

Switched-Mode Power Supplies. 5, 12, 18, 48 VDC Output

Nominal output current [ADC]	Input, 1-phase	Input, 2-/3-phase	Approvals						DC OK signal/contact	RS-232 serial interface	TopBoost*	PowerBoost	Efficiency, typ. [%]	Ambient operating temperature [°C] ****	Item Number	Page
			EN 60335	cURus 60950	cULus 508	GL	ANSI/ISA 12.12.1	ATEX/IEC Ex								
5.5	■		■	■	□							75.0	-25 ... +60	787-1020	367	
Output: 12 VDC																
2.0	■		■	■	■	■						82.0	-25 ... +70	787-1601**	327	
2.0	■		■	■	■	■						80.0	-25 ... +60	787-1001	367	
4.0	■		■	■	■	■						86.0	-25 ... +70	787-1611**	327	
4.0	■		■	■	■	■						85.0	-25 ... +60	787-1011	368	
6.0	■		■	■	■	■			■	■		83.0	-25 ... +70	787-819	315	
6.5	■		■	■	■	■						87.0	-25 ... +60	787-1021	368	
7.0	■		■	■	■	■						86.0	-25 ... +70	787-1621	328	
10.0	■		■	■	■	■			■	■		87.8	-25 ... +70	787-821	315	
15.0	■		■	■	■	■			■	■		87.0	-25 ... +70	787-831	316	
15.0	■		■	■	■	■			■	■		90.0	-25 ... +70	787-1631	328	
Output: 18 VDC																
2.5	■		■	■	□							83.0	-25 ... +60	787-1017	369	
Output: 48 VDC																
2.0	■		■	■	■	■						86.0	-25 ... +70	787-1623	337	
5.0	■		■	■	■	■			■	■		91.0	-25 ... +70	787-833	318	
5.0	■		■	■	■	■			■	■		92.0	-25 ... +70	787-1633	337	
10.0	■		■	■	■	■			■	■		91.0	-25 ... +70	787-835	319	
10.0	■		■	■	■	■			■	■		93.0	-25 ... +70	787-1635	338	
10.0	■	■	■	■	■	■			■	■		93.0	-25 ... +70	787-845	325	
20.0	■	■	■	■	■	■			■	■		94.4	-25 ... +70	787-847	325	

DC/DC Converters

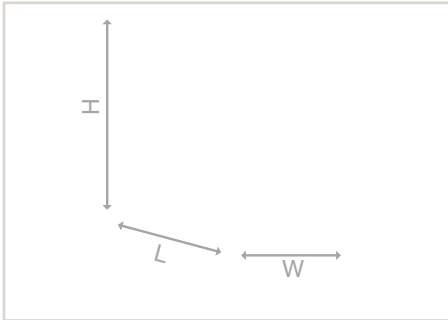
Nominal input voltage [VDC]	Nominal voltage output [VDC]	Nominal output current [A]	Approvals						DC OK signal/contact	Efficiency, typ. [%]	Ambient operating temperature [°C]	Item Number	Page
			cURus 60950	cULus 508	GL	ANSI/ISA 12.12.1	ATEX/IEC Ex	EN 50155					
24.0	5.0	0.5	□	□	□	□	□	■	82.5	-25 ... +70	787-2801	421	
24.0	10.0	0.5	□	□	□	□	□	■	89.0	-25 ... +70	787-2802	421	
48.0	24.0	0.5	□	□	□	□	□	■	91.0	-25 ... +70	787-2803	422	
24.0	12.0	0.5	□	□	□	□	□	■	90.0	-25 ... +70	787-2805	422	
24.0	5/10/12	0.5	□	□	□	□	□	■	82.5	-25 ... +70	787-2810	423	
110.0	24.0	2.0						■	85.0	-40 ... +70	787-1014	419	
72.0	24.0	2.0						■	86.0	-40 ... +70	787-1014/0072-0000	419	

■ yes □ pending
 * TopBoost enables magnetic tripping of circuit breakers in the output circuit.
 ** Class 2 Power Unit acc. to cURus 1310 or cURus 60950
 *** with uninterruptible power supply (UPS)
 **** Device starts at -40 °C type-tested for 787-8xx, -10xx, -16xx

DC/DC Converters

EPSITRON® COMPACT Power

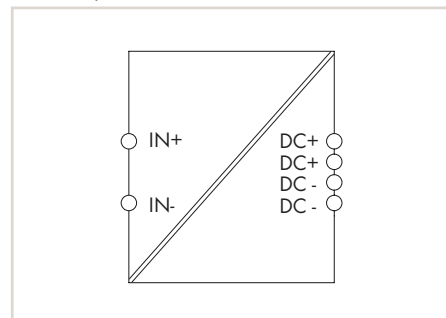
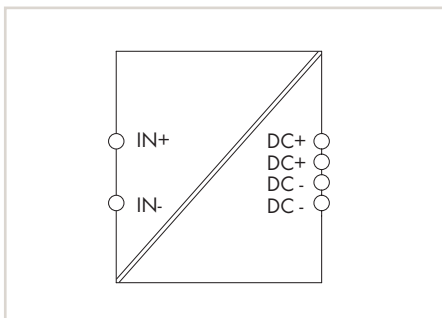
787 Series



Technical Data	
Input	
Frequency	0 Hz
Inrush current	< 30 A, NTC
Output	
Nominal output voltage $U_{o, nom}$	24 VDC (SELV)
Output current I_o	2.0 A at 24 VDC, max. 1.6 A in any mounting position
Factory preset	24 VDC
Residual ripple	< 100 mV (peak-to-peak) up to 20 MHz
Current limitation	1.1 x I_o typ.
Overload behavior	Constant current
Operational indication	LED green (U_o)
Fuse Protection	
Internal fuse	T 4 A / 125 VDC
External fuse	Electronic circuit breaker 6 A, 10 A, B, C characteristic
General Specifications	
Standards/Approvals	EN 60950, EN 61204-3, EN 50121-3-2, EN 50125 *, UL 60950 *, UL 508 *, GL * * (pending)
Environmental Requirements	
Ambient operating temperature	-40 ... +70 °C
Storage temperature	-40 ... +85 °C
Relative humidity	5 ... 96 % (varnished PCB)
Derating	-1.5 % / K (> 55 °C)
Degree of pollution	2 (acc. to EN 50178)
Climatic category	3K3 (acc. to EN 60721)
Shock and vibration	Category 1, Class B (per EN 61373:2010)
Safety and Protection	
Enclosure	Plastic, light gray, Flammability class V0 acc. to UL94
Test voltage PRI-SEC	4.2 kV (DC)
Protection class	II
Degree of protection	IP20 per EN 60529
Overvoltage category	II
Overvoltage protection	Varistor (input side); internal protective circuit, < 40 VDC (output side in case of an error)
Short-circuit-protection	Yes
No-load proof	Yes
Feedback voltage	Max. 35 VDC
Parallel operation	Yes
Series connection	Yes
MTBF	> 500,000 h
Fire load	7 MJ
Connection and Type of Mounting	
Connectors	Input/Output: WAGO 740 Series
Conductor range	Input/Output: 0.08 ... 2.5 mm ² / 28 ... 12 AWG
Strip length	Input/Output: 6 ... 7 mm / 0.24 ... 0.28 inch
Type of mounting	DIN-rail mounting (EN 60715)
Dimensions and Weight	
Dimensions (mm) W x H x L	72 x 89 x 59, Length: 55 mm from upper-edge of DIN-35 rail
Weight	240 g



Similar to pictured device



EPSITRON® DC-DC Converter, COMPACT Power,
input voltage: 110 VDC,
output: 24 VDC / 2 A

Item No.	Pack. Unit
787-1014	1

EPSITRON® DC-DC Converter, COMPACT Power,
input voltage: 72 VDC,
output: 24 VDC / 2 A

Item No.	Pack. Unit
787-1014/072-000	1

Electrical Data

Nominal input voltage $U_{I,nom}$	110 VDC
Input voltage range	77 ... 140 VDC
Input current I_i	0.77 A at 77 VDC; 0.42 A at 140 VDC
Mains failure hold-up time	> 8 ms at 77 VDC; > 25 ms at 140 VDC
Adjustment accuracy	10 %
Efficiency	85 % (typ.)
Power loss P_v	1.9 W (110 VDC/no load), 9.9 W (110 VDC/nominal load)
Power loss P_v (max.)	9.9 W typ. (77 VDC / 24 VDC, 2 A)

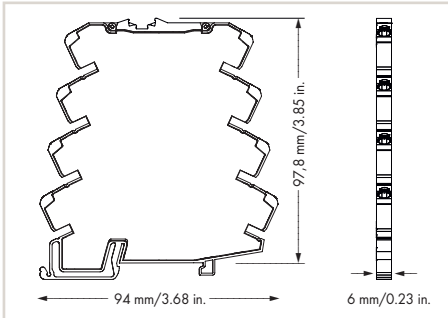
Nominal input voltage $U_{I,nom}$	72 VDC
Input voltage range	40 ... 90 VDC
Input current I_i	0.79 A at 72 VDC
Mains failure hold-up time	> 8 ms at 72 VDC
Adjustment accuracy	2 %
Efficiency	84 % (typ.)
Power loss P_v	2.0 W (72 VDC/no load), 9.0 W (72 VDC/nominal load)
Power loss P_v (max.)	10.5 W typ. (40 VDC / 24 VDC, 2 A)

Nominal input voltage $U_{I,nom}$	72 VDC
Input voltage range	40 ... 90 VDC
Input current I_i	0.79 A at 72 VDC
Mains failure hold-up time	> 8 ms at 72 VDC
Adjustment accuracy	2 %
Efficiency	84 % (typ.)
Power loss P_v	2.0 W (72 VDC/no load), 9.0 W (72 VDC/nominal load)
Power loss P_v (max.)	10.5 W typ. (40 VDC / 24 VDC, 2 A)

DC/DC Converters

EPSITRON®

787 Series



Features:

- DC/DC Converter in a compact 6 mm housing
- 787-28xx LC/DC Converters supply devices with 5, 10, 12 or 24 VDC from a power supply with 24 or 48 VDC, with an output power up to 12 W.
- Output voltage monitoring via DC OK contact
- Can be commoned with 857 and 2857 Series devices
- Comprehensive range of approvals for multiple applications

Technical Data

Input	
Inrush current	< 0.5 A (1 ms, at nominal input voltage)
Output	
Output current I_o	0.5 A
Mains/load regulation	< 1 %
Residual ripple	≤ 20 mV (peak-to-peak)
Operational indication	LED green (U _o), LED red (short circuit)
Signaling	DC OK contact (U _i , max. 15 mA)
Fuse Protection	
Internal fuse	None
Environmental Requirements	
Ambient operating temperature	-25 ... +70 °C
Storage temperature	-40 ... +85 °C
Relative humidity	95 % (no condensation permissible)
Derating	No derating
Degree of pollution	2 (acc. to EN 50178)
Climatic category	3K3 (acc. to EN 60721, except for low air pressure)
Safety and Protection	
Protection class	III
Reverse voltage protection	Yes
Degree of protection	IP20 per EN 60529
Short-circuit-protection	Yes
No-load proof	Yes
Parallel operation	No
Series connection	No
MTBF	> 1,800,000 h
Connection and Type of Mounting	
Connection technology	Push-in CAGE CLAMP® (WAGO 857 Series)
Conductor range	solid: 0.08 ... 2.5 mm ² / 28 ... 14 AWG fine-stranded: 0.34 ... 2.5 mm ² / 22 ... 14 AWG
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch
Type of mounting	DIN-rail mounting (EN 60715)
Dimensions and Weight	
Dimensions (mm) W x H x L	6 x 97.8 x 94, Height from upper-edge of DIN-35 rail
Weight	38 g



DC O.K.	1		5	n.c.
GND	2	DC O.K.	6	n.c.
Vout+	3		7	Vin+
GND	4	OUT	IN	8
				GND

DC O.K.	1		5	n.c.
GND	2	DC O.K.	6	n.c.
Vout+	3		7	Vin+
GND	4	OUT	IN	8
				GND

EPSITRON® DC-DC Converter,
input voltage: 24 VDC,
output: 5 VDC / 0.5 A

	Item No.	Pack. Unit
	787-2801	1

EPSITRON® DC-DC Converter,
input voltage: 24 VDC,
output: 10 VDC / 0.5 A

	Item No.	Pack. Unit
	787-2802	1

Electrical Data

Nominal input voltage $U_{I,nom}$	24 VDC
Input voltage range	10 ... 30 VDC
Input current I_i	< 0.34 A
Nominal output voltage $U_{O,nom}$	5 VDC ($\pm 3\%$)
Adjustment accuracy	< 3 %
Efficiency	> 82.5 % (at nominal input voltage and nominal output)
Power loss P_v	< 0.13 W (no load); < 0.6 W (nominal load)
Feedback voltage	16 V

General Specifications

Standards/Approvals	CE; EN 61000-6-2, EN 61000-6-3, EN 60950-1, UL 60950*, UL 508*, ANSI/ISA 12.12.01*, ATEX*, IEC Ex*, GL* (*pending)
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Nominal input voltage $U_{I,nom}$	24 VDC
Input voltage range	15 ... 30 VDC
Input current I_i	< 0.42 A
Nominal output voltage $U_{O,nom}$	10 VDC ($\pm 2\%$)
Adjustment accuracy	< 2 %
Efficiency	> 89 % (at nominal input voltage and nominal output)
Power loss P_v	< 0.19 W (no load); < 0.7 W (nominal load)
Feedback voltage	16 V

Standards/Approvals	CE; EN 61000-6-2, EN 61000-6-3, EN 60950-1, UL 60950*, UL 508*, ANSI/ISA 12.12.01*, ATEX*, IEC Ex*, GL* (*pending)
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DC/DC Converters

EPSITRON®

787 Series



DC O.K.	1		5	n.c.
	DC O.K.			
GND	2		6	n.c.
Vout+	3		7	Vin+
		OUT	IN	
GND	4		8	GND

DC O.K.	1		5	n.c.
	DC O.K.			
GND	2		6	n.c.
Vin+	3		7	Vout+
		IN	OUT	
GND	4		8	GND

EPSITRON® DC-DC Converter,
input voltage: 24 VDC,
output: 12 VDC / 0.5 A

	Item No.	Pack. Unit
	787-2805	1

EPSITRON® DC-DC Converter,
input voltage: 48 VDC,
output: 24 VDC / 0.5 A

	Item No.	Pack. Unit
	787-2803	1

Electrical Data

Nominal input voltage $U_{I,nom}$	24 VDC
Input voltage range	15 ... 30 VDC
Input current I_i	< 0.5 A
Nominal output voltage $U_{O,nom}$	12 VDC ($\pm 2\%$)
Adjustment accuracy	< 2 %
Efficiency	> 90 % (at nominal input voltage and nominal output)
Power loss P_v	< 0.21 W (no load); < 0.7 W (nominal load)
Feedback voltage	16 V

General Specifications

Standards/Approvals	CE; EN 61000-6-2, EN 61000-6-3, EN 60950-1, UL 60950*, UL 508*, ANSI/ISA 12.12.01*, ATEX*, IEC Ex*, GL* (*pending)
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Nominal input voltage $U_{I,nom}$	48 VDC
Input voltage range	40 ... 55 VDC
Input current I_i	< 0.34 A
Nominal output voltage $U_{O,nom}$	24 VDC ($\pm 2\%$)
Adjustment accuracy	< 3 %
Efficiency	> 91 % (at nominal input voltage and nominal output)
Power loss P_v	< 0.29 W (no load); < 1.2 W (nominal load)
Feedback voltage	27 V

Standards/Approvals	CE; EN 61000-6-2, EN 61000-6-3, EN 60950-1, UL 60950*, UL 508*, ANSI/ISA 12.12.01*, ATEX; IEC Ex*, GL* (*pending)
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DC O.K.	1		5	n.c.
	DC O.K.			
GND	2		6	n.c.
Vout+	3		7	Vin+
		OUT	IN	
GND	4		8	GND

EPSITRON® DC-DC converter,
input voltage: 24 VDC,
adjustable output voltage: 5/10/12 VDC,
output current: 0.5 A

Item No.	Pack. Unit
787-2810	1

Electrical Data

Nominal input voltage $U_{i, nom}$	24 VDC
Input voltage range	15 ... 30 VDC
Input current I_i	< 0.5 A
Nominal output voltage $U_{o, nom}$	5/10/12 VDC ($\pm 3\%$) set via DIP switches
Adjustment accuracy	< 3 %
Efficiency	> 82.5 % (at nominal input voltage and nominal output)
Power loss P_v	< 0.21 W (no load); < 0.7 W (nominal load)
Feedback voltage	16 V

General Specifications

Standards/Approvals	CE; EN 61000-6-2, EN 61000-6-3, EN 60950-1, UL 60950*, UL 508*, ANSI/ISA 12.12.01*, ATEX*, IEC Ex*, GL* (*pending)
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