

## POWER SUPPLY 3-PHASE, 72 V DC DIMENSION X SERIES

XT40.721  
 PSU 3PH 400V ac I/P 72V dc 13.3A 960W O/P

- Output current of 13 A
- 95.5% efficiency
- 96 mm wide
- 25% power boost
- Very high short-circuit current



### 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.

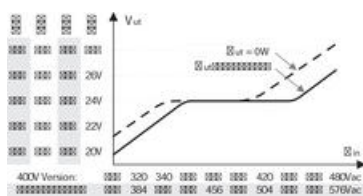
Weighing just 1.4 kg, the device provides 960 watts of continuous output power and an additional 25% power reserve for dynamic loads. The light-weight design along with compact dimensions facilitate straightforward mounting on DIN-rail.

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.

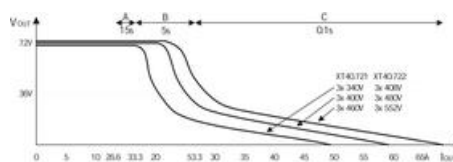
Furthermore, these switched-mode power supplies can often replace mains transformers with rectifiers.

We recommend free space of 40 mm above and 20 mm under the unit, and 5 mm at the sides. (If adjacent components are considered as heat sources, a distance of 15 mm is recommended.)

Input voltage range



Output characteristics



## 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 |
| Number of phases                             | 3    |

## OUTPUT DATA

|                    |         |
|--------------------|---------|
| Output voltage     | 72 V DC |
| Output voltage min | 72 V DC |
| Output voltage max | 72 V DC |
| Output current     | 13,3 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 | 539000 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                               | 200 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           |
| Type Power Supply                        | AC-DC           |
| Active Transient                         | Yes             |

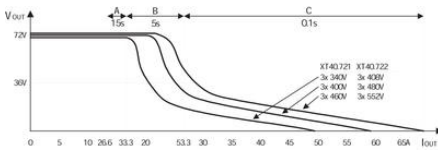


Fig. 5-1 Output voltage vs. input voltage and input current

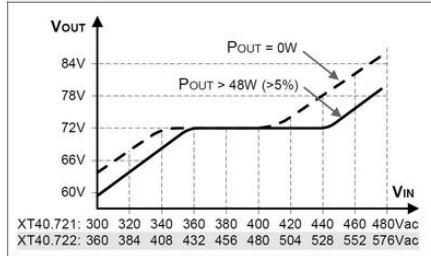


Fig. 15-1 Output current vs. ambient temp.,

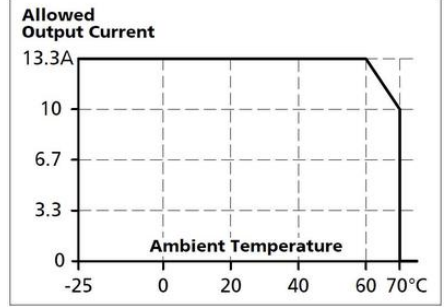


Fig. 9-1 Efficiency vs. output current

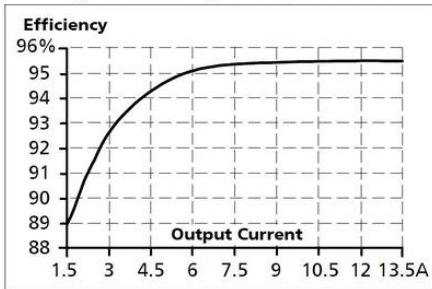
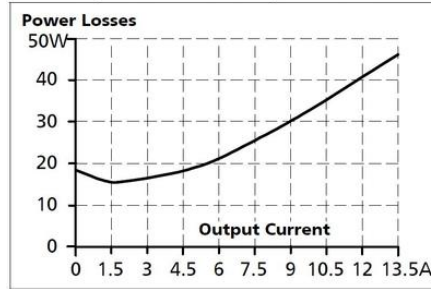


Fig. 9-2 Losses vs. output current



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                       | ++                               | ++                                     | +                        |
| Size of installation      | ++                               | ++                                     | -                        |
| Size                      | +++                              | ++                                     | -                        |
| Weight                    | +++                              | +                                      | -                        |

+++...very, very good ++...very good +...good -...poor

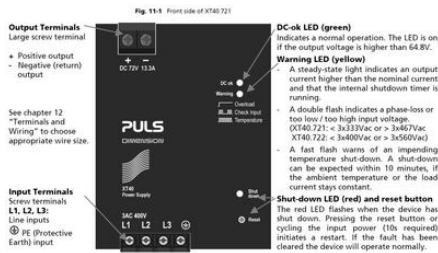


Fig. 22-1 Front view

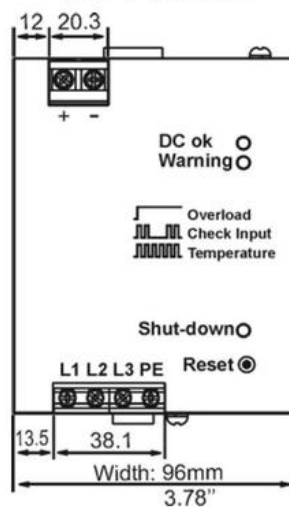


Fig. 22-2 Side view

