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

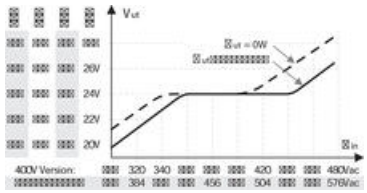
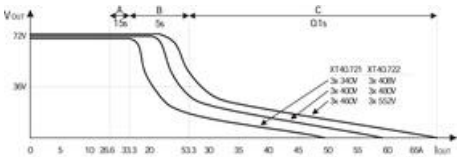
XT40.721
POWER SUPPLY 400V 72VDC/13,3A


- 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 |
|---|---|
|  |  |

## SPECIFICATIONS

| | |
|---|---|
| **Type Power Supply** | AC-DC |
| **Power consumption at 400 V ac** | 1,65 A |
| **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 |
| **Number of phases** | 3 |
| **Power Factor at 400 V AC, full load. Typical** | 0,93 |
| **Supply Frequency** | 50-60 ±6 % |
| | |
| **Ripple. max** | 200 mV pp |
| **Output voltage min** | 72 V DC |
| **Power Reduction Of 60 To 70 ° C** | 24 W/°C |
| **Temperature Range Without Derating From** | -25 °C |
| **Output voltage** | 72 V DC |
| **Output voltage max** | 72 V DC |
| **Effect** | 960 W |
| **Output Current** | 13,3 A |
| **Temperature Range Without Derating To** | 60 °C |
| | |
| **MTBF (IEC 61709) 400 V ac, max loan, +40 °C** | 539000 h |
| **Efficiency At 400 V AC, full load. Typical** | 95,5 % |
| | |
| **Weight** | 1,4 kg |
| **Depth** | 159 mm |
| **Width** | 96 mm |
| **Height** | 124 mm |
| | |
| **IP Class** | IP20 |
| **Hold-up time at 400 V AC, full load. Typical.** | 3 ms |
| **Series** | Dimension X |
| **Approvals** | CB, CE, CSA, UL |
| **Material Protection** | Aluminium |
| **Active Transient** | Yes |

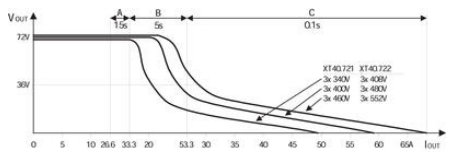


Fig. 5-1 **Output voltage vs. input voltage and input current**

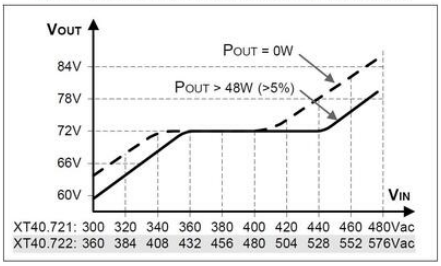



Fig. 15-1 **Output current vs. ambient temp.,**

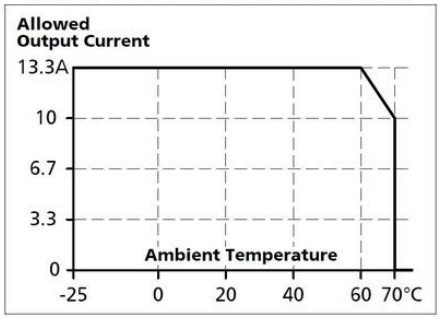



Fig. 9-1 **Efficiency vs. output current**

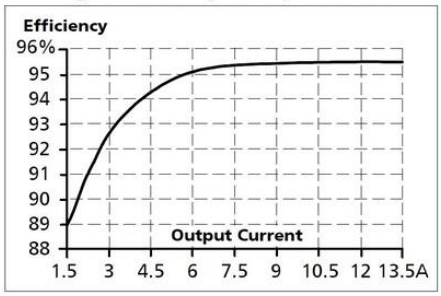
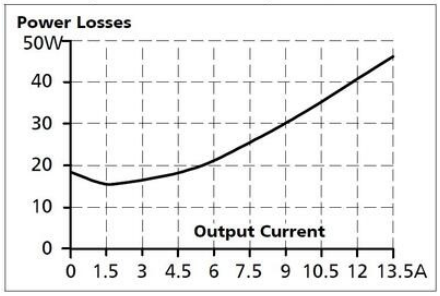



Fig. 9-2 **Losses vs. output current**




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

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

Fig. 11-1 Front side of XT40.721

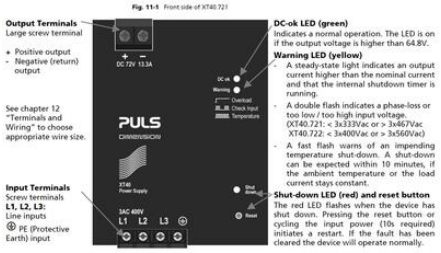



Fig. 22-1 **Front view**

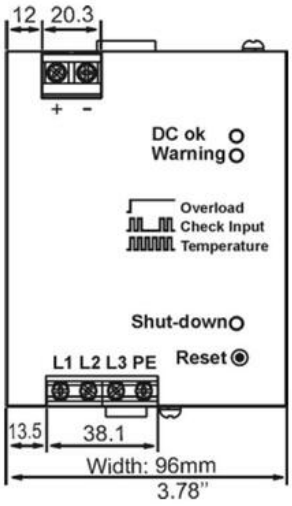
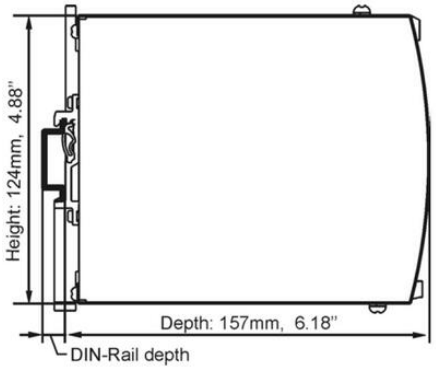



Fig. 22-2 **Side view**



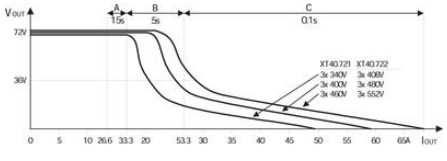




Fig. 5-1 **Output voltage vs. input voltage and input current**

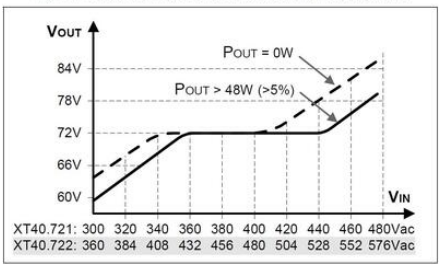



Fig. 15-1 **Output current vs. ambient temp.,**

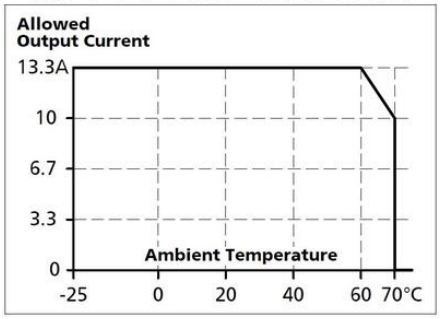


Fig. 9-1 **Efficiency vs. output current**

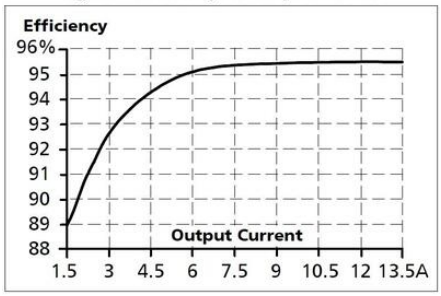
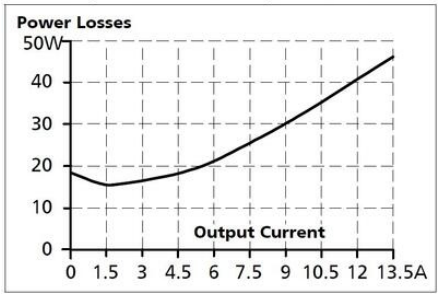



Fig. 9-2 **Losses vs. output current**

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| Harmonic distortion (PFC) | + | + | - |
| EMC | ++ | ++ | + |
| Ease of installation | ++ | ++ | - |
| Size | +++ | ++ | - |
| Weight | +++ | + | - |

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

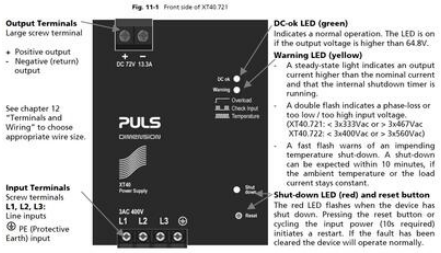


Fig. 22-1 **Front view**

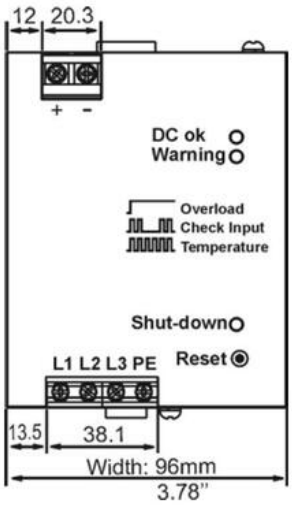


Fig. 22-2 **Side view**