EPSITRON® System Modules Selection Guide

Uninterruptible Power Supplies (UPS)

Input		Output		Approvals						Dimensions and Environmental Conditions					
Nominal voltage [VAC]	Nominal voltage [VDC]	Nominal voltage [VDC]	Nominal current [ADC]	EN 60335	cURus 60950	cULus 508	GL	ANSI/ISA 12.12.1	ATEX/IEC Ex	Width [mm]	Height [mm]	Length [mm]	Ambient operating temperature [°C]	Item Number	Page
–	24	24	10.0		■	■				40.0	163.0	163.0	–10 … +60	787-870	**375**
–	24	24	20.0		■	■				57.0	163.0	171.0	–10 … +60	787-875	**375**
100 … 240	110 … 370	24	5.0		■	■	■			60.0	135.5	127.0	–25 … +70	787-1675	**372**

Battery Modules

Input	Output		Approvals							Dimensions and Environmental Conditions					
Nominal voltage [VDC]	Nominal voltage [VDC]	Nominal capacity [Ah]	EN 60335	cURus 60950	cULus 508	GL	ANSI/ISA 12.12.1	ATEX/IEC Ex	Battery tested to VdS	Width [mm]	Height [mm]	Length [mm]	Ambient operating temperature [°C]	Item Number	Page
24	24	1.2			■				■	55.0	136.5	153.0	–15 … +40	787-876	**377**
24	24	3.2			■				■	76.2	175.5	168.0	–15 … +40	787-871	**377**
24	24	7.0			■				■	86.0	217.5	236.0	–15 … +40	787-872	**378**
24	24	12.0			■				■	120.5	217.5	236.0	–15 … +40	787-873	**378**

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 operating temperature [°C]	Item Number	Page
24	10.0	0.06 … 7.2		■	■				57.0	179.0	163.0	–10 … +50	787-880	**381**
24	20.0	0.17 … 16.5		■	■				57.0	179.0	181.0	–10 … +50	787-881	**381**

■ yes ☐ pending
* NEC Class 2

Redundancy Modules

Input	Output		Approvals						Dimensions and Environmental Conditions					
Nominal voltage [VDC]	Nominal voltage [VDC]	Nominal current [ADC]	EN 60335	cURus 60950	cULus 508	GL	ANSI/ISA 12.12.1	ATEX/IEC Ex	Width [mm]	Height [mm]	Length [mm]	Ambient operating temperature [°C]	Item Number	Page
12 … 48	12 … 48	12.5			■	□	□	□	50.0	92.0	130.0	–25 … +70	787-783	**383**
24	24	20.0		■	■				40.0	163.0	181.0	–10 … +60	787-885	**385**
12 … 48	12 … 48	40.0			■	□	□	□	83.0	153.0	130.0	–25 … +70	787-785	**383**
48	48	20.0							40.0	163.0	181.0	–10 … +60	787-886	**385**

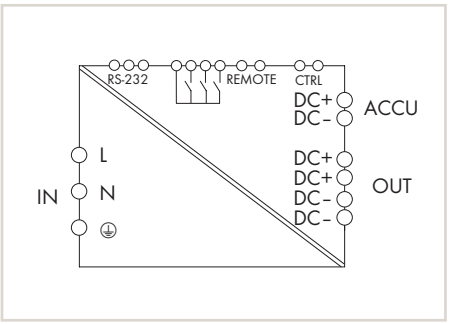
Electronic Circuit Breakers (ECBs)

Input/Output					Approvals						Dimensions and Environmental Conditions					
Nominal input/output voltage [VDC]	Output Channels	Nominal output current [ADC]	Active current limitation	Potential-free signal contact	EN 60335	UR 2367	cULus 508	GL	ANSI/ISA 12.12.1	ATEX/IEC Ex	Width [mm]	Height [mm]	Length [mm]	Ambient operating temperature [°C]	Item Number	Page
24	2	2 … 10				■	■	■			45	115.5	90	–25 … +70	787-1662	**393**
24	2	2 … 10				■	■	■			45	115.5	90	–25 … +70	787-1662/000-004	**394**
24	2	2 … 10		■		□	□	■			45	115.5	90	–25 … +70	787-1662/000-054	**394**
24	2	3.8 LPS	■			■	■	□			45	115.5	90	–25 … +70	787-1662/004-1000*	**389**
24	2	0.5 … 6	■			■	■	■			45	115.5	90	–25 … +70	787-1662/006-1000	**389**
24	2	1 … 6				■	■	■			45	115.5	90	–25 … +70	787-1662/106-000	**393**
24	2	2 … 12	■			■	■	□			45	115.5	90	–25 … +70	787-1662/212-1000	**390**
24	4	2 … 10				■	■	■			45	115.5	90	–25 … +70	787-1664	**406**
24	4	2 … 10				■	■	■			45	115.5	90	–25 … +70	787-1664/000-004	**407**
24	4	2 … 10		■		□	□	■			45	115.5	90	–25 … +70	787-1664/000-054	**407**
24	4	3.8 LPS	■			■	■	□			45	115.5	90	–25 … +70	787-1664/004-1000*	**402**
24	4	0.5 … 6	■			■	■	■			45	115.5	90	–25 … +70	787-1664/006-1000	**401**
24	4	1 … 6				■	■	■			45	115.5	90	–25 … +70	787-1664/106-000	**406**
24	4	2 … 12	■			■	■	□			45	115.5	90	–25 … +70	787-1664/212-1000	**402**
24	4	0.5 … 6	■	■		■	■	□			45	115.5	90	–25 … +70	787-1664/006-1054	**403**
24	4	1 … 6					■				40	163	171	–10 … +60	787-860	**405**
24	4	1 … 8	■				■				40	163	171	–10 … +60	787-861	**401**
24	4	1 … 10					■				40	163	171	–10 … +60	787-862	**405**
24	8	2 … 10				■	■	■			42	142.5	127	–25 … +70	787-1668	**413**
24	8	2 … 10				■	■	■			42	142.5	127	–25 … +70	787-1668/000-004	**414**
24	8	2 … 10		■		□	□	■			42	142.5	127	–25 … +70	787-1668/000-054	**414**
24	8	0.5 … 6	■			■	■	■			42	142.5	127	–25 … +70	787-1668/006-1000	**411**
24	8	1 … 6				■	■	■			42	142.5	127	–25 … +70	787-1668/106-000	**413**
24	8	0.5 … 6	■	■		■	■	□			42	142.5	127	–25 … +70	787-1668/006-1054	**411**
12	2	2 … 10				□	□	■			45	115.5	90	–25 … +70	787-1662/000-100	**387**
12	4	2 … 10				□	□	■			45	115.5	90	–25 … +70	787-1664/000-100	**398**
48	2	2 … 10				□	□	□			45	115.5	90	–25 … +70	787-1662/000-200	**397**
48	2	2 … 10		■		□	□	□			45	115.5	90	–25 … +70	787-1662/000-250	**397**
48	4	2 … 10				□	□	□			45	115.5	90	–25 … +70	787-1664/000-200	**409**
48	4	2 … 10		■		□	□	□			45	115.5	90	–25 … +70	787-1664/000-250	**409**
48	8	2 … 10				□	□	□			42	142.5	127	–25 … +70	787-1668/000-200	**417**
48	8	2 … 10		■		□	□	□			42	142.5	127	–25 … +70	787-1668/000-250	**417**

5

Switched-Mode Power Supply with Integrated UPS Charger and Controller EPSITRON®
787 Series

Features:
- Switched-Mode Power Supply with integrated charger and controller for uninterruptible power supply (UPS)
- Battery control technology for smooth charging and predictive maintenance applications
- Potential-free contacts provide function monitoring
- Buffer time can be set on site via rotary switch
- Parameter setting and monitoring via RS-232 interface
- Natural convection cooling when horizontally mounted
- Enclosed for use in control cabinets
- Electrically isolated output voltage (SELV) acc. to EN 60950-1/UL 60950-1; PELV acc. to EN 60204



EPSITRON® Switched-Mode Power Supply, with integrated UPS charger and controller, COMPACT Power, 1-phase, output: 24 VDC / 5 A

Item No.	Pack. Unit
787-1675	1

5

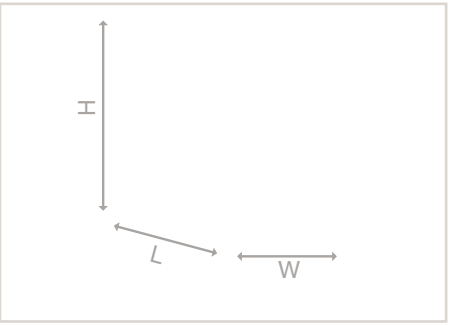
Technical Data

Input	
Nominal input voltage $U_{i\,nom}$	100 … 240 VAC
Input voltage range	85 … 264 VAC; 120 … 372 VDC
Frequency	44 … 66 Hz; 0 Hz
Input current I_i	1.1 A at 230 VAC and 5 VDC
Discharge current	1 mA (typ.)
Inrush current	< 30 A
Output	
Nominal output voltage $U_{o\,nom}$	24 VDC (SELV)
Output voltage range	23.0 … 28.5 VDC (mains operation) 18.5 … 27.5 VDC (battery operation)
Output current I_o	5 A
Adjustment accuracy	1 % (mains operation)
Residual ripple	< 50 mV (peak-to-peak)
Current limitation	1.1 x Io; TopBoost
Buffer time	1 … 20 min, IPC mode or constant (adjustable)
Switch-on threshold (adjustable)	22 VDC (pre-configured) 20 … 25.5 VDC (configurable via software)
Final load voltage	26 … 29.5 V temperature-controlled (fixed or adjustable)
Charging current	0.3 … 1 A
Recommended battery modules	787-876, 787-871, 787-872, 787-873, 787-1671
Operational indication	LED green (DC OK), LED yellow (battery mode), LED red (warning/fault)
Signaling	3 x 24 VDC signal output, 25 mA and 1 x 30 VDC isolated relay contact, 1 A
Remote input	To switch off buffer operation
LineMonitor, parameter setting	Via RS-232 serial interface
Efficiency/Power Losses	
Efficiency	88 % (typ.)
Power loss P_V	5.2 W (battery operation, 24 VDC, 5 A); 17 W (mains operation, 230 VAC / 24 VDC, 5 A)
Fuse Protection	
Internal fuse	T 4 A / 250 V (input side)
External fuse	Circuit breakers 6 A, 10 A, 16 A, B, C characteristic; an external DC fuse is required for the DC input voltage.

General Specifications	
Standards/Approvals	EN 60950, UL 60950, UL 508, EN 61204-3, GL
Environmental Requirements	
Ambient operating temperature	-25 … +70 °C Device start at -40 °C type-tested
Storage temperature	-25 … +85 °C
Relative humidity	5 % ... 96 % (no condensation permissible)
Derating	-3 % / K (> +50 °C)
Degree of pollution	2 (acc. to EN 50178)
Climatic category	3K3 (acc. to EN 60721)
Safety and Protection	
Test voltage PRI.-SEC./PRI.-GR./SEC.-GR.	4.2 kV DC / 2.2 kV DC / 0.7 kV DC
Protection class	I
Reverse voltage protection	Yes
Degree of protection	IP20 per EN 60529
Overvoltage category	II
Feedback voltage	Max. 35 VDC
Parallel operation	Yes, max. 3 battery modules for buffer time extension
Connection and Type of Mounting	
Connectors	Input/Output/Signaling: WAGO 721 Series Interface: WAGO 734 Series
Conductor range	Input/Output/Signaling 0.08 … 2.5 mm² / 28 … 12 AWG Interface: 0.08 … 1.5 mm² / 28 … 14 AWG
Strip length	Input/Output/Signaling 8 … 9 mm / 0.31 … 0.35 inch Interface: 6 … 7 mm / 0.24 … 0.28 inch
Cable length	≤ 3 m (Output, Battery Control)
Type of mounting	DIN-rail mounting (EN 60715)
Dimensions and Weight	
Dimensions (mm) W x H x L	60 x 127 x 135.5, Length from upper-edge of DIN-35 rail
Weight	885 g

Communication cable, see page 430

UPS Charger and Controller
EPSITRON®
787 Series

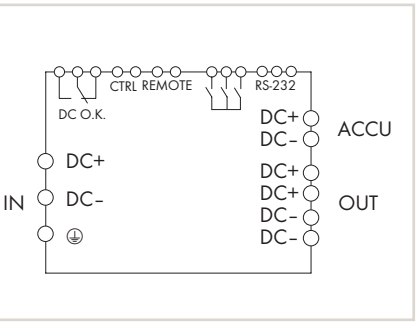


5

Features:
- Charger and controller for uninterruptible power supply (UPS)
- Current and voltage monitoring, as well as parameter setting via RS-232 interface and LCD
- Active signal outputs for watchdog functions
- Remote input for switching off buffered output
- Input for temperature control of connected battery
- Battery control (from manufacturing no. 215563) detects both battery life and battery type

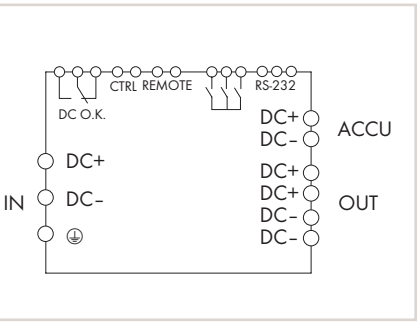
Technical Data	
Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	22 … 29 VDC
Inrush current	< 4 A (no load)
Switch-on threshold (adjustable)	20 … 25.5 VDC
Output	
Nominal output voltage $U_{o\,nom}$	24 VDC
Buffer time	10 … 600 s or constant (adjustable)
Final load voltage	26 … 29.5 VDC or temperature controlled (adjustable)
Operational indication	LED green (Uo), LED yellow (warning), LED red (error)
Signaling	LCD, 3 x signal output 24 VDC, 25 mA, and 1 x floating relay contact 30 VDC, 1 A
Remote input	To switch off buffer operation
LineMonitor, parameter setting	via LCD and RS-232 serial interface
Efficiency/Power Losses	
Efficiency	95 % (typ.)
General Specifications	
Standards/Approvals	EN 60950, UL 60950, UL 508, EN 61000-6-2, EN 61000-6-3
Environmental Requirements	
Ambient operating temperature	-10 … +60 °C
Storage temperature	-25 … +85 °C
Relative humidity	5 % … 96 % (no condensation permissible)
Safety and Protection	
Test voltage	500 VDC (terminals to enclosure)
Protection class	III
Reverse voltage protection	Yes
Degree of protection	IP20 per EN 60529
Feedback voltage	Max. 35 VDC
Parallel operation	Yes, 3 battery modules for buffer time extension (temperature measurement evaluation is only possible via one battery module)
Connection and Type of Mounting	
Cable length	≤ 3 m (Input, Output, Battery Control)
Type of mounting	DIN-rail-mounting (EN 60715) in 2 positions

Communication cable, see page 430



EPSITRON® UPS Charger and Controller,
input voltage: 24 VDC,
output: 24 VDC / 10 A,
LineMonitor, communication capability

Item No.	Pack. Unit
787-870	1

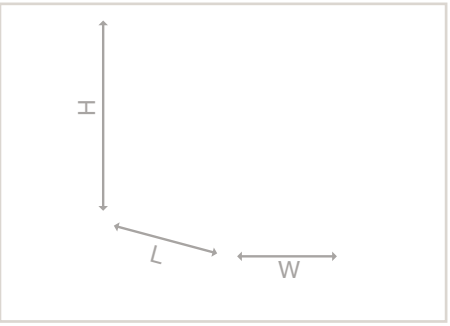


EPSITRON® UPS Charger and Controller,
input voltage: 24 VDC,
output: 24 VDC / 20 A,
LineMonitor, communication capability

Item No.	Pack. Unit
787-875	1

Electrical Data		
Input current I_i	0.1 A (no load running); 0.8 A (charging); 10.8 A (max.)	0.1 A (no load running); 1.5 A (charging); 21.5 A (max.)
Output voltage range	Ui - 1 VDC (below switch-on threshold); 20 … 25.5 VDC (buffer mode)	Ui - 1 VDC (below switch-on threshold); 20 … 25.5 VDC (buffer mode)
Output current I_o	10 A	20 A
Current limitation	Typ. 11 … 14 A	Typ. 22 … 26 A
Charging current	Max. 0.6 A	Max. 1.0 A
Recommended battery modules	787-871, 787-872, 787-873, 787-876, 787-1671	787-871, 787-872, 787-873
Power loss P_V	15 W (stand-by) / 20 W (rated load)	15 W (stand-by) / 30 W (rated load)
Internal fuse	15 AT	25 AT
Connectors	Input/Output: WAGO 231 Series Signaling: WAGO 733 Series	Input/Output: WAGO 831 Series Signaling: WAGO 733 Series
Conductor range	Input/Output: 0.08 … 2.5 mm² / 28 … 12 AWG Signaling: 0.08 … 0.5 mm² / 28 … 20 AWG	Input/Output: 0.5 … 10 mm² / 20 … 8 AWG Signaling: 0.08 … 0.5 mm² / 28 … 20 AWG
Strip length	Input/Output: 8 … 9 mm / 0.31 … 0.35 inch Signaling: 5 … 6 mm / 0.2 … 0.24 inch	Input/Output: 13 … 15 mm / 0.51 … 0.59 inch Signaling: 5 … 6 mm / 0.2 … 0.24 inch
Mechanical Data		
Dimensions (mm) W x H x L	40 x 163 x 163, Length from upper-edge of DIN-35 rail	57 x 171 x 163, Length from upper-edge of DIN-35 rail
Weight	800 g	1200 g

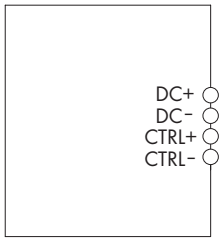
Lead-Acid (AGM) Battery Modules
EPSITRON®
787 Series



Technical Data	
Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Output	
Nominal output voltage $U_{o\,nom}$	24 VDC
Final load voltage	27 VDC (at 25 °C)
Environmental Requirements	
Storage temperature	-20 … +40 °C
Service Life	Typ. 5 / 4 / 2 years at 20 °C / 30 °C / 40 °C
Safety and Protection	
Protection class	III
Degree of protection	IP20 per EN 60529
Connection and Type of Mounting	
Cable length	≤ 3 m (Input, Output, Battery Control)

Features:
- Lead-acid Absorbed Glass Mat (AGM) battery module for uninterruptible power supply (UPS)
- Can be connected to both 787-870 or 787-875 UPS Charger and Controller, and to 787-1675 Power Supply with integrated UPS charger and controller
- Parallel operation provides higher buffer time *
- With built-in temperature sensor
- Mounting on DIN 35 carrier rail (only 787-876 and 787-1617) or on mounting plate via continuous carrier rail (787-871, -872, -873)
- Battery control (from manufacturing no. 216570) detects both battery life and battery type

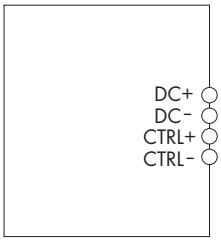
Similar to pictured device



EPSITRON® Lead-Acid (AGM) Battery Module,
input voltage: 24 VDC,
output current: 7.5 A,
capacity: 1.2 Ah, with battery control

Item No.	Pack. Unit
787-876	1

Similar to pictured device



EPSITRON® Lead-Acid (AGM) Battery Module,
input voltage: 24 VDC,
output current: 20 A,
capacity: 3.2 Ah, with battery control

Item No.	Pack. Unit
787-871	1

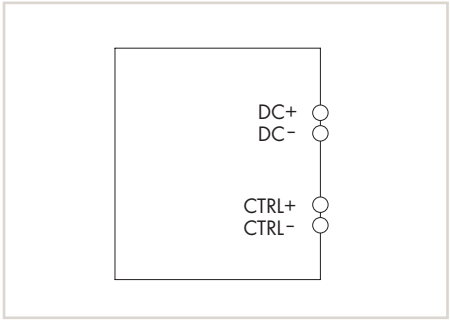
Electrical Data		
Output current I_o	Max. 7.5 A	20 A
Charging current	Max. 0.3 A	Max. 0.8 A
Capacity	1.2 Ah	3.2 Ah
Internal fuse	15 AT	25 AT
Ambient operating temperature	-15 … +40 °C	-15 … +40 °C
Connectors	Input/Output: WAGO 231 Series Battery control: WAGO 231 Series	Input/Output: WAGO 231 Series Battery control: WAGO 231 Series
Conductor range	Input/Output: 0.08 … 2.5 mm² / 28 … 12 AWG Battery Control: 0.08 … 2.5 mm² / 28 … 12 AWG	Input/Output: 0.08 … 2.5 mm² / 28 … 12 AWG Battery Control: 0.08 … 2.5 mm² / 28 … 12 AWG
Strip length	Input/Output: 8 … 9 mm / 0.31 … 0.35 inch Battery control: 8 … 9 mm / 0.31 … 0.35 inch	Input/Output: 8 … 9 mm / 0.31 … 0.35 inch Battery control: 8 … 9 mm / 0.31 … 0.35 inch
Type of mounting	DIN-rail mounting (EN 60715)	Screw mounting
Mechanical Data		
Dimensions (mm) W x H x L	55 x 153 x 136.5, Height, incl. female connector, Length from upper-edge of DIN-35 rail	76.2 x 168 x 175.5, Length from upper-edge of DIN-35 rail
Weight	1800 g	3975 g
General Specifications		
Standards/Approvals	Battery is tested to UL 508	Battery is tested to UL 508

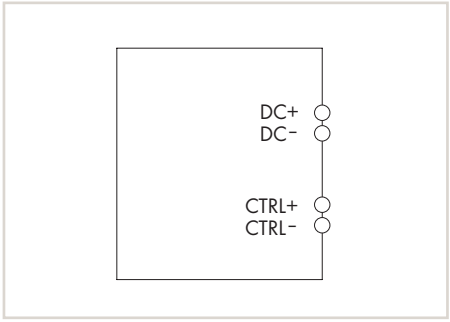
* for parallel connection, please switch battery capacity setting to “OFF” in the UPS charger and controller.

Lead-Acid (AGM) Battery Modules
EPSITRON®
787 Series

Similar to pictured device

Similar to pictured device

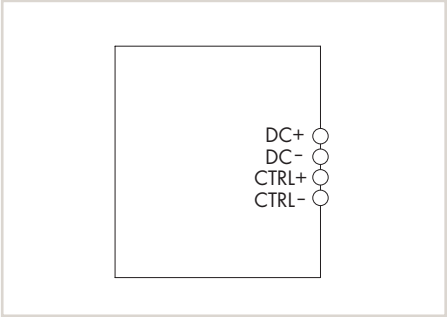




EPSITRON® Lead-Acid (AGM) Battery Module, input voltage: 24 VDC, output current: 40 A, capacity: 7 Ah, with battery control	Item No.	Pack. Unit
	787-872	1

EPSITRON® Lead-Acid (AGM) Battery Module, input voltage: 24 VDC, output current: 40 A, capacity: 12 Ah, with battery control	Item No.	Pack. Unit
	787-873	1

Electrical Data		
Output current I_o	40 A	40 A
Charging current	Max. 1.8 A	Max. 3 A
Capacity	7 Ah	12 Ah
Internal fuse	2 x 25 AT	2 x 25 AT
Ambient operating temperature	-15 … +40 °C	-15 … +40 °C
Connectors	Input/Output: WAGO 831 Series Battery control: WAGO 231 Series	Input/Output: WAGO 831 Series Battery control: WAGO 231 Series
Conductor range	Input/Output: 0.5 … 10 mm² / 20 … 8 AWG Battery Control: 0.08 … 2.5 mm² / 28 … 12 AWG	Input/Output: 0.5 … 10 mm² / 20 … 8 AWG Battery Control: 0.08 … 2.5 mm² / 28 … 12 AWG
Strip length	Input/Output: 13 … 15 mm / 0.51 … 0.59 inch Battery control: 8 … 9 mm / 0.31 … 0.35 inch	Input/Output: 13 … 15 mm / 0.51 … 0.59 inch Battery control: 8 … 9 mm / 0.31 … 0.35 inch
Type of mounting	Screw mounting	Screw mounting
Mechanical Data		
Dimensions (mm) W x H x L	86 x 239 x 217.5	120.5 x 239 x 217.5
Weight	7100 g	10830 g
General Specifications		
Standards/Approvals	Battery is tested to UL 508	Battery is tested to UL 508

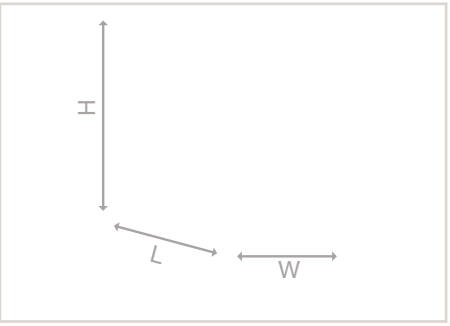


EPSITRON® Lead-Acid (AGM) Battery Module,
input voltage: 24 VDC,
output current: 5 A,
capacity: 0.8 Ah, with battery control

Item No.	Pack. Unit
787-1671	1

Electrical Data	
Output current I_o	5 A
Charging current	0.2 A (recommended)
Capacity	0.8 Ah
Internal fuse	10 AT
Ambient operating temperature	-15 … +40 °C -20 … +40 °C (during discharging)
Connectors	Input/Output: WAGO 721 Series Battery control: WAGO 721 Series
Conductor range	Input/Output: 0.08 … 2.5 mm² / 28 … 12 AWG Battery Control: 0.08 … 2.5 mm² / 28 … 12 AWG
Strip length	Input/Output: 8 … 9 mm / 0.31 … 0.35 inch Battery control: 8 … 9 mm / 0.31 … 0.35 inch
Type of mounting	DIN-rail mounting (EN 60715)
Mechanical Data	
Dimensions (mm) W x H x L	72 x 97 x 124
Weight	1000 g
General Specifications	
Standards/Approvals	UL 508 * (* pending)

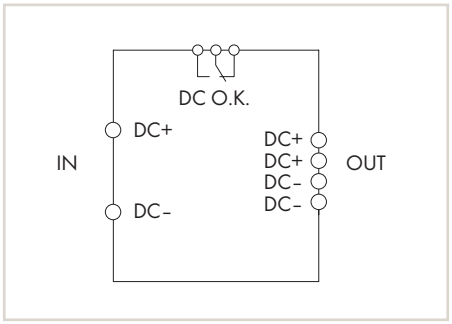
Capacitive Buffer Modules
EPSITRON®
787 Series

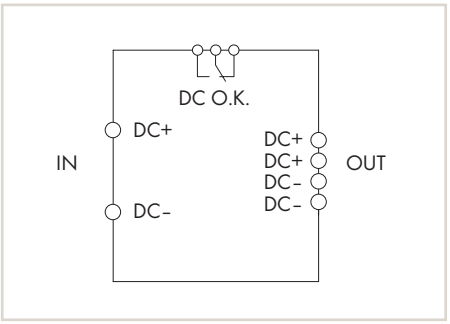


Features:
- Capacitive buffer module bridges short duration voltage drops or load fluctuations
- For uninterrupted power supply
- Internal diode between input and output enables operation with decoupled output
- Easy parallel connection of modules to extend buffer time of increase the buffer current
- Potential-free contact for charge condition monitoring

Technical Data	
Input	
Nominal input voltage $U_{i\,nom}$	24 VDC
Input voltage range	20 … 30 VDC
Switch-on threshold (adjustable)	20 … 24 VDC
Output	
Nominal output voltage $U_{o\,nom}$	24 VDC
Charging time	Typ. 5 min
Operational indication	LED green (U_o > 20 V), LED yellow (charging), LED red (U_o < 20 V)
Signaling	1 x floating relay contact 30 VDC, 1 A
General Specifications	
Standards/Approvals	EN 60950, UL 508, EN 61000-6-2, EN 61000-6-3
Environmental Requirements	
Ambient operating temperature	-10 … +50 °C
Storage temperature	-10 … +60 °C
Service Life	typ. 87,600 h (at 25 °C ambient operating temperature); typ. 30,500 h (at 40 °C ambient operating temperature)
Relative humidity	5 % … 96 % (no condensation permissible)
Safety and Protection	
Test voltage	500 VDC (terminals to enclosure)
Protection class	III
Reverse voltage protection	Yes
Degree of protection	IP20 per EN 60529
Feedback voltage	Max. 35 VDC
Parallel operation	Yes
Connection and Type of Mounting	
Type of mounting	DIN-rail-mounting (EN 60715) in 2 positions
Dimensions and Weight	
Weight	1000 g

Similar to pictured device





EPSITRON® Capacitive Buffer Module,
input voltage: 24 VDC,
output: 24 VDC / 10 A,
buffer time: 0.06 … 7.2 s, signal contact

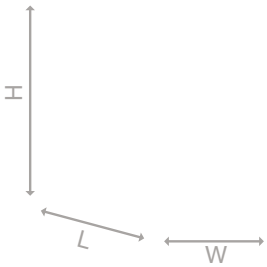
	Item No.	Pack. Unit
	787-880	1

EPSITRON® Capacitive Buffer Module,
input voltage: 24 VDC,
output: 24 VDC / 20 A,
buffer time: 0.17 … 16.5 s, signal contact

	Item No.	Pack. Unit
	787-881	1

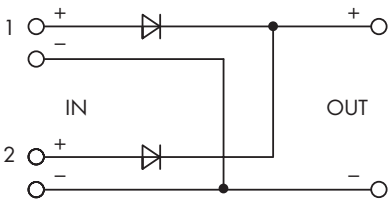
Electrical Data		
Input current I_i	60 mA (no load running); 1 A (charging); 11 A (max.)	60 mA (no load running); 1 A (charging); 22 A (max.)
Output voltage range	Ui - 0.5 VDC (below switch-on threshold) 20.4 … 24 VDC (during buffer mode)	Ui - 1 VDC (below switch-on threshold) 20.4 … 24 VDC (during buffer mode)
Output current I_o	10 A	20 A
Current limitation	Electronic, typ. 11 A	Electronic, typ. 22 A
Buffer time	0.06 … 7.2 s (depends on load current and switch-on threshold)	0.17 … 16.5 s (depends on load current and switch-on threshold)
Power loss P_V	1.5 W open circuit 6.5 W nominal load	1.5 W open circuit 15 W (nominal load)
Connectors	Input/Output: WAGO 231 Series Relay: WAGO 231 Series	Input/Output: WAGO 831 Series Relay: WAGO 231 Series
Conductor range	Input/Output: 0.08 … 2.5 mm² / 28 … 12 AWG Relay: 0.08 … 2.5 mm² / 28 … 12 AWG	Input/Output: 0.5 … 10 mm² / 20 … 8 AWG Relay: 0.08 … 2.5 mm² / 28 … 12 AWG
Strip length	Input/Output: 8 … 9 mm / 0.31 … 0.35 inch Relay: 8 … 9 mm / 0.31 … 0.35 inch	Input/Output: 13 … 15 mm / 0.51 … 0.59 inch Relay: 8 … 9 mm / 0.31 … 0.35 inch
Mechanical Data		
Dimensions (mm) W x H x L	57 x 163 x 179, Length from upper-edge of DIN-35 rail	57 x 181 x 179, Length from upper-edge of DIN-35 rail

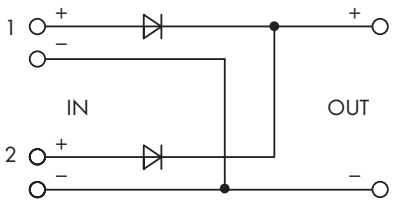
Redundancy Modules
EPSITRON®
787 Series



Features:
- Redundancy module with 2 inputs for decoupling 2 power supplies
- For redundant and fail-safe power supply
- With LED for input voltage monitoring on site

Technical Data	
Input	
Nominal input voltage $U_{i\,nom}$	2 x 24 VDC
Input voltage range	2 x 9 … 54 VDC
Output	
Nominal output voltage $U_{o\,nom}$	24 VDC (U_i - 0.6 V)
Output voltage range	9 … 54 VDC
Uoltage drop	0.6 V (Input/Output)
Operational indication	2 x LED green (U_i > 7.5 VDC), 1 x LED green (U_o > 7.5 VDC)
General Specifications	
Standards/Approvals	UL 508
Environmental Requirements	
Ambient operating temperature	-25 … +70 °C
Storage temperature	-40 … +85 °C
Relative humidity	≤ 95 % (no condensation permissible)
Derating	-2.66 % / K (55 °C < T_{amb} ≤ 70 °C)
Degree of pollution	2 (acc. to EN 50178)
Climatic category	3K3 (acc. to EN 60721, except for low air pressure)
Vibration resistance	0.7 g (acc. to EN 60068-2-6)
Shock resistance	15 g (acc. to EN 60068-2-27)
Safety and Protection	
Test voltage	0.5 kV (input – housing); 0.5 kV (output – housing)
Protection class	III
Degree of protection	IP20 per EN 60529
Overvoltage protection	No
Short-circuit-protection	No
No-load proof	Yes
Feedback voltage	60 V
Parallel operation	Yes
MTBF	> 10 Mio. h (acc. to IEC 61709)
Connection and Type of Mounting	
Type of mounting	DIN-rail mounting (EN 60715)





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EPSITRON® Diode Redundancy Module,
input voltage: 2 x 9 … 54 VDC,
max. input current: 12.5 A per path,
output: 9 … 54 VDC / 25 A

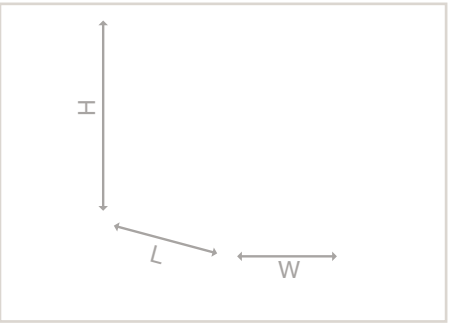
	Item No.	Pack. Unit
	787-783	1

EPSITRON® Diode Redundancy Module,
input voltage: 2 x 9 … 54 VDC,
max. input current: 40 A per path,
output: 9 … 54 VDC / 76 A

	Item No.	Pack. Unit
	787-785	1

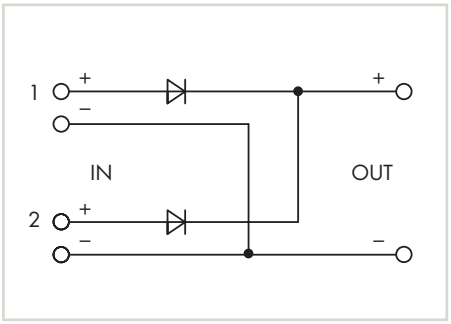
Electrical Data		
Input current I_i	Max. 12.5 ADC per path	Max. 40 ADC per path (in total max. 76 ADC)
Output current I_o	25 ADC (max.)	Max. 76 ADC (UL max. 65 ADC)
Output power	≤ 1350 W	≤ 4104 W
Efficiency	≥ 96 %	≥ 97 %
Power loss P_V	12.5 W (nominal load)	29.7 W (nominal load)
Connection technology	CAGE CLAMP® (2706 Series)	CAGE CLAMP® (2716 Series)
Conductor range	solid/fine-stranded: 0.5 … 6 mm² / 20 … 10 AWG	solid/fine-stranded: 1.5 … 16 mm² / 16 … 6 AWG
Strip length	11 … 12 mm / 0.43 … 0.47 inch	12 … 13 mm / 0.47 … 0.51 inch
Mechanical Data		
Dimensions (mm) W x H x L	50 x 130 x 92, Length from upper-edge of DIN-35 rail	83 x 130 x 153, Length from upper-edge of DIN-35 rail
Weight	340 g	960 g

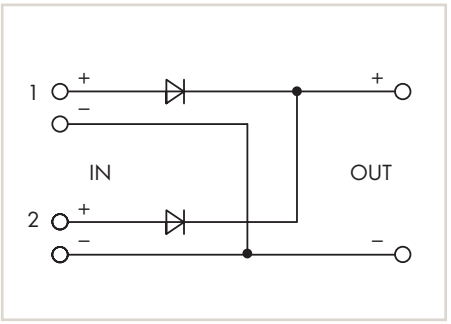
Redundancy Modules
EPSITRON®
787 Series



Features:
- Redundancy module with 2 inputs for decoupling 2 power supplies
- For redundant and fail-safe power supply
- With LED and potential-free contact for input voltage monitoring on site and remotely

Technical Data	
Output	
Output voltage range	Ui - 0.6 VDC
Output current I_o	20 A, max. 40 A
Operational indication	LED green (Uo), 2x LED yellow (Ui)
Signaling	1 x isolated relay contact 30 VDC, 1 A
Fuse Protection	
Internal fuse	No
Environmental Requirements	
Ambient operating temperature	-10 … +60 °C
Storage temperature	-25 … +85 °C
Relative humidity	5 % … 96 % (no condensation permissible)
Safety and Protection	
Test voltage	500 VDC (terminals to enclosure)
Protection class	III
Reverse voltage protection	Yes
Degree of protection	IP20 per EN 60529
Parallel operation	Yes
Connection and Type of Mounting	
Connectors	Input/Output: WAGO 831 Series Relay: WAGO 231 Series
Conductor range	Input/Output: 0.5 … 10 mm² / 20 … 8 AWG Relay: 0.08 … 2.5 mm² / 28 … 12 AWG
Strip length	Input/Output: 13 … 15 mm / 0.51 … 0.59 inch Relay: 8 … 9 mm / 0.31 … 0.35 inch
Type of mounting	DIN-rail mounting (EN 60715) in 2 positions
Dimensions and Weight	
Dimensions (mm) W x H x L	40 x 181 x 163, Length from upper-edge of DIN-35 rail





EPSITRON® Diode Redundancy Module,
input voltage: 2 x 24 VDC,
max. input current: 20 A per path,
output: 24 VDC / 40, A, signal contact

Item No.	Pack. Unit
787-885	1

EPSITRON® Diode Redundancy Module,
input voltage: 2 x 48 VDC,
max. input current: 20 A per path,
output: 48 VDC / 40, A, signal contact

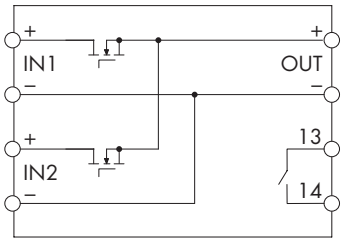
Item No.	Pack. Unit
787-886	1

Electrical Data		
Nominal input voltage $U_{i\,nom}$	2 x 24 VDC	2 x 48 VDC
Input voltage range	18 … 30 VDC	36 … 54 VDC
Input current I_i	Max. 20 A per path	Max. 20 A per path
Nominal output voltage $U_{o\,nom}$	24 VDC	48 VDC
Efficiency	97 % (typ.)	96 % (typ.)
Power loss P_V	1.5 W open circuit; 14 W nominal load (20 A); 26 W nominal load (40 A)	1.7 W (48 VDC / no load); 20 W (48 VDC, rated load) (20 A); 40 W (48 VDC, rated load) (40 A);
Feedback voltage	Max. 33 VDC	Max. 60 VDC
MTBF	> 500,000 h (acc. to IEC 61709)	> 500,000 h (acc. to IEC 61709)
Mechanical Data		
Weight	870 g	860 g
General Specifications		
Standards/Approvals	EN 60950, UL 60950, UL 508, EN 61000-6-2, EN 61000-6-3	EN 60950, UL 60950*, UL 508*, EN 61000-6-2, EN 61000-6-3 (* pending)

Redundancy Modules
EPSITRON®
787 Series

Similar to pictured device

Features:
- Redundancy module with low-loss MOSFET decouples two power supplies
- For redundant and fail-safe power supply
- Continuous output current: 40 ADC, in any ratio of both inputs (e.g., 20 A/20 A or 0 A/40 A)
- Suitable for *EPSITRON*® Power Supplies with PowerBoost and TopBoost
- Same profile as *EPSITRON*® CLASSIC Power Supplies
- Connects to power supplies with electrically isolated output voltage (SELV) acc. to EN 60950-1/ UL 60950-1; PELV acc. to EN 60204



EPSITRON® MOSFET Redundancy Module,
input voltage: 2 x 24 VDC,
max. input current: 40 A per path
output: 24 VDC / 40, A, signal contact

Item No.	Pack. Unit
787-1685	1

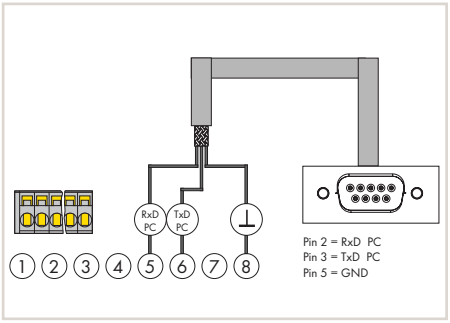
Technical Data

Input	
Nominal input voltage $U_{i\,nom}$	2 x 24 VDC
Input voltage range	2 x 10 … 36 VDC
Input current I_i	Max. 40 ADC (from one input path) or 20 ADC (via both input paths) PowerBoost: 60 ADC (for 4 s), 50 ADC (for 8 s) TopBoost: 100 ADC (for 50 ms)
Output	
Nominal output voltage $U_{o\,nom}$	24 VDC
Output voltage range	10 … 36 VDC
Uoltage drop	Max. 100 mV (Input/Output)
Output Current	Max. 40 ADC PowerBoost: 120 ADC (for 4 s); 100 ADC (for 8 s) TopBoost: 200 ADC (for 50 ms)
Switching frequency	5 kHz
Output current limitation	No
Operational indication	2 x LED green (U_i > 10 VDC)
Signaling	1 x isolated relay contact (DC OK)
Efficiency/Power Losses	
Efficiency	99.5 % (typ.)
Power loss P_V	1.5 W (no load), < 9.5 W (nominal load)
Fuse Protection	
Internal fuse	No
General Specifications	
Standards/Approvals	EN 61204-3, EN 60950-1, UL 60950, UL 508, GL * (* pending)
Environmental Requirements	
Ambient operating temperature	-40 … +70 °C
Storage temperature	-40 … +85 °C
Relative humidity	5 % ... 96 % (no condensation permissible)
Derating	-1.5 % / K (> 65 °C)
Degree of pollution	2 (acc. to EN 50178)
Climatic category	3K3 (acc. to EN 60721)

Safety and Protection	
Test voltage	500 VDC (terminals to enclosure)
Protection class	III
Degree of protection	IP20 per EN 60529
Reverse voltage protection	Yes
Feedback voltage	Max. 37 VDC
Parallel operation	Yes
MTBF	> 500,000 h
Fire load	4.4 MJ
Connection and Type of Mounting	
Connectors	Input/Output: WAGO 831 Series Signaling: WAGO 721 Series
Conductor range	Input/Output: 0.5 … 10 mm² / 20 … 8 AWG Signaling: 0.08 … 2.5 mm² / 28 … 12 AWG
Strip length	Input/Output: 13 … 15 mm / 0.51 … 0.59 inch Signaling: 8 … 9 mm / 0.31 … 0.35 inch
Type of mounting	DIN-rail mounting (EN 60715)
Dimensions and Weight	
Dimensions (mm) W x H x L	42 x 127 x 139.5, Length from upper-edge of DIN-35 rail
Weight	370 g

Accessories
EPSITRON® Communication Cable with an RS-232 Interface
787 Series

Similar to pictured device



Wiring diagram shows 787-890

The communication cables are used for configuration and visualization via PC or controller.
The communication cables are suitable for 787-1675 or all 787-8xx Series devices equipped with an RS-232 serial interface. Download the corresponding PC software for all 787 Series devices at www.wago.com/epsitron.

Function blocks for communication with the WAGO-I/O-SYSTEM 750 and other control systems are also available.

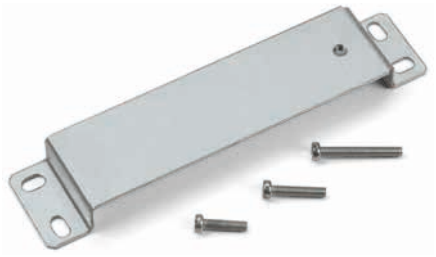
Note:
The 787-890 or 787-892 Communication Cables are not electrically isolated.

Technical Data	
Type of signal	Serial Signal (RS-232)
Connectors	1 x 8-pole 733-108 Female Connector with strain relief (module side, 787-890, 787-8xx), or 1 x 4-pole 734-104 Female Connector with strain relief (787-892 module side, 787-1675), 1 x 9-pole D-sub female connector (PC/controller side)
Isolation	No
Conductor range	3 x 0.34 mm² (AWG 22), shielded
Ambient operating temperature	-10 … +70 °C
Degree of protection	IP20
Length	1.8 m

Communication cable with an RS-232 interface		
for	**Item No.**	Pack. Unit
787-8xx	**787-890**	1
787-1675	**787-892**	1

Accessories
EPSITRON® Wall-Mount Adapter/Carrier Rail Adapters
787 Series

EPSITRON® Wall-Mount Adapter



The 787-895 Wall-Mount Adapter secures 787-8xx devices on mounting plate or wall without DIN-35 rail. This adapter replaces the rail support of the 787-8xx device.
The adapter is secured to the 787-8xx device via provided screws.

Wall-mount adapter, secures 787-8xx devices on a mounting plate or wall, without DIN-35 rail

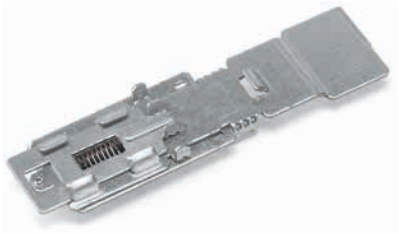
Item No.	Pack. Unit
787-895	5

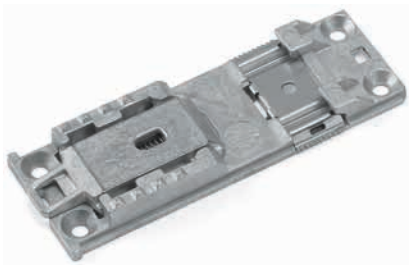
Technical Data

Material	Galvanized sheet steel
Dimensions (mm) W x H x L	35 x 15 x 158.5
Fixing	Mounting holes: 4 slots, 5.3 mm x 9 mm Mounting hole spacing: 143 mm x 19.5 mm
Included	Wall-mount adapter 1x screw M4 x 16 1x screw M4 x 20 1x screw M4 x 30

5

EPSITRON® Carrier Rail Adapters





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

Carrier rail adapter made of zinc die-cast for mounting 787-8xx devices to a DIN-35 rail.
The 787-897 Carrier Rail Adapter allows horizontal mounting of 787-8xx devices.
Mounting the adapter 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. this allows the position to be easily changed.

Carrier rail adapter, for mounting 787-8xx devices to a DIN-35 rail

Item No.	Pack. Unit
787-896	1

Carrier rail adapter, Zinc die-cast, for mounting 787-8xx devices to a DIN-35 rail

Item No.	Pack. Unit
787-897	1

Technical Data

Material	Galvanized sheet steel	Zinc die-cast
Dimensions (mm) W x H x L	35 x 136.5 x 15.5	37 x 102.5 x 10.5
Mounting	By sliding both single parts into the guide slot and then screwing	By pressing the adapter into the guide slot
Included	Carrier rail adapter Assembly instructions	Carrier rail adapter Assembly instructions