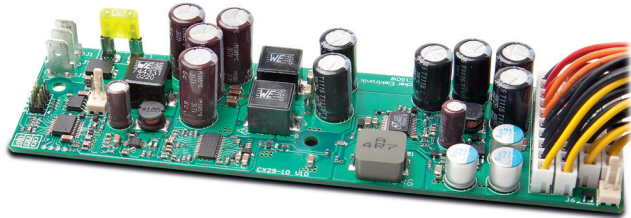


# DC160W

160 Watt

- ✓ ATX DC/DC converter
- ✓ Ultra wide input range 6...36 VDC
- ✓ Extended temperature range -20...+70 °C
- ✓ Efficiency up to 93 %
- ✓ With motor vehicle ignition function
- ✓ No minimum load required
- ✓ Very robust design
- ✓ Inclusive thermal pad for chassis mounting
- ✓ Excellent thermal performance when chassis mounted due to power components on bottom side
- ✓ Maximum reliability and long life time due to high quality components



DC input

Also available with  
cable management system  
(DC161W)



Technical data	
Input voltage	24 VDC (6...36 VDC)
Input current	Max. 7.2 A (24 VDC)
Inrush current	20 A max. (24 VDC)
Efficiency	App. 93 %
Standby consumption	<1 W
Power-Good-Signal	Switch on delay 100...500 ms / Switch off delay 3.5 ms
Protection	Input: Inverse-polarity protection Output: Short circuit protection: +3.3 V, +5 V, +12 V, -12 V, 5 V <sub>sb</sub> Overvoltage protection: +3.3 V, +5 V, +12 V, -12 V, 5 V <sub>sb</sub> Overtemperature protection: Depends on ambient temp., load and cooling
Insulation voltage	No separation between input / output
Temperature	Operating: -20...+70 °C / Storage: -20...+85 °C
Derating	See diagrams
MTBF	App. 990 000 h according to Telcordia SR-332 at +50 °C
Operating altitude	max. 3000 m
Humidity	Operating: 10...90 % RH, non-condensing / Storage: 10...95 % RH, non-condensing
Dimensions (W x D x H)	160 x 45 x 24 mm ±0.5 mm
Weight (net)	0.23 kg

Article No.	Output voltage	Output current			Load regulation	Ripple & Noise
		min	max	peak		
DC160W	+3.3 V	0 A	8 A		±5 %	50 mV
	+5 V	0 A	8 A		±5 %	50 mV
	+12 V	0 A	12 A		±5 %	120 mV
	-12 V	0 A	0.2 A		±10 %	120 mV
	+5 V <sub>sb</sub>	0 A	2 A	2.5 A	±5 %	100 mV

Max. output power is 160 W with connection to heatsink / metal housing (thermal resistance: <6K/W) and 100 W with free mounting (24V / <55 °C). All measurements were performed with an aluminum heat sink (180x55x3 mm) and Thermal Pad (included) at 25 °C. At input voltages 6...10 V and/or temperatures >55 °C both diagrams must be considered. Peak output current can be for max. 1 sec within 1 minute. No galvanic isolation! Ripple and noise was measured by a 20 MHz bandwidth limited oscilloscope with connected 10 µF and 0.1 µF capacitors at each output. This unit is for assembly purposes only and it must not be operated in unassembled condition. The final assembly has to comply with the valid EMC standards.

## Optional Accessories

▷▷▷ For detailed information please visit our website [www.bicker.de](http://www.bicker.de) and refer to the article number.

### PSZ-1030 | DC input wire

Length 350 mm, max. 5 A, thread plug, 5.5 x 2.5 mm



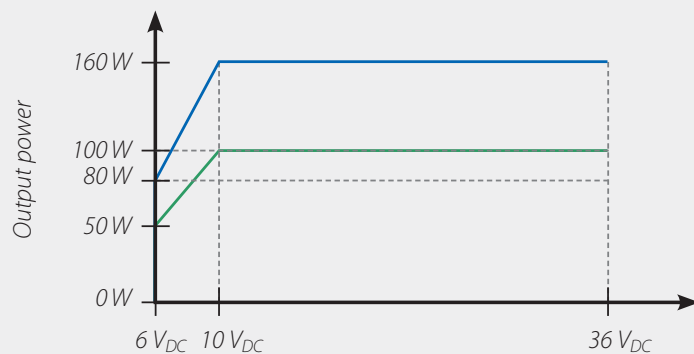
### PSZ-1040 | EMC Filter

Reduces conducted noise and emission



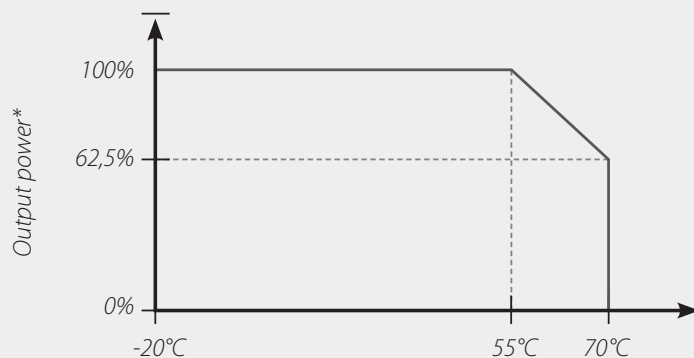
## Derating

### Input voltage derating



- Derating at convection cooling and connection to heat sink or metal housing with thermal resistance of <6K/W
- Derating at convection cooling and free mounting

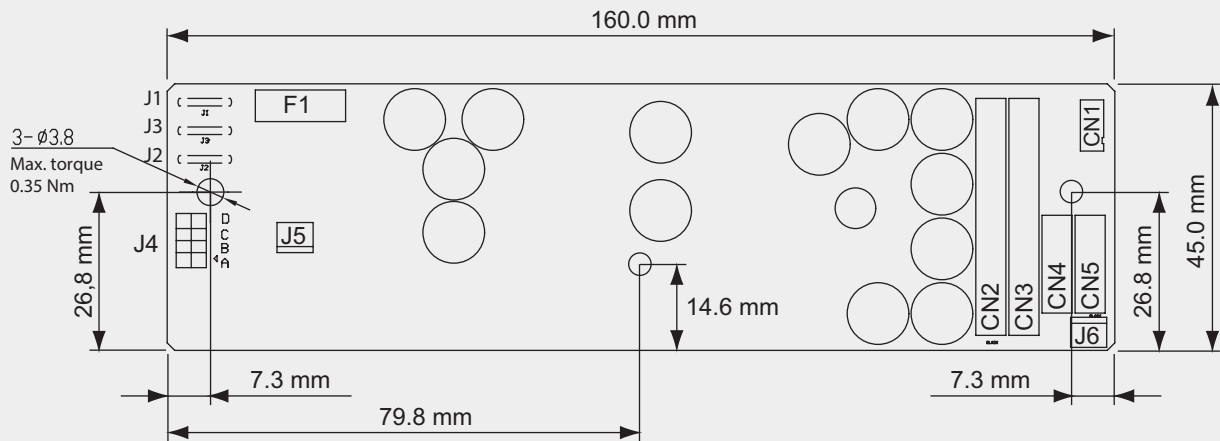
### Temperature derating



\*Percentage refers to power of input voltage derating

## Drawing DC160W

Tolerance:  $\pm 0.5$  mm



The following modes for ignition functions are selectable by jumper:

J4 Jumper attached=On						
A	B	C	D	Mode	Off-delay at all rails on	5V <sub>SB</sub> Hard-off
Off	Off	Off	Off	P0	PSU mode	
On	Off	Off	Off	P1	5 sec + 1 min auto-latch	1 min
Off	On	Off	Off	P2	5 sec + 1 min auto-latch	2 h
On	On	Off	Off	P3	5 sec + 1 min auto-latch	Never
Off	Off	On	Off	P4	30 sec + 1 min auto-latch	2 h
On	Off	On	Off	P5	30 sec + 1 min auto-latch	Never
Off	On	On	Off	P6	30 min	Never
On	On	On	Off	P7	3 h	Never
Off	Off	Off	On	P8	10 min	1 h
On	Off	Off	On	P9	15 min	2 h
Off	On	Off	On	P10	1 h	75 min
On	On	Off	On	P11	5 sec + 1 min auto-latch	1 min
Off	Off	On	On	P12	5 sec + 1 min auto-latch	10 min
On	Off	On	On	P13	5 sec + 1 min auto-latch	1 min
Off	On	On	On	P14	5 sec + 1 min auto-latch	10 min

**5 V<sub>SB</sub> Hard-off:** In case battery voltage falls below the listed „Switch Off“ voltage for 1 minute or longer, the DC 160W automatically shuts down (deep discharge protection):

**Mode P1-P10**  
Switch Off @ 11.0V – Start @ 12.0V

**Mode P11-P12**  
Switch Off @ 10.5V – Start @ 10.8V

**Mode P13-P14**  
Switch Off @ 10.7V – Start @ 11.3V

**Switch Off @:** Separation of the application from 5V<sub>SB</sub> during the Hard-off time when the voltage drops below the specified value for 1 minute or longer.

**Start @:** Required voltage to (re-) start system.

**AutoLatch:** With this function the PC's power is not disconnected within the first 60 seconds to guarantee a secure start and shutdown of the PC, e.g. during a very short ignition.

**J1** input +  
Flat plug 6.3 x 0.8 mm or equal

**J3** Ignition/Start (not in mode P0)  
Flat plug 6.3 x 0.8 mm or equal

**J2** input –  
Flat plug 6.3 x 0.8 mm or equal

**J4** Jumper block (incl. Jumper)

**J5** Remote ON/OFF  
for motor vehicle amplifier  
JS-6001-02 2 P or equal

**J6** Mainboard ON/OFF  
JS-6001-02 2 P or equal

**F1** Fuse 20 A

**Output connector (incl. cable harness, firmly connected to unit)**

**CN1, CN2, CN3**  
ATX, SATA, HD, FD power connections

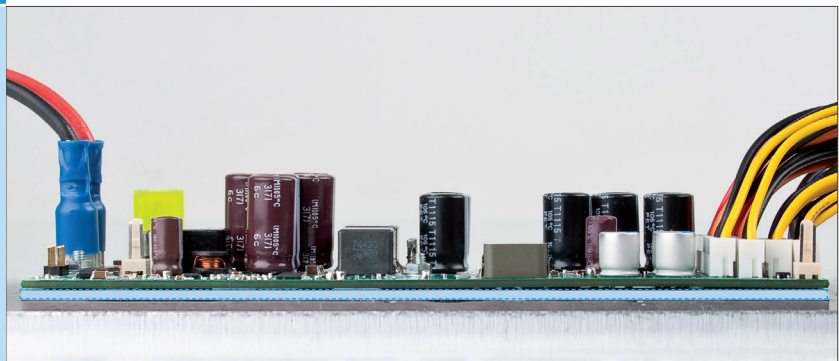
**CN4, CN5**  
P4/EP5 power connection

**For more information, please see the „Application Note“ at [www.bicker.de](http://www.bicker.de)**

### TIP!

In case of a temperature transfer of the PCB to the chassis bottom via **Thermal Pad** (included in delivery) the PCB temperature decreases depending on the ambient temperature.

For details see derating diagram.

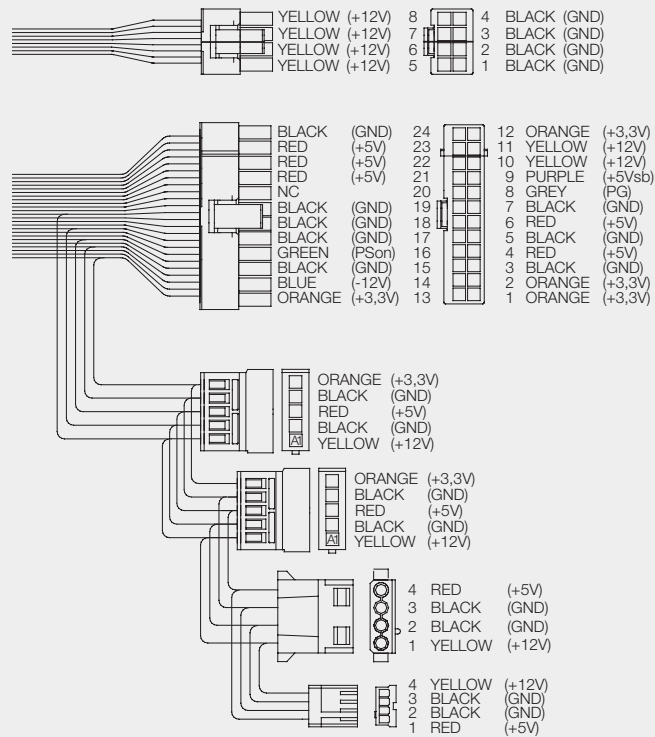


### Cable harness DC160W

P4/EPS, 350 mm  
4+4 Pin

ATX, 350 mm  
20+4 Pin

SATA, 350 mm  
SATA, 120 mm  
HD, 120 mm  
FD, 120 mm

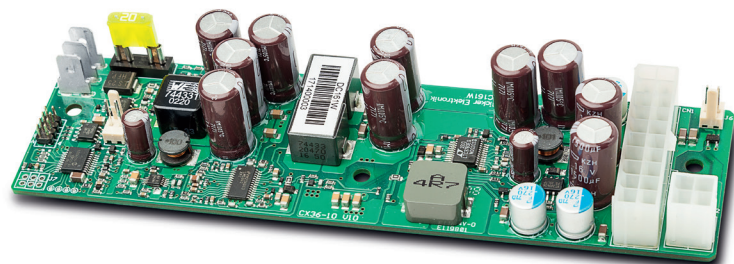


Tolerance  $\pm 20$  mm

### INFORMATION

For cable management system, see our model DC161W

**Contact us!**



### SPECIAL DESIGN

We are glad to assemble for you special requests such as Phoenix Contact connectors or individual wire harness.

**Contact us!**

