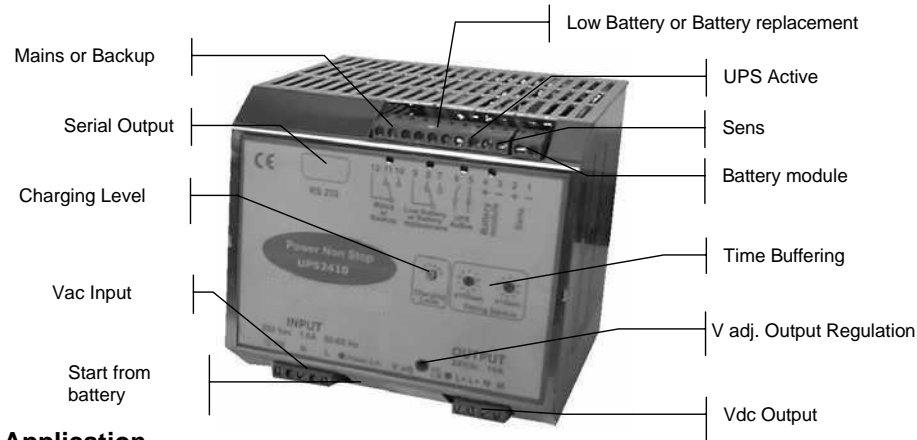


UPS2410-400VAC

Primary switched power supply and UPS

Thank you for having chosen one of our products for your work. We are certain that it will give the utmost satisfaction and be a notable help on the job.

General Description:



Application

UPS series assure output Power 24Vdc with continuity, in a case of brief or long power-down. Two products in one, Power Supply and UPS, it can be coupled with 1,2Ah 3,2Ah 7,2Ah up to 55Ah maintenance free rechargeable battery. A battery function management at all times maximizing performance and life span. Charge the battery in multi-stage principle, Fast and Trickle and automatically check the battery efficiency in a lifetime to prevent any risk of damage to the battery and allow leaving the charger permanently connected. The buffer time can be adjusted from 10 to 990 sec. in 10 sec. steps or until battery is full empty. This device is also available with RS232 Windows NT compatible. Suitable to charging sealed lead-acid and cyclon batteries.

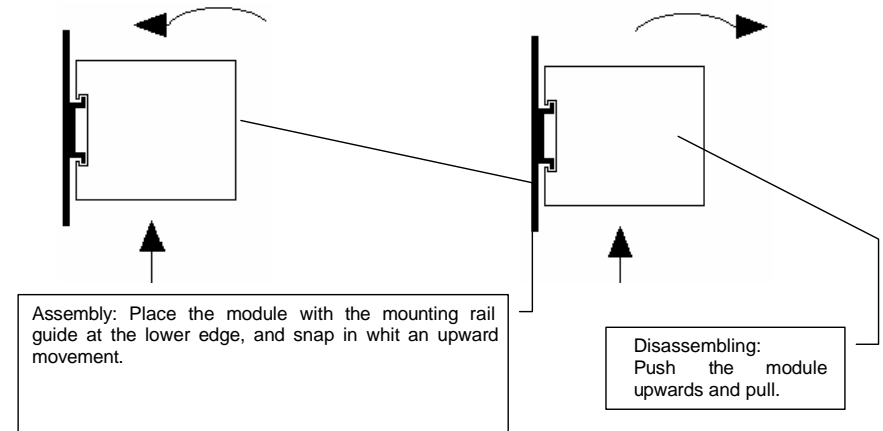
The UPS power supply can be used in areas from extreme industrial environment, and complies with the latest technical standard.

Before begin the operations of installation consult the manual.

Mains Characteristic

- Overload and short circuit protections
- Nominal Input Voltage: 400 Vac.
- Safety isolation in according with EN 60950
- Output 24Vdc 10 A 50° C also without mains
- Fast and trickle battery charge
- Signal: replace battery, low battery, mains or buffering
- RS232 Windows NT compatible (optional)
- Degree of protection IP20
- Rail DIN mounting
- Battery charge independent from Power supply

Rail mounting:



Other modules must have a minimum vertical distance of 10 cm to this power supply in order to guarantee sufficient auto convection.

Use and Connections

Caution: Switch off the system before connecting the module. Never work on the machine when it is live.

Charging Level: With the 6 positions rotary switch 1=0,3A 2=0,8A 3=1,8A 4=2,5A 5=3A 6= 4 A it is possible to select the max. battery charge current estimated at 25% of the nominal capacity (es.for a 3 Ah battery we choose the position 2).

Time Buffering: Buffering time without mains. The regulation can be adjusted in 10 sec. steps, with two 10 positions rotate switches corresponding to x10sec. and x100sec.; see marks on the frontal label. If both switches are in 0 position the Time in endless s. Anyway to prevent risk of damage, the UPS disconnect the batteries when a minimum voltage level is reached.

UPS Active: N.C. Input to allow the UPS functions.

Sens.: External temperature sensor (optional).

Battery module: Battery Input and diagnosis led: fast blinking= fast charge, slow blinking=trickle charge, 1 blinking= battery reverse polarity, 2 blinking=not connected battery or not good battery, 3 blinking=incorrect voltage battery or element in C.C., 4 blinking=voltage battery > 33 V.

Output functions: Output voltage 24 Vdc is made via the L+ (+), M (-). The red led ON signalises the correct output power. The output voltage can be adjusted from the potentiometer place on the front panel of the module. When the Red Led switch on/off, the device is in overload range or in short circuit protection.

When the Green Led is off the power supply has been interrupted.

Mains or Backup: Mains with led off and closed contact (10-12), Backup with led on and closed contact (10-11)

Low Battery or Battery replacement: Normal condition with battery OK, led off and closed contact (9-7), Low Battery with battery NOK, led on and closed contact (9-8), Battery replacement alarm with intermittent relay and led (see diagnosis leds).

Start from Battery: With net off and connected battery, close the contact for some seconds, the UPS feeds the load.

All specification are subject to change without notice

Cable connection

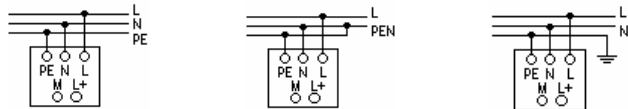
The following cable cross-sections may be used:

At the Input: 0.2÷2.5 mm² rigid / flexible

At the Output: 0.2÷2.5 mm² rigid / flexible

Strip the connection ends: 7mm

Input: The input connection is made by the screw connections L, N, PE ⊕. The power OK Led control, signalises that the device is functioning ON.



Protection

On the primary side: the device is equipped with an internally fuse T 6.3 A/250Vac. If the internal fuse is activated, it is most probable that there is a fault in the device. If happen, the device must be checked in the factory.

On the secondary side: The device is electrically protected against short circuits and overload.

Inversion polarity: the UPS is protected against inversion of battery polarity.

Over current and output short circuit: the unit limits the output current at max. 15 A in normal functioning and at max. 20 A in Backup. Battery module fuse protects the UPS in connection operations.

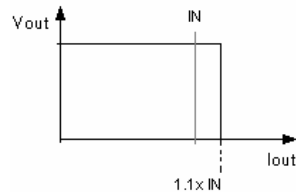
Deep discharge : not possible. The unit disconnects the battery when a minimum voltage level is reached.

Battery Test: Automatic. Every 20 sec. polarity control and battery present. Every 4 hours test of the battery quality. The fault is signalized with relay commutation and diagnosis led blinking.

Characteristic Curves

Short circuit and overload

The output of the device is electrically protected against overload and short circuit. At nominal voltage the device can supply 1.1 the nominal Current without switching off. In the case of higher overload, the operating point traces the curve illustrated in figure. As the overload increases, the output voltage is reduced until zero.



Thermal behavior

The device supplies the nominal output current at ambient temperature of up 50°C. For ambient temperature of over 50°C, the output current must be reduced by 1% per °C increase in temperature.

Standards and Certification

Electrical safety

The device must be installed in according with EN60950. The device must have a suitable isolating facility outside the power supply unit, via which can be switched to idle.

General Standard

Immunity in according with EN50082-2, level 4, class B

Radio interference suppression in according with EN 55011 class A (industrial areas)

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Features

Input Data

Nominal Input Voltage (2 x Vac)	400 Vac
Input voltage range	350 ÷ 450 Vac
Inrush Current (Vn – In)	≤ 14 ≤ 5 msec.
Frequency	47 ÷ 63 Hz
Input Current (Nominal input Voltage)	1,6 A
Internal Fuse	F 6 A
External Fuse (recommended)	Fast 6 A

Output Data

Output Voltage / Nominal Current	24 Vdc / 10A
Adjustment range (Vadj)	22 ÷ 26 Vdc
Activation for battery threshold	-2 Vdc (Vadj)
Output voltage in Backup mode	27 ÷ 23,6 Vdc
Type of charging characteristic	U/I
End of charging voltage	28,8 Vdc
End of charging current	0,3 A
Type battery up to	55 A
Start up with capacity load	≤ 30.000 µF
Switching on after applying mains voltage	2,5 sec.
Current max.	1,1 x IN ± 5%
Residual Ripple	≤ 60 mV _{pp}
Minimum Load	No
Efficiency	≥ 81 %
Short-circuit protection	Yes
Over Load protection	Yes
Over Voltage Output protection	Yes
Reverse battery protection	Yes

Climatic Data

Ambient Temperature (operation)	-10 ÷ +50 °C
Ambient Temperature (Storage)	-25 ÷ + 85 °C
Humidity; no moisture condensation	95 % a 25°C

General Data

Isolation Voltage (Input/ output)	3000 Vac
Input ground insulation	1605 Vac
Electrical safety	EN 60950
Degree of protection	IP 20
Protection class	I with PE connected
Dimension (w-h-d)	133x120x135
Weight	1,4 Kg approx

In according to EMC 89/336/EEC and Low voltage 93/68/EEC



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