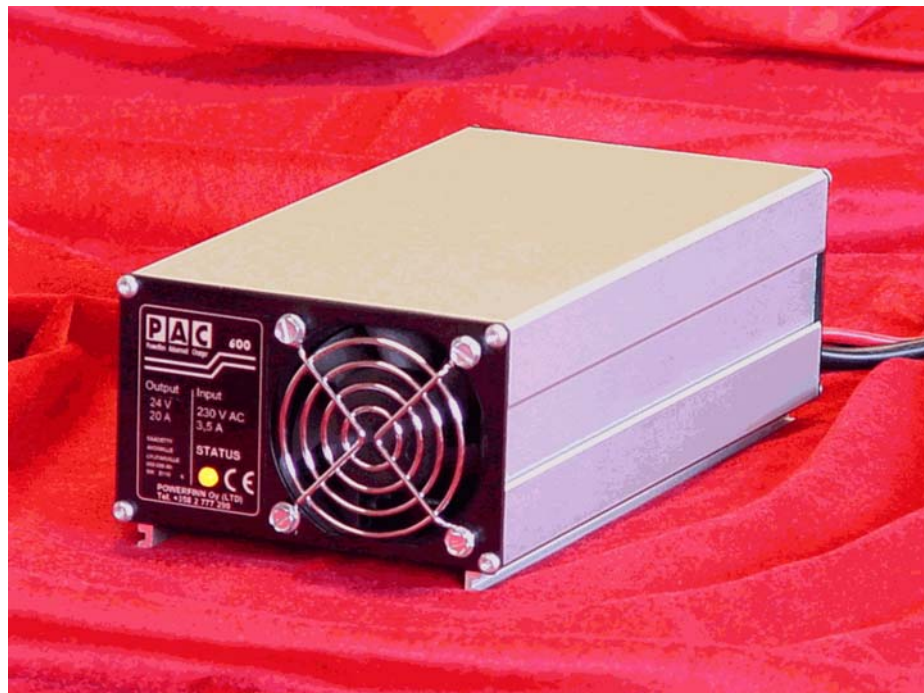


PAC 600

POWERFINN ADVANCED CHARGER

**Microprocessor
controlled charger for
all kind of batteries**

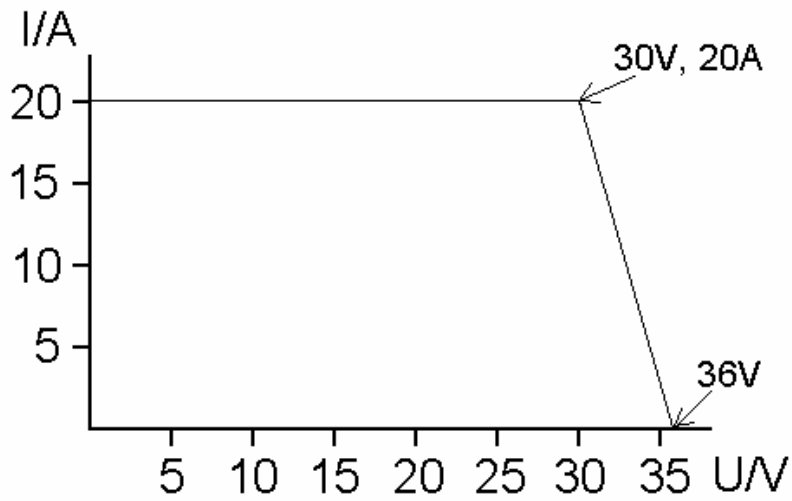


TECHNICAL DATA:

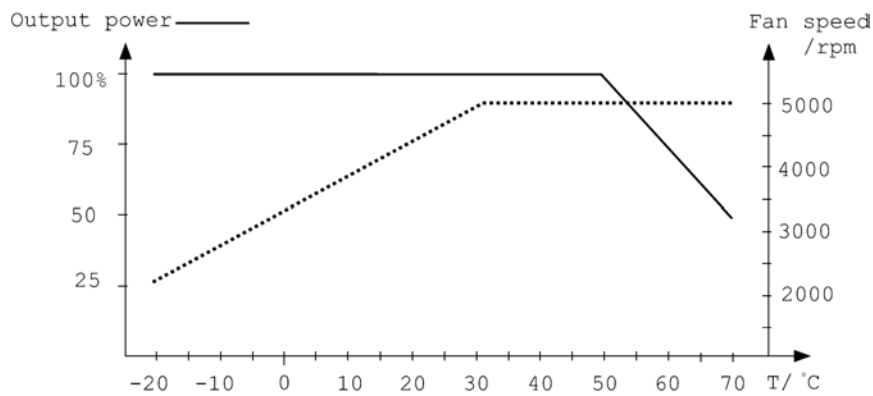
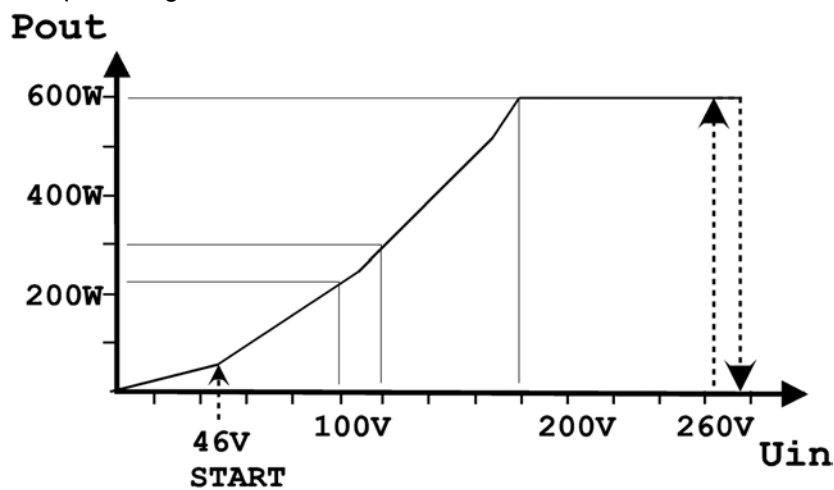
INPUT VOLTAGE:	50...255V (50...180 power limited)
INPUT CURRENT:	3,5A
POWER FACTOR:	1
MAX. OUTPUT POWER:	600W
INRUSH CURRENT:	< 30A (cold start)
EFFICIENCY:	> 86%
SWITCHING FREQUENCY:	> 100kHz
ISOLATION:	3750V AC between INPUT/OUTPUT 1500V AC between INPUT/CASE 500V AC between OUTPUT/CASE
GREEPAGES:	8mm between INPUT/OUTPUT 3mm between INPUT/CASE 1,4mm between OUTPUT/CASE
COOLING:	Temperature controlled FAN
WEIGHT:	1.5kg with cables
DIMENSIONS LxWxH in mm	220 x 112 x 73
PROTECTION CLASS:	Mechanical IP 20 Electrical I Reverse polarity protection in the output without fuse.

Output characteristic curves:

Maximum output current versus output voltage:



Output power vs input voltage



Output power and fan speed vs ambient temperature

Introduction:

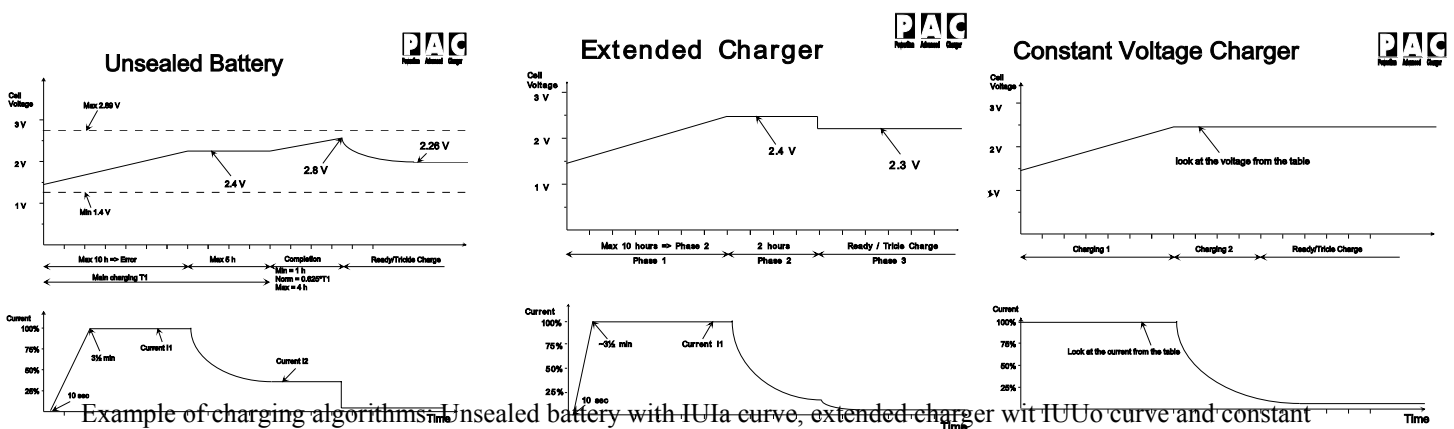
PAC600 charger offers full current whole constant current charging mode. This ensures the fastest charging time that battery's performance can allow. Two meters long charging cables with one and half meter long mains cable promises that battery can be reached from difficult places too. Small charger size enables the on board assembly to the device. Thanks to air cooling with temperature controlled fan the weight is only 1.5kg.

Microprocessor control:

The whole device is under the microprocessor control. Microprocessor takes care of all battery measurements, current- and voltage adjustments and temperature and fan control inside the device. For the economical power saving use the processor can even turn off the power inverter unit during the pauses in a charging algorithm and if battery is not connected.

All the batteries have their own characteristics and all this should be taken care in a charging algorithm. One charging algorithm might have even eight different charging phases. We have programmed charging algorithms for all commonly available Batteries to charge them as their manufacturers have recommend. We have ready made algorithms for example for Optima, Genesis, Exide, Oldham, Moll, Sonnenschein and VHB batteries.

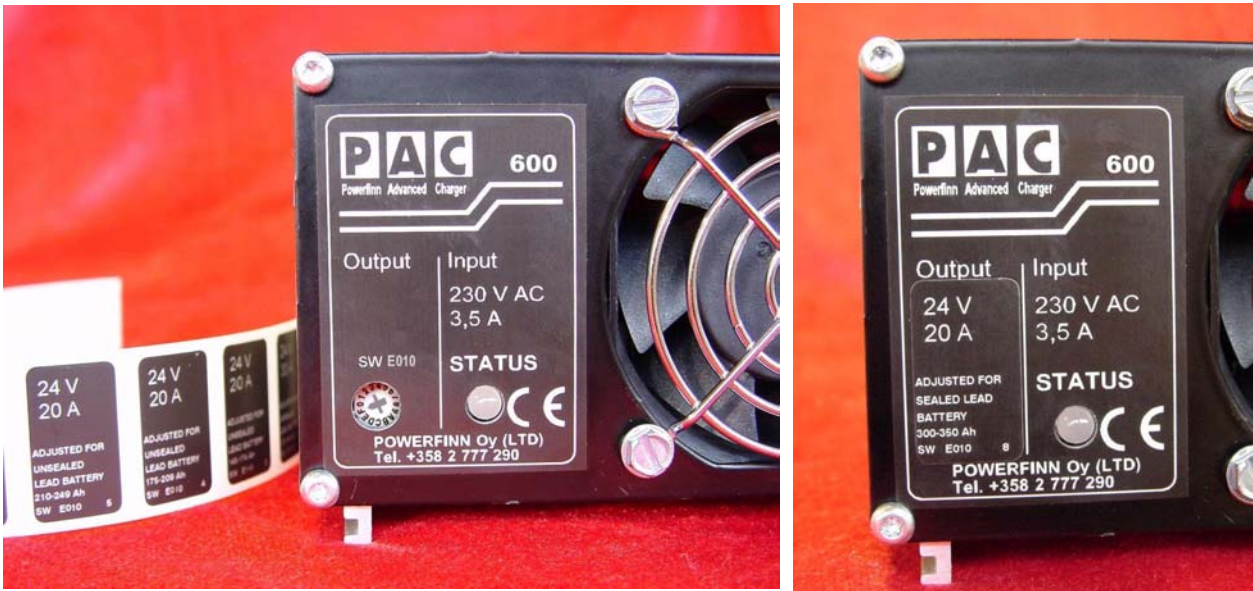
Also the charging algorithms as specified in a standard DIN 41 772 are available too. The typical charging curves are I, U, IUUo, IUIo, IUW and Desulphation charging. The charging algorithms are scaled for 13Ah to 350Ah battery capacity.



Code switch:

As the Battery is a big investment the charger for the battery should be tuned exactly as possible to increase battery's lifetime and to fulfil the warranty criterions for battery. One distributor may have agency for many kind of batteries. Their capacity and using purpose may change a lot. Normally this means also plenty of chargers in stock.

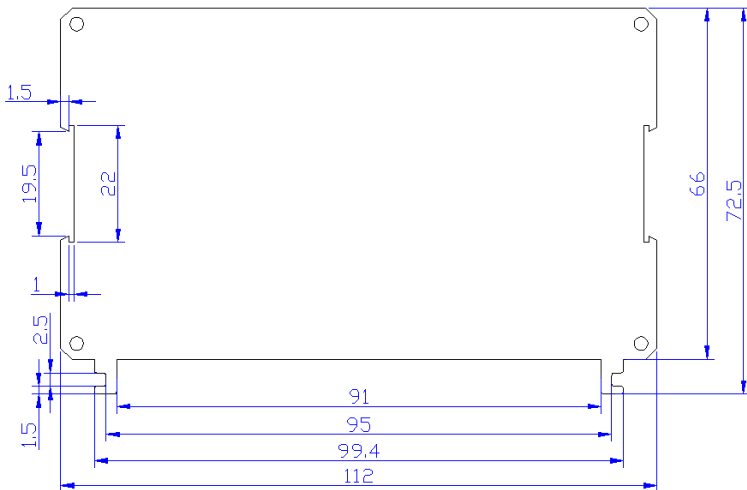
We have installed a code switch in the charger so that one charger can include 16 different charging algorithms. Now the distributor can minimize the store and preset the charger so that the algorithm fits with the battery. The code switch can be covered with the "adjusted label" so that valid settings are able to see easily and unauthorized tuning is protected. Powerfinn has programmed by year 2000 over 90 different programs for PAC600 and each these have 16 different charging algorithms.



At the left side picture the code switch is visible. It is tuned to position F which means 24V, 14A for 75-100Ah sealed battery. Then the switch is tuned to position 8 and hole is covered with the corresponding label at the right side picture. The program is E010.

Encapsulation:

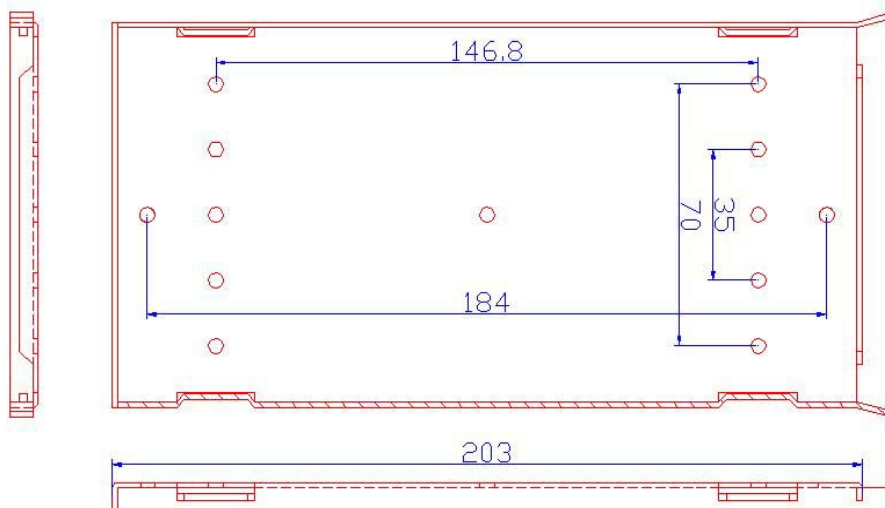
Because of PAC 600's small size and high power density it can be used in many application. So we have been forced to design different enclosures from our device to help customer to find the best fitting solution.



Cross section dimensions

Side view

The charger can be used as stand alone or mounted on wall with a support frame.

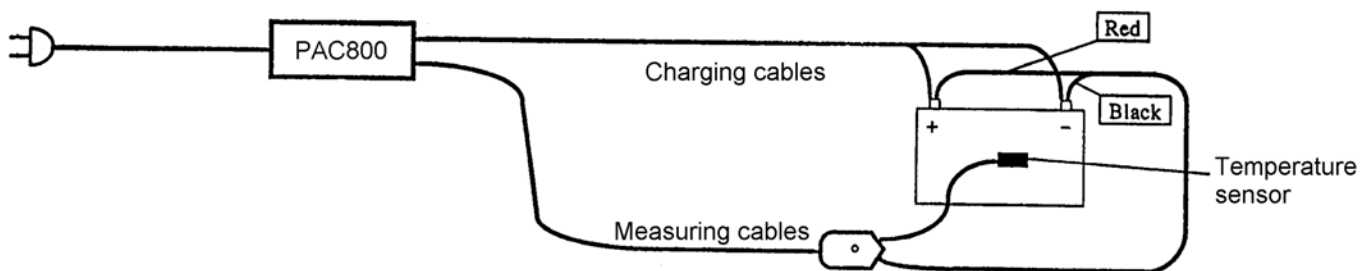


Support frame offers easy mounting on the garages wall or where ever. DIN rail mounting spring can be screwed on it, too.

- **Temp/sense**

If battery is charged in the places where ambient temperature changes a lot then the charging voltage must be compensated according to battery temperature. This kind of situation occurs if batteries are charged in unheated storehouses or if a cold vehicle is driven to warm service garage for maintaining.

This option allows battery voltage measurement, too. If lengthened charging cables are needed, the voltage drop in the cables may become large. This can be compensated by measuring the voltage from the battery's terminals.



- **Remote status LED**

Status LED tells the charging situation at the time. It tells if battery is not connected, charging, ready charged, trickle charging or error information. If the charger is located so that the LED is not visible, it can be moved by LED cable. This is needed for example if a charger is in an engine room and Status LED is in a cockpit's front panel.

- **Field presettable PAC**

If special constant current and voltage output is needed the Field presettable PAC600 could be the right solution. Both current and voltage can be set between zero to maximum value by multiturn trimmer potentiometers.