

**POWER SUPPLY 3-PHASE, 24 V DC  
DIMENSION X SERIES**

XT40.241  
POWER SUPPLY 400V 24VDC 960W

- Output current of 40 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.

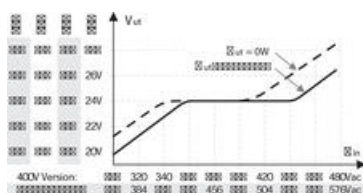
Weighing just 1.4 kg, the device provides 960 watts of continuous output power and an additional 25% power reserve for dynamic loads. The light-weight design along with compact dimensions facilitate straightforward mounting on DIN-rail.

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.

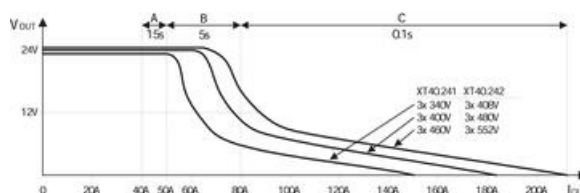
Furthermore, these switched-mode power supplies can often replace mains transformers with rectifiers.

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/regulation



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

<b>Input voltage ac max</b>	440 V AC
<b>Inrush current at 400 V ac typical</b>	4 A
<b>Number of phases</b>	3
<b>Power Factor at 400 V AC, full load. Typical</b>	0,93
<b>Supply Frequency</b>	50-60 ±6 %
<b>Ripple. max</b>	200 mV pp
<b>Output voltage min</b>	24 V DC
<b>Power Reduction Of 60 To 70 ° C</b>	24 W/°C
<b>Temperature Range Without Derating From</b>	-25 °C
<b>Output voltage</b>	24 V DC
<b>Output voltage max</b>	24 V DC
<b>Effect</b>	960 W
<b>Output Current</b>	40 A
<b>Temperature Range Without Derating To</b>	60 °C
<b>MTBF (IEC 61709) 400 V ac, max loan, +40 °C</b>	529000 h
<b>Lifetime at 400 V ac, full load and +40 ° C</b>	51000 h
<b>Efficiency At 400 V AC, full load. Typical</b>	95,5 %
<b>Weight</b>	1,4 kg
<b>Depth</b>	159 mm
<b>Width</b>	96 mm
<b>Height</b>	124 mm
<b>IP Class</b>	IP20
<b>Hold-up time at 400 V AC, full load. Typical.</b>	2 ms
<b>Series</b>	Dimension X
<b>Approvals</b>	CB, CE, CSA, UL
<b>Material Protection</b>	Aluminium
<b>Active Transient</b>	Yes

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

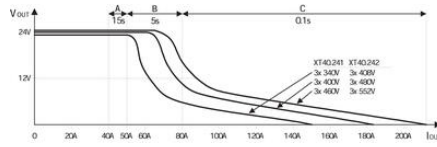
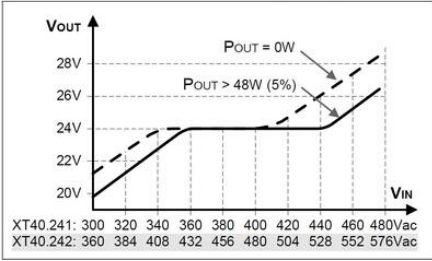


Fig. 15-1 Output current vs. ambient temp.,

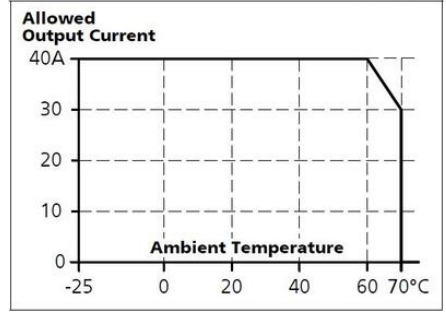


Fig. 9-1 Efficiency vs. output current

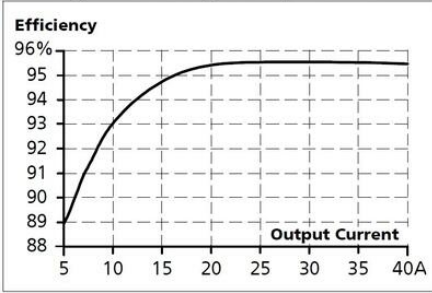
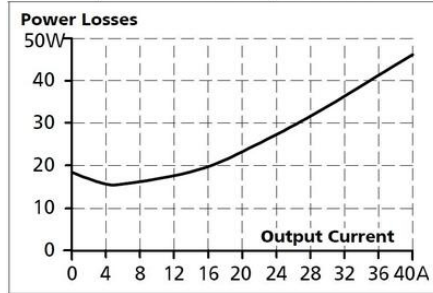


Fig. 9-2 Losses vs. output current



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. 22-1 Front view

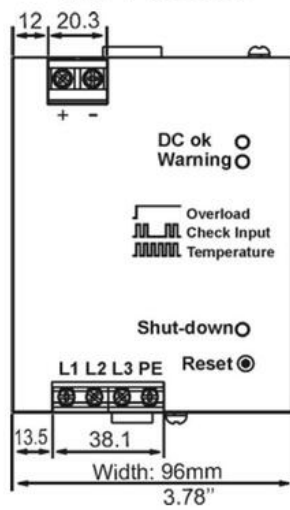


Fig. 22-2 Side view

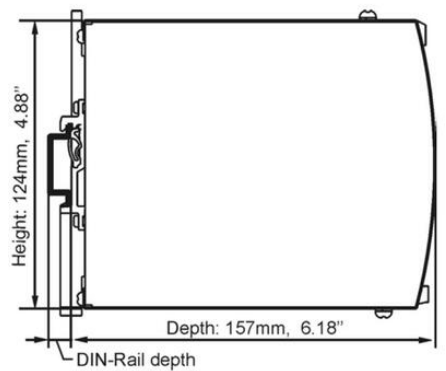


Fig. 5-1 Output voltage vs. input voltage and input current

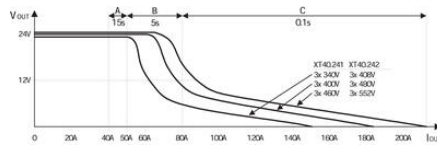
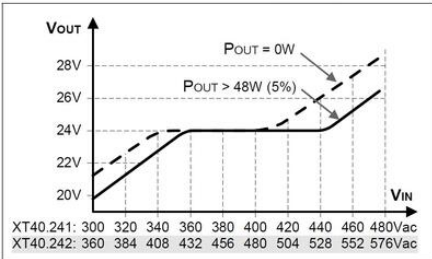


Fig. 15-1 Output current vs. ambient temp.,

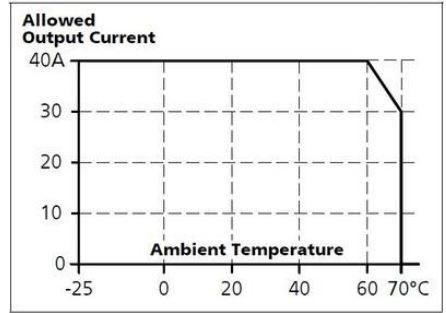


Fig. 9-1 Efficiency vs. output current

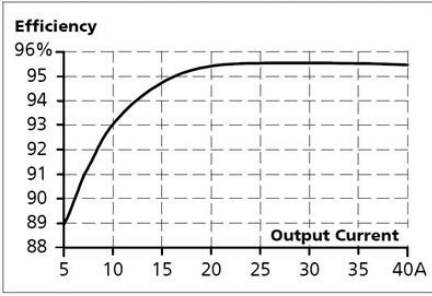
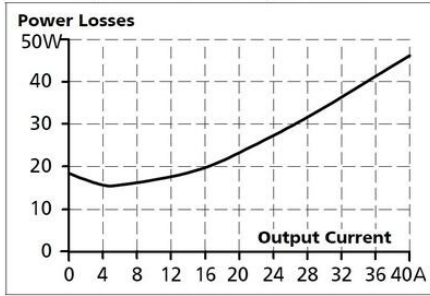


Fig. 9-2 Losses vs. output current



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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

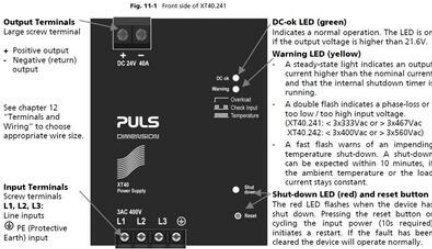


Fig. 22-1 Front view

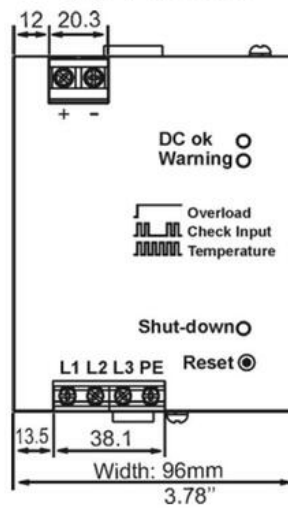


Fig. 22-2 Side view

