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.

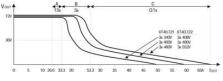
We recommend free space of 40 mm above and 20 mm under the unit, and 5 mm at the sides. (If adjacent components are considered as heat sources, a distance of 15 mm is recommended.)

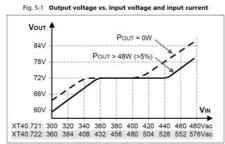
nput voltage range	C	utput characteristics	

Specifications

Active Transient	Yes
Approvals	CB, CE, CSA, UL
Depth	159
Effect	960

Efficiency At 400 V AC, full load. Typical	95.5
Height	124
Hold-up time at 400 V AC, full load. Typical.	3
Input voltage AC	400 V
Input voltage ac max	440
Input voltage ac min	360
Inrush current at 400 V ac typical	4
IP Class	IP20
Material Protection	Aluminium
MTBF (IEC 61709) 400 V ac, max loan, +40 °C	539000
Number of phases	3
Output Current	13.3
Output voltage	72
Output voltage max	72
Output voltage min	72
Power consumption at 400 V ac	1.65
Power Factor at 400 V AC, full load. Typical	0.93
Power Reduction Of 60 To 70 ° C	24
Ripple. max	200
Series	Dimension X
Supply Frequency	50-60 ±6 %
Temperature Range Without Derating From	-25
Temperature Range Without Derating To	60
Type Power Supply	AC-DC
Weight	1.4
Width	96





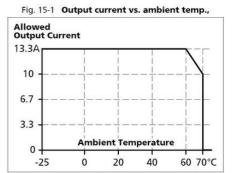


Fig. 9-1 Efficiency vs. output current

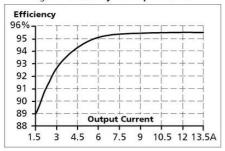
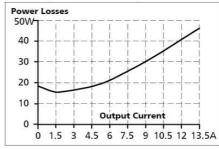
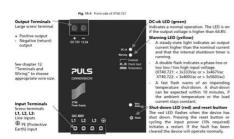


Fig. 9-2 Losses vs. output current



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

	regulated power supply	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	***		



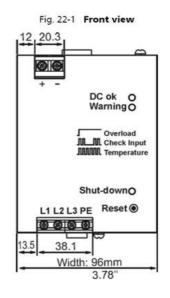
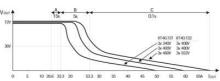


Fig. 22-2 Side view

Depth: 157mm, 6.18"



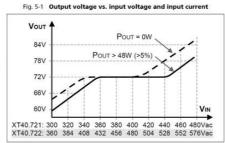


Fig. 15-1 Output current vs. ambient temp.,

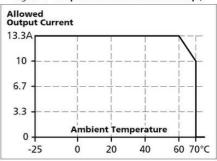


Fig. 9-1 Efficiency vs. output current

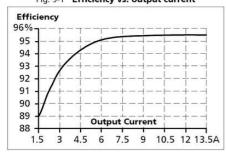
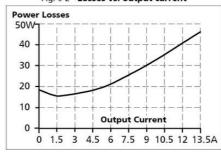


Fig. 9-2 Losses vs. output current



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	***		5

Cutput Terminals
Large screw terminal

• Positive output

• Positive o

DC-ok LED (green)
Indicates a normal operation. The LED is a
if the output voltage is biother than 64 80

 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 T40.722 < 3x400Vac or > 3x500Vac)

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 hut down. Pressing the reset button cycling the input power (10s required) nitiates a restart. If the fault has been leared the device will operate normally.

