# POWER SUPPLY 3-PHASE, 48 V DC DIMENSION X SERIES 20A

XT40.481
PSU 3PH 400V ac I/P 48V dc 20A 960W O/P


- Output current of 20 A
- Up to 96% efficiency
- Semi Regulated
- Replaces linear transformers
- Very high short-circuit current

## PRODUCT DESCRIPTION

Dimension X series is a series of semi-regulated power supplies. A so-called semi-controlled unit means that the output voltage is regulated within the specified input voltage range. Outside this range decreases / increases the output voltage compared to the input voltage.
The unit has a bonus effect of 25% (25 A) to cope with high starting currents, as well as a very high short-circuit current enables safe trips for eg MCB. The unit leaves up to 90 A at 100 ms. Lasts short circuit longer than 100 ms, the unit shuts off automatically. See chart below for details. Recovery occurs in the front, or by disconnecting the primary voltage.
A yellow LED indicates the status and warns of the following errors; phase failure, over-temperature and high load current.
The unit has a low weight (1.4 kg), no inrush current and active transient filter that protects the secondary side from transients on the primary side.
Typical applications include motors, solenoids or other "power hungry" loads that do not have requirements for accurate voltage regulation. X series are a great alternative to traditional transformers. With lower energy costs and easier installation, along with an attractive price concept means a low total cost.

We recommend free space of 40 mm above and 20 mm under the power supply, and 5 mm at the sides. (if neighbouring products are counted as a heat source spacing of 15 mm is recommended).

| |
|---|
| Input voltage range/regulation |
| |
| Output characteristics |
| |

## SPECIFICATIONS

| | |
|---|---|
| Active Transient | Yes |
| Approvals | CB, CE, CSA, UL |
| Depth | 159 |
| Effect | 960 |
| Efficiency At 400 V AC, full load. Typical | 96 |
| 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 |
| Lifetime at 400 V ac, full load and +40 ° C | 77000 |
| MTBF (IEC 61709) 400 V ac, max loan, +40 °C | 541000 |
| Number of phases | 3 |
| Output Current | 20 |
| Output voltage | 48 |
| Output voltage max | 48 |
| Output voltage min | 48 |
| 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 | 300 |
| Series | Dimension X |
| Supply Frequency | 50-60 ±6 % |
| Temperature Range Without Derating From | -25 |
| Temperature Range Without Derating To | 60 |
| Weight | 1.4 |
| Width | 96 |

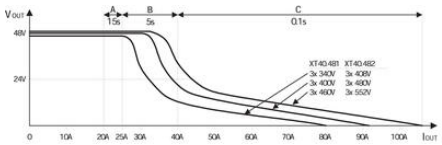



Fig. 5-1 **Output voltage vs. input voltage and input current**

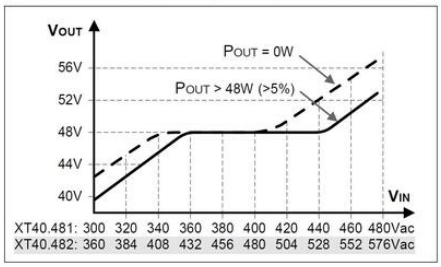



Fig. 15-1 **Output current vs. ambient temp.,**

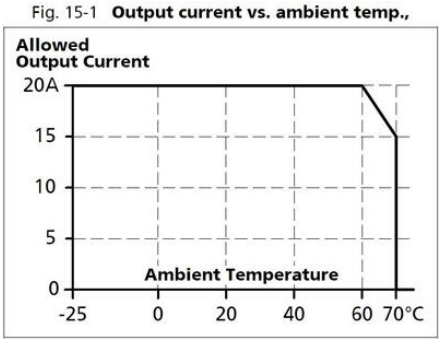


Fig. 9-1 **Efficiency vs. output current**

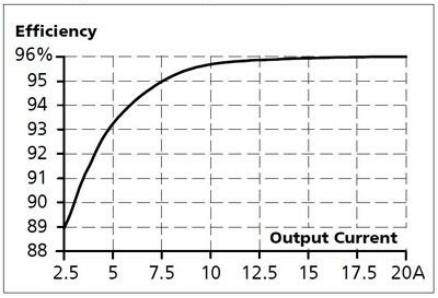
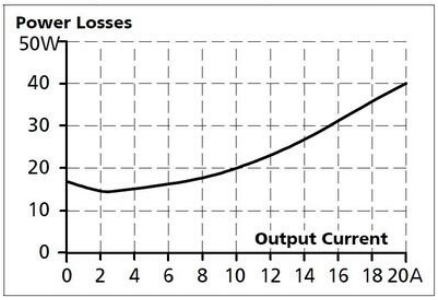



Fig. 9-2 **Losses vs. output current**




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

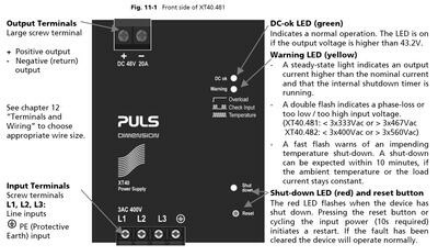



Fig. 22-1 **Front view**

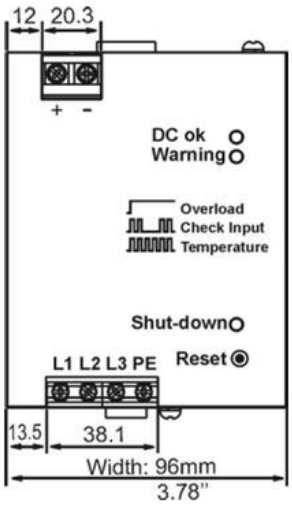
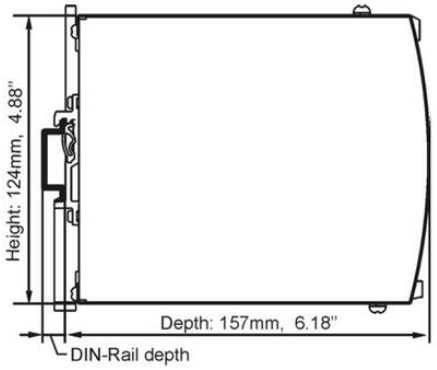



Fig. 22-2 **Side view**



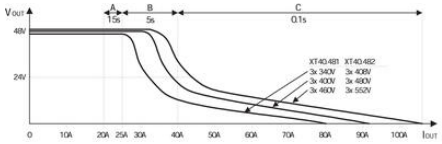




Fig. 5-1 **Output voltage vs. input voltage and input current**

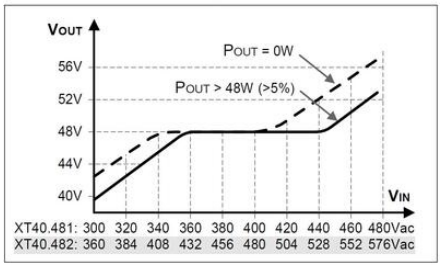



Fig. 15-1 **Output current vs. ambient temp.,**

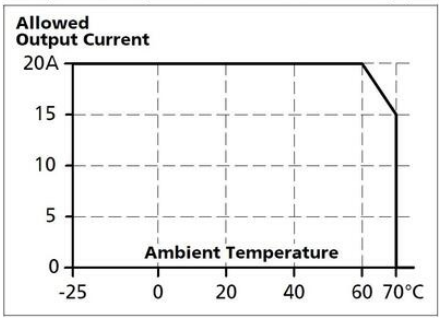



Fig. 9-1 **Efficiency vs. output current**

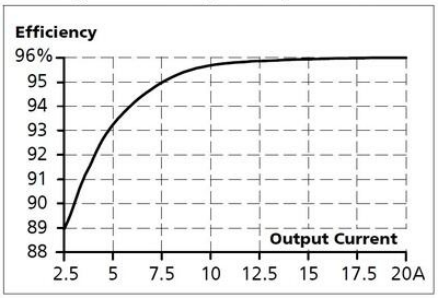
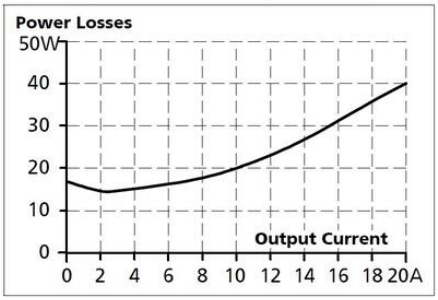



Fig. 9-2 **Losses vs. output current**

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

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

Fig. 11-1 Front side of XT40.481


Fig. 22-1 **Front view**

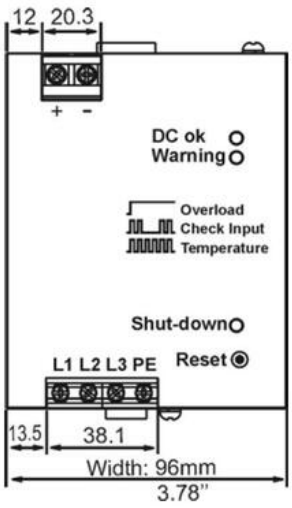


Fig. 22-2 **Side view**