

# BDC-10VC

10 Watt

- DC/DC converter modules
- 4:1 input voltage range
- Compact fully encapsulated modules in metal case
- High efficiency up to 88%
- Extended temperature range -40...+85 °C
- Insulation voltage 1500 VDC
- Print-, Chassis-, DIN-Rail-Mounting



- ① BDCD DIN rail mounting
- ② BDCD Chassis mounting (dismounting 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**

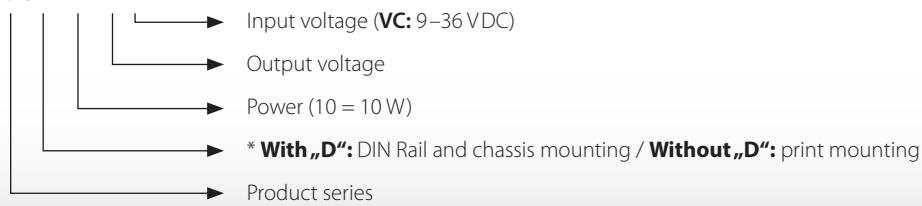
Article No.	Output power	Input voltage	Output voltage	Output current		Efficiency (typ)
				min	max	
BDC-1005VC	10 W	9–36 VDC (24 VDC nom.)	+5 V	0 mA	2000 mA	83 %
BDC-1012VC			+12 V	0 mA	833 mA	87 %
BDC-1024VC			+24 V	0 mA	416 mA	88 %
BDCD-1005VC	10 W	9–36 VDC (24 VDC nom.)	+5 V	0 mA	2000 mA	83 %
BDCD-1012VC			+12 V	0 mA	833 mA	87 %
BDCD-1024VC			+24 V	0 mA	416 mA	88 %

→ 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 voltage	24 VDC (9–36 VDC)
Input current	502 mA typ
Starting time	10 ms typ
Input impulse voltage (1s max.)	50 VDC
Output voltage accuracy	1 % typ, $\pm 3$ % max.
Load regulation	$\pm 0.5$ % (typ), $\pm 1$ % max
Ripple & Noise*	40 mV <sub>pp</sub> (typ), 80 mV <sub>pp</sub> max
Remote on/off control	ON: 3.5–12 V or open circuit OFF: 0–1.2 V or CTRL connector (Pin3) connected to -Vin (Pin2)
Protection	Overvoltage protection 110–160 % (switch off output voltage) Short circuit protection Yes, with auto-recovery Input under-voltage protection 6.5 VDC typ Overload protection 110–190 %
Insulation voltage	Input-Output: 1500 VDC
Insulation resistance	Input-Output: 1000 M $\Omega$ (at 500 VDC)
Insulation capacity	Input-Output: 1000 pF (100 KHz / 0.1V)
Switching frequency	350 KHz, typ (PWM)
MTBF	>1 000 000 h according to MIL-HDBK-217F at 25 °C
Chassis material	Aluminium
Temperature	Operating: -40...+85 °C / Storage: -55...+125 °C / Soldering: max. 300 °C (10 s)
Derating	+65...+85 °C, 2 % / °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: 25.4 x 25.4 x 11.7 mm DIN-Rail: 76.0 x 31.5 x 25.8 mm
Weight (net)	Print: 15 g, DIN-Rail: 55 g

\* Ripple & Noise was measured with parallel cables (1  $\mu$ F ceramic capacitor + 10  $\mu$ F 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](http://www.bicker.de) and refer to the article number.

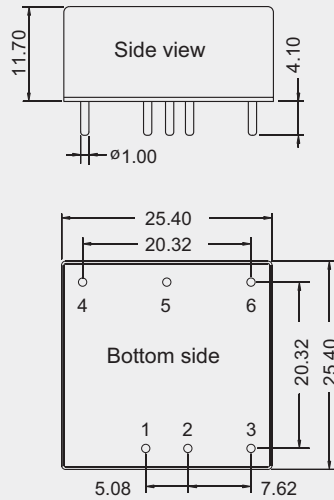
### PSZ-1009 | Male adapter

DCplug: 2.5 x 5.5 mm, AWG 26–12



## Drawing

**BDC-10VC, print mounting**



**Pin assignment**

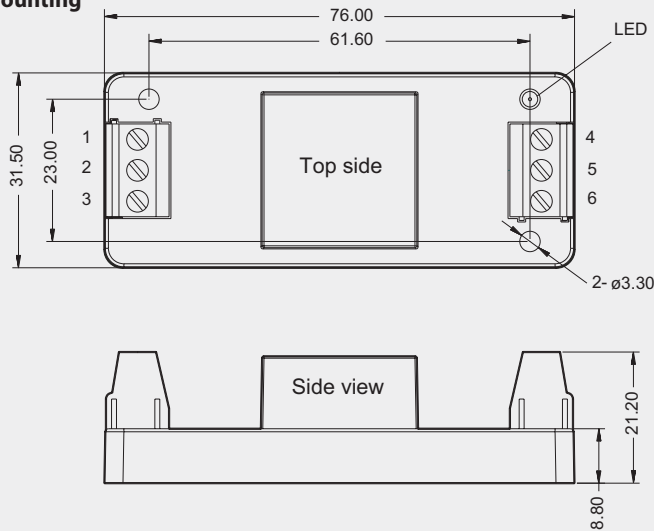
1	+Vin
2	-Vin
3	CTRL
4	+Vout
5	No Pin
6	0 V

**Terminal size**

Wire Range AWG 24-12

Tolerance  $\pm 0.5$  mm

**BDCD-10VC, chassis mounting**



**Pin assignment**

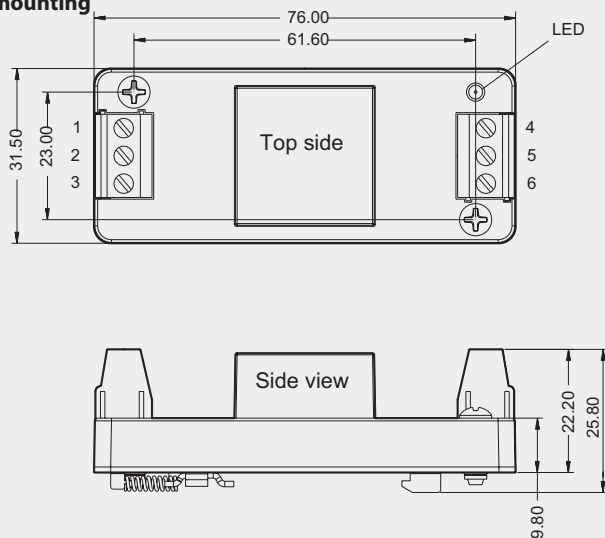
1	CTRL
2	-Vin
3	+Vin
4	0V
5	N.C.
6	+Vo

**Terminal size**

Wire Range AWG 24-12

Tolerance  $\pm 0.5$  mm

**BDCD-10VC, DIN Rail mounting**



**Pin assignment**

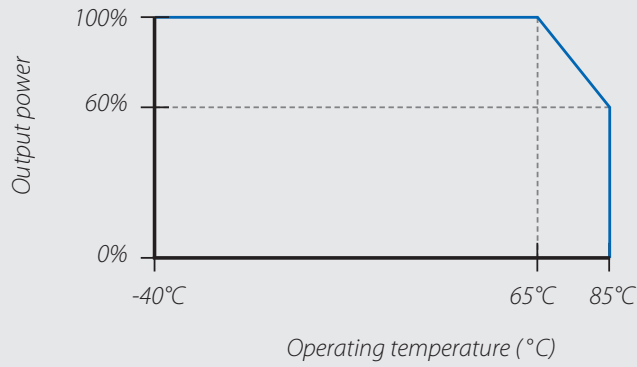
1	CTRL
2	-Vin
3	+Vin
4	0V
5	N.C.
6	+Vo

**Terminal size**

Wire Range AWG 24-12

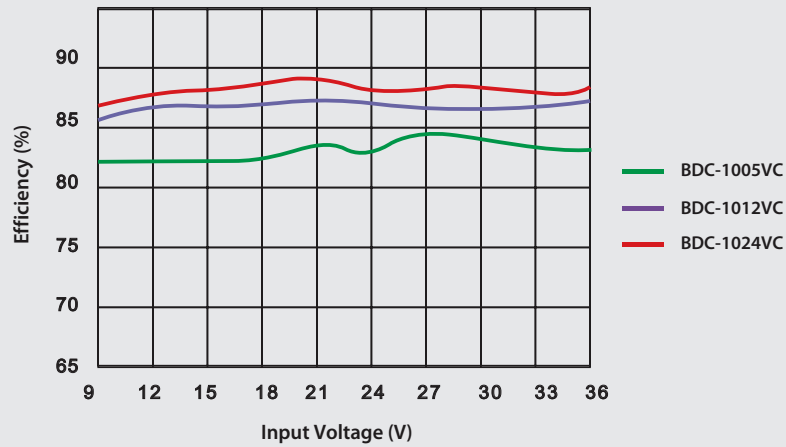
Tolerance  $\pm 0.5$  mm

## Derating BDC(D)-10VC models



## Efficiency curves

Efficiency & Input Voltage (Full load)



Efficiency & Output Load (Vin = 24V)

