

OEM Automatic Ltd

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POWER SUPPLY 3-PHASE, 36 V DC DIMENSION X SERIES

36 V DC, 26,6 A, semi-regulated

XT40.361 PSU 3PH 400V ac I/P 36V dc 26.6A 960W O/P

- Width 96mm
- Up to 95,5% efficiency
- 125 % power boost
- Suitable for eg. supply for motors





PRODUCT DESCRIPTION

The power supplies in the Dimension X-Series include a new and innovative concept for generating an isolated DC voltage from a three-phase mains system.

A semi-regulated resonant converter enables a very compact design, maximum efficiency and extremely competitive pricing with only a small compromise in the output voltage regulation, output ripple and hold-up time.

Weighing just 1.4 kg, the device provides 960 watts of continuous output power and an additional 25% power reserve for dynamic loads. The light-weight design along with compact dimensions facilitate straightforward mounting on DIN-rail.

Primary use are applications involving supplies to motors, valves and other load circuits with a high power consumption, where an accurate output voltage regulation which is standard on traditional switched-mode power supplies is not required. Furthermore, these switched-mode power supplies can often replace mains transformers with rectifiers.

TECHNICAL DATA

INPUT DATA

| Input voltage ac | 400 V |
|--|----------|
| Input voltage ac min | 360 V AC |
| Input voltage ac max | 440 V AC |
| Inrush current at 400 V ac typical | 4 A |
| Power factor at 400 V ac, full load. Typical | 0.93 |

OUTPUT DATA

| Output voltage | 36 V DC |
|--------------------|---------|
| Output voltage min | 36 V DC |

| Output voltage max | 36 V DC |
|--------------------|---------|
| Output current | 26.6 A |
| Power | 960 W |

EFFICIENCY / LIFETIME / MTBF

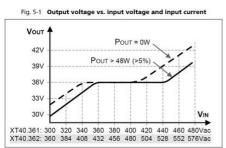
| Efficiency at 400 V ac, full load, typical | 95.5 % |
|---|----------|
| MTBF (IEC 61709) 400 V ac, max loan, +40 °C | 529000 h |

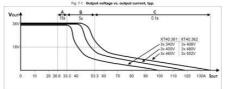
DIMENSIONS

| Width | 96 mm |
|--------|--------|
| Height | 124 mm |
| Depth | 159 mm |
| Weight | 1.4 kg |

OTHER

| Approvals | CB, CE, CSA, UL |
|--|-----------------|
| Hold time at 400 V ac, typical full load | 3 ms |
| IP class | IP20 |
| Material protection | Aluminium |
| Supply frequency | 50-60 ±6 % |
| Ripple max | 250 mV pp |
| Series | Dimension X |
| Power consumption at 400 V ac | 1.65 A |
| Power drop from +60 °C to + 70 °C | 24 W/°C |
| Temperature min without derating | -25 °C |
| Temperature max without derating | 60 °C |
| | |
| Active Transient | Yes |





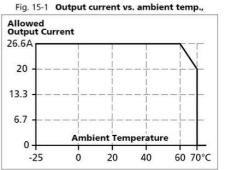


Fig. 9-1 Efficiency vs. output current

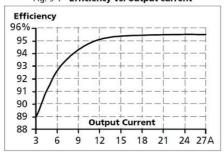
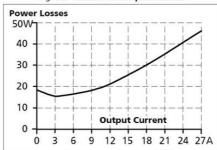


Fig. 9-2 Losses vs. output current



25. COMPARISON BETWEEN THE XT40, A TRANSFORMER AND A TRADITIONAL SWITCHED-MODE POWER SUPPLY

| | regulated power supply | Traditional switched-mode power supply | power supply |
|---------------------------|---------------------------|--|--------------|
| Input voltage range | + | ** | |
| Inrush current surge | ++ | + | |
| Hold-up time | | + | |
| Phase-loss operation | | | |
| Efficiency | *** | ** | |
| Output voltage regulation | | ** | |
| Output adjustment range | | ** | |
| Ripple & noise voltage | | ** | |
| Error diagnostics | *** | ** | |
| Harmonic distortion (PFC) | | + | |
| EMC | ** | ** | |
| Ease of installation | ** | ** | |
| Size | *** | ** | |
| Weight | *** | | 5 60 |
| | +++very, very good | ++very good | +goodpor |

Output Terminals
Large screw terminal

Politic control

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output

See chapter 12

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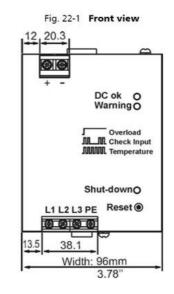
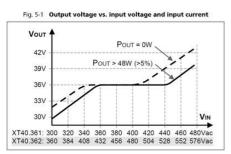
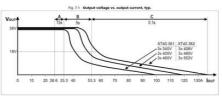


Fig. 22-2 Side view

Depth: 157mm, 6.18"





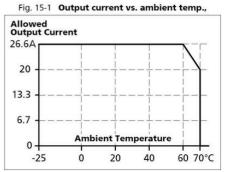


Fig. 9-1 Efficiency vs. output current

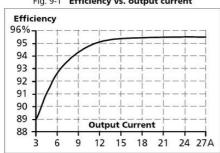
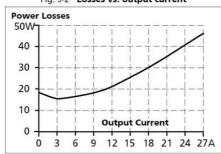
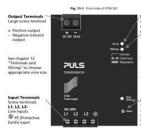


Fig. 9-2 Losses vs. output current



25. COMPARISON BETWEEN THE XT40, A TRANSFORMER AND A TRADITIONAL SWITCHED-MODE POWER SUPPLY

| | XT40 Semi- regulated power supply | Traditional switched-mode power supply | Transformer power supply |
|---------------------------|---|--|-----------------------------|
| Input voltage range | + | ** | |
| Inrush current surge | ** | + | |
| Hold-up time | | + | |
| Phase-loss operation | | | |
| Efficiency | *** | ** | |
| Output voltage regulation | | ** | |
| Output adjustment range | | ** | |
| Ripple & noise voltage | | ** | |
| Error diagnostics | *** | ** | |
| Harmonic distortion (PFC) | | + | |
| EMC | ** | ** | |
| Ease of installation | ** | ** | |
| Size | *** | ** | |
| Weight | *** | | |
| | +++very, very good | ++very good | +goodpo |



DC-ok LED (green)
Indicates a normal operation. The LED is
if the output voltage is higher than 32.4V

Warning LED (yellow)

A steady-state light indicates an output current higher than the nominal current and that the internal shutdown timer is running.

A double flash indicates a phase-loss or

XT40.361: 333940c to > 38560Vac)
A fast flash warns of an impending temperature shut-down. A shut-down can be expected within 10 minutes, if the ambient temperature or the load current stays constant.

Shut-down LED (red) and reset button. The red LED flashes when the device has shut down. Pressing the reset button or cycling the input power (10s required) initiates a restart. If the fault has been cleared the device will operate normally.

