

# Minipack 48/400 FC

Fan Cooled Power Supply 48VDC



POWERFUL TECHNOLOGY



## Product Description

The Minipack is a battery charger and rectifier for stand-alone use or for working in parallel as part of a DC power system controlled and monitored by the Smartpack.

Minipack is optimized for a wide range of system sizes. Digital communication over CAN bus with Smartpack simplifies system design and enhances flexibility.

Realization of Minipack systems is possible by fitting 6 rectifiers across 2U 19" shelf including controller and distribution.

## Applications

**Wireless, fiber and fixed line communication**  
Today's communications demand state of the art, cost efficient and compact DC power systems. Minipack delivers power density of 7W/in<sup>3</sup> and superb reliability at lowest lifetime cost.

**Broadband and network access**  
Increasing network speed demands flexible and expandable DC power solutions. Minipack is your key building block for future needs.

## Key Features

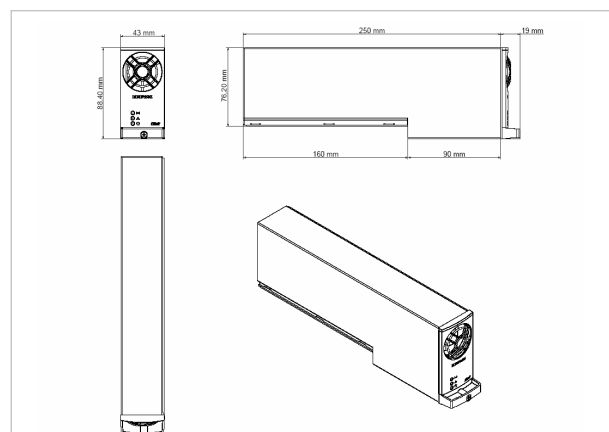
ü **Highest efficiency in minimum space**  
Resonant topology makes the module efficiency industry leading and contributes to the rectifier's ultra compact dimensions.

ü **Digital controllers**  
Controller is digitalized, enabling excellent monitoring and regulation characteristics.

ü **Heat management**  
Front-to-back air flow with optimal thermal design gives the module the most suitable working environment and no limitations in the scalability of the desired system solution.

ü **Unique connection**  
A true plug-and-play connection system: time-to-install and cost-reducing solution.

ü **Global approvals**  
Minipack is CE marked and UL recognized for world wide installation.



# Minipack

## Additional Technical Specifications

AC Input	
Voltage	85-300 VAC (Nominal 185 – 276 VAC) Linear derating below 185VAC
Frequency	44 to 66Hz
Maximum Current	Input: 2.5 A <sub>rms</sub> maximum at nominal input and full load Earth leakage: 1.7mA at 250Vac/50Hz
Power Factor	>0.98 at 60% load or more
THD	3.0% (230Vac) 2.7% (115Vac)
Input Protection	Transient protection Mains fuse in both lines

DC Output	
Voltage	Nominal output: 53.5 VDC Float/Boost range: 48 – 57.6Vdc Standby test range: 43.5 – 48Vdc
Output Power	400 W at nominal input / 200W at 85VAC
Maximum Current	8.3 Amps at 48 VDC and nominal input
Current Sharing	±5% from true average current between modules
Static voltage regulation	±1.0% from 5% to 100% load
Dynamic voltage regulation	±5.0% for 25-100% or 100-25% load variation, regulation time < 10ms
Hold up time	> 20ms; output voltage > 43.0 VDC at 80% load
Ripple and Noise	< 100 mV peak to peak, 20 MHz bandwidth < 2 mV rms psophometric
Output Protection	Overvoltage shutdown Blocking diode Short circuit proof High temperature protection

DC Output	
Efficiency	Typ. 89% at 60-100% load
Isolation	3.0 KVAC – input and output 1.5 KVAC – input earth 0.5 KVDC – output earth
Alarms:	Low mains shutdown (<85VAC) High temperature shutdown Rectifier Failure Overvoltage shutdown on output Low voltage alarm at 43.0V CAN bus failure
Warnings:	Rectifier in power derate mode Remote battery current limit activated Input voltage out of range, flashing at overvoltage Loss of CAN communication with control unit, stand alone mode
Visual indications	Green LED: ON, no faults Red LED: rectifier alarm Yellow LED : rectifier warning
Operating temp	-40 to +75°C (-40 to +167°F) Derating above +55°C linear to 200W at +65°C
Storage temp	-40 to +80°C (-40 to +176°F)
Cooling	1 fan (front to back airflow)
Fan Speed	Temperature and current regulated
MTBF	> 300, 000 hours Telcordia SR-332 Issue 1, method III (a) (T <sub>ambient</sub> : 25°C)
Acoustic Noise	< 48dBA pressure at nominal input and full load
Humidity	Operating: 5% to 95% RH non-condensing Storage: 0% to 99% RH non-condensing
Dimensions	42.5 x 88.9 x 250mm (1.67 x 3.5 x 9.84") (wxhxd)
Weight	1.08 kg (2.38lbs)

Applicable standards	
Electrical safety	IEC 60950-1 UL 60950-1 CSA 22.2
EMC	ETSI EN 300 386 V.1.3.2 (telecommunication network) EN 61000-6-1 (immunity, light industry) EN 61000-6-2 (immunity, industry) EN 61000-6-3 (emission, light industry) EN 61000-6-4 (emission, industry)
Harmonics	EN 61000-3-2
Environment	ETSI EN 300 019-2 (-1, -2, -3) ETSI EN 300 132-2 RoHS compliant

Specifications are subject to change without notice.

### ORDERING INFORMATION

Part no.	Description
241117.120	Minipack 48/400 FC

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Location	Company	Telephone	Fax
Europe	Eltek Energy AS	+47 32 20 32 00	+47 32 20 32 10
Americas	Eltek Energy, LLC	+1 815 459 9100	+1 815 459 9118
Asia/Pacific	Eltek Energy Pte Ltd.	+65 6 7732326	+65 6 7753602
China	Eltek Energy Ltd.	+852 28982689	+852 28983189
Middle East	Eltek Middle East	+971 4 887 1176	+971 4 887 1175