

## PRO DCDC 120W 12V/24V 5A

**Weidmüller Interface GmbH & Co. KG**  
 Klingenbergstraße 26  
 D-32758 Detmold  
 Germany

[www.weidmueller.com](http://www.weidmueller.com)



The DC/DC converter compensates for voltage fluctuations, such as those that occur with unregulated power supplies or long cables. With galvanic isolation and protection class III for earth-free systems, the DC/DC converter is particularly suitable for use in independent supply systems. The space-saving module can optimally convert voltage levels, offers above-average power performance, comprehensive safety functions, and a high efficiency of up to 95 %.

### General ordering data

|            |                            |
|------------|----------------------------|
| Version    | DC/DC converter            |
| Order No.  | <a href="#">2869030000</a> |
| Type       | PRO DCDC 120W 12V/24V 5A   |
| GTIN (EAN) | 4064675620853              |
| Qty.       | 1 items                    |

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**Technical data**
**Approvals**

Approvals



ROHS Conform

UL File Number Search [UL Website](#)

Certificate no. (cULus) E470829

**Dimensions and weights**

|            |        |                 |             |
|------------|--------|-----------------|-------------|
| Depth      | 120 mm | Depth (inches)  | 4.7244 inch |
| Height     | 130 mm | Height (inches) | 5.1181 inch |
| Width      | 32 mm  | Width (inches)  | 1.2598 inch |
| Net weight | 640 g  |                 |             |

**Temperatures**

|                                   |                       |                       |                |
|-----------------------------------|-----------------------|-----------------------|----------------|
| Storage temperature               | -45 °C...85 °C        | Operating temperature | -25 °C...70 °C |
| Humidity at operating temperature | 5 - 95% rel. humidity | Start-up              | ≥ -40 °C       |

**Environmental Product Compliance**

|                                      |                                      |
|--------------------------------------|--------------------------------------|
| RoHS Compliance Status               | Compliant with exemption             |
| RoHS Exemption (if applicable/known) | 7a, 7cI                              |
| REACH SVHC                           | Lead 7439-92-1                       |
| SCIP                                 | 832efd73-195b-4198-ad0c-1126d0bc238d |

**Input**

|  |  |        |  |
|--|--|--------|--|
| Connection system                                    | Screw connection                       |        |  |
| Recommended back-up fuse                             | 20 A (DI) / 16 A ... 20 A (Char. B, C) |        |  |
| Rated input voltage                                  | 12 V DC                                |        |  |
| Input voltage, max.                                  | 18 V                                   |        |  |
| Input voltage, min.                                  | 9 V                                    |        |  |
| Wire connection method                               | Screw connection                       |        |  |
| Input fuse (internal)                                | 40A T                                  |        |  |
| DC input voltage range                               | 9 ... 18 V DC                          |        |  |
| Inrush current                                       | <4 A @ Nominal input voltage           |        |  |
| Current consumption in relation to the input voltage | Voltage type                           | DC     |  |
|  | Input voltage                          | 12 V   |  |
|  | Input current                          | 11.8 A |  |
| Nominal power consumption                            | 139.5 VA                               |        |  |

**Output**

|                                  |                      |  |  |
|----------------------------------|----------------------|--|--|
| Output power                     | 120 W                |  |  |
| Connection system                | Screw connection     |  |  |
| Rated output voltage             | 24 V DC              |  |  |
| Residual ripple, breaking spikes | ≤ 20 mVPP @full load |  |  |
| Parallel connection option       | yes, max. 3          |  |  |
| Overload protection              | Yes                  |  |  |
| Output voltage, max.             | 29.5 V               |  |  |
| Output voltage, min.             | 22 V                 |  |  |
| Output current, max.             | 6 A                  |  |  |
| Wire connection method           | Screw connection     |  |  |

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|   |  |       |
|---|--|-------|
| Output voltage, note                    | (adjustable via potentiometer on front)  |       |
| Nominal output current for $I_{nom}$    | 5 A @ 60 °C                              |       |
| Capacitive load                         | unrestricted                             |       |
| Mains failure bridge-over time          | Mains failure bridge-over time, min.     | 10 ms |
|   | Input voltage type                       | DC    |
|   | Input voltage                            | 12 V  |
|   | Output current                           | 5 A   |
|   | Output voltage                           | 24 V  |
| Protection against inverse voltage      | Yes                                      |       |
| Continuous output current @ $I_{Nomin}$ | 5 A @ 60°C, 6.25 A @ 45°C, 3.75 A @ 70°C |       |
| DCL - peak load reserve                 | Boost duration                           | 15 ms |
|   | Multiple of the rated current            | 600 % |
| Ramp-up time                            | ≤ 100 ms                                 |       |

**General data**

|   |         |  |  |
|---|---------|--|--|
| Degree of efficiency                              | > 86 %  | Protection degree                      | IP20   |
| Surge voltage category                            | II      | Mounting position, installation notice | On TS 35 mounting rail, 50 mm clearance above and below for free air supply., With a load ≥ 50 % of the rated current, keep at least 15 mm lateral spacing., The device should be mounted vertically. For other mounting directions, derating to 75% of the load must be considered. |
| Protection against reverse voltages from the load | 32 V DC | Current limiting                       | 150% I <sub>out</sub>  |
| Adjacent  | No      | Short-circuit protection               | Yes  |

**EMC / shock / vibration**

|                                    |  |   |         |
|------------------------------------|--|---|---------|
| Shock resistance IEC 60068-2-27    | 30 g in all directions   | Noise emission in accordance with EN55032 | Class B |
| Interference immunity test acc. to | EN 61000-6-1:2019, EN 61000-6-2:2019, EN 61000-6-3, EN 61000-6-4, EN 55032, EN 55035 | Vibration resistance IEC 60068-2-6        | 0.7 g   |

**Insulation coordination**

|                                  |      |                                   |        |
|----------------------------------|------|-----------------------------------|--------|
| Surge voltage category           | II   | Pollution severity                | 2      |
| Protection class                 | III  | Insulation voltage, input/output  | 4 kV   |
| Insulation voltage input / earth | 2 kV | Insulation voltage output / earth | 0.5 kV |

**Electrical safety (applied standards)**

|  |                            |
|--|----------------------------|
| Safety transformers for switch-mode power supplies | According to EN 61558-2-16 |
|--|----------------------------|

**Connection data (input)**

|                   |                       |   |         |
|-------------------|-----------------------|---|---------|
| Connection system | Screw connection      | Number of terminals                       | 2 (+,-) |
| Screwdriver blade | 0.6 x 3.5, PH 1, PZ 1 | Conductor cross-section, AWG/kcmil , max. | 12 AWG  |

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|   |                     |   |                   |
|---|---------------------|---|-------------------|
| Conductor cross-section, AWG/kcmil , min. | 30 AWG              | Wire connection cross section, flexible (input), max. | 4 mm <sup>2</sup> |
| Conductor cross-section, flexible , min.  | 0.2 mm <sup>2</sup> | Conductor cross-section, rigid , max.                 | 4 mm <sup>2</sup> |
| Conductor cross-section, rigid , min.     | 0.2 mm <sup>2</sup> | Tightening torque, min.                               | 0.4 Nm            |
| Tightening torque, max.                   | 0.5 Nm              |   |                   |

### Connection data (output)

|   |                     |   |                     |
|---|---------------------|---|---------------------|
| Connection system                         | Screw connection    | Number of terminals                       | 4 (++ / -)          |
| Conductor cross-section, AWG/kcmil , max. | 14 AWG              | Conductor cross-section, AWG/kcmil , min. | 24 AWG              |
| Conductor cross-section, flexible , max.  | 2.5 mm <sup>2</sup> | Conductor cross-section, flexible , min.  | 0.2 mm <sup>2</sup> |
| Conductor cross-section, rigid , max.     | 2.5 mm <sup>2</sup> | Conductor cross-section, rigid , min.     | 0.2 mm <sup>2</sup> |
| Tightening torque, min.                   | 0.4 Nm              | Screwdriver blade                         | 0.6 x 3.5           |
| Tightening torque, max.                   | 0.5 Nm              |   |                     |

### Connection data (signal)

|  |                     |  |                     |
|--|---------------------|--|---------------------|
| Wire connection cross-section, flexible (signal), max. | 1.5 mm <sup>2</sup> | Wire connection method                                 | PUSH IN             |
| Wire cross-section, AWG/kcmil , max.                   | 14                  | Wire cross-section, solid , min.                       | 0.2 mm <sup>2</sup> |
| Wire cross-section, solid , max.                       | 1.5 mm <sup>2</sup> | Wire connection cross-section, flexible (signal), min. | 0.2 mm <sup>2</sup> |
| Number of terminals                                    | 5                   | Wire cross-section, AWG/kcmil , min.                   | 28 mm <sup>2</sup>  |

### Signalling

|                                       |  |                  |     |
|---------------------------------------|--|------------------|-----|
| Transistor output, positive-switching | DC OK: 20 mA max., short-circuit-proof, I > 90%: 20 mA max., short-circuit-proof, Low UIN: 20 mA max., short-circuit-proof | Floating contact | Yes |
| Contact load (NO contact)             | max. 30 V DC / 0.5 A, max. 50 V AC / 0.3 A   |                  |     |

### Classifications

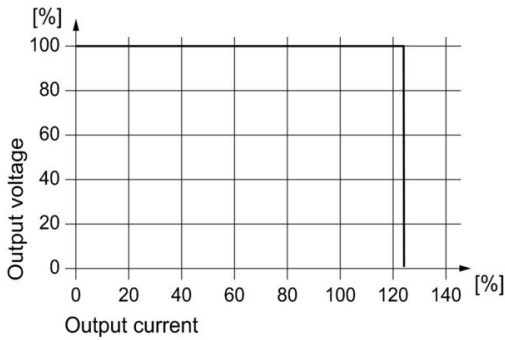
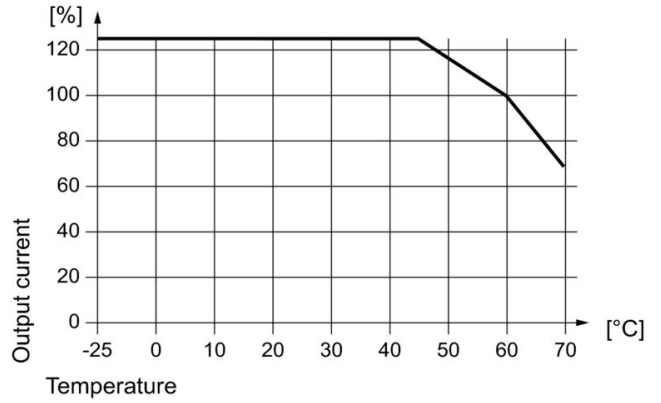
|             |             |             |             |
|-------------|-------------|-------------|-------------|
| ETIM 8.0    | EC002540    | ETIM 9.0    | EC002540    |
| ETIM 10.0   | EC002540    | ECLASS 14.0 | 27-04-07-01 |
| ECLASS 15.0 | 27-04-07-01 |             |             |

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**Drawings**

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Display elements and status outputs

| Event<br>Input (typ.)   | Output (typ.)                                      | LED (Gr/Ye/Rd)<br>Gr = DC OK<br>Ye = I > 90% IN<br>Rd = FAULT | Transistor status outputs             |         | Status relay |
|---|--|---|---------------------------------------|---------|--------------|
|   |  |   | DC OK                                 | I > 90% |              |
| A: U <sub>IN</sub> < 6.1 V<br>B: U <sub>IN</sub> < 22.6 V   | -  | OFF   | Low                                   | Low     | OFF          |
| A: U <sub>IN</sub> = 6.1 ... 18 V <sup>1)</sup><br>B: U <sub>IN</sub> = 22.6 ... 58 V <sup>1)</sup> | U > 90% U <sub>OUT</sub><br>I < 90% I <sub>N</sub> | Gr  | High                                  | Low     | ON           |
|   | U > 90% U <sub>OUT</sub><br>I > 90% I <sub>N</sub> | Ye  | High                                  | High    | ON           |
|   | U < 90% U <sub>OUT</sub>                           | Rd  | Low                                   | Low     | OFF          |
| Input (typ.)  | LED (Ye) Low U <sub>IN</sub>                       |   | Transistor output Low U <sub>IN</sub> |         |              |
| A: U <sub>IN</sub> = 6.2 ... 9 V<br>B: U <sub>IN</sub> = 22.6 ... 36 V <sup>1)</sup>                | ON   |   | Low                                   |         |              |
| A: U <sub>IN</sub> = 9 ... 18 V <sup>1)</sup><br>B: U <sub>IN</sub> = 36 ... 58 V <sup>1)</sup>     | OFF  |   | High                                  |         |              |

A: PRO DCDC 120W 12V/24V 5A  
 B: PRO DCDC 120W 48V/24V 5A  
 Gr = green  
 Ye = yellow  
 Rd = red  
 1) during operation