0800-0000	45
	1	1 … 8	S		□	□		□			6	97.8	94	–25 … +70	787-2861/0108-0020	45
24	2	2 … 10	M			■	■	■			45	115.5	90	–25 … +70	787-1662	42
	2	2 … 10	P			■	■	■			45	115.5	90	–25 … +70	787-1662/0000-0054	42
	2	3.8 LPS	M	■		■	■	□			45	115.5	90	–25 … +70	787-1662/0004-1000[1]	42
	2	0.5 … 6	M	■		■	■	■			45	115.5	90	–25 … +70	787-1662/0006-1000	42
	2	1 … 6	M			■	■	■			45	115.5	90	–25 … +70	787-1662/0106-0000	42
24	4	2 … 10	M			■	■	■			45	115.5	90	–25 … +70	787-1664	42
	4	2 … 10	M			■	■	■			45	115.5	90	–25 … +70	787-1664/0000-0004	42
	4	2 … 10	P			■	■	■			45	115.5	90	–25 … +70	787-1664/0000-0054	42
	4	1 … 10	I			□	□	□			45	115.5	90	–25 … +70	787-1664/0000-0080	42
	4	3.8 LPS	M	■		■	■	□			45	115.5	90	–25 … +70	787-1664/0004-1000[1]	42
	4	0.5 … 6	M	■		■	■	■			45	115.5	90	–25 … +70	787-1664/0006-1000	42
	4	1 … 6	M			■	■	■			45	115.5	90	–25 … +70	787-1664/0106-0000	42
	4	2 … 12	M	■		■	■	□			45	115.5	90	–25 … +70	787-1664/0212-1000	42
	4	0.5 … 6	P	■		■	■	□			45	115.5	90	–25 … +70	787-1664/0006-1054	42
24	8	2 … 10	M			■	■	■			42	142.5	127	–25 … +70	787-1668	42
	8	2 … 10	M			■	■	■			42	142.5	127	–25 … +70	787-1668/0000-0004	42
	8	2 … 10	P			■	■	■			42	142.5	127	–25 … +70	787-1668/0000-0054	42
	8	1 … 10	I			□	□	□			42	142.5	127	–25 … +70	787-1668/0000-0080	42
	8	0.5 … 6	M	■		■	■	■			42	142.5	127	–25 … +70	787-1668/0006-1000	42
	8	1 … 6	M			■	■	■			42	142.5	127	–25 … +70	787-1668/0106-0000	42
	8	0.5 … 6	P	■		■	■	□			42	142.5	127	–25 … +70	787-1668/0006-1054	42
12	4	2 … 10	M			■	■	■			45	115.5	90	–25 … +70	787-1664/0000-0100	42
	2	2 … 10	P			■	■	□			45	115.5	90	–25 … +70	787-1662/0000-0250	42
48	4	2 … 10	M			■	■	□			45	115.5	90	–25 … +70	787-1664/0000-0200	42
	4	2 … 10	P			■	■	□			45	115.5	90	–25 … +70	787-1664/0000-0250	42
48	8	2 … 10	M			■	■	□			45	142.5	127	–25 … +70	787-1668/0000-0200	42
	8	2 … 10	P			■	■	□			42	142.5	127	–25 … +70	787-1668/0000-0250	42

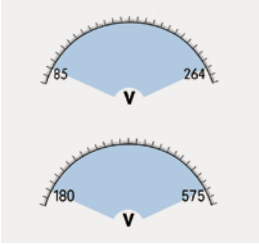
S = Signal
P = Potential-free signal
I = IO-Link protocol
M = Manchester protocol

Further information on ECBs' communication options can be found on pages 52/53.

EPSITRON® PRO POWER

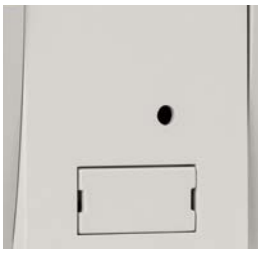
Professional and Efficient Power Supply with Extra Power

c UL us LISTED



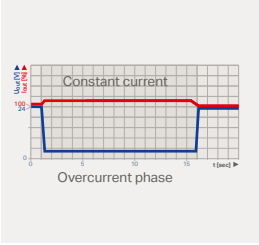
Universal Supply

- Wide input voltage range: 85 … 264 VAC or 340 … 550 VAC
- Can be connected worldwide to all standard (single-phase or 3-phase) power grids
- High operational reliability during power outages



Adjustable

- Front-panel adjustable output voltage
- Up to 20% greater output voltage
- Easily compensate for voltage drops over long lines



High Load-Carrying Capacity

- Constant current characteristic under overload conditions
- 110% output current with lowered output voltage – even during a short circuit
- High capacitive loads can be reliably started

TopBoost

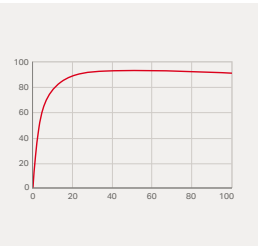
- Multiplies the nominal current for up to 50 ms
- Fast and reliable triggering of the secondary-side fusing via miniature circuit breakers or melting fuses in the event of a short circuit or overload
- Fulfills EN 60204-1 grounding requirements in control circuits

Line Length Calculator

- Configuration software for PRO Power and CLASSIC Power Supplies with TopBoost
- Quickly and reliably calculate conductor lengths for triggering secondary-side circuit breakers and select a cross section or power supply
- Free download at: **www.wago.com/epsitron**

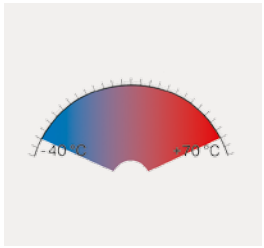
PowerBoost

- Provides 200% of output power for four seconds
- Provides 150% of output power for up to 16 seconds
- Advantageous during start-up or switching of capacitive loads (e.g., valve clusters, motors)
- Power reserve eliminates expensive oversizing



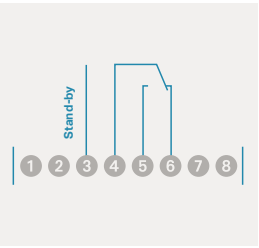
Efficiency

- Peak efficiency up to 93.4% depending on model
- Operates in the optimal power and efficiency range via integrated PowerBoost



Wide Operating Temperature Range

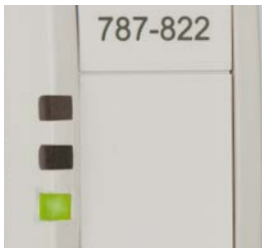
- Cold start at –40°C
- Rated up to +70°C (787-844, -854: +55°C)



Potential-Free Contact/Stand-By Input

- Output voltage monitoring, message via potential-free changeover contact*
- Stand-by input* allows wear-free output deactivation via 10–28.8 VDC signal
- Energy-saving, stand-by mode (max. 0.8 W power dissipation) is ideal for a temporarily decentralized power supply

*not for 787-85x



Intuitive Communication

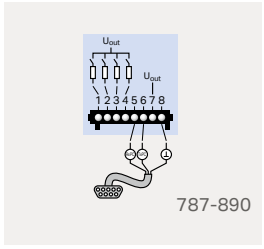
- LEDs clearly indicate status
- Green (DC OK), yellow* (warning), red (fault, overload)

*787-85x only

LineMonitor*

- Display and function keys
- Variable monitoring, e.g., current, voltage, phase position, operating hours and more
- Output voltage and overload behavior can be parameterized
- Integrated fault memory

*787-85x only



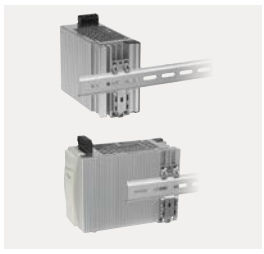
Interface*

- Four active signal outputs and RS-232 interface for watchdog functions
- Each unit features a separate collective message for warning/fault
- Free configuration software (759-850) at: **www.wago.com**

*787-85x only

Clear and Easy to Connect

- CAGE CLAMP® connection technology – vibration-proof, fast, maintenance-free
- For solid, fine-stranded or ferruled conductors
- Colored and marked pluggable female connectors can be pre-assembled



Slim Design and Versatile Mounting Options

- Save up to 50% more cabinet space
- Units can be mounted on DIN-35 rail horizontally or vertically
- Wall-mount adapter for screw mounting (option)

EPSITRON® PRO POWER

Professional and Efficient Power Supply with Extra Power

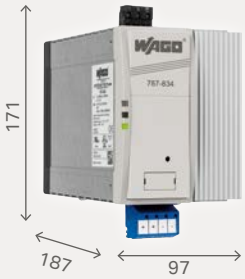
1-Phase; Input: 85 … 264 VAC

24 VDC

787-818
3 A

787-822
5 A

787-832
10 A



787-834
20 A

1-Phase; Input: 85 … 264 VAC

12 VDC

787-819
6 A

787-821
10 A

787-831
15 A

1-Phase; Input: 85 … 264 VAC

48 VDC

787-833
5 A

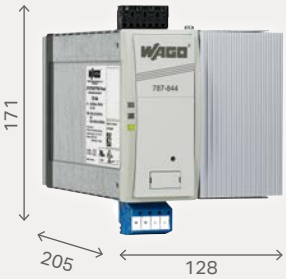
787-835
10 A

3-Phase; Input: 340 … 550 VAC

24 VDC

787-840
10 A

787-842
20 A



787-844
40 A

3-Phase; Input: 340 … 550 VAC

24 VDC (with LineMonitor)

787-850
10 A

787-852
20 A

787-854
40 A

3-Phase; Input: 340 … 550 VAC

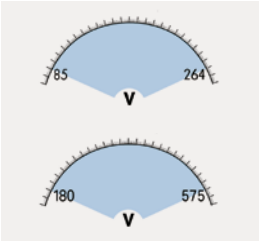
48 VDC

787-845
10 A

787-847
20 A

EPSITRON® CLASSIC POWER

The Robust Power Supply – with Integrated TopBoost (Optional)



Universal Supply

- Wide input voltage range: 85 … 264 VAC, 180 … 550 VAC or 320 … 575 VAC
- Can be connected worldwide to all standard (1-phase, 2-phase or 3-phase) power grids
- High operational reliability during power outages

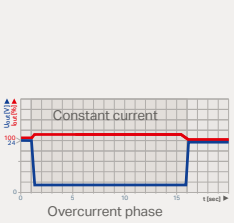
Increased Transient Suppression*

- Overvoltage-proof up to 2 kV (L-L) or 4 kV (L-PE)

*only for 787-1640 … -1644

Adjustable

- Front-panel adjustable output voltage
- Up to 20% greater output voltage
- Easily compensate for voltage drops over long lines



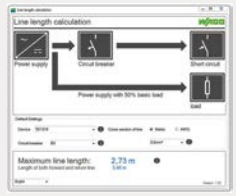
High Load-Carrying Capacity

- Constant current characteristic under overload conditions
- 110 % output current with lowered output voltage – even during a short circuit
- High capacitive loads can be reliably started

Integrated TopBoost*

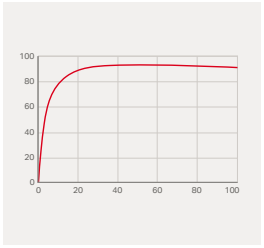
- Multiplies the nominal current
- Fast and reliable triggering of the secondary-side fusing via circuit breakers or melting fuses in the event of a short circuit and overload

*only for 787-1622 … -1628, -1631 … -1638, -1640 … -1644



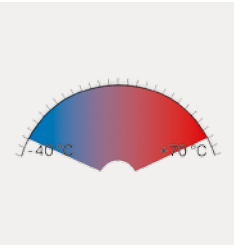
Line Length Calculator

- Configuration software for PRO Power and CLASSIC Power Supplies with TopBoost
- Quickly and reliably calculate conductor lengths for triggering secondary-side circuit breakers and select a cross section or power supply
- Free download at: **www.wago.com/epsitron**



Efficiency

- Efficiency up to 93 % depending on model
- Low power loss, especially in open-circuit operation and in the nominal load range



Wide Operating Temperature Range

- Cold start at –40°C
- Rated up to +70°C
- Derating begins not before +55°C

Communicative

- Green LED indicates output voltage availability
- Remote monitoring via DC OK signal or isolated DC OK contact
- Easy commissioning and maintenance
- Quickly provides system information or machine status

Device Marking

- Marking field for fast and securely attached device identification
- Supports the WAGO WMB Multi Marking System, 5 mm pin spacing
- Supports marking strips, width 11 mm

Clear and Easy to Connect

- CAGE CLAMP® connection technology – vibration-proof, fast, maintenance-free
- For solid, fine-stranded or ferruled conductors
- Colored and marked female connectors can be pre-assembled – 100 % protected against mismating

Slim design

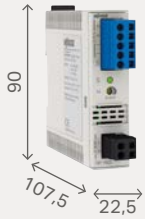
- Enclosure width has been reduced by up to 45% compared to previous CLASSIC Power Supplies
- Save valuable cabinet space

EPSITRON® CLASSIC POWER

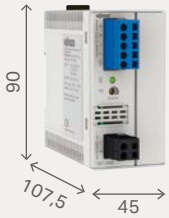
The Robust Power Supply – with Integrated TopBoost (Optional)

1-Phase; Input: 85 … 264 VAC

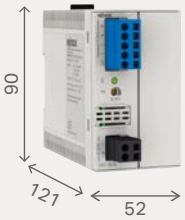
24 VDC



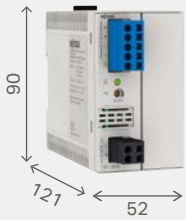
787-1602
1 A



787-1606
2 A



787-1616/0000-1000
3, 8 A NEC Cl. 2



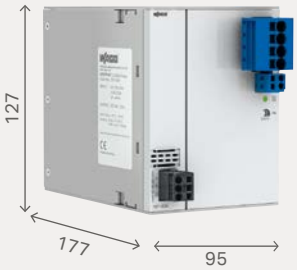
787-1616*
4 A

1-Phase; Input: 85 … 264 VAC

24 VDC

787-1622
5 A

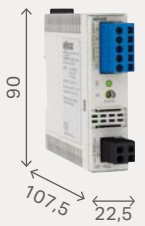
787-1632*
10 A



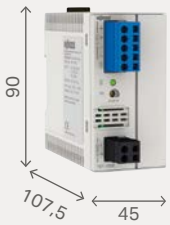
787-1634*
20 A

1-Phase; Input: 85 … 264 VAC

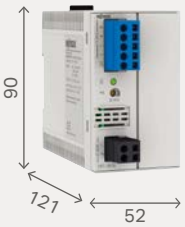
12 VDC



787-1601
2 A



787-1611
4 A



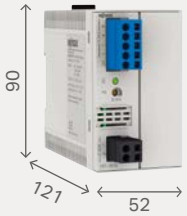
787-1621
7 A

787-1631
15 A

*.../0000-0070 is optionally available with protective coating

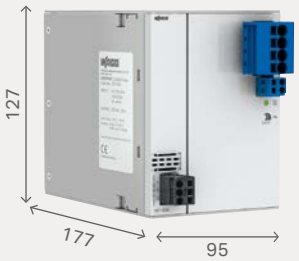
1-Phase; Input: 85 … 264 VAC

48 VDC



787-1623
2 A

787-1633
5 A



787-1635*
10 A

2-Phase; Input: 180 … 550 VAC

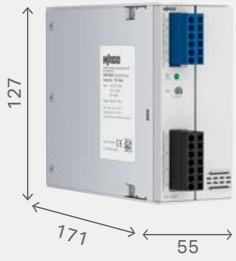
24 VDC

787-1628
5 A

787-1638
10 A

3-Phase; Input: 320 … 575 VAC

24 VDC



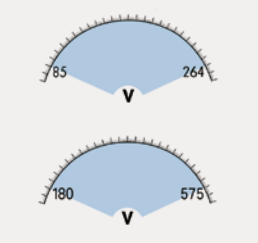
787-1640
10 A

787-1642
20 A

787-1644
40 A

EPSITRON® ECO POWER

Economical Power Supply for Standard Applications

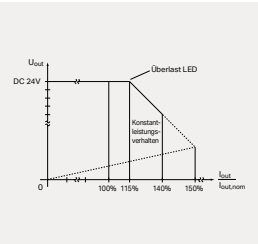


Supply Tolerance

- Wide input voltage range: 85 (90) … 264 VAC or 325 … 575 VAC
- Efficiently operates on different power grids – no need for additional conversion or adjustment
- High tolerance to voltage fluctuations within a power grid ensures a high level of operational reliability

Adjustable

- Front-panel adjustable output voltage
- Up to 20% greater output voltage
- Easily compensate for voltage drops over long lines



Robust

- Overload warning from 1.15 times the nominal output current*
- Overload of up to 1.4 times the nominal current with lowered output voltage (constant power)*
- Output shutdown in case of a low-resistance short circuit; also includes automatic restart

*except for 787-17xx

Status Monitoring

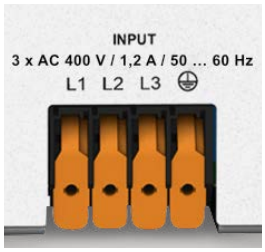
- Potential-isolated NO contact signal, via bounce-free optocoupler* or PhotoMOS**
- Indicates whether an output voltage or an overload is present
- Ideal for remote monitoring

*only for 787-734 … -740
**only for 787-2742, -2744

Clear Indication

- Green LED indicates output voltage availability
- Red LED indicates an overcurrent or short circuit*
- Easy commissioning and maintenance

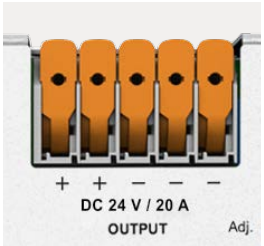
*except for 787-17xx



Fast Wiring

- Comfortable, tool-free wiring thanks to lever-actuated terminal strips*
- Integrated test slot simplifies testing by eliminating conductor removal

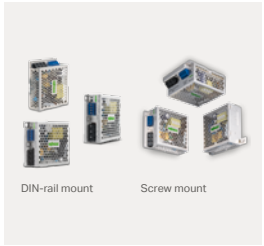
*only for 787-734 … -740, -2742, -2744



Easy Grounding

- Integrated, third negative terminal on the output side*
- Direct connection to the reference ground, which is frequently used in machines and equipment

*only for 787-734 … -740, -2742, -2744



Versatile Mounting Options

- Flexible mounting via carrier rail adapter*
- Flexible installation via screw-mount clips*

*only for 787-17xx

Highly Economical

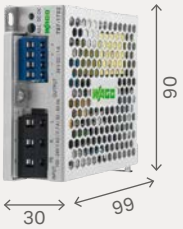
- Triple the savings thanks to low purchase costs, easy installation and no maintenance
- Budget-friendly for basic applications

EPSITRON® ECO POWER

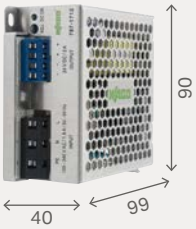
Economical Power Supply for Standard Applications

1-Phase; Input: 85 … 264 VAC

24 VDC



787-1702
1.25 A



787-1712
2.5 A

787-1722
5 A

787-1732
10 A

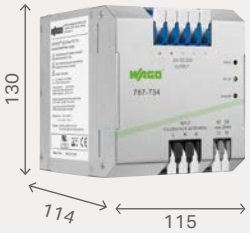
1-Phase; Input: 85 … 264 VAC

24 VDC

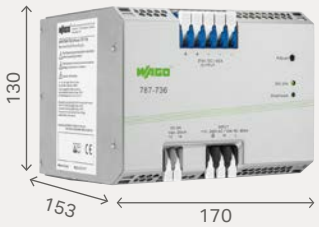
787-712
2.5 A

787-722
5 A

787-732
10 A



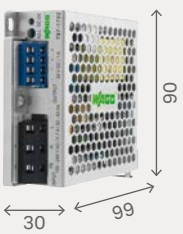
787-734
20 A



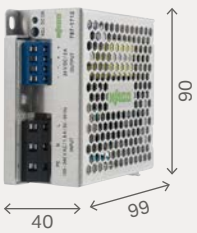
787-736
40 A

1-Phase; Input: 85 … 264 VAC

12 VDC



787-1701
2 A



787-1711
4 A

787-1721
8 A

3-Phase; Input: 360 … 460 VAC

24 VDC

787-738
6.25 A

787-740
10 A

3-Phase; Input: 340 … 575 VAC

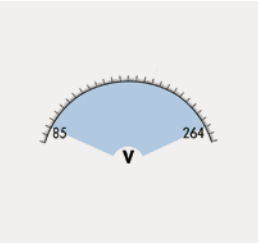
24 VDC

787-2742
20 A

787-2744
40 A

EPSITRON® COMPACT POWER

Compact, High-Performance Power Supplies



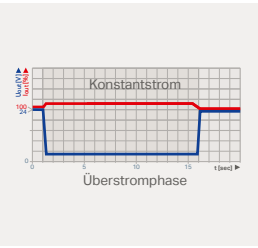
Supply Tolerance

- Wide input voltage range: 85 … 264 VAC
- Efficiently operates on different power grids – no need for additional conversion or adjustment
- High tolerance to voltage fluctuations within a power grid ensures a high level of operational reliability

*except for 787-1226

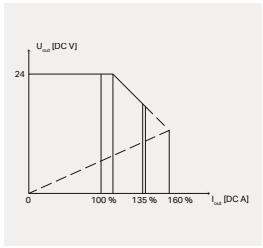
Adjustable

- Front-panel adjustable output voltage
- Up to 20% greater output voltage
- Easily compensate for voltage drops over long lines



High Load-Carrying Capacity

- Constant current characteristic under overload conditions
- Short-term 110% output current with lowered output voltage,even during a short circuit (787-10xx and 787-11xx)
- High capacitive loads can be reliably started (e.g., distributed control units or HMI devices)



Minimum Size, Maximum Performance

- Constant power characteristic under overload conditions
- Short-term 135% output current in the event of overload (787-12xx)
- Output shutdown in case of a low-resistance short circuit; automatic restart

Clear Indication

- Status indication via green LED
- Current operating status can be displayed quickly

Easy to Connect

- CAGE CLAMP® connection technology – vibration-proof, fast, maintenance-free
- Pre-assembly via pluggable *pico-MAX*® connection technology*

*only for 787-11xx, 787-12xx

DIN-Rail Built-In Installation

- Housing design per EN 43880, for installation in small distribution boards or meter panels

Versatile Mounting Options

- Easy mounting on DIN-rails
- Flexible installation via screw-mount clips also possible*

*only for 787-12xx

Overhead Mounting

- Any type of mounting position is possible at reduced output power
- Units can even be mounted overhead (e.g., in ceiling-mounted distribution boxes)
- Improved cooling due to removable front plate*

*only for 787-1202, -1212

Highly Economical

- Triple the savings thanks to low purchase costs, easy installation and no maintenance
- Budget-friendly for basic applications

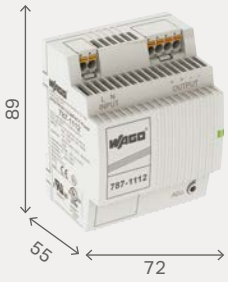
EPSITRON® COMPACT POWER

Compact, High-Performance Power Supplies

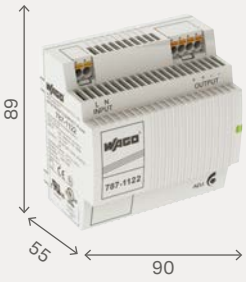
1-Phase; Input: 85 … 264 VAC

24 VDC (with *picoMAX*®)

787-1102
1.3 A



787-1112
2.5 A

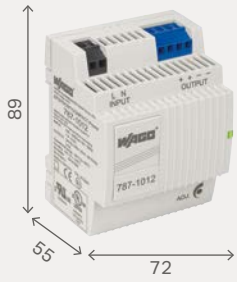


787-1122
4 A

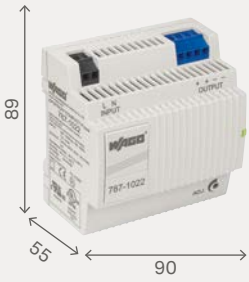
1-Phase; Input: 85 … 264 VAC

24 VDC

787-1002
1.3 A



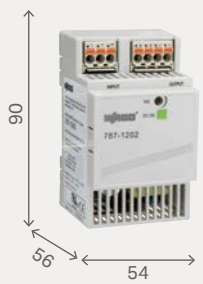
787-1012
2.5 A



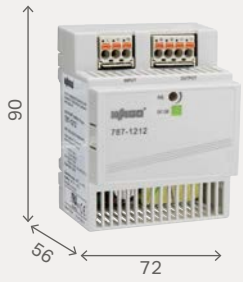
787-1022
4 A

1-Phase; Input: 90 … 264 VAC

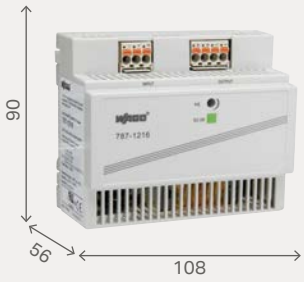
24 VDC with *picoMAX*®



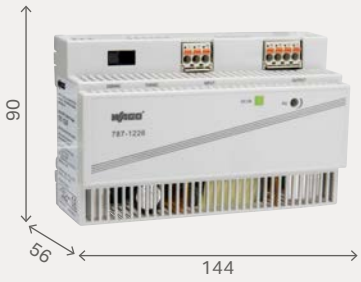
787-1202
1.3 A



787-1212
2.5 A



787-1216
4.2 A

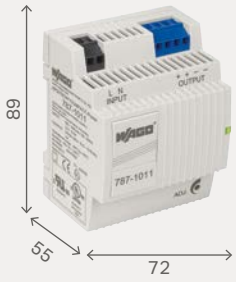


787-1226
6 A

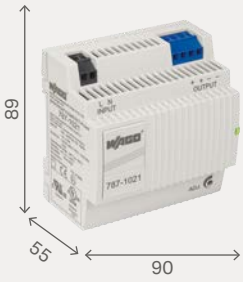
1-Phase; Input: 85 … 264 VAC

12 VDC

787-1001
2 A



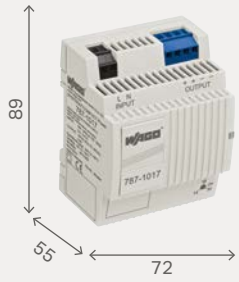
787-1011
4 A



787-1021
6.5 A

1-Phase; Input: 85 … 264 VAC

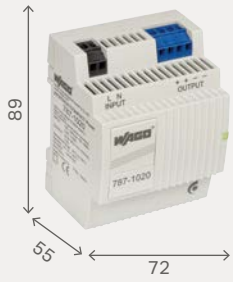
18 VDC



787-1017
2.5 A

1-Phase; Input: 85 … 264 VAC

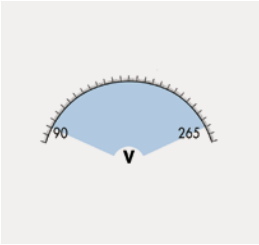
5 VDC



787-1020
5.5 A

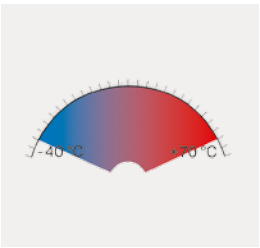
EPSITRON® IP67 Power

Reliable Power Supply for Distributed Automation



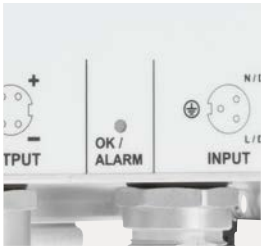
Universal Supply
- Wide input voltage range: 90 … 265 VAC
- Can be connected worldwide to all standard power grids

PowerBoost
- Provides 150% of output power for four seconds
- Advantageous during start-up or switching of capacitive loads (e.g., valve clusters, motors)
- Power reserve eliminates expensive oversizing



Additional Ambient Temperatures
- Cold start at –40°C
- Rated up to +85°C

Excellent Protection
- Withstand EMC, water and dust
- IP67 degree of protection



Clear Indication
- LED for clear status indication
- Green (DC OK), red (error)

Slim Design and Versatile Mounting Options
- Angled mounting carrier for vertical and horizontal mounting

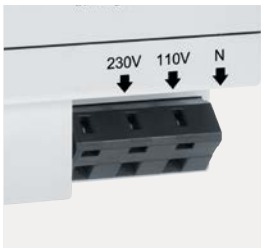
1-Phase; Input: 90 … 264 VAC

24 VDC

787-6716
4 A

EPSITRON® – SAFETY TRANSFORMERS

Robust and Low-Profile DIN-Rail-Mount Modules

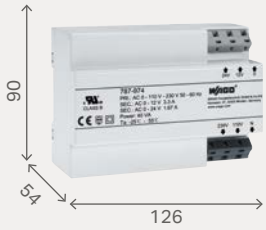


Flexible Voltages
- Appropriate for 110 V and 230 V input voltages via center tap
- Supply applications with 12 VAC and/or 24 VAC

Shock and Vibration Tested
- Meet all shock (EN 60068-2-6) and vibration (EN 60068-2-27) requirements despite high weight

1-Phase; Input: 110/230 VAC

40 VA



787-974
12/24 VAC

63 VA

787-976
12/24 VAC

EPSITRON® – FAN CONTROL

Adjustable
- Adjustable output voltage: 12 … 22 VDC
- On the front side via tool
- Via 0 … 10 V analog signal

Versatile Mounting Options
- Easy mounting on DIN-rails
- Flexible installation via screw-mount clips*
- Any mounting position is possible

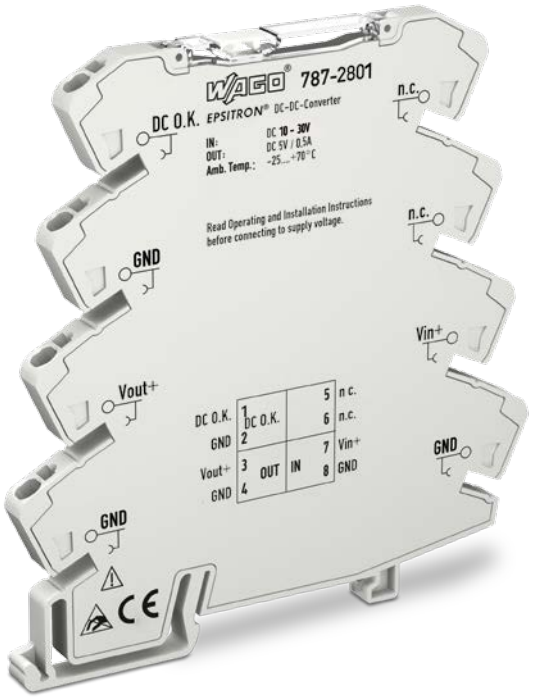
1-Phase; Input: 90 … 264 VAC

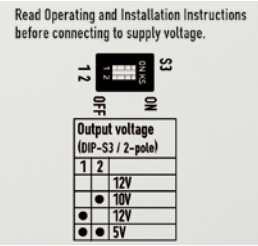
22 VDC

787-914
1 A

EPSITRON® – DC/DC CONVERTERS

Dependable Power Supply for Specialty Voltages



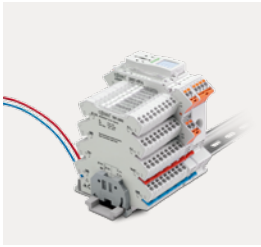


A Device for a Wide Variety of Applications

- Output voltage of the DC/DC converter (787-2810) set with the built-in DIP switch

Communicative

- Green LED indicates output voltage availability
- Remote monitoring via DC OK
- Easy commissioning and maintenance



Can Be Commoned with 857/2857 Series

- Full commoning of the supply voltage thanks to shared profile between the 787-28xx DC/DC Converters and the 857/2857 Series Relays and Signal Conditioners

Industry's Most Compact

- "True" 6.0 mm (0.23 inch) width maximizes panel space

Suitable for Railway Applications per EN 50155

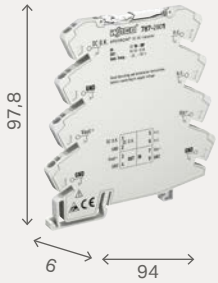
- Wide DC input voltage range
- Wide temperature range
- Protective coating

*only for 787-1014 & 787-101x/0072-0000

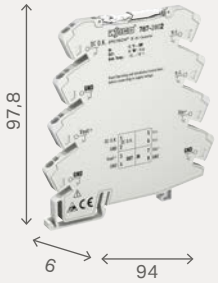
EPSITRON® – DC/DC CONVERTERS

Dependable Power Supply for Specialty Voltages

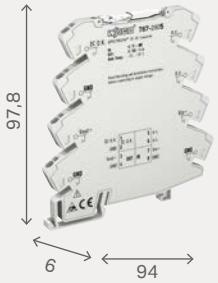
Input: 24 VDC



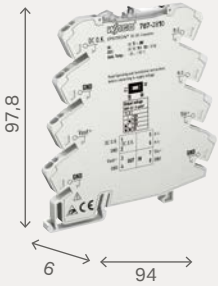
787-2801
5 VDC
0.5 A



787-2802
10 VDC
0.5 A

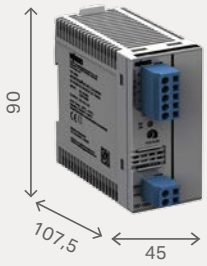


787-2805
12 VDC
0.5 A



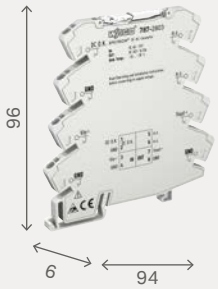
787-2810
5/10/12 VDC, adjustable
0.5 A

Input: 24 VDC



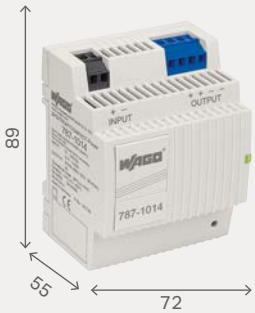
787-1650
12 VDC*
4 A

Input: 48 VDC

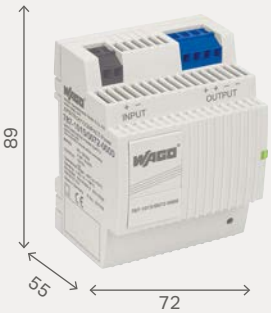


787-2803
24 VDC
0.5 A

Input: 72 VDC

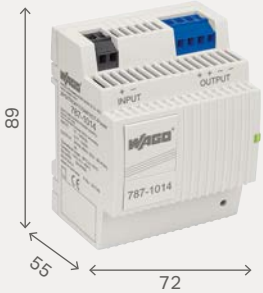


787-1014/0072-0000
27 VDC*
2 A



787-1015/0072-0000
12 VDC*
4 A

Input: 110 VDC

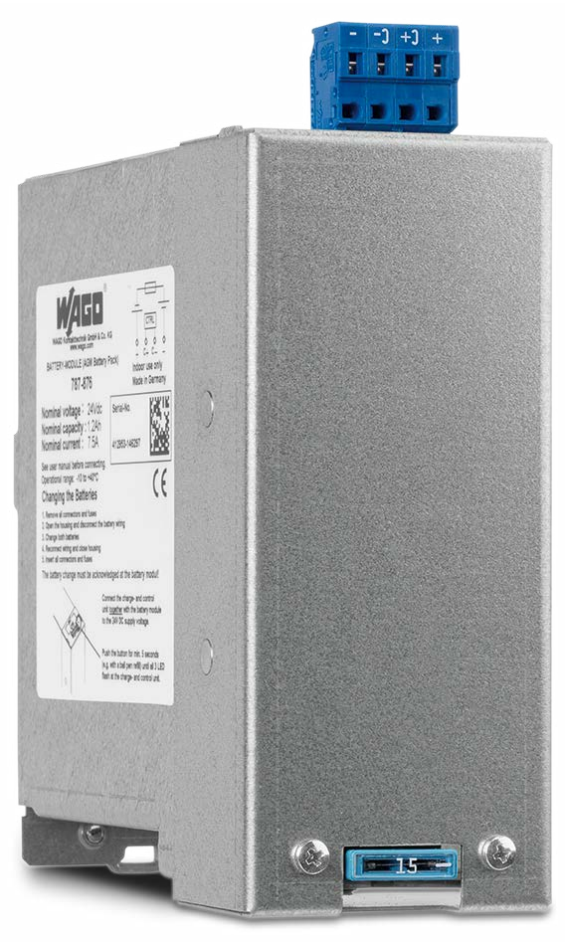


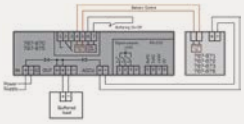
787-1014
24 VDC
2 A

*galvanically isolated output

EPSITRON® – UNINTERRUPTIBLE POWER SUPPLIES (UPS)

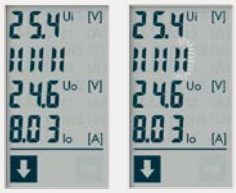
Reliable Compensation — Even for Longer Power Outages





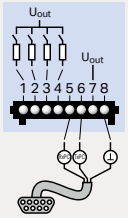
EPSITRON®
Battery Control Technology

- Allows continuous data exchange between intelligent battery modules (787-87x) and a UPS charger/ controller
- Automatically detects a connected battery module (787-87x)
- Maximized battery life via temperature-controlled battery management



Display with Charge Level Indication

- Indicates actual current and voltage values
- Bar graph displays the charge level of connected batteries
- Integrated fault memory

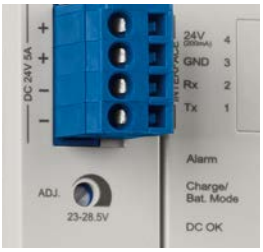


787-890

RS-232 Serial Interface

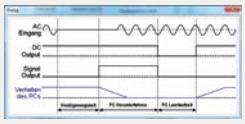
- Free download* of the configuration and visualization software (759-870)
- Free download of function blocks for visualization on standard PLC systems
- Serial communication cable (787-890 or -892) available as an accessory

* **www.wago.com/epsitron**



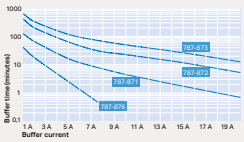
Diagnostics, Monitoring, Configuration

- LEDs display operating status, including warnings and errors
- Signal outputs can be processed as a digital signal in a PLC
- Potential-free signal contacts
- Parameter setting via on-unit buttons or rotary switch
- Visualization or configuration via RS-232 interface



IPC Mode

- Function for controlled shutdown of controllers and PCs
- Shutdown signal transmitted to controller through UPS
- Adjustable wait time and dead times



Buffer Time

- Based on battery capacity and discharge current
- Several battery modules available with capacities from 0.8 Ah to 12 Ah (up to 26 Ah upon request)
- Parallel connection of up to three battery modules of the same type increases buffer time – any lead battery modules can be connected (see pages 48/49)

EPSITRON® – UNINTERRUPTIBLE POWER SUPPLIES (UPS)

The Robust Power Supply – with Integrated TopBoost (Optional)

UPS Chargers and Controllers

24 VDC

787-870
10 A

787-875
20 A

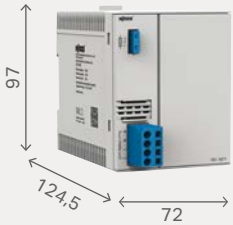
Power Supply with Integrated UPS Charger and Controller

24 VDC

787-1675
5 A

Lead-Acid AGM Battery Modules

24 VDC



787-1671
0.8 Ah

787-876
1.2 Ah

787-871
3.2 Ah

787-872
7 Ah

787-873
12 Ah

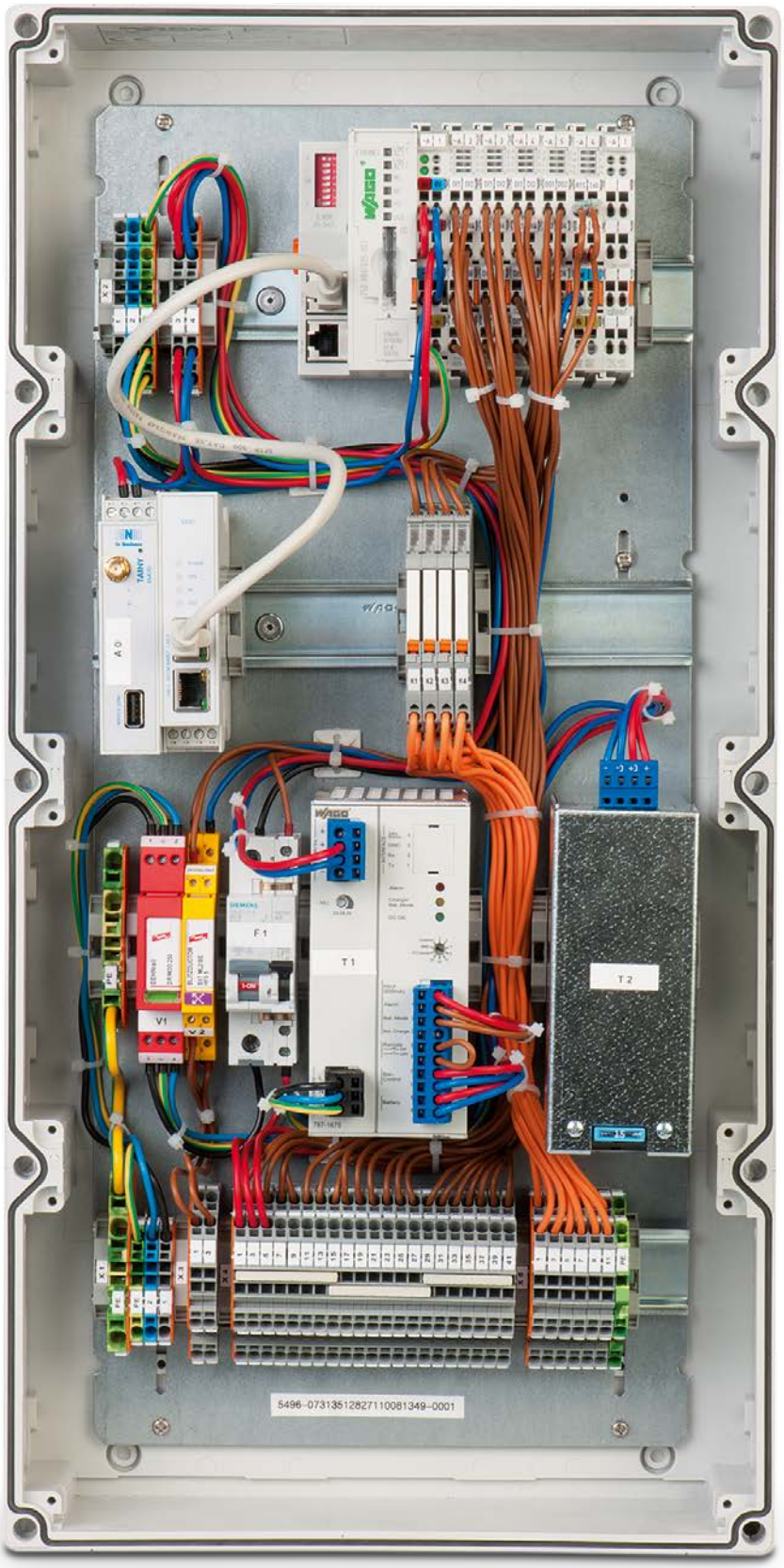
Pure Lead Battery Modules

24 VDC

787-878/0000-2500*
2.5 Ah

787-878/0001-3000*
13 Ah

*available upon request

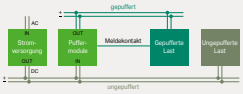


Compact and cost-effective, WAGO's 787-1675 *EPSITRON*® CLASSIC Power Supply with an integrated UPS charger and controller powers and buffers applications with low energy demands.

EPSITRON® – CAPACITIVE BUFFER MODULES

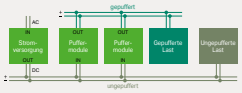
Short-Term Power Reserve for Power Outage and Load Change

c UL us LISTED



Decoupled Output

- Integrated diode
- Buffered and unbuffered loads can be decoupled



Parallel Connection Possible

- Multiple buffer modules can be parallel-connected to increase buffer time or load current

Signaling

- Three LEDs (green/yellow/red) indicate the current operating status
- A potential-free signal contact indicates the charge level

Maintenance-Free

- Regular replacement of the modules not necessary thanks to the long life of the integrated gold caps

Capacitive Buffer Modules

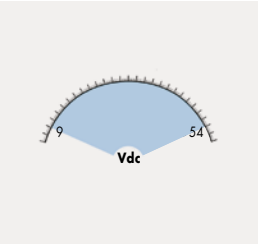
24 VDC

787-880
10 A/0.06 ... 7.2 s

787-881
20 A/0.17 ... 16.5 s

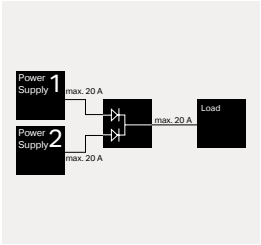
EPSITRON® – REDUNDANCY MODULES

Reliably Increasing Power Supply Availability



Highly Versatile

- The diode redundancy modules (787-783 and -785) can be used for the 12 V, 15 V, 24 V, or 48 V power supplies thanks to their wide voltage range



High Overload Capability

- Power diodes in each input path feature a high overload capacity and are also suitable for power supplies with TopBoost or Power-Boost
- Output currents up to 76 A thanks to parallel connection of the input paths

Signaling

- Three LEDs indicate the presence of an input or output voltage
- An isolated signal contact optionally indicates a power supply failure on the input*

*only for 787-885 and -886

Low Power Dissipation

- Low power dissipation via active-switching MOSFETs*
- Includes MOSFET function monitoring*

*only for 787-1685

Redundancy Modules

Input 2 x 24 VDC / 2 x 20 A

787-885
24 VDC / max. 20/40 A

787-1685* (MOSFET Redundancy Module)
24 VDC / max. 40 A

Input 2 x 48 VDC / 2 x 20 A

787-886
48 VDC / max. 20/40 A

Redundancy Modules

Input 2 x 9 54 VDC / 2 x max. 12.5 A

787-783
9 … 54 VDC / max. 12.5/25 A

Input 2 x 9 54 VDC / 2 x max. 40 A

787-785
9 … 54 VDC / max. 40/76 A

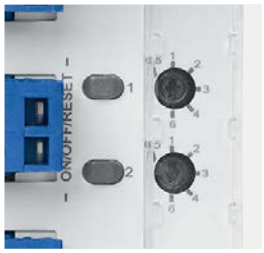
*.../0000-0070 is optionally available with protective coating

EPSITRON® – ELECTRONIC CIRCUIT BREAKERS (ECBs)

Compact and Precise ECBs for DC Circuits

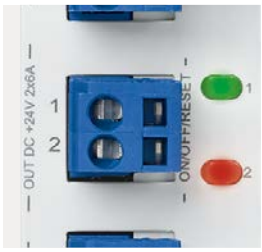
Pluggable CAGE CLAMP® Connection Technology

- Fast, vibration-proof, maintenance-free
- For solid, fine-stranded and ferruled conductors
- 100% protected against mismating
- With marking



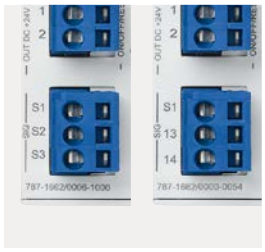
Rotary Switch

- Nominal current can be individually adjusted for each channel
- The setting is visible, even when no voltage is applied
- Transparent cover can be sealed and marked



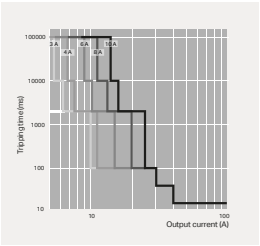
Intuitive Status Indication

- Each output channel has backlit buttons for switching on/off, as well as acknowledgement
- Integrated, multi-color LEDs indicate the operating status of each channel



Communication 1.0

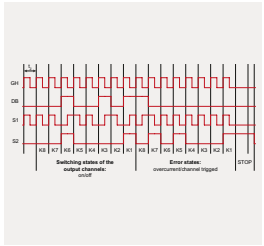
- Remote digital input S1 resets all tripped channels
- Digital output S3 transmits a simple group message indicating whether one of the channels was triggered by an overcurrent.
- Optional isolated signal contact 13/14 as group signal



Trip Characteristics

- Reliable and precise disconnection in case of overcurrent or short circuit
- Nominal currents can be set separately for each channel in 1 A increments
- Tripping time can be configured in defined increments
- Optional, active short circuit current limitation to 1.5 times the nominal current prevents a voltage drop in other current paths

*Only for 787-166x/xxxx-1xxx



Communication 2.0

- Remote digital input (S1) switches certain channels on and off via pulse sequence.
- Digital output (S2) transmits the current status (on/off/tripped/overcurrent) of each individual channel
- Optional transmission of input voltage and output/nominal current value for each channel

Marking

- Device identification via WMB Markers or TOPJOB® S Marking Strips
- Label individual channels via marking strips that can be inserted into the rotary switch cover from the outside

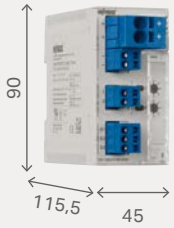
IO-Link

Communication 3.0

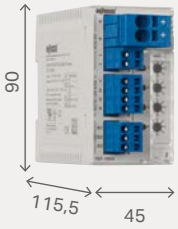
- IO-Link interface
- Read the status, the set nominal current, current voltage values and current values per channel
- Set the rated current as well as switch on/off and reset individual channels

EPSITRON® – ELECTRONIC CIRCUIT BREAKERS (ECBs)

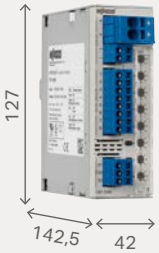
Compact and Precise ECBs for DC Circuits



2 Channels



4 Channels



8 Channels

Nominal Voltage [VDC]	Number of Channels	Adjustable Nominal Current	Communi-cation	Active Current Limitation	Specialty Configura-tion	Item Number
24	2	2 ... 10	M			787-1662
		2 ... 10	P		■	787-1662/0000-0054
		3.8 LPS	M	■		787-1662/0004-1000
		0.5 ... 6	P	■		787-1662/0006-1000
		1 ... 6	M			787-1662/0106-0000
24	4	2 ... 10	M			787-1664
		2 ... 10	M		■	787-1664/0000-0004
		2 ... 10	P		■	787-1664/0000-0054
		1 ... 10	I			787-1664/0000-0080
		3.8 LPS	M	■		787-1664/0004-1000
		0.5 ... 6	M	■		787-1664/0006-1000
		1 ... 6	M			787-1664/0106-0000
		2 ... 12	M	■		787-1664/0212-1000
		0.5 ... 6	P	■	■	787-1664/0006-1054
24	8	2 ... 10	M			787-1668
		2 ... 10	M		■	787-1668/0000-0004
		2 ... 10	P		■	787-1668/0000-0054
		1 ... 10	I			787-1668/0000-0080
		0.5 ... 6	M	■		787-1668/0006-1000
		1 ... 6	M			787-1668/0106-0000
		0.5 ... 6	P	■	■	787-1668/0006-1054
12	4	2 ... 10	M			787-1664/0000-0100
48		2 ... 10	P			787-1662/0000-0250
	4	2 ... 10	M			787-1664/0000-0200
		2 ... 10	P			787-1664/0000-0250
	8	2 ... 10	M			787-1668/0000-0200
		2 ... 10	P			787-1668/0000-0250

S = Signal
P = Potential-free signal
I = IO-Link protocol
M = Manchester protocol

Further information on ECBs' communication options can be found on pages 52/53.

Model Code Key:

787-xx6a/bbcc-defg

EPSITRON® Series

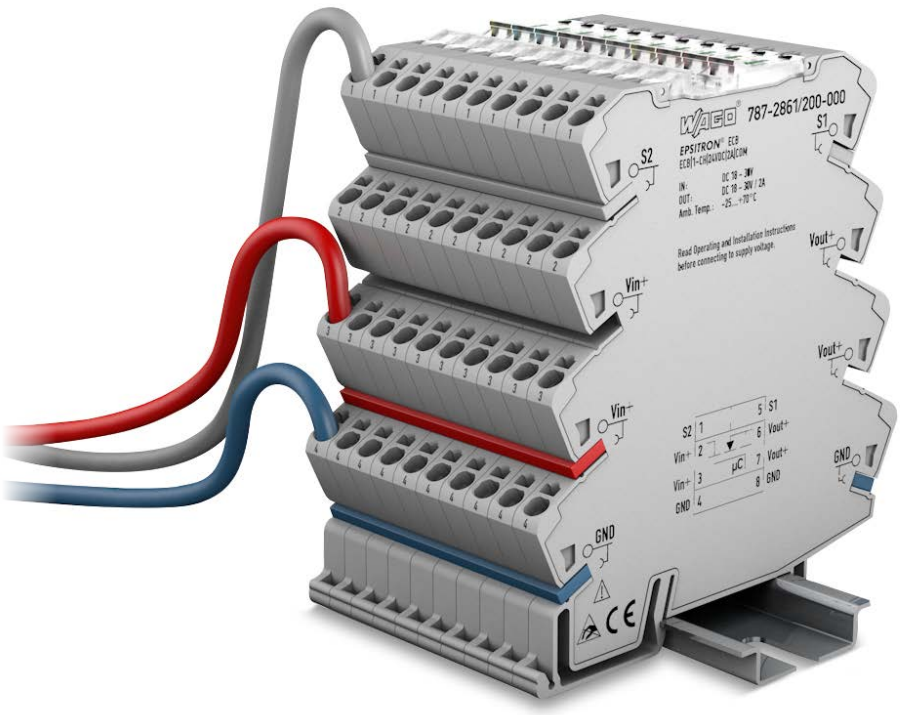
Design
ECB
Number of channels

Lower nominal current (00: 0.5 A; 01: 1 A; 02: 2 A)
Upper nominal current (04: 3.8 A; 06: 6 A; 08: 8 A; 12: 12 A)

With (1) or without (0) active current limitation
Nominal voltage (0: 24 VDC; 1: 12 VDC; 2: 48 VDC)
With (5) or without (0) potential-free contact;
(2) settable 1-channel variant
Configuration (0: standard; 4: with group message “tripped” and “switched off;” 5, 6: customer specification

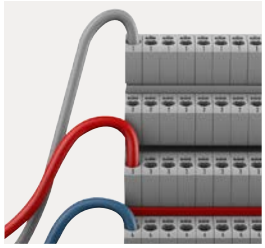
EPSITRON® – ELECTRONIC CIRCUIT BREAKERS (ECBs)

Compact and Precise ECBs for DC Circuits



Push-In CAGE CLAMP® Connection

- Terminate solid and ferruled conductors via Push-In CAGE CLAMP® Connections – no operating tool needed

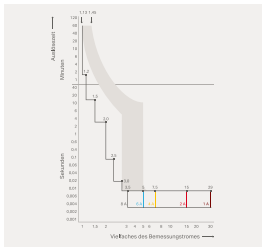


Easy Wiring

- Input potential up to 40 A via double connection
- Signal output can be commoned for up to 30 devices
- Total reset by commoning the signal inputs

Intuitive Status Indication

- Integrated, multi-color LEDs indicate the operating status of each channel
- Push/slide switch for switching on/off, as well as acknowledgement



Trip Characteristics

- Reliable, rapid, and precise disconnection in case of overcurrent or short circuit
- High switch-on capacities > 50,000 µF

Industry's Most Compact

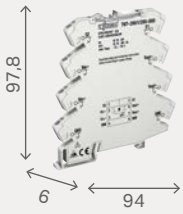
- "True" 6.0 mm (0.23 inch) width maximizes panel space

Marking

- Device identification via WMB Markers or TOPJOB® S Marking Strips
- With devices color coded according to nominal current

Versatile Configuration Options

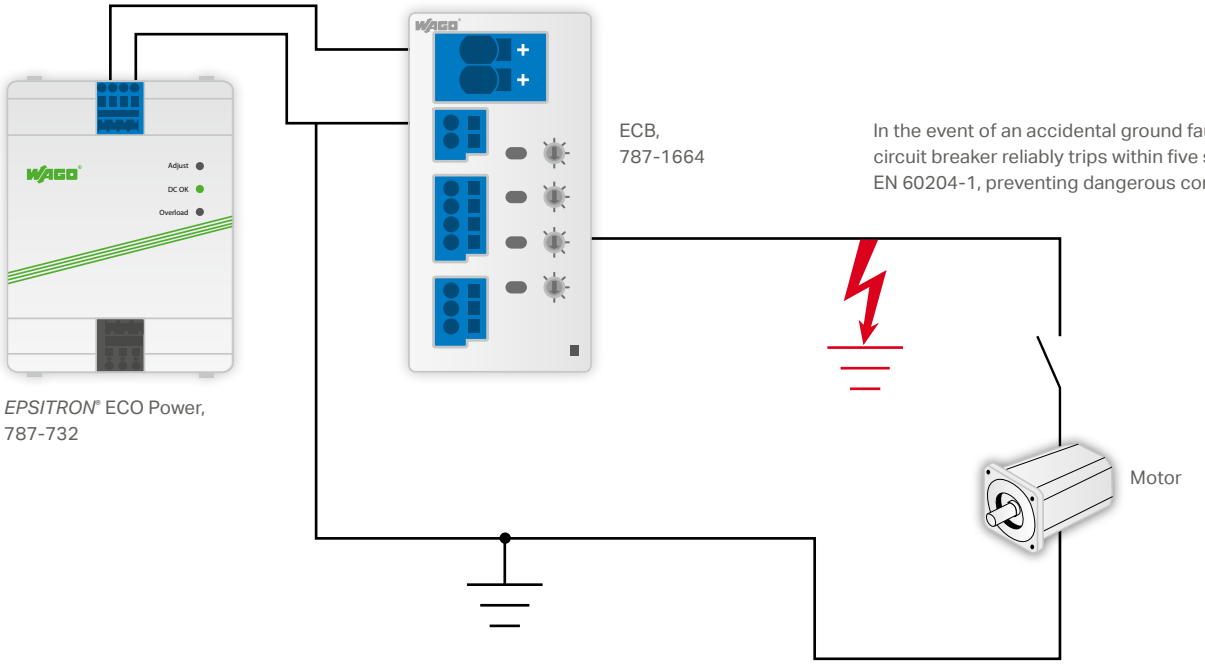
- Optional nominal current setting 1 … 8 A, in 1 A increments
- Seven different configuration options for the digital measurement output

24 VDC				
1 Channel				
Electronic Circuit Breaker	**Item Number**	**Nominal Current**	**Communication**	**Color Coding**
	787-2861/0100-0000	1 A	S	
	787-2861/0200-0000	2 A	S	
	787-2861/0400-0000	4 A	S	
	787-2861/0600-0000	6 A	S	
	787-2861/0800-0000	8 A	S	
	787-2861/0108-0020	1 … 8 A	S	

Further information on ECBs' communication options can be found on pages 52/53.

EPSITRON® – SOLUTIONS

Electronic Circuit Breakers Prevent Accidental Restart

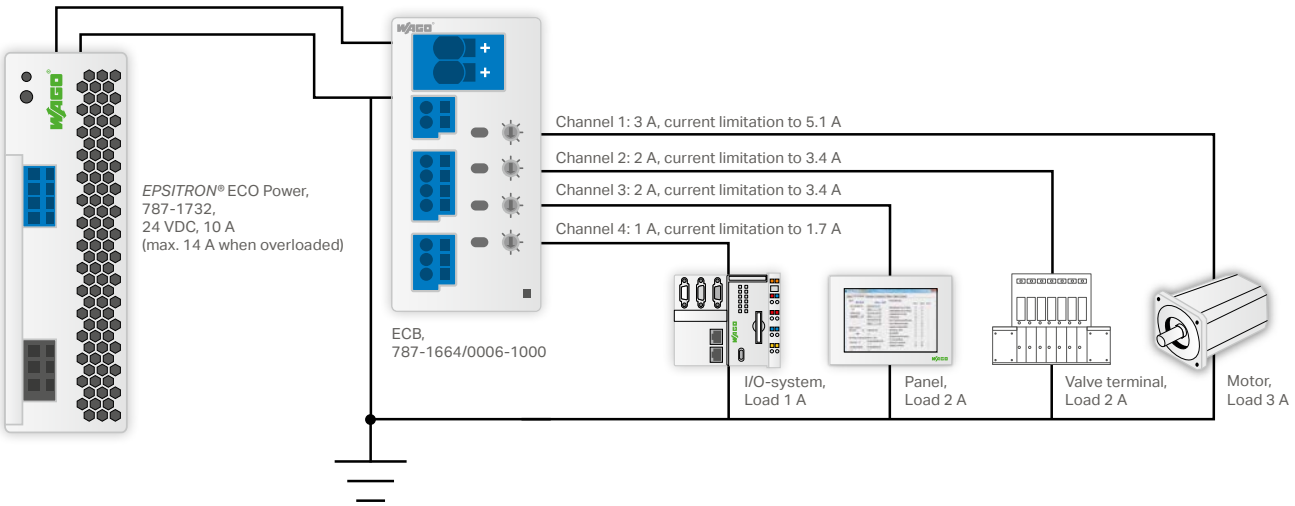


EPSITRON® ECO Power, 787-732

ECB, 787-1664

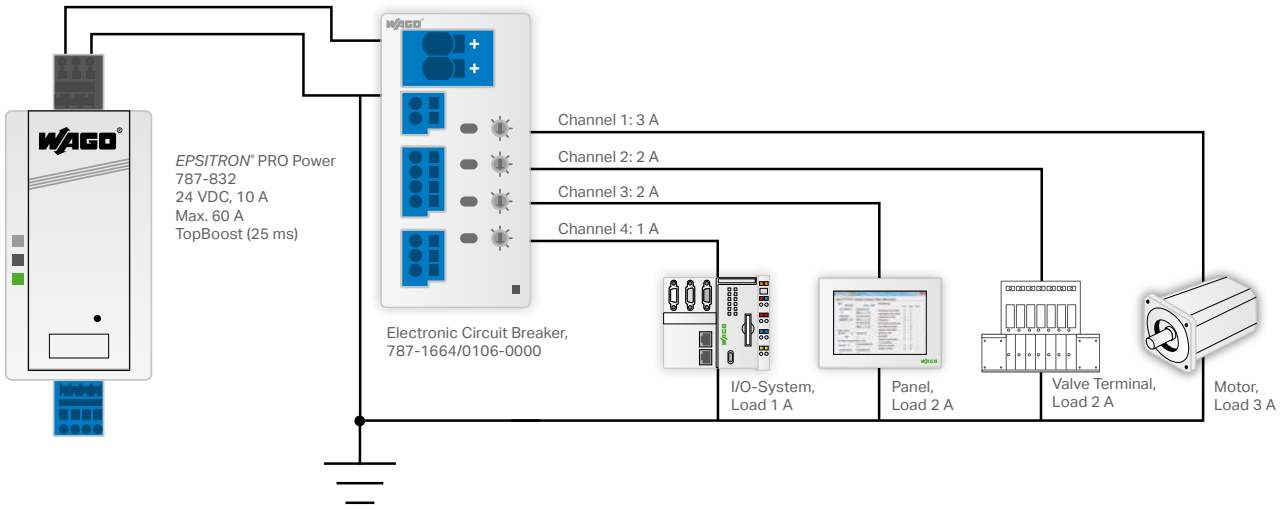
In the event of an accidental ground fault, the electronic circuit breaker reliably trips within five seconds based on EN 60204-1, preventing dangerous conditions.

Power Supply Selection for ECBs with Active Current Limitation



	Channel 1	Channel 2	Channel 3	Channel 4	Σ	Effects
Max. continuous current (no error)	3 A	2 A	2 A	1 A	8 A	• Normal operation
Max. continuous current (error: channel 1)	5.1 A	2 A	2 A	1 A	10.1 A	• Current on channel 1 is limited to 1.7 times the nominal current • Impedance of the error loop not significant • No voltage drop on channels 2, 3, and 4
Max. continuous current (error: all channels)	5.1 A	3.4 A	3.4 A	1.7 A	13.6 A	• Current per channel is limited to 1.7 times the nominal current • Impedance of the error loop not significant • Voltage drop on all channels, since power supply is overloaded • Circuit breaker switched off due to undervoltage detection

Power Supply Selection for ECBs without Current Limitation

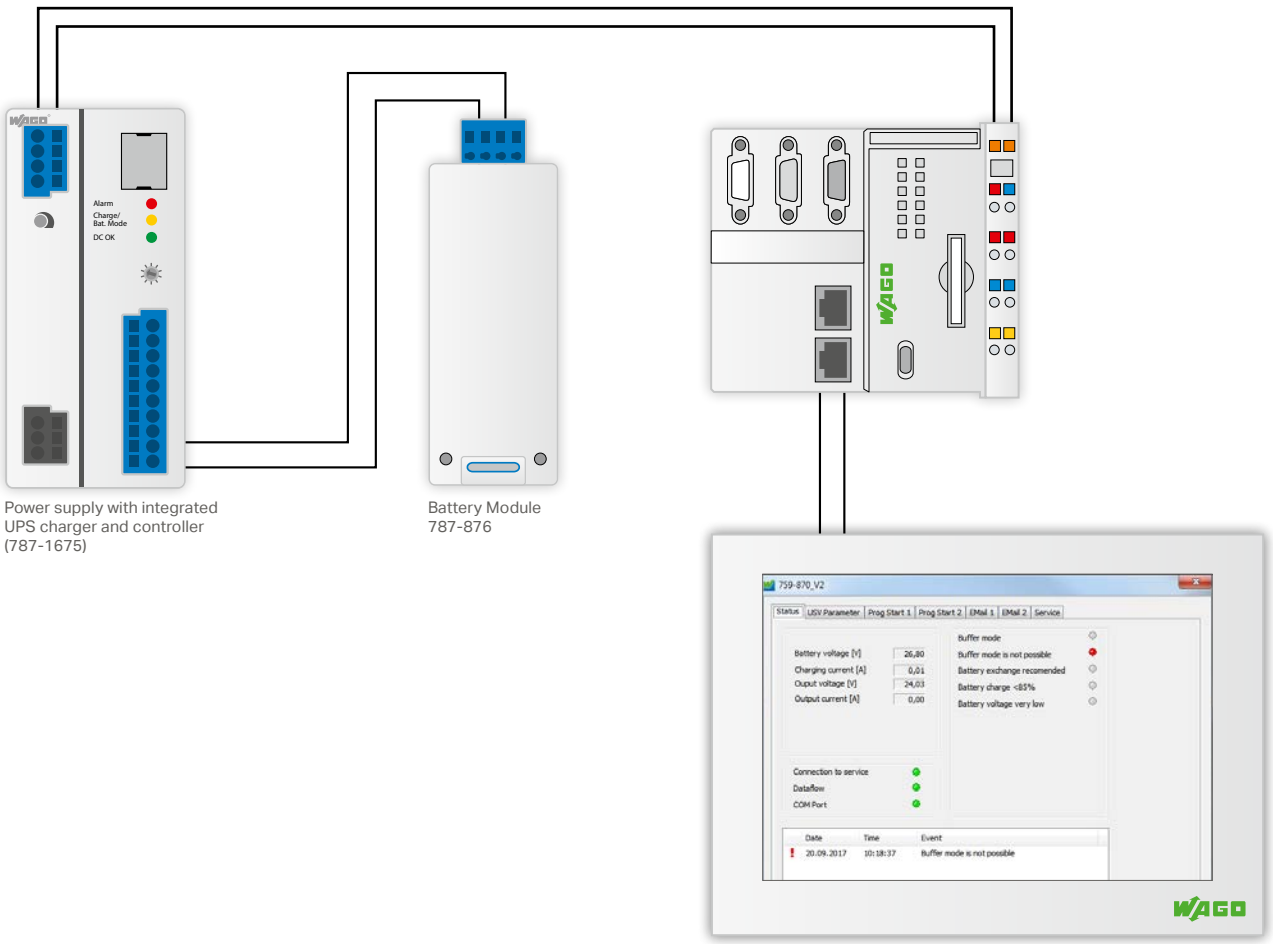


	Channel 1	Channel 2	Channel 3	Channel 4	Σ	Effects
Max. continuous current (no error)	3 A	2 A	2 A	1 A	8 A	• Normal operation
Max. continuous current (error: channel 1)	Max. 55 A available*	2 A	2 A	1 A	60 A (TopBoost)	• Depending on impedance of the error loop • Short voltage drop possible; trigger time according to characteristic
Max. continuous current (error: all channels)	Current values depend on the impedance of the error loop				60 A (TopBoost)	• Current is limited by impedance of the error loops • Voltage drop on all channels very probable, as power supply is overloaded

*(60 A-2 A-2 A-1 A)

EPSITRON® – SOLUTIONS

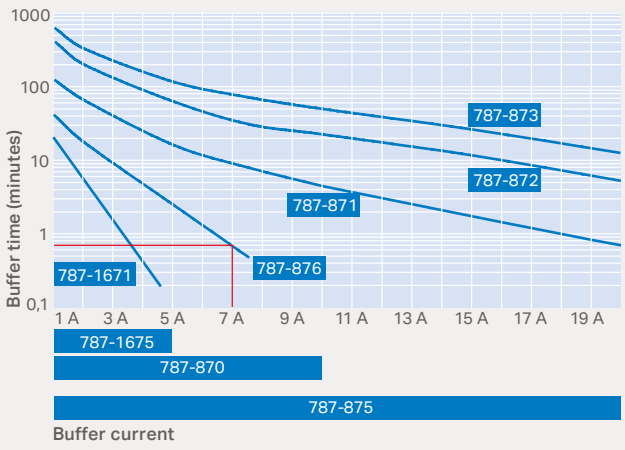
Reliable Supply of Automation Systems – Even During Power Failure



Power supply with integrated UPS charger and controller (787-1675)

Battery Module 787-876

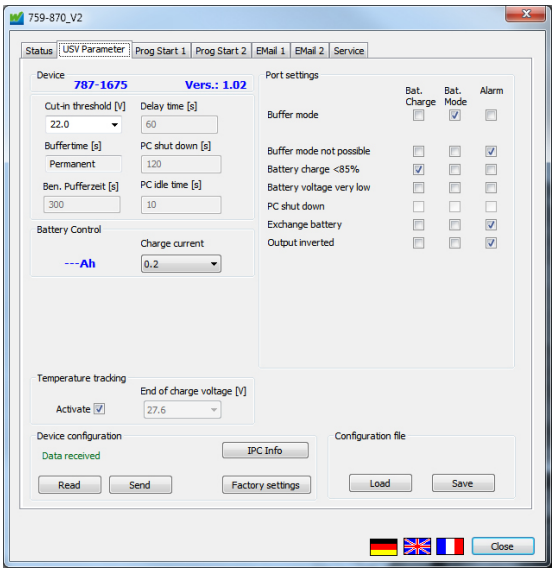
Buffer Time vs. Load Current

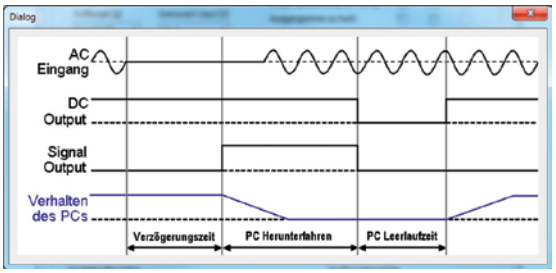


Different buffer times/currents can be achieved depending on the battery module selected. In the example below, a 7 A load current is to be provided for approximately 30 seconds.

The UPS charger/controller (787-870, 10 A) and the battery module (787-876) are appropriate for this.

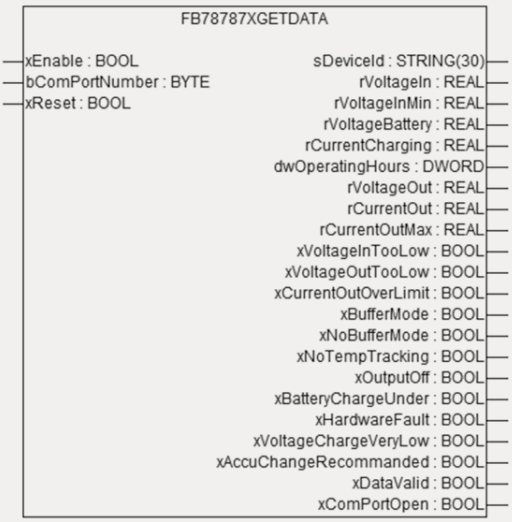
UPS Shutdown Function Permits Controlled System Shutdown





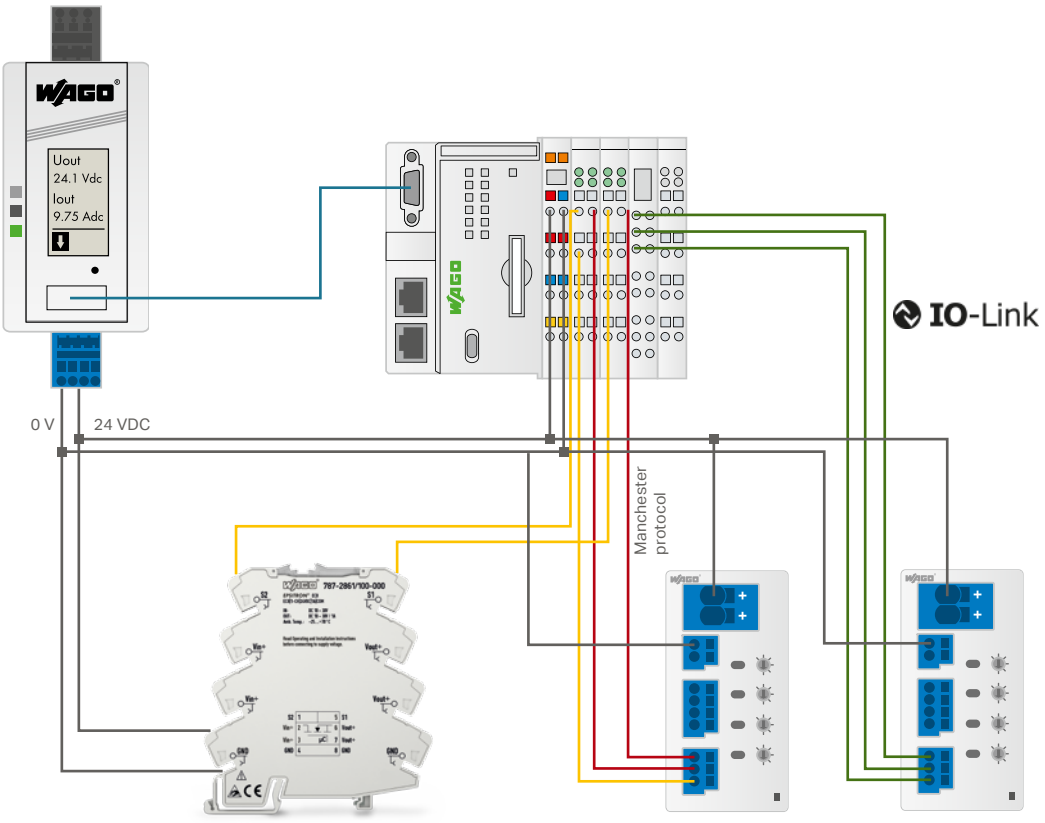
The *EPSITRON*® UPS unit can be conveniently configured using the free software (759-870). Values for the input voltage, battery data, output voltage and current, as well as error status are displayed in the software.

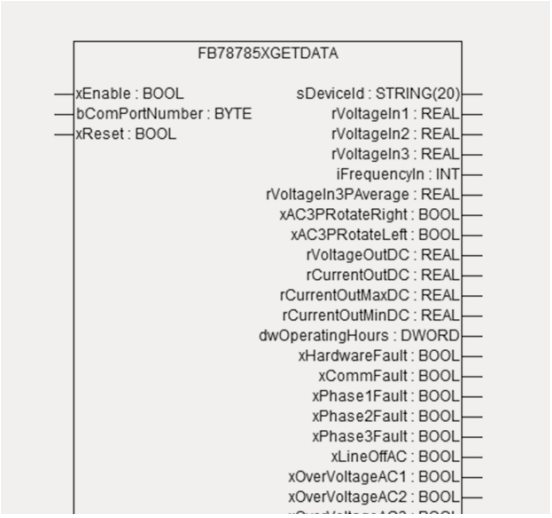
In addition to easily connecting to a notebook, the UPS unit can be connected to the WAGO-I/O SYSTEM or another controller system via RS-232 interface. Free function blocks allow easy monitoring of the UPS input and output data.

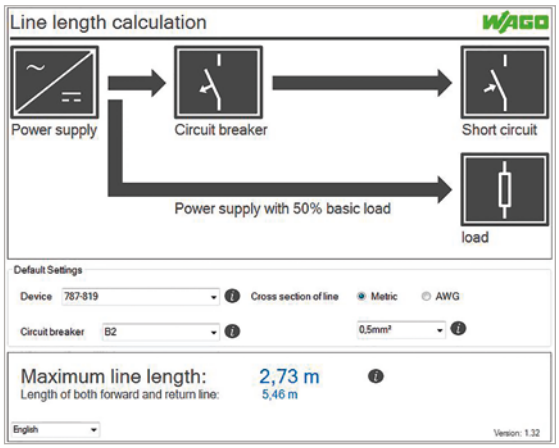


EPSITRON® – COMMUNICATION

EPSITRON® PRO Power



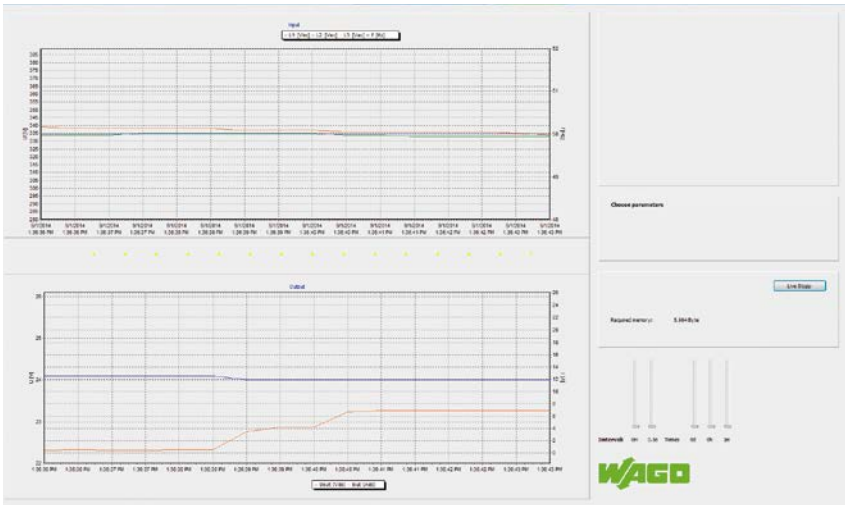




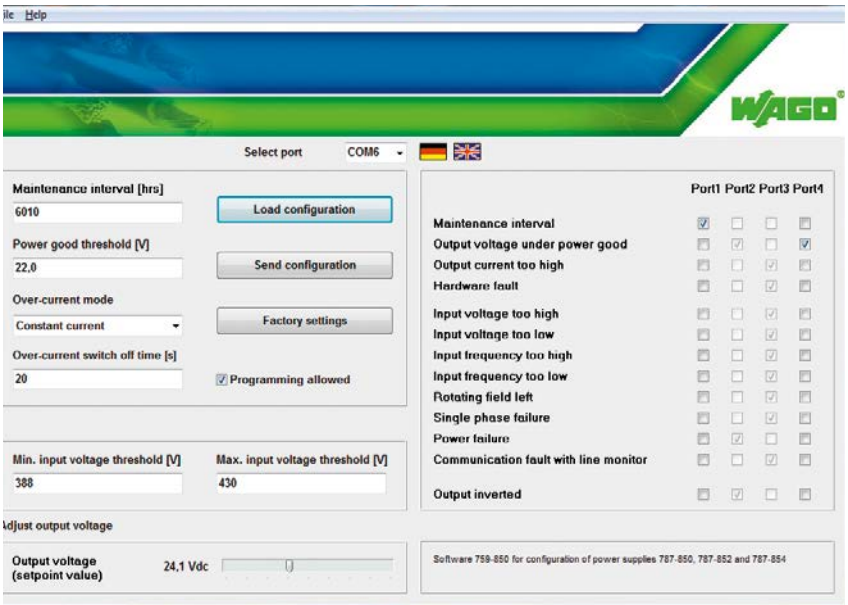
Easy Configuration and Monitoring of PRO Power Supplies (787-85x) via RS-232 Interface

Fast monitoring and configuration are possible with a notebook or PLC (e.g., the WAGO-I/O-SYSTEM) via the RS-232 interface of the PRO Power Supply (787-85x). Free function blocks are available for various PLC systems.

The line length calculator helps configure the system. It determines whether the PRO Power or CLASSIC Power Supply can trip the required thermomagnetic circuit breaker at the required cable cross-section and length.



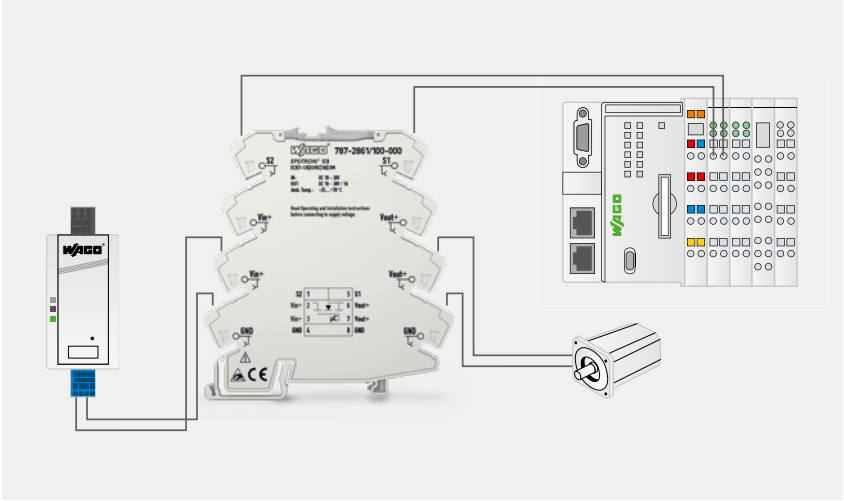
Both input and output of the *EPSITRON*® PRO Power Supply are monitored via the visualization software (759-851).
In addition to monitoring, both input/output recording and analysis are possible (see graphic).



The free configuration software (759-850) allows you to set a maintenance timer that notifies the user when the operating hours are complete. Permissible voltage and current levels can also be set and monitored with the configuration software. This value-added benefit eliminates the need for additional equipment, such as an hour meter or phase monitoring device.

EPSITRON® – COMMUNICATION

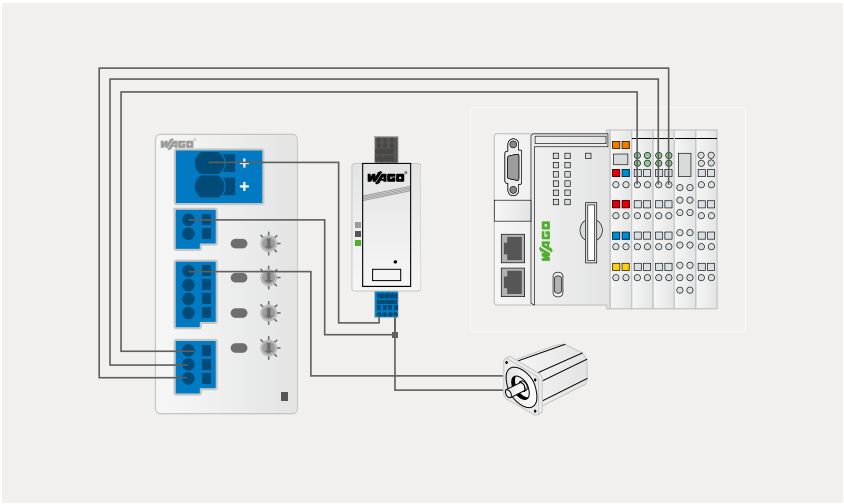
Electronic Circuit Breakers



Communication 1.0
Digital Signaling (S/P)

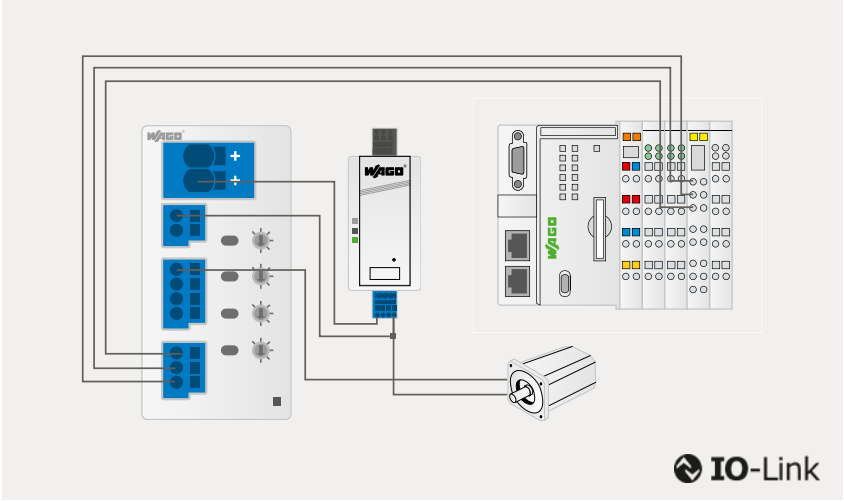
The electronic circuit breaker can be reset via a digital control signal. The 787-2861 ECB can also be switched on and off via this signal.

A digital output signal indicates the status of the channel or the sum of the channels for 787-166x. For some devices this signal is potential-free (P).



Communication 2.0
Manchester Protocol (M)

The PLC transmits a coded pulse pattern to control input S1. The ECB synchronizes itself automatically. The current status of all output channels is transmitted back simultaneously via signal output S2. The edge change is interpreted as high or low. For each channel, both status, voltage and current values can be transmitted individually.



Communication 3.0
IO-Link (I)

Via an IO-Link interface implemented in COM3, both status, voltage and current values can be transmitted individually for each channel. The nominal current of the output can also be configured via this interface if the device's rotary switch is set accordingly.

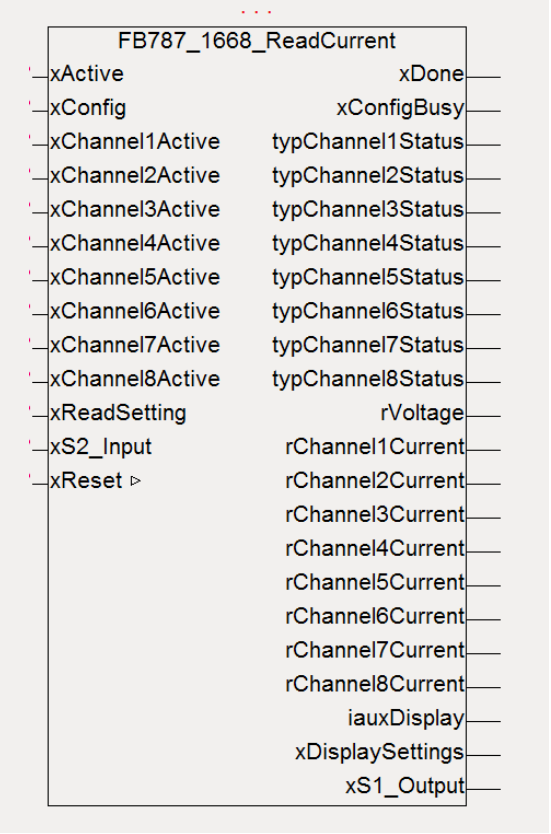
The IO-Link cyclic communication is much faster compared to the Manchester protocol.

S = Signal
P = Potential-free signal
I = IO-Link protocol
M = Manchester protocol

Function blocks for ECB monitoring that use the WAGO-I/O-SYSTEM, or different control systems, are available for free.

EPSITRON® Series ECBs have digital inputs and outputs that provide communication via the Manchester protocol.

All channels can be diagnosed and switched remotely independently of each other.



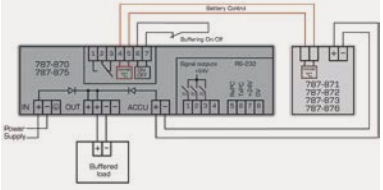
Transmission of:

- State per channel
- Current output current (only for 787-166x/xxxx-1xxx and 787-166x/xxxx-xx8x)
- Nominal current setting per channel
- Input voltage
- Power on/off and reset per channel
- Nominal current setting (only for 787-166x/xxxx-xx8x)

Available Function Blocks:

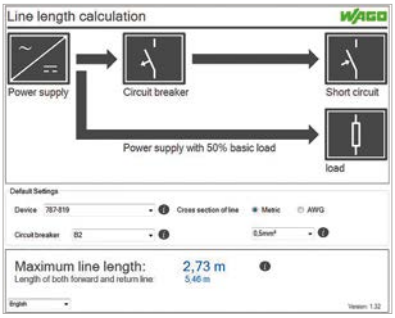
- CODESYS
- Siemens S7 / TIA-Portal
- Schneider
- Rockwell
- Mitsubishi (pending)

EPSITRON® – GLOSSARY

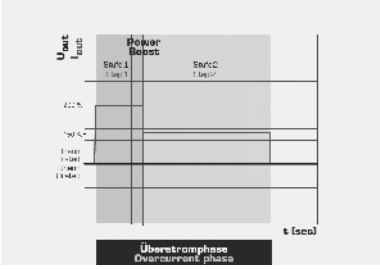


Battery Control
EPSITRON® battery control technology allows data exchange between intelligent battery modules and a UPS charger/controller.

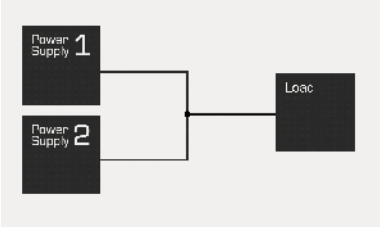
In addition to the temperature value, information on type and service life of the connected battery modules is also transmitted to the charger and controller.



TopBoost
In order for high-speed magnetic circuit breakers to trip, currents that are significantly higher than the rated current are required for 10–12 milliseconds. PRO Power Supplies deliver a multiple of their nominal current for a short time – the faulty circuit can be shut off within milliseconds during a short circuit. This increases the availability of the entire power supply while fulfilling EN 60204-1 requirements regarding ground faults in control circuits. Using the free line length calculator available from www.wago.com/epsitron, the designer or planner can check in advance the layout of the line protection based on cable lengths, cable cross-section, characteristics of the protective device, and type of power supply.

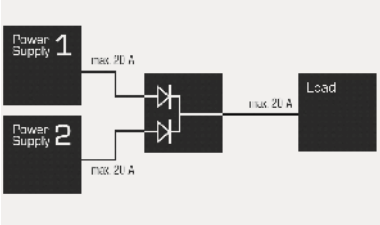


PowerBoost
During start-up or switching of capacitive loads (valve clusters, motors, etc.), there is an increased need for current. However, using conventional power supplies previously always required using a much larger power supply to avoid switching to overload operation or short circuit limitation.
In this case, the power supplies of the PRO Power family offer power reserves and provide up to 200% of the nominal current at the output for up to four seconds and a maximum 150% in a second stage. The availability of twice the output power for a short time ensures reliable operation and eliminates the expensive oversizing of power supplies. This also saves space in the control cabinet and reduces power losses, while ensuring optimum efficiency.



Parallel Connection of Power Supplies – for Extra Power
Most power supplies from the *EPSITRON*® Series allow parallel connection of power supply units for extra power, except for 787-601 and 787-602 devices. To achieve load distribution that is as uniform as possible for parallel-connected devices, the output voltage without load must be set as precisely as possible to the same value.

Star wiring using external rail-mount terminal blocks is required to ensure the resistance levels for all power supplies are as equal as possible to the load. Do not perform parallel connection directly via the power supplies' female connectors. Using PRO Power Supplies, power supply units with differing output power levels may also be connected in parallel. Otherwise, only connect power supplies of the same type in parallel.



Parallel Connection of Power Supplies – for Increased Power Availability
Parallel connection using decoupling diodes in the respective current path can increase system availability and reliability. In normal operation, both units supply the load. If a power supply fails, the intact power supply becomes responsible for complete supply of the load.

Of course, the nominal current of each power supply must be higher than the maximum load current that occurs. The redundancy modules feature powerful decoupling diodes which reliably prevent reverse currents. The decoupling diodes ensure 100 % redundancy, i.e., also for the rare case of an internal secondary short circuit in the power supply.

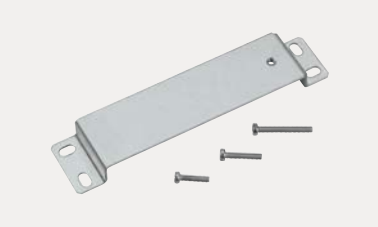
EPSITRON® – ACCESSORIES

RS-232 Communication Cable, 1.8 m long, 787-890
The communication cable is used for configuration and visualization via PC, notebook, or controller. It is suitable for all 787-8xx Series modules equipped with a serial interface.

Connectors: 8-pole Female Connector (733-108) with strain relief (787-8xx module side), 9-pole D-sub Female Connector (PC/PLC side)
RS-232 Communication Cable, 1.8 m long (not pictured), 787-892
Similar to 787-890, but carries a 4-pole 734-104 Female Connector compatible with 787-1675

761-9005 USB Adapter with 1 m connection cable
The USB adapter transmits RS-232 signals to the USB interface of a PC or notebook. The adapter is simply plugged into the communication cable (787-890).

Connectors: 9-pole D-sub male connector (RS-232), USB connector (type A)
Note: No electrical isolation



787-895 Wall-Mount Adapter for screw mounting 787-8xx devices on a mounting plate or wall without DIN-35 rail

The wall-mount adapter replaces the rail support for a 787-8xx device. The adapter is secured to the 787-8xx device via the provided screws.

787-896 Carrier Rail Adapter for mounting 787-8xx devices to a DIN-35 rail
The Carrier Rail Adapter (787-896) allows both the vertical and horizontal mounting of 787-8xx devices.

Mounting the Carrier Rail Adapter (787-896) to the device is performed by sliding both single parts into the guide slots of the cooling element and then screwing. This allows the position to be easily changed.

787-897 Carrier Rail Adapter made of zinc die-cast for mounting 787-8xx devices to DIN-rail
Mounting the Carrier Rail Adapter (787-897) to the device is performed by pressing the adapter into the guide slots of the cooling element with a tool.

An extremely secure fit ensures reliable operation even in environments subject to permanent vibrations.
The adapter can also be fastened via 4 screws (not included) and thus serve as a universal carrier rail adapter.

Operating Tools with a Partially Insulated Shaft, Ideal for Operating Terminal Blocks
210-719: Operating tool with a partially insulated shaft, type 1, blade 2.5 x 0.4 mm, suitable for 733 and 734 Series Female Connectors
210-720: Operating tool with a partially insulated shaft, type 2, blade 3.5 x 0.5 mm, suitable for 231, 236 and 721 Series Female Connectors

210-721: Operating tool with a partially insulated shaft, type 3, blade 5.5 x 0.8 mm, suitable for 831 Series Female Connectors
210-769: Phillips PH0 operating tool, type 1, PH0 blade; used for setting the voltage of 787-10xx, 787-17xx, 787-7xx Series *EPSITRON*® COMPACT Power Supplies

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