

BDC-50

50 Watt

- ✓ DC/DC converter modules
- ✓ 2:1 input voltage range
- ✓ Compact fully encapsulated modules in metal case
- ✓ High efficiency up to 93%
- ✓ Extended temperature range -40...+85 °C
- ✓ Insulation voltage 1500 VDC
- ✓ Print-, Chassis and DIN Rail mounting



- ① BDCD DIN rail mounting
- ② BDCD Chassis mounting (demonthing of DIN rail system necessary)
- ③ BDC Print mounting (industry standard pinning)

Note | BDC models are for **print mounting**, BDCD models are for **chassis and DIN Rail mounting**

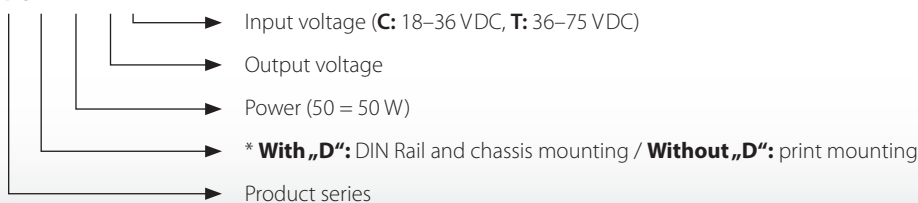
Article No.	Output power	Input voltage	Output voltage	Output current (max)	Efficiency (typ)	
BDC-5005C	50 W	18–36 VDC (24 VDC nom.)	+5 V	10000 mA	93 %	
BDC-5012C			+12 V	4167 mA	93 %	
BDC-5015C			+15 V	3333 mA	93 %	
BDC-5024C			+24 V	2083 mA	93 %	
BDCD-5012C	50 W	18–36 VDC (24 VDC nom.)	+12 V	4167 mA	93 %	
BDCD-5015C			+15 V	3333 mA	93 %	
BDCD-5024C			+24 V	2083 mA	93 %	
BDC-5005T	50 W	36–75 VDC (48 VDC nom.)	+5 V	10000 mA	93 %	
BDC-5012T			+12 V	4167 mA	93 %	
BDC-5015T			+15 V	3333 mA	93 %	
BDC-5024T			+24 V	2083 mA	93 %	
BDCD-5005T	50 W	36–75 VDC (48 VDC nom.)	+5 V	10000 mA	93 %	
BDCD-5015T			+15 V	3333 mA	93 %	
BDCD-5024T			+24 V	2083 mA	93 %	

→ suffix **D**: DIN Rail model with detachable DIN Rail mounting plate

Further types in different input and output voltages are available on request.

How to read the Article No.

BDC * - XX YY Z



Technical data	
Input current	2240 mA (typ)
Surge voltage (1s max.)	Max. 200 % of nominal input voltage (see article table)
Standby consumption	<3.5 W
Voltage accuracy	±3 % max.
Load fluctuation	±0.5 % (typ), ±1 % max.
Ripple & Noise*	50 mV _{pp} (typ)
Remote on/off control	ON: 3.5–12 V or open circuit / OFF: 0–1.2 V or Ctrl connected to ground (≤3 mA)
Trimming (BDC-30/50)	± 10 % Trimming of output voltage (see Application Notes on www.bicker.de)
Protection	Overvoltage protection: 110-150 % (switch off, output voltage) Short circuit protection: Yes, with auto-recovery Overtemperature protection: >110 °C Low-voltage protection: 24 VDC _{in} ; 16 VDC / 48 VDC _{in} ; 32 VDC Overload protection: 120-160 %
Insulation voltage	Input-Output: 1500 VDC
Insulation resistance	Input-Output: 1000 MΩ (at 500 VDC)
Insulation capacity	Input-Output: 1000 pF
Switching frequency	300–400 KHz, typ. (PWM)
MTBF	>1 065 000 h according to MIL-HDBK-217F at 25 °C
Chassis material	Aluminium
Temperature	Operating: -40...+85 °C / Storage: -50...+120 °C / Chassis temperature: +105 °C max. Soldering: max. 300 °C (10 s)
Derating	In the range of +55...+85 °C, 1.3 % / °C (only +5V models: +50...+85 °C, 1.1 % / °C)
Max. operation altitude	2000 m
Humidity	Operating: 10...85 % RH, non-condensing / Storage: 10...90 % RH, non-condensing
Vibration	10-55 Hz, 10 G, 30 min, X, Y, Z
Dimensions (W x D x H)	Print: 50.8 x 25.4 x 11.8 mm, DIN-Rail: 76 x 31.5 x 25.8 mm
Weight (net)	Print: 35 g, DIN-Rail: 77 g

* Ripple & Noise was measured with parallel cables (1 μF ceramic capacitor + 10 μF electrolytic capacitor). All data was measured at +25 °C, operating humidity <75 %, nominal input voltage. We recommend to use a cable as short as possible to connect module and load. As a power component this modul is for assembly purposes only and it must not be operated in unassembled condition. For more information and recommended additional circuits to improve the EMC performance, see Application Notes.

Optional Accessories

▷▷▷ For detailed information please visit our website www.bicker.de and refer to the article number.

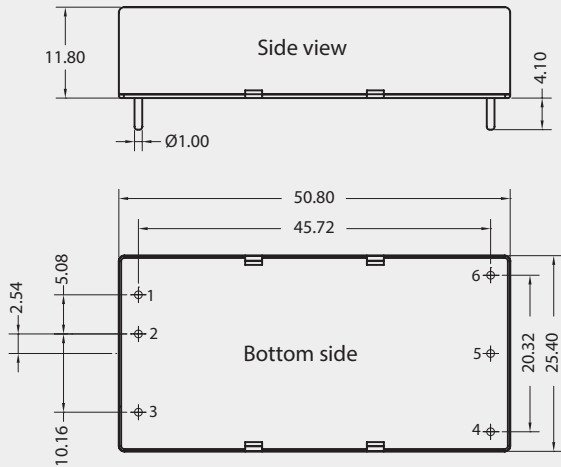
PSZ-1009 | Male adapter

DCplug: 2.5 x 5.5 mm, AWG 26–12

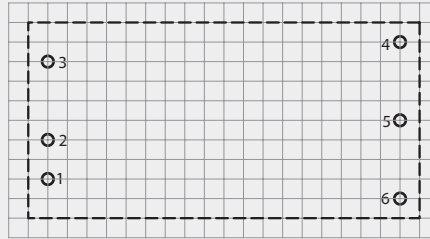


Drawing

Print mounting



Grid dimensions: 2.54 x 2.54 mm

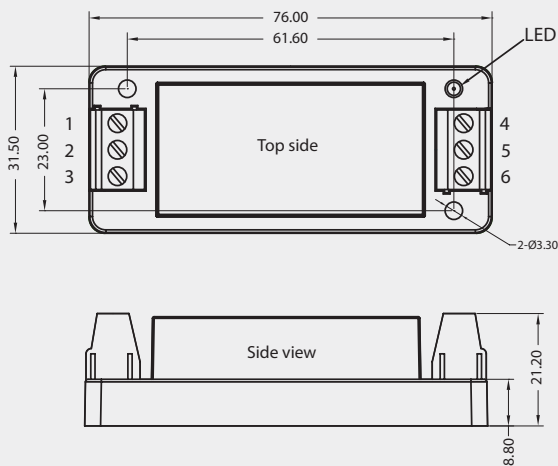


Pin assignment

1	+Vin
2	-Vin
3	CTRL
4	TRIM
5	0V
6	+Vo

Tolerance ± 0.5 mm

Chassis mounting



Pin assignment

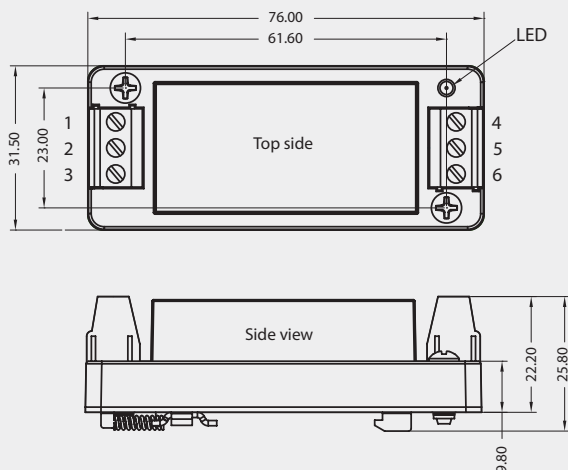
1	CTRL
2	-Vin
3	+Vin
4	TRIM
5	0V
6	+Vo

Terminal size

Wire Range AWG 24-12

Tolerance ± 0.5 mm

DIN Rail mounting



Pin assignment Chassis and DIN-Rail mounting

1	CTRL
2	-Vin
3	+Vin
4	TRIM
5	0V
6	+Vo

Terminal size

Wire Range AWG 24-12

Tolerance ± 0.5 mm

Derating

