

connectPower DC/DC converter

ConnectPower DC/DC converter



Derating curve

Event		LED (Gr/Ye/Rd)		LED (Ye)		Transistor status outputs		Status relay
Input	Output	gr = "DC OK"	Rd = "FAul T"	Ye = "i > 90% I _N "	"I ow u _N "	DC OK	i > 90% I _N	
U _N ≤ 14 V	—	OFF	ON	Low	Low	Low	Low	OFF
	I < 90 % I _N	Gr	ON	High	Low	Low	Low	ON
	I > 90 % I _N	Ye	ON	High	High	Low	Low	ON
U _N = 14...19.2 V *)	U < 20.4 V	Rd	ON	Low	Low	Low	Low	OFF
	I < 90 % I _N	Gr	OFF	High	Low	High	ON	ON
	I > 90 % I _N	Ye	OFF	High	High	High	ON	ON
U _N > 19.2 V	I < 90 % I _N	Gr	OFF	High	Low	High	ON	ON
	I > 90 % I _N	Ye	OFF	High	High	High	ON	ON
	U < 20.4 V	Rd	OFF	Low	Low	High	OFF	OFF

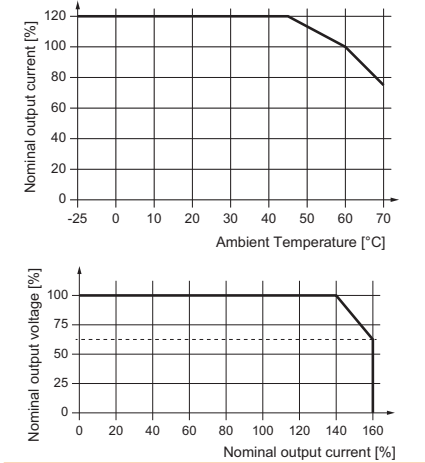
Gr = grün / green / verte / verde / verde / 绿色

Ye = gelb / yellow / jaune / giallo / amarillo / amarelo / 黄色

Rd = rot / red / rouge / rosso / rojo / vermelho / 红色

*) während des Betriebes / during operations / en cours de fonctionnement / durante l'esercizio / durante el servicio / durante a operação / 运行过程中

Signal states



Technical data

General data	
Current limiting	150% I _N
Insulation voltage input / earth	1.5 kV
Insulation voltage output / earth	0.5 kV
Insulation voltage, input/output	1.5 kV
Ambient temperature (operational) / Storage temperature / Start-up	-25 °C...70 °C / -40 °C...85 °C / ≥ -40 °C
Humidity at operating temperature	5...95 %, no condensation
Protection class / Pollution degree	III / 2
MTBF	> 500,000 h
Housing version	Metal, corrosion resistant
Mounting position, installation notice	Horizontal on TS35 mounting rail. 50 mm of clearance at top & bottom for air circ. Can mount side by side with no space in between., 50 mm clearance at top and bottom for free air circulation, mountable side by side without clearance
EMC / shock / vibration	
Interference immunity test acc. to	EN 61000-4-2 (ESD), EN 61000-4-4 (burst), EN 61000-4-5 (surge), EN 61000-4-6 (conducted), EN61000-4-3 (HF field)
Shock	30 g in all directions
Resistance to vibration	2.3 g (15 Hz...150 Hz)
Electrical safety (applied standards)	
Electrical machine equipment	Acc. to EN60204
Safety transformers for switch-mode power supplies	According to EN 61558-2-16
For use with electronic equipment	Acc. to EN50178 / VDE0160
Protective separation / protection against electrical shock	VDE0100-410 / acc. to DIN57100-410
Protection against dangerous shock currents	Acc. to VDE0106-101

connectPower DC/DC converter

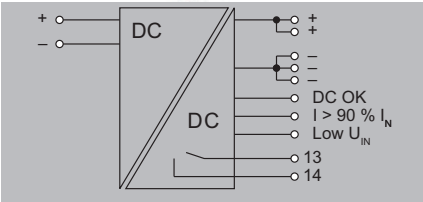
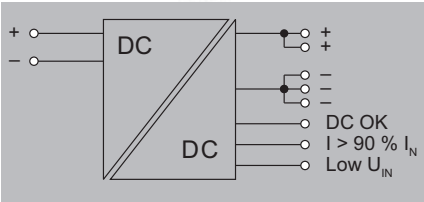
ConnectPower DC/DC converter

PRO DCDC 120W 24V 5A

PRO DCDC 240W 24V 10A

DC/DC converters

D



Technical data

Input	
Rated input voltage	
DC input voltage range	
Input fuse (internal)	
Inrush current / Inrush Current Limitation	
Recommended back-up fuse	
Output	
Rated output voltage	
Output voltage	
Continuous output current @ U _{Nominal}	
Output power	
Capacitive load	
Parallel connection option	
Reserve capacity @ U _{Nominal}	
Residual ripple, breaking spikes	
Protection against inverse voltage / Overload protection	
General data	
Mains failure bridge-over time	
Protection against reverse voltages from the load	
Start-up	
Current limiting	
Power loss idling / nominal load	
Degree of efficiency	
Signalling	
Transistor output, positive-switching	
Floating contact	
Relay on/off / Contact load	
Approvals	
Approvals	

24 V DC	
14...32 V (during operation), 18...32 V (commissioning)	
Yes	
Max. 10 A / Yes	
10 A, Char. B circuit breaker, 10 A, Char. C circuit breaker	
24 V DC ± 1 %	
22.5...29.5 V (adjustable via potentiometer on front)	
5 A @ 40 °C, 6 A @ 45°C, 3,75 A @ 70°C	
120 W	
unrestricted	
yes, max. 5 (without diode module)	
600% IN for 16 ms	
≤ 20 mVPP @full load	
Yes / Yes	
10ms @ 24V DC / 5A	
33...34 V DC	
≥ -40 °C	
150% I _{out}	
2 W / 11 W	
Typ.: 92 %	
DC OK: 20 mA max., short-circuit-proof, I > 90%: 20 mA max., short-circuit-proof, Low U _{IN} : 20 mA max., short-circuit-proof	
/	
ABS; BURVER; CE; cULus; cULusEX; DETNORVER; LLOYDSREG; RINA; TUEV	

24 V DC	
14...32 V (during operation), 18...32 V (commissioning)	
Yes	
max. 15 A / Yes	
25 A, Char.B circuit breaker, 25 A, Char.C circuit breaker	
24 V DC ± 1 %	
22.5...29.5 V (adjustable via potentiometer on front)	
10 A @ 60 °C, 12 A @ 45°C, 7,5 A @ 70°C	
240 W	
unrestricted	
yes, max. 5 (without diode module)	
600% IN for 16 ms	
≤ 20 mVPP @full load	
Yes / Yes	
12ms @ 24V DC / 10A	
33...34 V DC	
≥ -40 °C	
150% I _{out}	
2 W / 22 W	
Typ.: 92 %	
DC OK: 20 mA max., short-circuit-proof, I > 90%: 20 mA max., short-circuit-proof, Low U _{IN} : 20 mA max., short-circuit-proof	
Yes	
Output voltage > 21.6 V / <20.4 V / max. 30 V DC / 0.5 A, max. 50 V AC / 0.3 A	
ABS; BURVER; CE; cULus; cULusEX; DETNORVER; LLOYDSREG; RINA; TUEV	

Connection data	
Connection system	
Number of terminals	
Wire cross-section, rigid min/max	mm²
Wire cross-section, flexible min/max	mm²
Wire cross-section, AWG/kcmil min/max	
Note	

Input	Output
Screw connection	Screw connection
2 (+,-)	8 (+ / - / signal)
0.2 / 4	0.2 / 2.5
0.2 / 4	0.2 / 2.5
30 / 12	24 / 14

Input	Output
Screw connection	Screw connection
2 (+,-)	10 (+ / - / signal)
0.08 / 4	0.2 / 2.5
0.08 / 4	0.2 / 2.5
30 / 12	24 / 14

Ordering data

Type	Qty.	Order No.
------	------	-----------

Type	Qty.	Order No.
PRO DCDC 120W 24V 5A	1	2001800000

Type	Qty.	Order No.
PRO DCDC 240W 24V 10A	1	2001810000

Note

Note

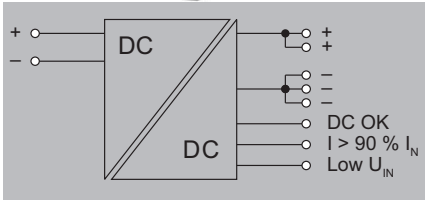
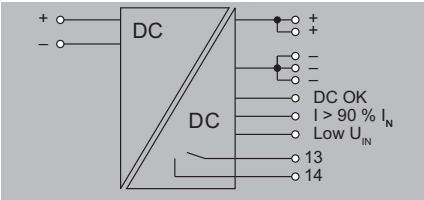
Note

connectPower DC/DC converter

ConnectPower DC/DC converter

PRO DCDC 480W 24V 20A

PRO DCDC 96W 12V/12V 8A



Technical data

Input
Rated input voltage
DC input voltage range
Input fuse (internal)
Inrush current / Inrush Current Limitation
Recommended back-up fuse
Output
Rated output voltage
Output voltage
Continuous output current @ U _{Nominal}
Output power
Capacitive load
Parallel connection option
Reserve capacity @ U _{Nominal}
Residual ripple, breaking spikes
Protection against inverse voltage / Overload protection
General data
Mains failure bridge-over time
Protection against reverse voltages from the load
Start-up
Current limiting
Power loss idling / nominal load
Degree of efficiency
Signalling
Transistor output, positive-switching
Floating contact
Relay on/off / Contact load
Approvals
Approvals

24 V DC
14...32 V (during operation), 18...32 V (commissioning)
Yes
max. 30 A / Yes
40 A, Char. B circuit breaker, 40 A, Char. C circuit breaker
24 V DC ± 1 %
22.5...29.5 V (adjustable via potentiometer on front)
20 A @ 60 °C, 24 A @ 45°C, 15 A @ 70°C
480 W
unrestricted
yes, max. 3
600% IN for 16 ms
≤ 20 mVPP @full load
Yes / Yes
10ms @ 24V DC / 20A
33...34 V DC
≥ -40 °C
150% I _{out}
3 W / 40 W
typ. > 93%
DC OK: 20 mA max., short-circuit-proof, I > 90%: 20 mA max., short-circuit-proof, Low U _{IN} : 20 mA max., short-circuit-proof
Yes
Output voltage > 21.6 V / <20.4 V / max. 30 V DC / 0.5 A, max. 50 V AC / 0.3 A
ABS; BURVER; CE; cULus; cULusEX; DETNORVER; LLOYDSREG; RINA; TUEV

12 V DC
9 ... 18 V DC
30A T
<4 A @ Nominal input voltage /
20 A (DI) / 16 A ... 20 A (Char. B, C)
12 V DC
5...15 V (adjustable via potentiometer on front)
8 A @ 60°C, 10 A @ 45°C, 6 A @ 70°C
96 W
unrestricted
yes, max. 3
600 % IN for 15 ms
≤ 20 mVPP @full load
Yes / Yes
3ms @ 12V DC / 8A
18 V DC
≥ -40 °C
150% I _{out}
≤ 4 W / 14 W
> 86.5 %
DC OK: 20 mA max., short-circuit-proof, I > 90%: 20 mA max., short-circuit-proof, Low U _{IN} : 20 mA max., short-circuit-proof
Yes
/ max. 30 V DC / 0.5 A, max. 50 V AC / 0.3 A
CE; DEMKOATEX; IECEXULD

Connection data
Connection system
Number of terminals
Wire cross-section, rigid min/max
Wire cross-section, flexible min/max
Wire cross-section, AWG/kcmil min/max
Note

Input	Output
Screw connection	Screw connection
2 (+, -)	10 (+ / - / signal)
0.5 / 16	0.18 / 6
0.5 / 16	0.18 / 6
22 / 8	26 / 10

Input	Output
Screw connection: pluggable	Screw connection
2 (+, -)	4 (++ / -)
0.2 / 4	0.2 / 2.5
0.2 / 4	0.2 / 2.5
30 / 12	24 / 14

Ordering data

Type	Qty.	Order No.
PRO DCDC 480W 24V 20A	1	2001820000

Type	Qty.	Order No.
PRO DCDC 96W 12V/12V 8A	1	2869000000

Note

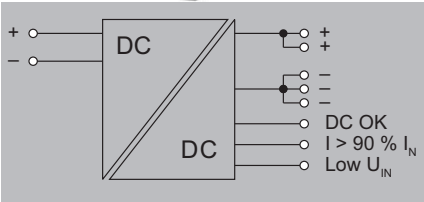
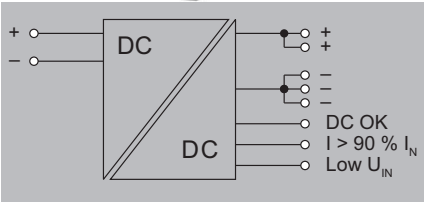
Note

Note

ConnectPower DC/DC converter

PRO DCDC 96W 24V/12V 8A

PRO DCDC 96W 48V/12V 8A



Technical data

Input
Rated input voltage
DC input voltage range
Input fuse (internal)
Inrush current / Inrush Current Limitation
Recommended back-up fuse
Output
Rated output voltage
Output voltage
Continuous output current @ U _{Nominal}
Output power
Capacitive load
Parallel connection option
Reserve capacity @ U _{Nominal}
Residual ripple, breaking spikes
Protection against inverse voltage / Overload protection
General data
Mains failure bridge-over time
Protection against reverse voltages from the load
Start-up
Current limiting
Power loss idling / nominal load
Degree of efficiency
Signalling
Transistor output, positive-switching
Floating contact
Relay on/off / Contact load
Approvals
Approvals

24 V DC
28 ... 58 V DC
15A T
<4 A @ Nominal input voltage / 10 A (DI) / 6A...10A (Char. B, C)
12 V DC
5...15 V (adjustable via potentiometer on front)
8 A @ 60°C, 10 A @ 45°C, 6 A @ 70°C
96 W
unrestricted
yes, max. 3
600 % IN for 15 ms
≤ 20 mVPP @full load
Yes / Yes
5ms @ 24V DC / 8A
18 V DC
≥ -40 °C
150% I _{out}
≤ 4 W / 11 W
> 89 %
DC OK: 20 mA max., short-circuit-proof, I > 90%: 20 mA max., short-circuit-proof, Low U _{IN} : 20 mA max., short-circuit-proof
Yes
/ max. 30 V DC / 0.5 A, max. 50 V AC / 0.3 A
CE; DEMKOATEX; IECEXULD

48 V DC
18 ... 34 V DC
15A T
<4 A @ Nominal input voltage / 10 A (DI) / 6A...10A (Char. B, C)
12 V DC
5...15 V (adjustable via potentiometer on front)
8 A @ 60°C, 10 A @ 45°C, 6 A @ 70°C
96 W
unrestricted
yes, max. 3
600 % IN for 15 ms
≤ 50 mVPP @full load
Yes / Yes
10ms @ 48V DC / 8A
18 V DC
≥ -40 °C
150% I _{out}
≤ 4 W / 11 W
> 89 %
DC OK: 20 mA max., short-circuit-proof, I > 90%: 20 mA max., short-circuit-proof, Low U _{IN} : 20 mA max., short-circuit-proof
Yes
/ max. 30 V DC / 0.5 A, max. 50 V AC / 0.3 A
CE; DEMKOATEX; IECEXULD

Connection data
Connection system
Number of terminals
Wire cross-section, rigid min/max
Wire cross-section, flexible min/max
Wire cross-section, AWG/kcmil min/max
Note

Input	Output
Screw connection: pluggable	Screw connection
2 (+, -)	4 (++, -)
0.2 / 4	0.2 / 2.5
0.2 / 4	0.2 / 2.5
30 / 12	24 / 14

Input	Output
Screw connection: pluggable	Screw connection
2 (+, -)	4 (++, -)
0.2 / 4	0.2 / 2.5
0.2 / 4	0.2 / 2.5
30 / 12	24 / 14

Ordering data

Type	Qty.	Order No.
PRO DCDC 96W 24V/12V 8A	1	2869010000
Note		

Type	Qty.	Order No.
PRO DCDC 96W 24V/12V 8A	1	2869010000

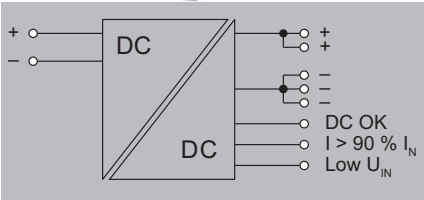
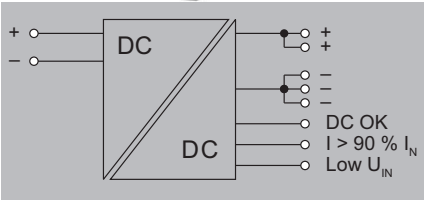
Type	Qty.	Order No.
PRO DCDC 96W 48V/12V 8A	1	2869020000

connectPower DC/DC converter

ConnectPower DC/DC converter

PRO DCDC 120W 12V/24V 5A

PRO DCDC 120W 48V/24V 5A



Technical data

Input
Rated input voltage
DC input voltage range
Input fuse (internal)
Inrush current / Inrush Current Limitation
Recommended back-up fuse
Output
Rated output voltage
Output voltage
Continuous output current @ $U_{Nominal}$
Output power
Capacitive load
Parallel connection option
Reserve capacity @ $U_{Nominal}$
Residual ripple, breaking spikes
Protection against inverse voltage / Overload protection
General data
Mains failure bridge-over time
Protection against reverse voltages from the load
Start-up
Current limiting
Power loss idling / nominal load
Degree of efficiency
Signalling
Transistor output, positive-switching
Floating contact
Relay on/off / Contact load
Approvals
Approvals

12 V DC
9 ... 18 V DC
40A T
<4 A @ Nominal input voltage /
20 A (DI) / 16 A ... 20 A (Char. B, C)
24 V DC
22...29.5 V (adjustable via potentiometer on front)
5 A @ 60°C, 6.25 A @ 45°C, 3.75 A @ 70°C
120 W
unrestricted
yes, max. 3
600 % IN for 15 ms
≤ 20 mVPP @full load
Yes / Yes
10ms @ 12V DC / 5A
32 V DC
≥ -40 °C
150% I_{out}
≤ 4 W / 18 W
> 86 %
DC OK: 20 mA max., short-circuit-proof, I > 90%: 20 mA max., short-circuit-proof, Low U_{IN} : 20 mA max., short-circuit-proof
Yes
/ max. 30 V DC / 0.5 A, max. 50 V AC / 0.3 A
CE; DEMKOATEX; IECEXULD

48 V DC
18 ... 34 V DC
15A T
<4 A @ Nominal input voltage /
10 A (DI) / 6A...10A (Char. B, C)
24 V DC
22...29.5 V (adjustable via potentiometer on front)
5 A @ 60°C, 6.25 A @ 45°C, 3.75 A @ 70°C
120 W
unrestricted
yes, max. 3
600 % IN for 15 ms
≤ 20 mVPP @full load
Yes / Yes
10ms @ 48V DC / 5A
32 V DC
≥ -40 °C
150% I_{out}
≤ 4 W / 13 W
> 90 %
DC OK: 20 mA max., short-circuit-proof, I > 90%: 20 mA max., short-circuit-proof, Low U_{IN} : 20 mA max., short-circuit-proof
Yes
/ max. 30 V DC / 0.5 A, max. 50 V AC / 0.3 A
CE; DEMKOATEX; IECEXULD

Connection data
Connection system
Number of terminals
Wire cross-section, rigid min/max
Wire cross-section, flexible min/max
Wire cross-section, AWG/kcmil min/max
Note

Input	Output
Screw connection: pluggable	Screw connection
2 (+, -)	4 (++, -)
0.2 / 4	0.2 / 2.5
0.2 / 4	0.2 / 2.5
30 / 12	24 / 14

Input	Output
Screw connection: pluggable	Screw connection
2 (+, -)	4 (++, -)
0.2 / 4	0.2 / 2.5
0.2 / 4	0.2 / 2.5
30 / 12	24 / 14

Ordering data

Type	Qty.	Order No.
PRO DCDC 120W 12V/24V 5A	1	2869030000
Note		

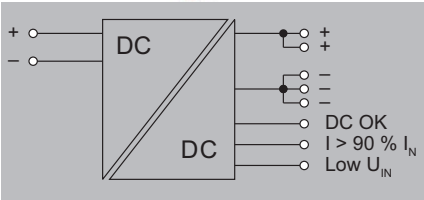
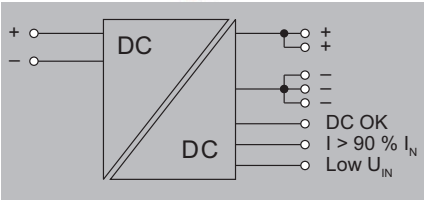
Type	Qty.	Order No.
PRO DCDC 120W 12V/24V 5A	1	2869030000

Type	Qty.	Order No.
PRO DCDC 120W 48V/24V 5A	1	2869040000

ConnectPower DC/DC converter

PRO DCDC 240W 24V/48V 5A

PRO DCDC 240W 48V/48V 5A



Technical data

Input
Rated input voltage
DC input voltage range
Input fuse (internal)
Inrush current / Inrush Current Limitation
Recommended back-up fuse
Output
Rated output voltage
Output voltage
Continuous output current @ U _{Nominal}
Output power
Capacitive load
Parallel connection option
Reserve capacity @ U _{Nominal}
Residual ripple, breaking spikes
Protection against inverse voltage / Overload protection
General data
Mains failure bridge-over time
Protection against reverse voltages from the load
Start-up
Current limiting
Power loss idling / nominal load
Degree of efficiency
Signalling
Transistor output, positive-switching
Floating contact
Relay on/off / Contact load
Approvals
Approvals

24 V DC
28 ... 58 V DC
20A T
<4 A @ Nominal input voltage /
15 A (DI) / 10A...16A (Char. B, C)
48 V DC
28.5...56 V (adjustable via potentiometer on front)
5 A @ 60°C, 6.25 A @ 45°C, 3.75 A @ 70°C
240 W
unrestricted
yes, max. 3
600 % IN for 15 ms
≤ 50 mVPP @full load
Yes / Yes
10ms @ 24V DC / 5A
60 V DC
≥ -40 °C
150% I _{out}
≤ 4 W / 26 W
> 90 %
DC OK: 20 mA max., short-circuit-proof, I > 90%: 20 mA max., short-circuit-proof, Low U _{IN} : 20 mA max., short-circuit-proof
Yes
/ max. 30 V DC / 0.5 A, max. 50 V AC / 0.3 A
CE; DEMKOATEX; IECEXULD

48 V DC
18 ... 34 V DC
20A T
<4 A @ Nominal input voltage /
15 A (DI) / 10A...16A (Char. B, C)
48 V DC
28.5...56 V (adjustable via potentiometer on front)
5 A @ 60°C, 6.25 A @ 45°C, 3.75 A @ 70°C
240 W
unrestricted
yes, max. 3
600 % IN for 15 ms
≤ 50 mVPP @full load
Yes / Yes
10ms @ 48V DC / 5A
60 V DC
≥ -40 °C
150% I _{out}
≤ 4 W / 20 W
> 92 %
DC OK: 20 mA max., short-circuit-proof, I > 90%: 20 mA max., short-circuit-proof, Low U _{IN} : 20 mA max., short-circuit-proof
Yes
/ max. 30 V DC / 0.5 A, max. 50 V AC / 0.3 A
CE; DEMKOATEX; IECEXULD

Connection data
Connection system
Number of terminals
Wire cross-section, rigid min/max
Wire cross-section, flexible min/max
Wire cross-section, AWG/kcmil min/max
Note

Input	Output
Screw connection: pluggable	Screw connection
2 (+, -)	4 (++, -)
0.08 / 4	0.2 / 2.5
0.08 / 4	0.2 / 2.5
28 / 12	24 / 14

Input	Output
Screw connection: pluggable	Screw connection
2 (+, -)	4 (++, -)
0.08 / 4	0.2 / 2.5
0.08 / 4	0.2 / 2.5
28 / 12	24 / 14

Ordering data

Type	Qty.	Order No.
PRO DCDC 240W 24V/48V 5A	1	2869050000
Note		

Type	Qty.	Order No.
PRO DCDC 240W 24V/48V 5A	1	2869050000

Type	Qty.	Order No.
PRO DCDC 240W 48V/48V 5A	1	2869060000