EN	**FPT1403.481-03-IO Installation Manual**	**Power Supply, 3-Phase, 48V, 1200W +2*100W**
DE	**FPT1403.481-03-IO Installationsanleitung**	**Stromversorgung, 3-Phase, 48V, 1200W +2*100W**
FR	**FPT1403.481-03-IO Manuel d'installation**	**Alimentation d'Énergie, 3-Phase, 48V, 1200W +2*100W**
ES	**FPT1403.481-03-IO Manual de instalación**	**Fuente De Alimentación, 3-Phase, 48V, 1200W +2*100W**
IT	**FPT1403.481-03-IO Manuale di Installazione**	**Alimentazione Elettrica, 3-Phase, 48V, 1200W +2*100W**
PT	**FPT1403.481-03-IO Manual de instalação**	**Fonte De Alimentação, 3-Phase, 48V, 1200W +2*100W**

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Read this first! — English

Before operating this device, please read this manual thoroughly and retain this manual for future reference! This device may only be installed and put into operation by qualified personnel. If damage or malfunction should occur during operation, immediately turn power off and send device to the factory for inspection. The device does not contain serviceable parts. The information presented in this document is believed to be accurate and reliable and may change without notice. For any clarifications the English translation will be used.

⚠ WARNING **Risk of electrical shock, fire, personal injury, or death:**

- Turn power off before working on the device. Protect against inadvertent re-powering.
- Do not open, modify or repair the device.
- Do not touch during power-on and immediately after power-off. Hot surfaces may cause burns.

Vor Inbetriebnahme lesen! — Deutsch

Bitte lesen Sie diese Warnungen und Hinweise sorgfältig durch, bevor Sie das Gerät in Betrieb nehmen. Bewahren Sie die Anleitung zum Nachlesen auf. Das Gerät darf nur durch fachkundiges und qualifiziertes Personal installiert werden. Bei Funktionsstörungen oder Beschädigungen schalten Sie sofort die Versorgungsspannung ab und senden das Gerät zur Überprüfung ins Werk. Das Gerät beinhaltet keine Servicebauteile. Die angegebenen Daten dienen allein der Produktbeschreibung und sind nicht als zugesicherte Eigenschaften im Rechtssinne aufzufassen. Im Zweifelsfall gilt der englische Text.

⚠ WARNUNG **Missachtung nachfolgender Punkte kann einen elektrischen Schlag, Brände, schwere Unfälle oder Tod zur Folge haben:**

- Schalten Sie die Eingangsspannung vor Installations-, Wartungs- oder Änderungsarbeiten ab und sichern Sie diese gegen unbeabsichtigtes Wiedereinschalten.
- Führen Sie keine Änderungen oder Reparaturversuche am Gerät durch. Gerät nicht öffnen!
- Gehäuse nicht während des Betriebes oder kurz nach dem Abschalten berühren. Heiße Oberflächen können Verletzungen verursachen.

A lire avant mise sous tension! — Français

Veuillez lire ces instructions de montage et d'entretien avant de mettre l'alimentation sous tension. Conservez ce manuel qui vous sera toujours utile. Cette alimentation ne doit être installée que par du personnel qualifié et compétent. En cas de dommage ou dysfonctionnement, coupez immédiatement la tension d'alimentation et retournez l'appareil à l'usine pour vérification. ! L'alimentation ne contient pas de pièces échangeables Les données indiquées dans ce document servent uniquement à donner une description du produit et n'ont aucune valeur juridique. En cas de divergences, le texte anglais fait foi.

⚠ AVERTISSEMENT **Prendre en compte les points suivants, afin d'éviter toute détérioration électrique, incendie, dommage aux personnes ou mort:**

- Mettre l'alimentation hors tension avant toute intervention sur celle-ci et s'assurer qu'il n'y a pas risque de redémarrage.
- Ne pas ouvrir, modifier ou réparer l'alimentation.
- Ne pas toucher le carter pendant le fonctionnement ou directement après la mise hors tension. Surface chaude risquant d'entraîner des blessures.

Lea primero! — Español

Conserve este manual como referencia para futuras consultas. La fuente de alimentación solo puede ser instalada y puesta en funcionamiento por personal cualificado. Por favor lea detenidamente este manual antes de conectar la fuente de alimentación. Si se produce un fallo o mal funcionamiento durante la operación, desconecte inmediatamente la tensión de alimentación. En ambos casos, el equipo debe ser inspeccionado en fábrica. La información presentada en este documento es exacta y fiable en cuanto a la descripción del producto y puede cambiar sin aviso. En casa de duda, prevalece el texto inglés.

⚠ ADVERTENCIA **Riesgo de descarga eléctrica, incendio, accidente grave o muerte:**

- Desconectar la tensión de red antes de trabajar en la fuente de alimentación. Evite una posible reconexión involuntaria.
- No realizar ninguna modificación o reparación de la unidad. No abrir la unidad.
- No tocar durante el funcionamiento ni inmediatamente después del apagado. El calor de la superficie puede causar quemaduras graves.

Leggere prima questa parte! — Italiano

Prima di collegare il sistema di alimentazione elettrica si prega di leggere attentamente le seguenti avvertenze. Conservare le istruzioni per la consultazione futura. Il sistema di alimentazione elettrica deve essere installato solo da personale competente e qualificato. Se durante il funzionamento si verificano anomalie o guasti, scollegare immediatamente la tensione di alimentazione. In entrambi i casi è necessario far controllare l'apparecchio dal produttore! I dati sono indicati solo a scopo descrittivo del prodotto e non vanno considerati come caratteristiche garantite dell'apparecchio. In caso di differenze o problemi è valido il testo inglese

⚠ AVVERTENZA **Il mancato rispetto delle seguenti norme può provocare folgorazione elettrica, incendi, gravi incidenti e perfino la morte:**

- Prima di eseguire interventi di installazione, di manutenzione o di modifica scollegare la tensione di rete ed adottare tutti i provvedimenti necessari per impedirne il ricollegamento non intenzionale.
- Non tentare di aprire, di modificare o di riparare da soli l'apparecchio.
- Non toccare quando acceso e subito dopo lo spegnimento. La superficie calda può causare scottature.

Leia primeiro! — Português

Recomendamos a leitura cuidadosa das seguintes advertências e observações, antes de colocar em funcionamento a fonte de alimentação. Guarde as Instruções para futura consulta, em casos de dúvida. A fonte de alimentação deverá ser instalada apenas por profissionais da área, tecnicamente qualificados. Se por acaso, durante a utilização ocorrer algum defeito de funcionamento ou dano, desligue imediatamente a tensão de alimentação. Em ambos os casos, será necessária uma verificação na Fábrica! Os dados mencionados têm como finalidade somente a descrição do produto, e não devem ser interpretados como propriedades garantidas no sentido jurídico. Em caso de duvidas aplica-se o texto em inglês.

⚠ ATENÇÃO **A não observância ou o incumprimento dos pontos a seguir mencionados, poderá causar uma descarga elétrica, incêndios, acidentes graves ou morte:**

- Antes de trabalhos de instalação, manutenção ou modificação, desligue a tensão de alimentação, protegendo-a contra uma nova ligação involuntária.
- Não efectue nenhuma modificação ou tentativa de reparação no aparelho. Quando necessário contacte o seu distribuidor. Não abra o aparelho.
- Não tocar enquanto estiver em funcionamento, nem após a desligar. A superficie poderá estar quente e provocar lesões.

The information in this document is believed to be accurate and reliable and may change without notice.

Product Description

The FPT1403.481-03-IO is a stand-alone power supply for three-phase mains systems, which provides 3 stabilized and galvanically separated output voltages. One output with 1200 W and two NEC Class 2 outputs. The main output supports power feed back immunity up to 12 W or 50 J.

The housing is rated as IP65 and IP67 according to IEC60529 and provides protection against electrical, mechanical and fire hazards.

The device is equipped with an IO-Link Interface V1.1 to parameterize and access data.

The 1200 W output supports functional save applications up to SIL 2 according to EN 62061 and PL d according to ISO 13849-1.

Intended Use

This indoor use device is intended for commercial use, such as in industrial control, process control, monitoring, measurement or the like. Do not use in residential locations.

Do not use this device in equipment, where malfunctioning may cause severe personal injury or threaten human life, without additional appropriate safety devices, that are suited for the end-application.

If used in a manner outside of its specification, the protection provided by the device may be impaired.

Installation Instructions

Use four screws, two in the upper and two in the lower mounting holes. Use M6 or 1/4-20 UNC screws suitable for the mounting surface. The device is designed for pollution degree 3 areas in controlled environments.

IP65 and IP67 protection is only achieved when all connectors are securely mated and unused connections fitted with IP65 and IP67 blind caps. Keep connections free from moisture and dirt during installation.

The device is designed as "Class of Protection I" equipment according to IEC 61140. The device shall be connected to protective earth (PE) using the grounding thread on the enclosure, designed for an M6 screw with an appropriate washer. Maximum screw length: max. 10 mm, tightening torque: 10 Nm.

For TN,TT mains systems with earthed neutral and IT star mains systems with insulation monitoring the device is designed for overvoltage category III zones up to 2000 m (6560 ft) and for overvoltage category II zones up to 5000 m (16400 ft). For TN, TT, IT delta mains systems or IT star mains systems without insulation monitoring the device is intended for overvoltage category II zones up to 2000 m (6560 ft).

The power supply allows AC feed through (daisy chaining). Only FPT1400 are allowed to be connected and the maximum AC current has to be less than 12 A.

When AC feed through is utilized, the device must be connected to PE via the external grounding screw on the enclosure, in addition to the PE connection at the input terminal..

The device is designed to be safe in case of a single phase loss and does not require an external protection.

The input signals for STO-IN is high (output on) for voltages above +18 V and low (output off) for voltages below 4 V. All potentials for any wire of any digital input or output must be kept below 60 V referenced to PE.

The device is designed for convection cooling without a fan. Do not obstruct airflow.

The device is designed for altitudes up to 5000 m (16400 ft). Above 2000 m (6560 ft) a reduction in output current is required and the operation is limited according the mains systems description above.

Keep the following minimum installation clearances: 50 mm on top and bottom, 10 mm on the front, the left and the right side.

The device is designed, tested and approved for branch circuits up to 32 A (UL) and 32 A (IEC) without additional protection device. If an external fuse is utilized, do not use circuit breakers smaller than 6 A (type B- or C-characteristic) to avoid a nuisance tripping of the circuit breaker.

Make sure that you only use plugs and cables rated for the device output current and the required temperature range. Follow all local and national codes for installation. Follow installation instructions of the manufacturer of the used plugs. Use only qualified plugs.

Do not connect devices in parallel for higher output currents.

The negative potential of the outputs is permanently connected to PE within the unit.

Do not connect the negative potential of the output to PE.

The maximum permissible ambient air temperature is +70 °C (+158 °F). The operational temperature is the same as the ambient or ambient air temperature and is defined 2 cm below the device.

The device is designed to operate in areas between 5 % and 95 % relative humidity.

Cleaning only with a damp cloth.

Functional Description

The output is electronically protected against no-load, overload and short circuit and can supply any kind of loads, including inductive and capacitive loads. If capacitors with a capacitance >100 mF are connected, the unit might charge the capacitor in an intermittent mode.

The green Status LED reports an output above 90 % of the adjusted voltage of a running device and all three phase voltages are present.

The device has an internal overtemperature protection. If the temperature is too high the output shuts down and starts automatically again after cooling off.

In case of an internal defect, a redundant circuit limits the maximum output voltage to 59 V. The unit shuts down and automatically attempts to restart.

IO-Link gives access to internally measured parameters and can be used to change settings. For IODD files and additional descriptions please visit www.pulspower.com.

Mating connectors:

Use an M15 female plug to connect to the input voltage connector (X1).

Use an M15 male to connect to the AC output voltage connector (X2).

Pin assignment: Pin 1 for L1; Pin 2 for L2; Pin 3 for L3; Pin PE for PE.

Use a standard M12 A-coded 5 pin female plug for the IO Link.

Use an M12-L male plug to connect to the output voltage connector (X5…X6).

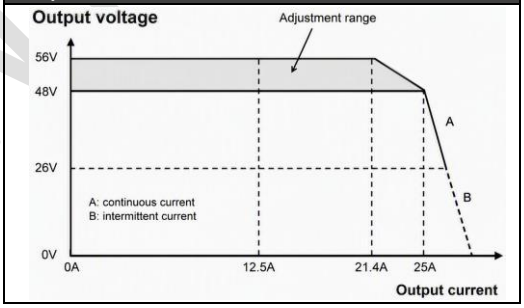
Pin assignment: Pin 4 for plus; Pin 2 for minus; Pin 1 for NEC Class 2 plus; Pin 3 NEC Class 2 minus; Pin 5 for FE.

Technical Data

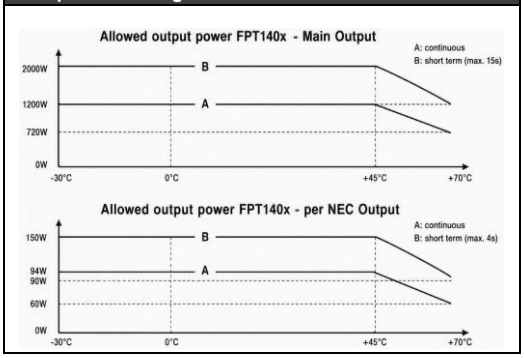
All values are typical figures specified at 3x 400 Vac 50 Hz input voltage, symmetrical phase voltages, 48 V, 500 W output load, 25 °C ambient temperature and after a 5 minutes run-in time unless otherwise noted.

Output voltage	DC 48 V	Nominal
Adjustment range	48 – 56 Vdc	Factory setting 48 V
Main Output power	Continuous:	
	1200 W	Below +45 °C ambient
	720 W	At +70 °C ambient
	Short-term, up to 15 s:	
	2000 W	
	1400 W	At +70° C ambient
	Derate linearly between +45 °C and +70 °C	
NEC Output power	Continuous:	
	94 W	Below +45 °C ambient
	60 W	At +70 °C ambient
	Short-term, up to 4 s:	
	150 W	
	90 W	At +70 °C ambient
	Derate linearly between +45 °C and +70 °C	
Input voltage AC	3AC 380 – 500 V	± 10 %
Mains frequency	50 – 60 Hz	± 6 %
Input current AC	2.2 / 1.9 A	At 3x400 / 480 Vac
Power factor	0.93 / 0.94	At 3x400 / 480 Vac
Input inrush current	1.9 / 1.8 A peak	At 3x400 / 480 Vac, temp. independent
Efficiency	96.6 / 96.6 %	At 3x400 / 480 Vac
Losses	49.0 / 49.5 W	At 3x400 / 480 Vac
Hold-up time	27 / 27 ms	At 3x400 / 480 Vac
Temperature range	-30 to +70 °C	(Storage: -40 to +85°C)
Size (WxHxD)	290x268.6x60.5 mm	Without connectors
Weight	3800 g / 8.4 lb	

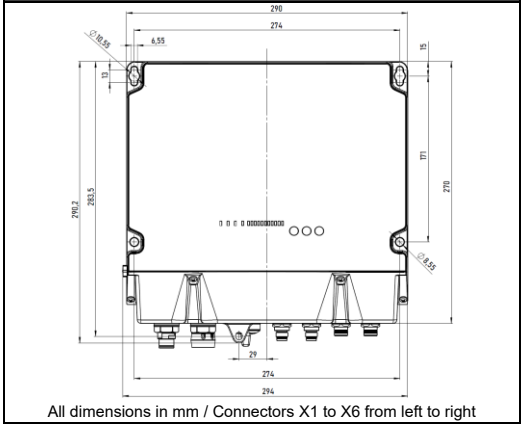
Output Characteristic



Temperature Range



Hole Pattern for Mounting



All dimensions in mm / Connectors X1 to X6 from left to right

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