

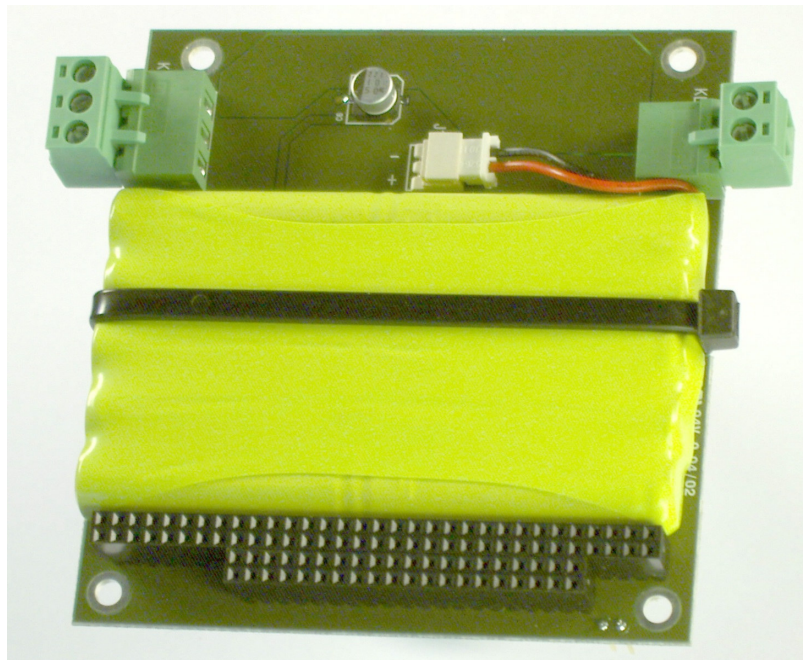


MICRONIX PC/104 POWER SUPPLY

PV-1075 & PV-1075-CAR
*NiMH battery pack with charger
for PV-5127*

User Manual & Installation Guide

VERS. 1.3



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Revision history

Revision number	Reason for change	Date
1.0	Initial revision	05-Apr-04
1.1	Added PV-1075-car version	06-Dec-05
1.2	Changed front page	07-Apr-18
1.3	Changed "discharge current"	07-Dec-03

General information

Ordering codes

PV-1075-S

S=Stack-through PC/104 connector

Available models:

Model	Ordering code	Description
PV-1075-S	016.104.005	NiMH battery pack with charger.
PV-1075-S-CAR	016.104.093	NiMH battery pack with charger for mobile applications.

Accessories

This accessories must be ordered separately if needed.

Model no	Ordering code	Description
PV-1075-NH12	155.104.000	Battery pack

Description

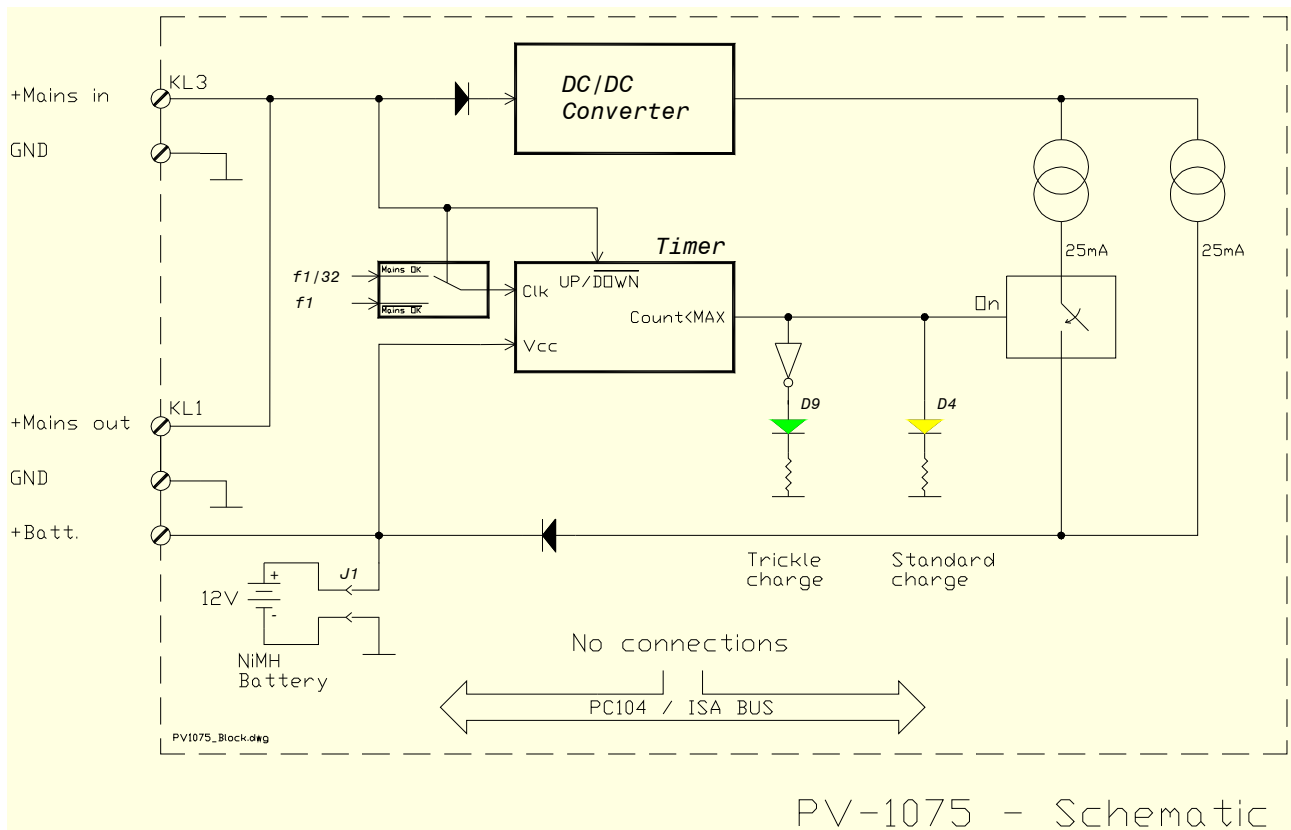
Micronix PV-1075 is a back-up module with Nickel-Metal-Hydride batteries and integrated charger. PV-1075 is designed to support the Micronix PV-5127, a high power PC/104 UPS power supply.

Micronix PV-1075 is a high capacity battery pack for your PC/104 system. An integrated timer controls the charging modes: standard charge and trickle charge. This timer also has the purpose to avoid overcharging.

PV-1075 will withstand extended temperatures and the shock and vibration of mobile equipment.

PV-1075-CAR is a special version which can be used in mobile application. This version can be operated from a 12V car battery.

Block Diagram

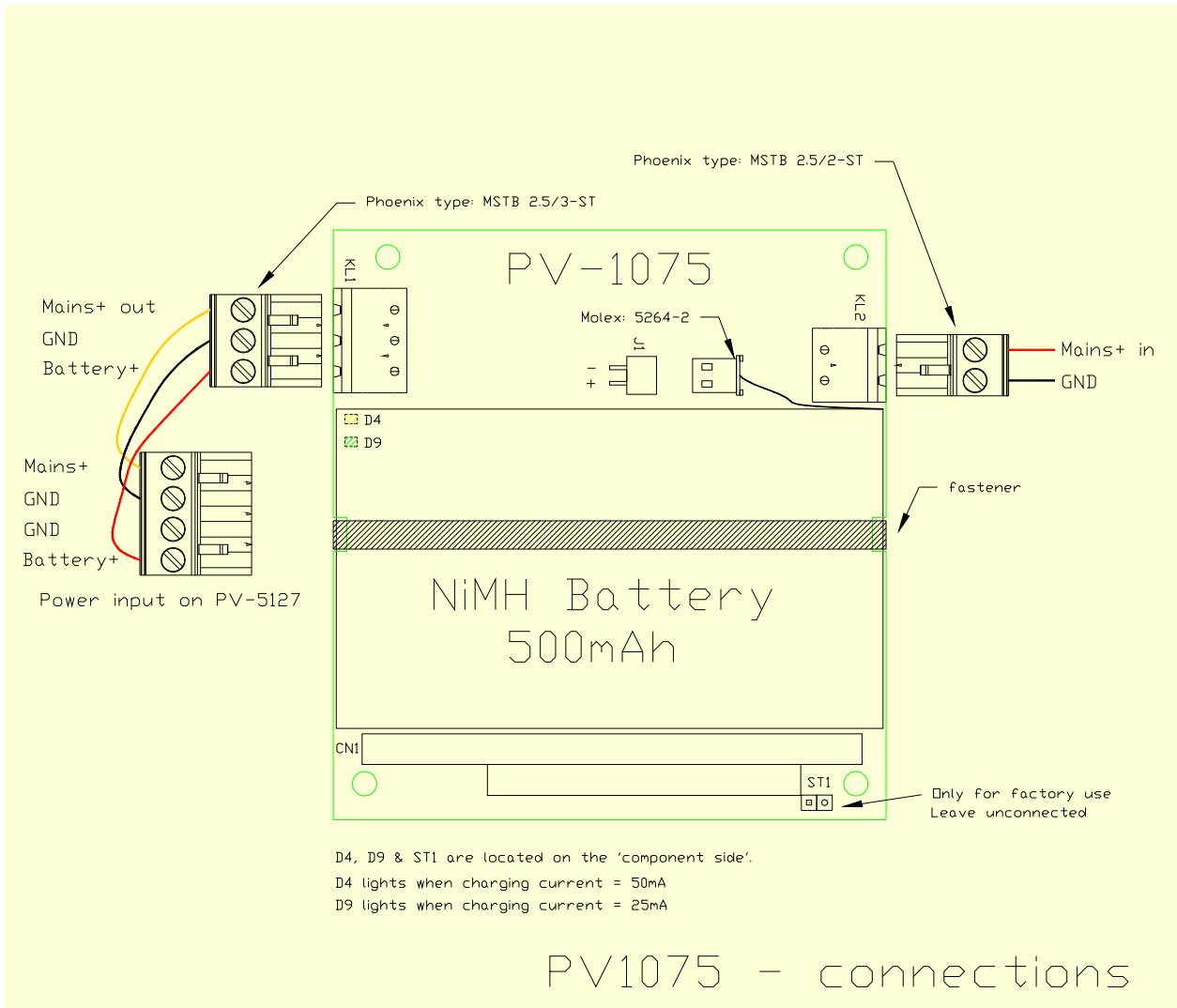


Micronix PV-1075 is a PC/104 module that contains a NiMH battery pack, a timer controlled charger and four connectors.

The battery pack is secured to the PCB by a fastener and electrically connected to the PCB by a two pole connector. The battery is equipped with a polymer fuse that will disconnect the battery in case the battery temperature becomes too high.

Connectors

The PV-1075 is equipped with four connectors:



Input connector (KL2)

Power into PV-1075 is supplied through KL2 that is a two-pole removable screw clamp connector. The layout of this connector is shown on the connection drawing above. The voltage used must be in the interval of 18-36V DC (PV-1075-CAR: 10.8V – 13.2V).

Output connector (KL1)

Mains power and battery power can be drawn from connector KL1 that is a three-pole removable screw clamp connector. If used as a back-up module for Micronix PV-5127, this connector must be connected to the power input connector (KL2), on PV-5127, as shown on the connection drawing above.

Battery connector (J1)

The NiMH battery is connected to PV-1075 using J1 that is a two-pole MOLEX connector. The battery connector is disconnected at delivery to prevent deep discharge of the battery when not used for a longer period.

PC/104 connector (CN1)

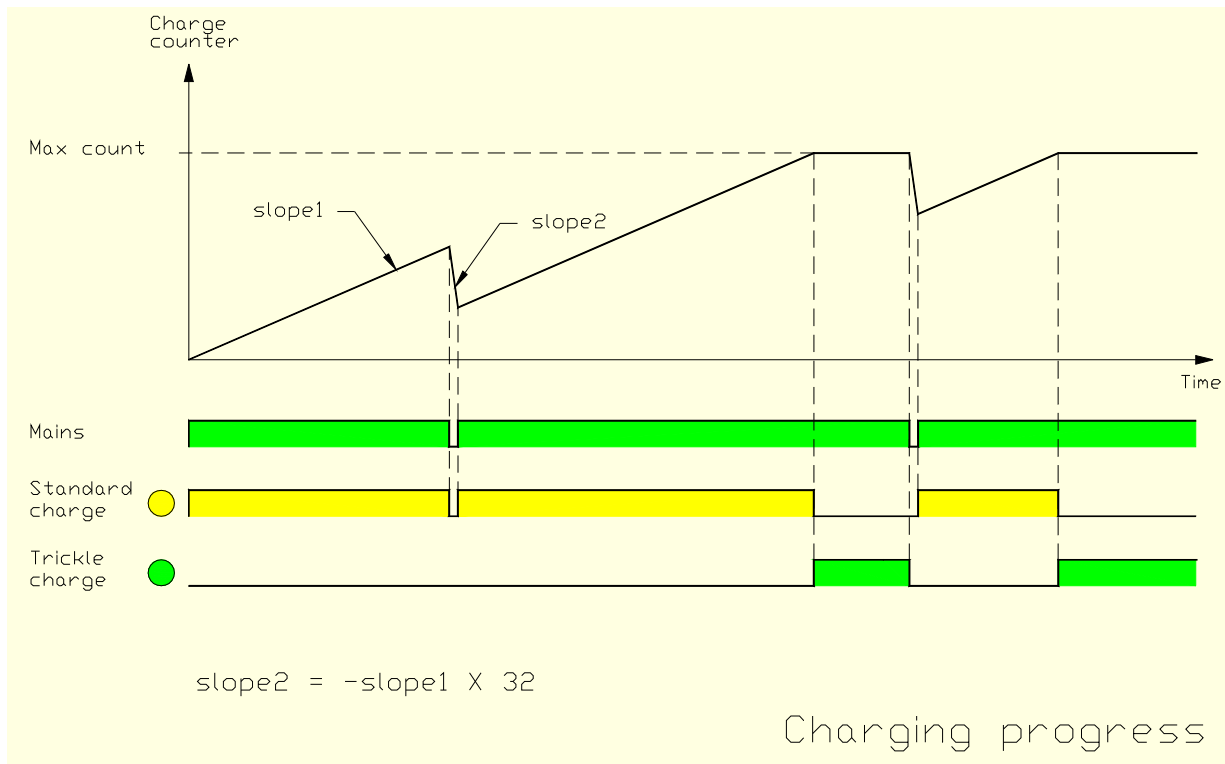
PV-1075 is attached the PC/104 stack using CN1. There are no electrical connection to this connector and serves only to bypass the PC/104-bus in the stack.

Battery charger

The battery charger controls the charging process using two modes:

- standard charge mode with charging current = 50mA and
- trickle charge mode with charging current = 25mA.

The switching between these modes is determined by a counter which is controlled by the ‘presence’ of mains. There are two input frequencies to this counter: one used during the presence of mains input and one used when there are no mains input. The two frequencies have a mutual ratio of 32 where the lowest frequency is used during count-up. During the presence of mains, the counter counts up. When mains disappear, the counter counts down. The charging progress is illustrated below:



Charging indicators

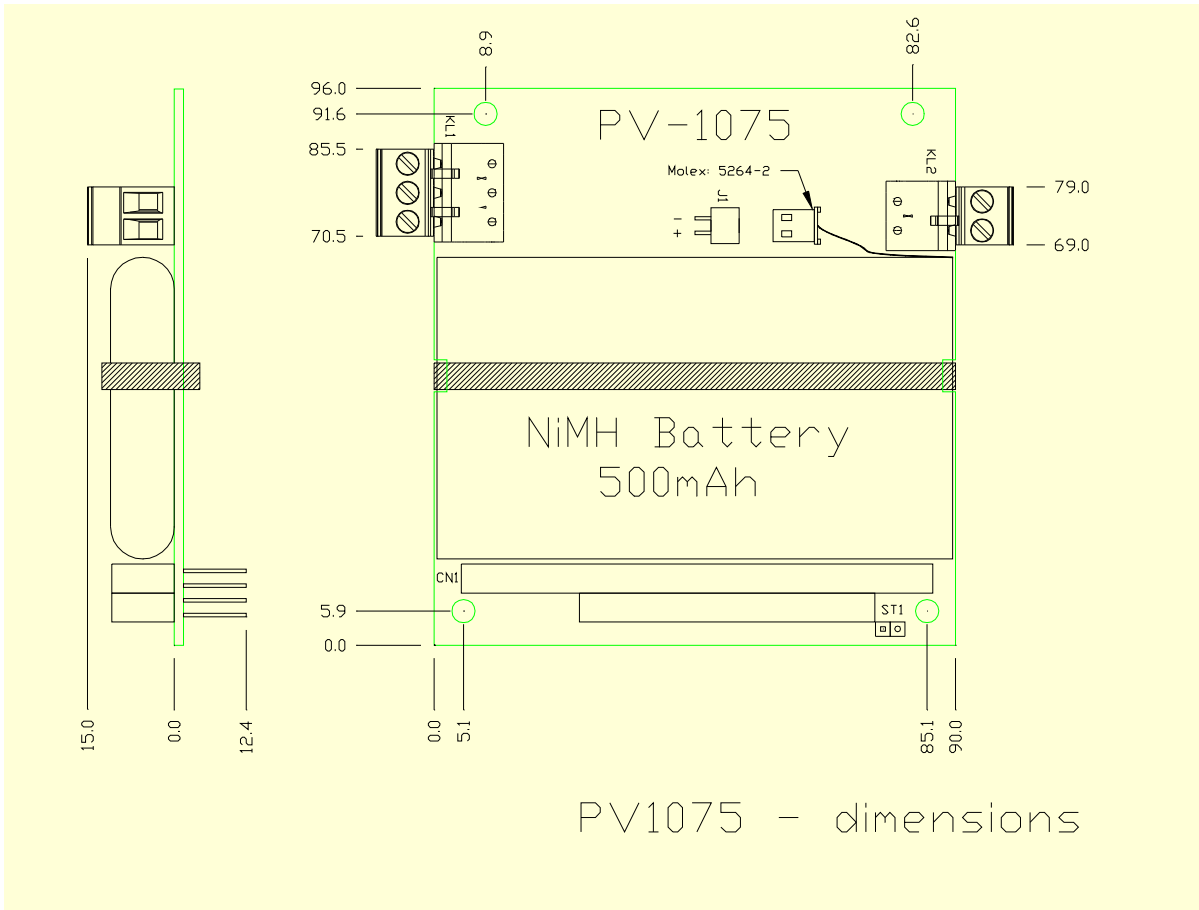
Two LEDs indicate the actual charging mode: D4 (yellow) indicate Standard Charge and D9 (green) indicate Trickle Charge. These LEDs are located on the component side.

Technical data

Mains input:		
Input voltage:	PV-1075	18 – 36Vdc
	PV-1075-CAR	10.8 – 13.2Vdc
Input current:	PV-1075	Standard charge: 69mA @ Vin=24Vdc Trickle charge: 43mA @ Vin=24Vdc
	PV-1075-CAR	Standard charge: 115mA @ Vin=12Vdc Trickle charge: 64mA @ Vin=12Vdc
Battery charger:		
Charging modes:		Standard charge: 50mA Trickle charge: 25mA
Charging time:		Standard charge: 12hrs Trickle charge: continuous
Charge counter:		Counting 0 -> Max.: approx. 12hrs. Counting Max. -> 0: approx. 23min.
Battery:		
Battery voltage:		12V typical
Battery type:		NiMH
Number of cells:		10pcs.
Battery capacity:		500mAH
Recommended discharge current(max):		750mA
Battery protection:		polymer fuse
Environmental:		
Temperature range by Standard charge:		0 to 70°C
Temperature range by discharge:		-10 to 70°C
Storage temperature:		-20 to 30°C
Humidity:		20 to 90% non-condensing
Cyclic humidity:		ETS 300 019-2-5 or equal
Vibration:		10-1000 Hz sinus and random @ 1-1.5G RMS
Sustained vibration:		EN 60068-2-34 & 60068-2-36
Shock:		IEC 60068-2-27 & 60068-2-29
Weight:		185g
Size (WxLxH)		90 x 96 x 15

Mechanical layout

The schematic on this page shows the dimensions for PV-1075.
All dimensions are in mm.



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