

MOTORENTECHNIK





DC/DC CONVERTER

- TYPE SPW 003
- TYPE SPW 005
- TYPE SPW 008
- TYPE SPW 010
- TYPE SPW 015
- TYPE SPW 020
- TYPE SPW 030

THOUGHT-OUT SOLUTIONS AT THE HIGHEST LEVEL







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The company

Measuring with system and passion

As a high performance and innovative company BEDIA developes, produces and distributes well thought out solutions for level and temperature monitoring.

We have been concentrating our skills in the domain of measuring filling levels and temperatures under extreme operating conditions. We are able to offer customized solutions to the specific requirements of our clients for small to large series. In doing so we are combining tried and tested technologies with innovative product ideas. Our expertise and flexibility are well demonstrated in the development of customer specific solutions.

One thing that all our products have in common is the nonexistence of moving or adjustable parts; our parts are not subject to mechanical interference and exhibit exceptional operational reliability. Since 1986 BEDIA Motorentechnik is a valued partner of numerous manufacturers of agricultural and construction machinery, compressors, engines, power train control systems and utility vehicles.

The high quality requirements of our world wide operating customers are our motivation for the constant improvement of our products and processes. The stable customer relationships of many years standing express the high quality of our products and the satisfaction of our customers.

We hope you will get a comprehensive overview of our products from this catalog. Please feel free to contact us, we will be happy to assist you with our advice and experience.



Company history at a glance

currently about 140 employees 2016 30th company anniversary Foundation of BEDIA Sensors USA in Austin, Texas Relocation of BEDIA Motorentechnik and BEDIA Kabel to the new corporate building in Altdorf in the industrial park near the A6. Takeover of the production for sensors from the business entit E-T-A in Altdorf Spin-off of the new BEDIA Kabel business unit from BEDIA Motorentechnik GmbH & Co. KG into BEDIA Kabel GmbH & Co. KG. Reorganization of BEDIA Motorentechnik GmbH into BEDIA Motorentechnik GmbH & Co. KG, preparation and the transfer of business administration to Holger Schultheis. Sale of the water treatment business unit to Aqua-Concept GmbH. Transfer of the Sensor Systems and Water Treatment business unit from BEDIA Maschinenfabrik to BEDIA

Foundation of BEDIA Motorentechnik in Leinburg. Core focus business with vehicle wiring cables and delivery of sensor parts for the Bedia Maschinenfabrik in Bonn. Our products at a glance

- capacitive level sensors for a versatile range of applications:
 - CLS 20/25 for railway applications tested according to DIN EN 50155
 - · CLS 40/45 for off- and onroad applications with E1-type approval of the KBA
 - CLS 50/55 for maritime applications with approvals of the classification societies
- intelligent, analog tank sensors for fuels and oils
- intelligent, analog hot wire sensors for monitoring oil sump fill levels
- temperature sensors
- mechanical temperature switches
- electronic temperature switches
- electronic temperature sensors
- DC/DC converters

We are certified in accordance with ISO 9001:2015 and ISO 14001:2015.



Motorentechnik.

GENERAL DESCRIPTION

Non-isolated switched mode DC/DC converters

These converters are used to reduce a 24V battery voltage to a lower voltage

The devices are specifically suited to install e.g. car stereos, two-way radios or cool boxes in trucks, busses, construction vehicles, etc.

In order to preserve battery and alternator, it is vital to keep energy consumption as low as possible. Also, generation of heat should be avoided. Both can be achieved with switched mode conversion, through which the voltage is nearly halved and the current is doubled. Power dissipation in the device is very low, which means that its efficiency is 92%. These are advantages compared to linear power supplies.

The converters are encased in a robust metal casing. They are short-circuit-prove, current-limited, protected against loaddump. They provide a stable output voltage for a variety of application.

The converters are RoHS-compliant and have the E1 automotive certified no. 10R - 046944. CE-marking and ISO-9001 certification guarantee the highest quality standards.

Installation advice

The device should be installed at a well ventilated and dry location. For installation note that the DC/DC converter should be mounted on a metal part of the chassis.

DC/DC converter



for converters with cable and 2-pole connector blade terminal 6,3 x 0,8

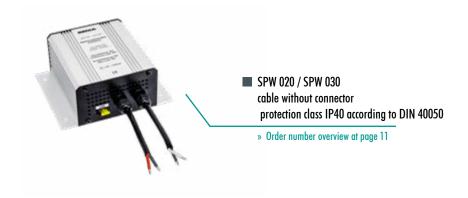
Technical Data

| Input voltage | 18 - 32 VDC |
|-------------------------------------|--|
| Output voltage > -20 °C < -20 °C | 13,5 VDC (-1 V / +0,5 V) 13,5 VDC (-4,5 V / +0,5 V) |
| Voltage ripple on the output | < 50 mV |
| Output current (max) | see order number overview |
| Output current (continuosly) | see order number overview |
| Idle current consumtion | < approx. 5 mA |
| Efficiency | up to 92% |
| Frequency | 72 kHz |
| Ambient temperature range | -40 °C to +80 °C |
| IP protection | IP 40 |
| Short-circuit proof | yes |
| Current-limited | yes |
| Load-drop protected | yes |
| Dimensions L x B x H [mm] | see order number overview |
| Weight | see order number overview |
| RoHS - compliant | yes |
| E1 approval number | 10R – 046944 |
| CE-approval | yes |

ORDER NUMBER OVERVIEW

Converters with cable and 2-pole connector blade terminal 6,3 x 0,8 3 A 4 A 43 x 150 x 60 240 422 384 5 A 6 A 58 x 150 x 60 340 422 385 88 x 150 x 60 10 A 15 A 550 422 386 128 x 150 x 60 422 387

DC/DC converter

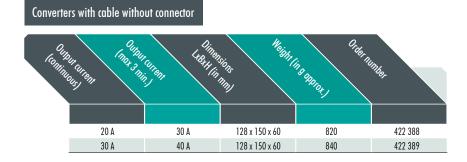


for converters with cable without connector

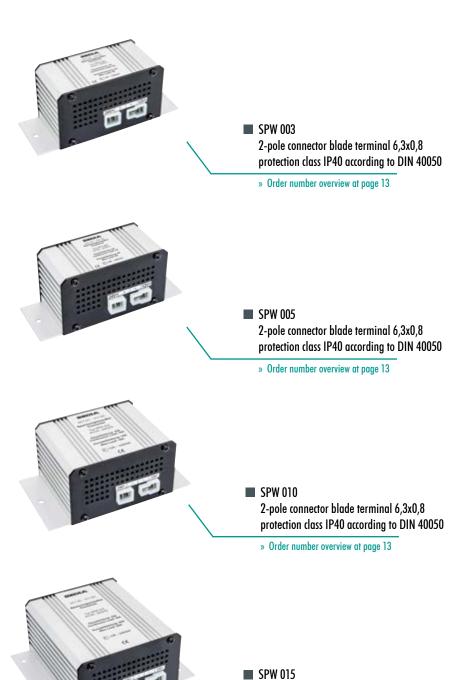
Technical Data

| Input voltage | 18 - 32 VDC |
|-------------------------------------|--|
| Output voltage > -20 °C < -20 °C | 13,5 VDC (-1 V / +0,5 V) 13,5 VDC (-4,5 V / +0,5 V) |
| Voltage ripple on the output | < 50 mV |
| Output current (max) | see order number overview |
| Output current (continuosly) | see order number overview |
| Idle current consumtion | < approx. 5 mA |
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| IP protection | IP 40 |
| Short-circuit proof | yes |
| Current-limited | yes |
| Load-drop protected | yes |
| Dimensions L x B x H [mm] | see order number overview |
| Weight | see order number overview |
| RoHS - compliant | yes |
| E1 approval number | 10R – 046944 |
| CE-approval | yes |

ORDER NUMBER OVERVIEW



DC/DC converter



2-pole connector blade terminal 6,3x0,8 protection class IP40 according to DIN 40050

» Order number overview at page 13

for converters with 2-pole connector blade terminal 6,3 x 0,8

Technical Data

| Input voltage | 18 - 32 VDC |
|-------------------------------------|--|
| Output voltage > -20 °C < -20 °C | 13,5 VDC (-1 V / +0,5 V) 13,5 VDC (-4,5 V / +0,5 V) |
| Voltage ripple on the output | < 50 mV |
| Output current (max) | see order number overview |
| Output current (continuosly) | see order number overview |
| Idle current consumtion | < approx. 5 mA |
| Efficiency | up to 92% |
| Frequency | 72 kHz |
| Ambient temperature range | -40 °C to +80 °C |
| IP protection | IP 40 |
| Short-circuit proof | yes |
| Current-limited | yes |
| Load-drop protected | yes |
| Dimensions L x B x H [mm] | see order number overview |
| Weight | see order number overview |
| RoHS - compliant | yes |
| E1 approval number | 10R – 046944 |
| CE-approval | yes |

ORDER NUMBER OVERVIEW

Converters with 2-pole connector blade terminal 6,3 x 0,8 3 A 4 A 58 x 150 x 60 340 422 372 6 A 58 x 150 x 60 340 422 373 10 A 15 A 88 x 150 x 60 550 422 374 15 A 20 A 128 x 150 x 60 760 422 375

DC/DC converter



- SPW 003 connector blade terminal strip 6,3x0,8 protection class IP40 according to DIN 40050
 - » Order number overview at page 15



- SPW 005 connector blade terminal strip 6,3x0,8 protection class IP40 according to DIN 40050
 - » Order number overview at page 15



- SPW 010 connector blade terminal strip 6,3x0,8 protection class IP40 according to DIN 40050
 - » Order number overview at page 15



- SPW 015 connector blade terminal strip 6,3x0,8 protection class IP40 according to DIN 40050
 - » Order number overview at page 15

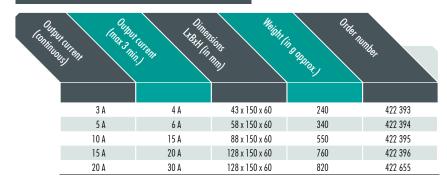
for converters connector blade terminal strip 6,3x0,8

Technical data

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|--|--|
| Input voltage | 18 - 32 VDC |
| Output voltage > -20 °C < -20 °C | 13,5 VDC (-1 V / +0,5 V) 13,5 VDC (-4,5 V / +0,5 V) |
| Voltage ripple on the output | < 50 mV |
| Output current (max) | see order number overview |
| Output current (continuosly) | see order number overview |
| Idle current consumtion | < approx. 5 mA |
| Efficiency | up to 92% |
| Frequency | 72 kHz |
| Ambient temperature range | -40 °C to +80 °C |
| IP protection | IP 40 |
| Short-circuit proof | yes |
| Current-limited | yes |
| Load-drop protected | yes |
| Dimensions L x B x H [mm] | see order number overview |
| Weight | see order number overview |
| RoHS - compliant | yes |
| E1 approval number | 10R – 046944 |
| CE-approval | yes |

ORDER NUMBER OVERVIEW

Converters with connector blade terminal strip 6,3x0,8



DC/DC converter



SPW 008 Connector bayonet according to ISO 15170 protection class IP40 according to DIN 40050

» Order number overview at page 17

for converters connector bayonet according to ISO 15170

Technical Data

| Input voltage | 18 - 32 VDC |
|-------------------------------------|--|
| Output voltage > -20 °C < -20 °C | 13,5 VDC (-1 V / +0,5 V) 13,5 VDC (-4,5 V / +0,5 V) |
| Voltage ripple on the output | < 50 mV |
| Output current (max) | see order number overview |
| Output current (continuosly) | see order number overview |
| Idle current consumtion | < approx. 5 mA |
| Efficiency | up to 92% |
| Frequency | 72 kHz |
| Ambient temperature range | -40 °C to +80 °C |
| IP protection | IP 40 |
| Short-circuit proof | yes |
| Current-limited | yes |
| Load-drop protected | yes |
| Dimensions L x B x H [mm] | see order number overview |
| Weight | see order number overview |
| RoHS - compliant | yes |
| E1 approval number | 10R – 046944 |
| CE-approval | yes |

ORDER NUMBER OVERVIEW

Converters with connector bayonet according to ISO 15170

| Continuous of the connector bayonet according to ISO 15170 | Continuous of the continuous of the

APPLICATION EXAMPLES













APPLICATION EXAMPLES















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