Weidmüller’s new PRO-M Series Switchmode Power Supplies offer a host of advantages. Available in 10 different versions, the 24 VDC PRO-M power supplies all feature a solid ultra-slim metal housing, and are designed to mount on a DIN-rail with no ventilation gap required between multiple units. This feature provides up to a 50% savings in space and allows the PRO-M to fit into the tightest spaces in control cabinets or machines.

These compact and efficient power supplies are optimized for machinery, with features that include overload resistance and high performance reserves. They also provide an increased level of reliability. Should one phase fail, the three-phase PRO-M power supply modules continue to work reliably in a two-phase operation.

The PRO-M Series power supplies are available in single-phase and three-phase versions from 70 W to 1000 W, making them particularly suited for use in many automation applications. The wide-ranging AC and DC inputs, broad operating temperature range and international approvals make the PRO-M supplies a strong choice.

- Slim housings for space saving installation in the cabinet
- DIN-rail mountable without any gap (no clearance necessary)
- Operating temperature range of -25°C to +70°C
- Autoselect Input for wide input range without any switch; for DC and AC voltages
- Power boost of 120% enables inductive and capacitive loads; additional starting capacity with up to a 2-minute boost
- Parallel connections allow simple power increase for up to five units without diode module
- MTBF > 500,000 Hours
Technical Data

General Specifications
- Current limiting > 120 % IN
- Ambient temp. operating / storage: -25 °C .. +70 °C / -40 °C .. +85 °C
- Max. perm. air humidity (operation): 20 %.. 95 % RH
- Protection class: IP20
- Class of protection: I, with PE connection
- Overvoltage category: II
- Pollution severity: 2
- Insulation voltage: 4 kV I/O / 2 kV I/ground / 0.5 kV O/ground
- MTBF: > 500,000 h acc. to IEC 1709 (SN29500)
- Protection against reverse voltages from the load: 30…35 V DC
- Parallel connection option: yes, without diode module
- Housing version: metal, corrosion resistant
- Indication operation: green LED
- Mounting position, installation notice: horizontal on mounting rail TS35, 50 mm spacing top and bottom for free air circulation, can be mounted side by side with no space in between

EMC / shock / vibration
- Noise emission acc. to EN55022 Class B
- Noise immunity tests acc. to EN61000-4-2 (ESD), EN61000-4-3 and EN61000-4-8 (Fields), EN61000-4-4 (Burst), EN61000-4-5 (Surge), EN61000-4-6 (conducted), EN61000-4-11 (Dips)
- Limiting of mains voltage harmonic currents Acc. to EN 61000-3-2
- Resistance against vibration and shock Acc. to EN50178, shock: 5g in all directions
- Electrical safety (applied standards)
  - Electrical equipment of machines Acc. to EN60204
  - Safety transformers for switched-mode power units Acc. to EN61558-2-17
  - Machinery with electronic equipment Acc. to EN60178 / VDE0160
  - Safety extra-low voltage SELV acc. to EN60950, PELV acc. to EN60204
  - Protective separation / protection against electrical shock Acc. to VDE0106-101
  - Protection against dangerous shock currents Acc. to VDE0106-101

Max. limiting average on state current [A]

<table>
<thead>
<tr>
<th>Type/Temp.</th>
<th>45°C</th>
<th>50°C</th>
<th>55°C</th>
<th>60°C</th>
<th>65°C</th>
<th>70°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>1ph 24V / 3A</td>
<td>3.6</td>
<td>3.3</td>
<td>3.0</td>
<td>2.6</td>
<td>2.2</td>
<td>1.8</td>
</tr>
<tr>
<td>1ph 24V / 5A</td>
<td>5.5</td>
<td>5.0</td>
<td>4.4</td>
<td>3.8</td>
<td>3.1</td>
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</tr>
<tr>
<td>1ph 24V / 7.5A</td>
<td>8.6</td>
<td>8.25</td>
<td>7.5</td>
<td>6.75</td>
<td>5.6</td>
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</tr>
<tr>
<td>1ph 24V / 10A</td>
<td>11.5</td>
<td>11.1</td>
<td>10.0</td>
<td>9.3</td>
<td>7.6</td>
<td>5.6</td>
</tr>
<tr>
<td>1ph 24V / 20A</td>
<td>23</td>
<td>22</td>
<td>20</td>
<td>18.5</td>
<td>16.8</td>
<td>15.2</td>
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<tr>
<td>3ph 24V / 5A</td>
<td>6.6</td>
<td>5.75</td>
<td>5.3</td>
<td>4.95</td>
<td>4.3</td>
<td>3.7</td>
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<tr>
<td>3ph 24V / 10A</td>
<td>11.5</td>
<td>11.1</td>
<td>10.0</td>
<td>9.3</td>
<td>7.6</td>
<td>5.6</td>
</tr>
<tr>
<td>3ph 24V / 20A</td>
<td>23</td>
<td>22</td>
<td>20</td>
<td>18.5</td>
<td>16.8</td>
<td>15.2</td>
</tr>
</tbody>
</table>

1-phase 3-phase

Project Planning Data

<table>
<thead>
<tr>
<th>Type</th>
<th>24 V / 3 A</th>
<th>24 V / 5 A</th>
<th>24 V / 7.5 A</th>
<th>24 V / 10 A</th>
<th>24 V / 20 A</th>
<th>24 V / 40 A</th>
<th>24 V / 5 A</th>
<th>24 V / 10 A</th>
<th>24 V / 20 A</th>
<th>24 V / 40 A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated input voltage</td>
<td>100...240 V AC</td>
<td>85...260 V AC</td>
<td>3 x 220...575 V AC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mains voltage range</td>
<td>85...260 V AC</td>
<td>3 x 220...575 V AC</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mains input current (max/min)</td>
<td>0.9...0.6 A</td>
<td>1.7...1.2 A</td>
<td>3.2...1.2 A</td>
<td>6.4...2.1 A</td>
<td>12.7...7.1 A</td>
<td>0.6...0.2 A</td>
<td>0.7...0.4 A</td>
<td>1.3...0.7 A</td>
<td>2.6...1.2 A</td>
<td></td>
</tr>
<tr>
<td>Mains input voltage</td>
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<td>24V, 50Hz</td>
<td>24V, 50Hz</td>
<td>24V, 50Hz</td>
<td>24V, 50Hz</td>
<td>24V, 50Hz</td>
<td>24V, 50Hz</td>
<td>24V, 50Hz</td>
<td>24V, 50Hz</td>
<td>24V, 50Hz</td>
</tr>
<tr>
<td>Efficiency @ 230VAC</td>
<td>88%</td>
<td>89%</td>
<td>90%</td>
<td>&gt; 90%</td>
<td>&gt; 90%</td>
<td>90%</td>
<td>&gt; 90%</td>
<td>&gt; 90%</td>
<td>&gt; 90%</td>
<td></td>
</tr>
<tr>
<td>Rated power loss [W]</td>
<td>15 W</td>
<td>20 W</td>
<td>27 W</td>
<td>50 W</td>
<td>100 W</td>
<td>15 W</td>
<td>25 W</td>
<td>50 W</td>
<td>100 W</td>
<td></td>
</tr>
<tr>
<td>Installation width [mm]</td>
<td>33</td>
<td>40</td>
<td>50</td>
<td>60</td>
<td>115</td>
<td>140</td>
<td>40</td>
<td>60</td>
<td>115</td>
<td>140</td>
</tr>
</tbody>
</table>

Input terminals
- Conductor, solid/min/max [mm²] | 0.5...6 | 0.5...6 | 0.5...6 | 0.5...6 |
- Conductor, flexible/min/max [mm²] | 0.5...2.5 | 0.5...2.5 | 0.5...2.5 | 0.5...2.5 |
- Conductor, AWG/kcmil/min/max | 12 / / | 12 / 10 | 12 / 10 | 12 / 10 |

Output terminals
- Conductor, solid/min/max [mm²] | 0.5...6 | 0.5...6 | 0.5...6 | 0.5...6 |
- Conductor, flexible/min/max [mm²] | 0.5...2.5 | 0.5...2.5 | 2.5...10 | 2.5...10 |
- Conductor, AWG/kcmil/min/max | 12 / / | 12 / 10 | 12 / 10 | 12 / 10 |

Two-Phase operation also possible

Two-Phase operation also possible

Permissible maximum continuous current [A]
Single Phase Input Power Supplies

**Input Specifications**
- **Rated input voltage**: 100...240 V AC (wide-range input)
- **AC input voltage range**: 85...264 V AC
- **AC frequency range**: 47...63 Hz
- **DC input voltage range**: 80...370 V DC
- **AC current consumption**: 0.8 A @ 230 V AC / 1.5 A @ 115 V AC
- **DC current consumption**: 0.25 A @ 370 V DC / 1.1 A @ 80 V DC
- **Input fuse (internal)/Inrush current**: yes, max. 20 A
- **Circuit Protection**: 2 A / Di, safety fuse

**Output Specifications**
- **Rated output voltage**: 24 V DC ± 1 %
- **Output voltage**: 22.5...29.5 V DC (adjustable via potentiometer on front)
- **Residual ripple, switching peaks**: 100 mVss @ 24 V DC, IN
- **Rated output current @ Vrated**: 3A@55° C
- **Continuous output current @ 24 V DC**: 3.6 A @ 45 °C
- **Power boost @ 24 V DC, 60 °C**: 3.6 A for 1 min, ED=5 %

**General Specifications**
- **Efficiency**: 88 % @ 230 V AC / > 85 % @ 115 V AC
- **Power factor (approx.)**: > 0.5 @ 230 V AC / > 0.53 @ 115 V AC
- **Mains buffering @ Irated**: > 100 ms @ 230 V AC / > 20 ms @ 100 V AC
- **Parallel connection option**: yes
- **Length x Width x Height mm**: 125 x 33 x 130
- **Weight**: 0.69 kg

**Approvals/Certifications**
- **CE, cURus, UL508, CSA22.2 no.107**
- **Derating Curve**

---

**Connection Data**
- **Type of connection**: Screw connection
- **Number of terminals**: 3 for L/N/PE
- **Conductor cross-section, rigid min/max mm²**: 0.5 / 6
- **Conductor cross-section, flexible min/max mm²**: 0.5 / 2.5
- **Conductor cross-section, AWG/kcmil min/max**: 26 / 12

---

**Ordering Data**

<table>
<thead>
<tr>
<th>Type</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CP M SNT 70W 24V 3A</td>
<td>8951330000</td>
</tr>
<tr>
<td>CP M SNT 120W 24V 5A</td>
<td>8951340000</td>
</tr>
</tbody>
</table>

* Recommendation applies only for AC operation; the max. permissible operating voltage is to be observed in all cases!
**PRO-M SERIES**

**Single-Phase Input Power Supplies**

**Input Specifications**

- **Rated input voltage:** AC input voltage range
- **AC frequency range:** 47...63 Hz
- **DC input voltage range:** 80...370 V DC
- **Input current consumption:** 1.9 A @ 230 V AC / 3.6 A @ 115 V AC

**Output Specifications**

- **Rated output voltage:** 24 V DC ±1 %
- **Output voltage:** 22.5...29.5 V DC (adjustable via potentiometer on front)
- **Residual ripple, switching peaks:** 100 mVss @ 24 V DC, IN

**General Specifications**

- **Efficiency:** 90 % @ 230 V AC / > 85 % @ 115 V AC
- **Power factor (approx.):** > 0.5 @ 230 V AC / > 0.53 @ 115 V AC
- **Mains buffering @ Irated:** > 40 ms @ 230 V AC / > 20 ms @ 100 V AC

**Approvals/Certifications**

CE, cULus, UL508, CSA22.2 no.107

**Connection Data**

- **Type of connection:** Screw connection
- **Number of terminals:** 3 for L/N/PE
- **Conductor cross-section, rigid min/max:** 0.5 / 6 mm²
- **Conductor cross-section, flexible min/max:** 0.5 / 2.5 mm²
- **Conductor cross-section, AWG/kcmil min/max:** 26 / 12

* Recommendation applies only for AC operation; the max. permissible operating voltage is to be observed in all cases!

---

**Derating Curve**

* Temperature De-Rating

<table>
<thead>
<tr>
<th>Ambient Temperature (°C)</th>
<th>120%</th>
<th>100%</th>
<th>80%</th>
<th>60%</th>
<th>40%</th>
<th>20%</th>
<th>0%</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of Nominal Current</td>
<td>0%</td>
<td>10%</td>
<td>20%</td>
<td>30%</td>
<td>40%</td>
<td>50%</td>
<td>60%</td>
</tr>
</tbody>
</table>

---

**Ordering Data**

- **Type:** CP M SNT 180W 24V 7.5A
  - **Part No.:** 8951350000

- **Type:** CP M SNT 250W 24V 10A
  - **Part No.:** 8951360000

---

**Technical Data**

**Input Specifications**

- **Rated input voltage:** 100...240 V AC (wide-range input)
- **AC input voltage range:** 85...264 V AC
- **AC frequency range:** 47...63 Hz
- **DC input voltage range:** 80...370 V DC
- **Input current consumption:** 1.3 A @ 230 V AC / 3.5 A @ 115 V AC

**Output Specifications**

- **Rated output voltage:** 24 V DC ±1 %
- **Output voltage:** 22.5...29.5 V DC (adjustable via potentiometer on front)
- **Residual ripple, switching peaks:** 100 mVss @ 24 V DC, IN

**General Specifications**

- **Efficiency:** 90 % @ 230 V AC / > 85 % @ 115 V AC
- **Power factor (approx.):** > 0.5 @ 230 V AC / > 0.53 @ 115 V AC
- **Mains buffering @ Irated:** > 40 ms @ 230 V AC / > 20 ms @ 100 V AC

**Approvals/Certifications**

CE, cULus, UL508, CSA22.2 no.107

**Connection Data**

- **Type of connection:** Screw connection
- **Number of terminals:** 3 for L/N/PE
- **Conductor cross-section, rigid min/max:** 0.5 / 6 mm²
- **Conductor cross-section, flexible min/max:** 0.5 / 2.5 mm²
- **Conductor cross-section, AWG/kcmil min/max:** 26 / 12

* Recommendation applies only for AC operation; the max. permissible operating voltage is to be observed in all cases!
Single Phase Input Power Supplies

**Technical Data**

**Input Specifications**
- Rated input voltage
- AC input voltage range
- AC frequency range
- DC input voltage range
- AC current consumption
- DC current consumption
- Input fuse (internal)/Inrush current

**Circuit Protection**
- Overcurrent protection
- Short circuit protection

**Output Specifications**
- Rated output voltage
- Output voltage
- Residual ripple, switching peaks
- Rated output current @ Vrated
- Continuous output current @ 24 V DC
- Power boost @ 24 V DC

**General Specifications**
- Efficiency
- Power factor (approx.)
- Mains buffering @ Irated
- Parallel connection option
- Weight

**Approvals/Certifications**
- CE, cULus, UL508, CSA22.2 no.107

**Connection Data**
- Type of connection
- Number of terminals
- Conductor cross-section, rigid min/max
- Conductor cross-section, flexible min/max
- Conductor cross-section, AWG/kcmil min/max

**Derating Curve**

**Ordering Data**

**Type**
- CP M SNT 500W 24V 20A
- CP M SNT 1000W 24V 40A

**Part No.**
- CP M SNT 500W 24V 20A: 8951370000
- CP M SNT 1000W 24V 40A: 8951380000

*Recommendation applies only for AC operation; the max. permissible operating voltage is to be observed in all cases!
PRO-M SERIES Three-Phase Input Power Supplies

Ordering Data

Technical Data

Input Specifications
- Rated input voltage
- AC input voltage range
- AC frequency range
- DC input voltage range
- AC current consumption
- DC current consumption
- Input fuse (internal)

Circuit Protection
- Output Specifications
- Rated output voltage
- Output voltage
- Residual ripple, switching peaks
- Rated output current @ \( I_{\text{rated}} \)
- Continuous output current @ 24 V DC
- Power boost @ 24 V DC, 60 °C

General Specifications
- Efficiency
- Power factor (approx.)
- Mains buffering @ \( I_{\text{rated}} \)
- Parallel connection option
- Length x Width x Height (mm)
- Weight

Approvals/Certifications
- CE, cULus, UL508, CSA22.2 no.107

Connection Data
- Type of connection
- Number of terminals
- Conductor cross-section, rigid min/max (mm²)
- Conductor cross-section, flexible min/max (mm²)
- Conductor cross-section, AWG/strand min/max

Derating Curve

<table>
<thead>
<tr>
<th>Ambient Temperature (°C)</th>
<th>Temperature De-Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>20%</td>
<td>80%</td>
</tr>
<tr>
<td>40%</td>
<td>60%</td>
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<tr>
<td>60%</td>
<td>40%</td>
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<tr>
<td>80%</td>
<td>20%</td>
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<tr>
<td>100%</td>
<td>0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Type</th>
<th>Part No.</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>8951390000</td>
<td>CP M SNT3 120W 24V 5A</td>
<td>8951400000</td>
<td>CP M SNT3 250W 24V 10A</td>
</tr>
</tbody>
</table>

*Recommendation applies only for AC operation; the max. permissible operating voltage is to be observed in all cases!
### Technical Data

#### Input Specifications
- **Rated input voltage**: 3 x 400...3 x 500 V AC (wide-range input)
- **Rated input voltage range**: 3 x 320...3 x 575 V AC / 2 x 360...2 x 575 V AC
- **AC frequency range**: 47...63 Hz
- **DC input voltage range**: 450...800 V DC (max. 500 V DC acc. to UL508)
- **DC current consumption**: 0.9 A @ 3 x 500 V AC / 1.1 A @ 3 x 400 V AC
- **Input fuse (internal)**: 0.7 A @ 800 V DC / 1.3 A @ 450 V DC
- **Circuit Protection**: 2 A / Di, safety fuse
  - 3...5 A, Char. C, Circuit breaker

#### Output Specifications
- **Rated output voltage**: 24 V DC ± 1 %
- **Residual ripple, switching peaks**: 100 mVss @ 24 V DC, IN
- **Rated output current @Vrated**: 20 A @ 60 °C
- **Continuous output current @ 24 V DC**: 24 A for 1 min, ED=5 %
- **Power boost @ 24 V DC, 60 °C**: 2 4 A @ 60 °C
- **2 4 A @ 45 °C**
- **2 2 A @ 55 °C**
- **1 5 A @ 70 °C**

#### General Specifications
- **Efficiency**: > 90 % @ 3 x 500 V AC / > 91 % @ 3 x 400 V AC
- **Power factor (approx.)**: > 0.75 @ 3 x 500 V AC / > 0.78 @ 3 x 400 V AC
- **Mains buffering @Irated**: > 25 ms @ 3 x 500 V AC / > 20 ms @ 3 x 400 V AC
- **Parallel connection option**: yes
- **Length x Width x Height**: 150 x 121 x 130 mm
- **Weight**: 1.5 kg

#### Approvals/Certifications
- **CE, cULus, UL508, CSA22.2 no.107**

### Connection Data

<table>
<thead>
<tr>
<th>Type of connection</th>
<th>Number of terminals</th>
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<tbody>
<tr>
<td>Screw connection</td>
<td>4 for L1/L2/L3/PE</td>
</tr>
<tr>
<td></td>
<td>0.5 / 6</td>
</tr>
<tr>
<td></td>
<td>0.5 / 2.5</td>
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<tr>
<td></td>
<td>26 / 10</td>
</tr>
</tbody>
</table>

*Recommendation applies only for AC operation; the max. permissible operating voltage is to be observed in all cases!

### Derating Curve

<table>
<thead>
<tr>
<th>% of Nominal Current</th>
<th>Temperature De-Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>120%</td>
<td>0° C</td>
</tr>
<tr>
<td>100%</td>
<td>10° C</td>
</tr>
<tr>
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</tr>
<tr>
<td>20%</td>
<td>50° C</td>
</tr>
<tr>
<td>0%</td>
<td>60° C</td>
</tr>
</tbody>
</table>

*This document provided by Barr-Thorp Electric Co., Inc. 800-473-9123 www.barr-thorp.com*
Diode Modules for Redundancy

**CP DM 10**

10A per Input Diode Module

**CP DM 20**

20A per Input Diode Module

### Ordering Data

<table>
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<th>Qty.</th>
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<tr>
<td>CP DM 20</td>
<td>1</td>
<td>8768650000</td>
</tr>
</tbody>
</table>

### Technical Data

**Input**

- Input voltage
- Input current

**Output**

- Output voltage
- Output current

**General Specifications**

- **Temperature**
  - Operating: -10°C...+55°C (-14°F...+131°F)
  - Storage: -20°C...+85°C (-4°F...+185°F)

- Efficiency under max. load: approx. 95.0% at 24 VDC

- Mount onto mounting rail: TS35 to DIN 50022

- Mounting position: Horizontal

- Weight: approx. 0.15 kg (0.33 lbs.)

- Dimensions (L x W x H): 125.0 x 55.5 mm x 110.0 (4.92 x 2.19 x 4.33 in.)

- Type of Connection: Screw

- Clamping area input (nominal / min. / max.): 4 / 0.13 / 6 mm² (12 / 26 / 10 AWG)

- Clamping area output (nominal / min. / max.): 4 / 0.13 / 6 mm² (12 / 26 / 10 AWG)

- Indication signals:
  - Voltage: None

- Alarm:
  - Voltage: None

- Fault Relay:
  - Voltage: None

- Current:
  - None

- Configuration:
  - None

- Other:
  - Voltage drop input-output:
    - Fan:
      - 0.5 V typ.: None

- Terminations:
  - Input/output:
    - N/A

- Alarm contact:
  - N/A

- Approvals/Certifications:
  - cULus 508 Listed, CE