

## 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

### SPECIFICATIONS

Number of phases	3
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
Supply Frequency	50-60 ±6 %
Power consumption at 400 V ac	1.65 A

Type Power Supply	AC-DC
Output voltage	72 V DC
Output voltage min	72 V DC
Output voltage max	72 V DC
Output Current	13.3 A
Effect	960 W
Power Reduction Of 60 To 70 ° C	24 W/°C
Ripple. max	200 mV pp
Temperature Range Without Derating From	-25 °C
Temperature Range Without Derating To	60 °C

Efficiency At 400 V AC, full load. Typical	95.5 %
MTBF (IEC 61709) 400 V ac, max loan, +40 °C	539000 h

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

Series	Dimension X
Approvals	CB, CE, CSA, UL
Material Protection	Aluminium
Hold-up time at 400 V AC, full load. Typical.	3 ms
IP Class	IP20
Active Transient	Yes

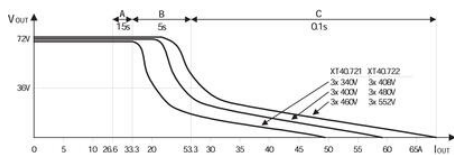


Fig. 5-1 Output voltage vs. input voltage and input current

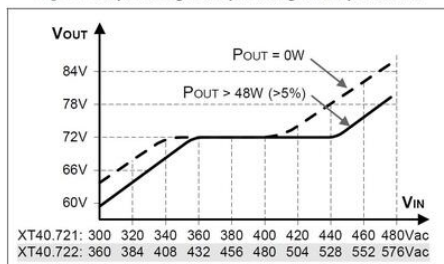


Fig. 15-1 Output current vs. ambient temp.,

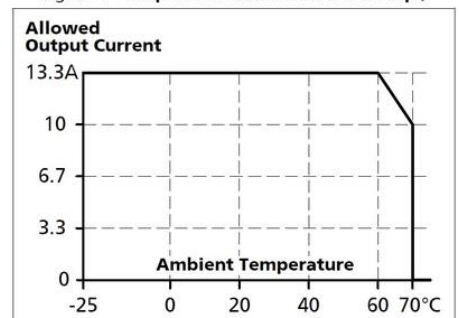


Fig. 9-1 Efficiency vs. output current

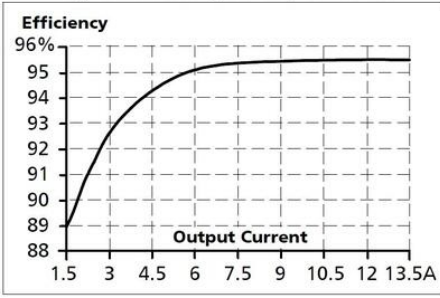
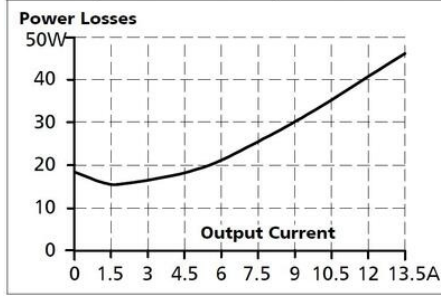


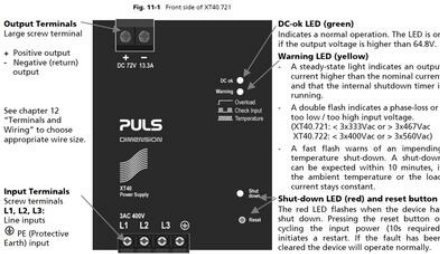
Fig. 9-2 Losses vs. output current



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



**DC-OK LED (green)**  
Indicates a normal operation. The LED is on if the output voltage is higher than 64.8V.

**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 too low / too high input voltage.
- XT40 721: < 3x333Vac or > 3x467Vac
- XT40 722: < 3x400Vac or > 3x560Vac

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.

Fig. 22-1 Front view

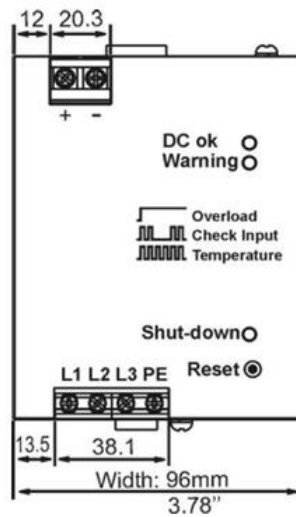


Fig. 22-2 Side view

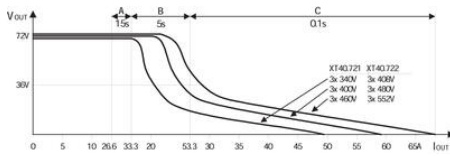
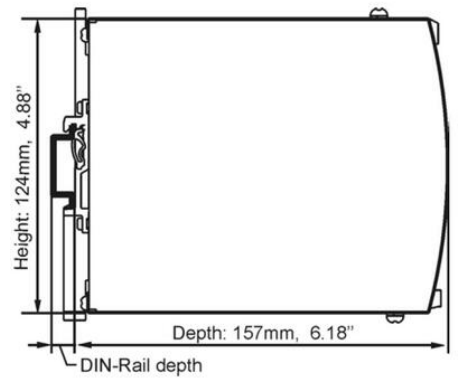


Fig. 5-1 Output voltage vs. input voltage and input current

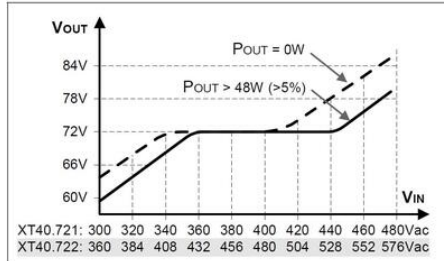


Fig. 15-1 Output current vs. ambient temp.,

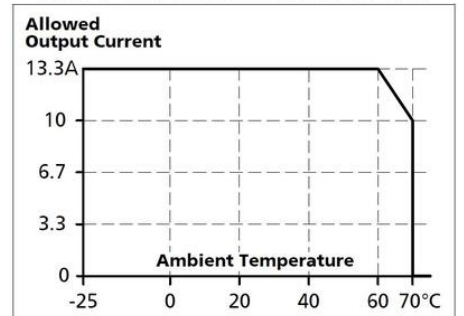


Fig. 9-1 Efficiency vs. output current

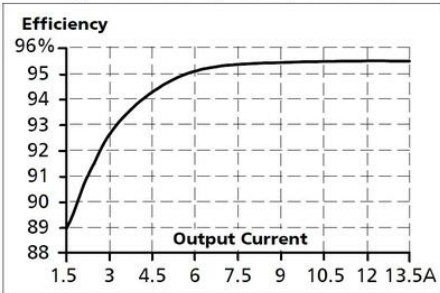
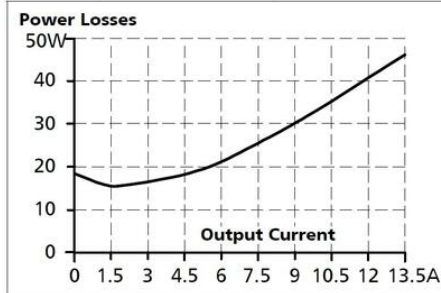


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Phase-loss operation	-	+	-
Efficiency	+++	++	-
Output voltage regulation	+	++	-
Output adjustment range	-	++	-
Ripple & noise voltage	-	++	-
Error diagnostics	++	++	-
Harmonic distortion (PFC)	+	+	-
EMC	++	++	+
Ease of installation	++	++	-
Size	+++	++	-
Weight	+++	+	-

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

Fig. 22-1 Front side of XT40-721



Fig. 22-1 Front view

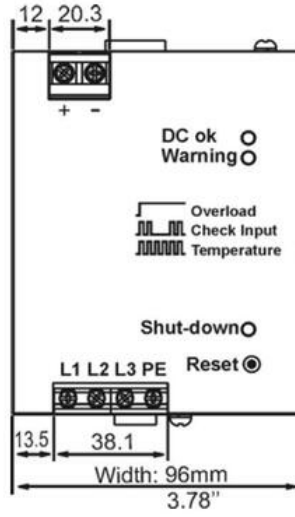


Fig. 22-2 Side view

