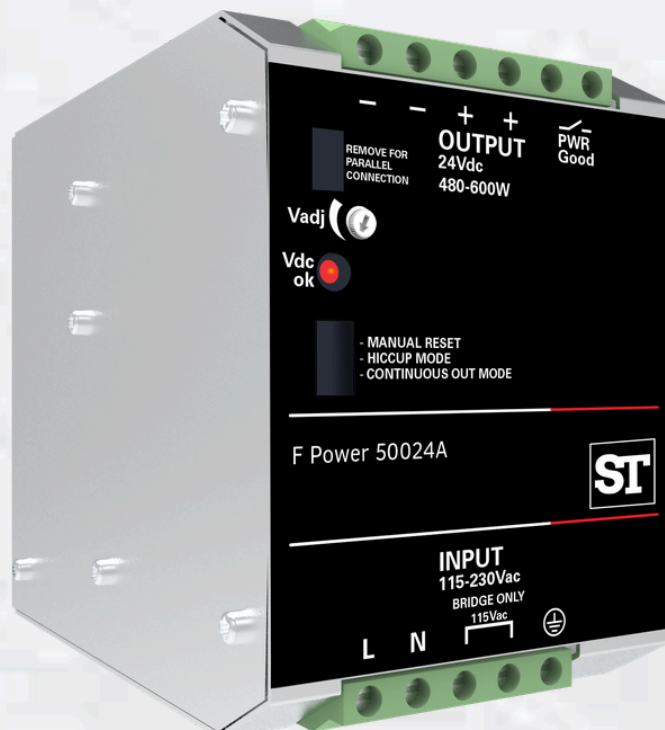




# Technical Data Sheet

## F Power 500xxA



**F Power 500XXA** is a compact DIN-rail mounted switch mode power supply designed to provide reliable DC power for industrial control and automation applications. Its space-saving design, wide input voltage range and strong overload capability ensure dependable performance, while built-in protection features enhance system safety and reliability.

### Special Features

- Single-phase, 115–230 Vac (manual select), up to 92% efficiency
- 50% overload capability without switch-off
- Flexible power output: 480 to 600 W
- "Power Good" relay output
- 3 protection modes: Hiccup, Continuous Out, Manual Reset
- DIN rail mountable, compact (3.35 x 4.72 x 5.51 inches), 3-year warranty



| Parameter                                                              | F Power 50024A                                                                                    | F Power 50048A                                          |
|------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| <b>Input Data</b>                                                      |                                                                                                   |                                                         |
| Nominal Input Voltage (2 x Vac) Manual select Input from 115 to 230    | 115 – 230 Vac                                                                                     | 115 – 230 Vac                                           |
| Input Voltage Range (Vac)                                              | 90 – 135 (115)<br>170 – 280 (230)                                                                 | 90 – 135 (115)<br>180 – 280 (230)                       |
| Inrush Current (Vn and In Load) I <sup>2</sup> t                       | ≤ 16 A ≤ 5 msec.                                                                                  | ≤ 16 A ≤ 5 msec.                                        |
| Frequency                                                              | 47 – 63 Hz ±6%                                                                                    | 47 – 63 Hz ±6%                                          |
| Input Current (115 – 230 Vac)                                          | 8 – 4.2 A                                                                                         | 8 – 4.2 A                                               |
| Internal Fuse                                                          | T 10 A                                                                                            | T 10 A                                                  |
| External Fuse (recommended)                                            | 16 A (MCB curve B)                                                                                | 16 A (MCB curve B)                                      |
| <b>Output Data</b>                                                     |                                                                                                   |                                                         |
| Output Voltage (Vn), Factory Setting ±3%                               | 24 Vdc                                                                                            | 48 Vdc                                                  |
| Adjustment Range (Vadj)                                                | 22 – 27 Vdc                                                                                       | 41 – 55 Vdc                                             |
| Start-Up with Strong Load (capacitive load)                            | ≤ 50,000 μF                                                                                       | ≤ 50,000 μF                                             |
| Turn-On Delay after Applying Mains Voltage                             | 1 sec. (max)                                                                                      |                                                         |
| Continuous Current at Vn, < 40°C (In)                                  | 25 A (permanent)                                                                                  | 12 A (permanent)                                        |
| Continuous Current at Vn, < 50°C (In)                                  | 22 A (permanent)                                                                                  | 11 A (permanent)                                        |
| Continuous Current at Vn, < 60°C (In)                                  | 20 A (permanent)                                                                                  | 10 A (permanent)                                        |
| Power Boost Current at 60°C (In), ≤ 3 min.                             | 25 A                                                                                              | 12 A                                                    |
| Current Max. Overload ≥ 4 Vdc (permanent)                              | Imax = In60°C x (1.8 – 2.2)                                                                       | Imax = In60°C x (1.8 – 2.2)                             |
| Current Short Circuit Icc (max 2 sec.: Hiccup / permanent: Continuous) | 60 A                                                                                              | 30 A                                                    |
| Hold-Up Time (min. Vac)                                                | Typ. 20 msec                                                                                      |                                                         |
| Residual Ripple                                                        | ≤ 80 mVpp                                                                                         |                                                         |
| Efficiency                                                             | ≥ 92%                                                                                             |                                                         |
| Over Temperature Protection                                            | Yes. Shut-down output and automatic restart.                                                      |                                                         |
| Short-Circuit Protection                                               | 1° Manual Reset<br>2° Hiccup Mode<br>3° Continuous Out Mode                                       | 1° Hiccup Mode<br>2° Continuous Mode<br>3° Manual Reset |
| Dissipation Power Load Max (W)                                         | 54                                                                                                |                                                         |
| Over Load Protection                                                   | Yes                                                                                               |                                                         |
| Over Voltage Output Protection                                         | Yes (typ. 35 Vdc)                                                                                 | Yes (typ. 72 Vdc)                                       |
| Parallel Connection                                                    | Yes. "Easy Parallel"                                                                              |                                                         |
| Power Good Contact Rating (EN60947.4.1)                                | Max. DC1: 30 Vdc 1 A; AC1: 60 Vac 1 A (resistive load). Min. 1 mA at 5 Vdc (min. permissive load) |                                                         |

| Climatic Data                           |                                            |                                            |
|-----------------------------------------|--------------------------------------------|--------------------------------------------|
| Ambient Temperature Operation           | -25°C up to +70°C (>60°C derating 2.5%/°C) | -25°C up to +70°C (>60°C derating 2.5%/°C) |
| Ambient Temperature Storage             | -40°C up to +85°C                          | -40°C up to +85°C                          |
| Humidity at 25°C, no condensation       | 95% to 25°C                                | 95% to 25°C                                |
| General Data                            |                                            |                                            |
| Isolation Voltage (In / Out)            | 3000 Vac                                   | 3000 Vac                                   |
| Isolation Voltage (In / PE)             | 1605 Vac                                   | 1605 Vac                                   |
| Isolation Voltage (Out / PE)            | 500 Vac                                    | 500 Vac                                    |
| Protection Class (EN/IEC 60529)         | IP 20                                      | IP 20                                      |
| Reliability: MTBF (IEC 61709)           | > 5,00,000 h                               | > 5,00,000 h                               |
| Pollution Degree Environment            | 2                                          | 2                                          |
| Connection Terminal Blocks (Screw Type) | 4 mm <sup>2</sup> (30 – 10 AWG)            | 4 mm <sup>2</sup> (30 – 10 AWG)            |
| Protection Class                        | I, with PE connected                       | I, with PE connected                       |
| Dimension (w-h-d)                       | 3.35 x 4.72 x 5.51 inches                  | 3.35 x 4.72 x 5.51 inches                  |
| Weight                                  | 1.1 kg approx.                             | 1.0 kg approx.                             |

## Norms and Certifications:

- The CE mark is in accordance with EMC Directive 2004/108/EC and Low Voltage Directive 2006/95/EC.

### Electrical Safety:

According to IEC/EN 60950 (VDE 0805) and EN 50178 (VDE 0160) for assembling device. The unit must be installed according to IEC/EN 60950. Input/Output separation: SELV EN60950-1 and PELV EN 60204-1. Double or reinforced insulation.

### EMC Immunity:

EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN61000-6-2

### EMC Emission:

EN61000-6-4

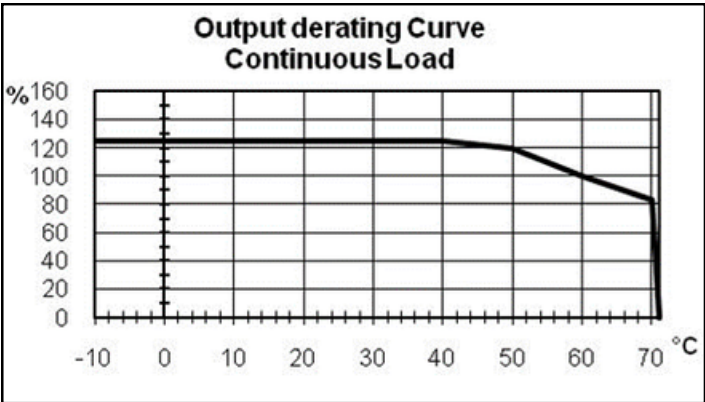
### Standards Conformity:

EN 60204-1 – Safety of Electrical Equipment of Machines

Derating Curves:

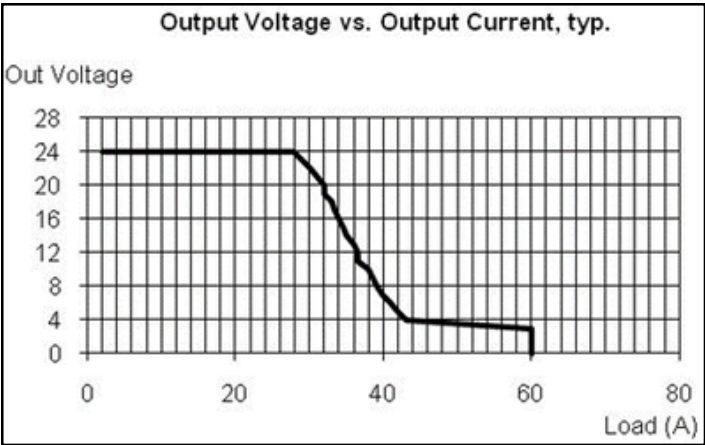
Load Current in % Vs Temperature in C

F Power 500XXA

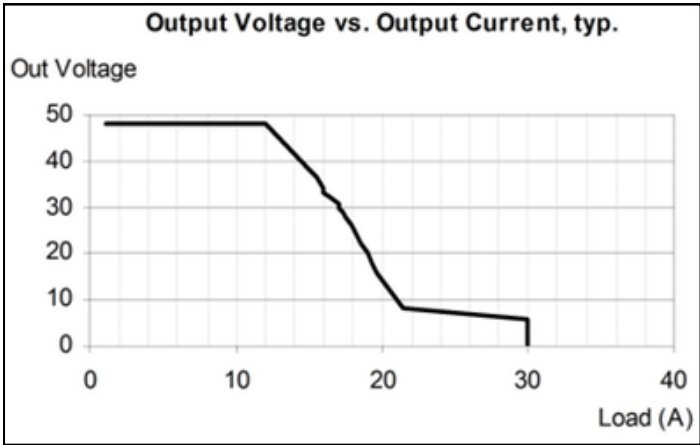


Output Voltage Vs Load Current

F Power 50024A



F Power 50048A



Ordering Information

| F Power 500XXA           |             |   |   |   |   |   |   |   |   |   |   |     |
|--------------------------|-------------|---|---|---|---|---|---|---|---|---|---|-----|
| Product Code             | RF13-       | X | X | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0ST |
| System of RF13 (F POWER) | 1P          | 1 |   |   |   |   |   |   |   |   |   |     |
| F POWER 50024A           | 500W,24V 1P |   | E |   |   |   |   |   |   |   |   |     |
| F POWER 50048A           | 500W,48V 1P |   | H |   |   |   |   |   |   |   |   |     |
| Reserved                 |             |   |   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0ST |



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