

24 V DC UPS FOR EXTERNAL BATTERY 17-130 AH. 10 A

UB10.242
 DC UPS 24VDC 10A



- Load current 10 A
- Requires just one 12 V dc battery
- Battery charging with temperature compensation
- Electronic overload/short-circuit protection
- Relay outputs for status

PRODUCT DESCRIPTION

UB10.242 is primarily intended for use where there are requirements for long back-up times with relatively low current. A complete DC-UPS system consists of a control unit and battery, and power supply with suitable power for the application. In the event of a power outage, the battery is automatically switched in and supplies the connected loads. The control unit requires just (1) 12 V battery that then transforms the battery voltage up to 22.3 V dc. Two batteries do not need to be matched with one another and the output voltage does not follow the battery's discharge curve but is instead constant at 22.3 V. The battery capacity is utilized 100 % compared with two batteries connected in series, where one of the batteries is not fully charged.

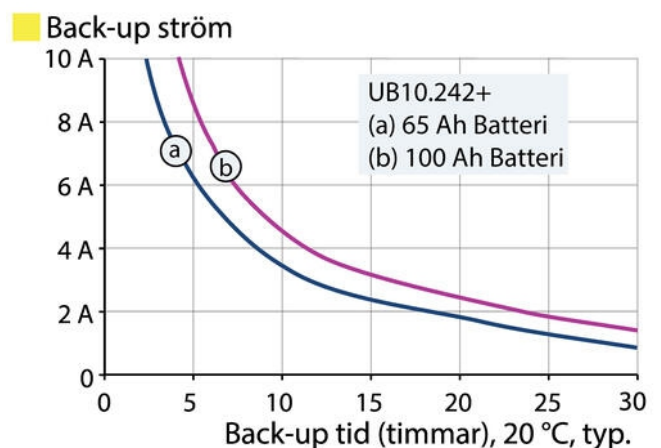
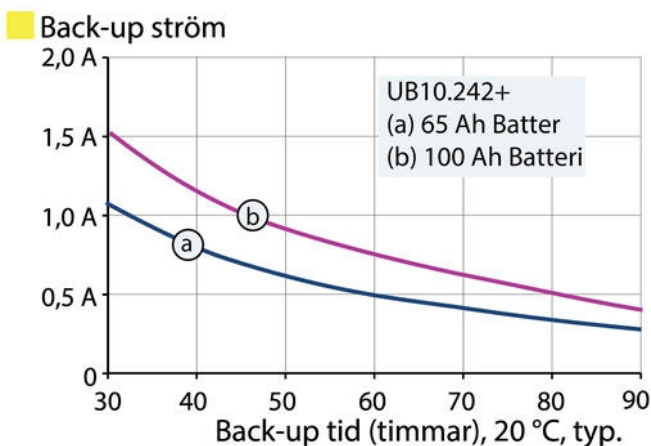
Two relay outputs indicate status; the module is ready (battery capacity >85 %) and the module is active (back-up mode). The control unit tests the battery's condition in cycles. When it is time to replace the battery, a relay output is activated (replace battery). The control unit has an integrated temperature sensor to optimize the final charging voltage. If the battery is placed at another location and the ambient temperature differs from the control unit, a compensation must be set, which is done using a switch on the front. To attain the longest lifetime for the battery, we recommend placing the battery in the coolest part of the cabinet.

The back-up time is dependent on the capacity and performance of the battery and the load current. On the data sheet, we show some times for different standard batteries. The control unit protects the battery from deep discharge. The control unit shuts off the back-up function when the battery voltage drops under a given value. There is also an input, Inhibit, for external shut-off of the back-up time.

In the event of a battery fuse fault, the "ready" output is deactivated and a red LED lights on the control unit. The output is current limited and turns itself off after about 5 seconds after a short circuit to spare the battery and at the same time, avoids tripping the battery fuse. In the event of a short circuit in the battery mode, the module supplies about 20 A, which helps trip any secondary fuses.

Monitoring of the battery fuse and current limitation in the event of short circuits provides increased reliability and guarantees that the UPS will function after a short circuit. The input is galvanically isolated from the output side.

Backup times



TECHNICAL DATA

INPUT DATA

Input current during charging	2 A
Input voltage from the unit	24 V DC
Input voltage for battery connection	22,8 V DC
Input voltage from the battery	12 V DC

OUTPUT DATA

Output voltage for battery operation	22,25
Output current during operation max	15 A
Output current for battery operation max	10 A (15 A @ 5 s)
Output voltage at buffering	22,25 V DC
Output voltage normal operation	24 V DC
Output current at 24 V dc	10 A

EFFICIENCY / LIFETIME / MTBF

Life span	114 000 h @ 10 A, 40 °C
Efficiency	97,8 %
MTBF (IEC 61709)	886 000 h @ 10 A, 40 °C

DIMENSIONS

Weight	0,545 kg
Depth	117 mm
Width	49 mm
Height	124 mm

OTHER

Charging the battery type	3 A
IP class	IP20
Ripple max	20 mV pp
Voltage level for battery connection	22,3 V DC
Temperature min without derating	-25 °C
Permitted battery sizes	17-130 Ah
Approvals	ABS, CB, CE, CSA, CSA US, EX, GL, IECEx, UL
Temperature max without derating	50 °C
Material protection	Aluminium
Type Power Supply	DC-UPS

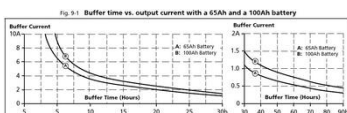


Fig. 25-2 Front view

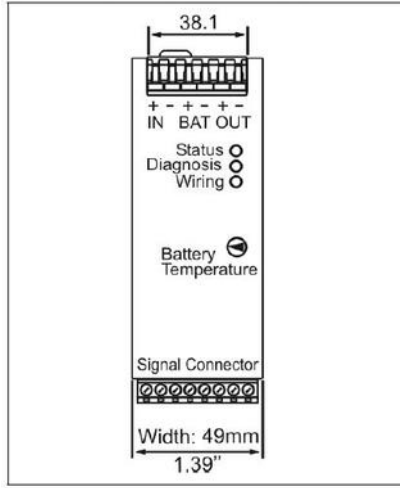


Fig. 24-1 Side view

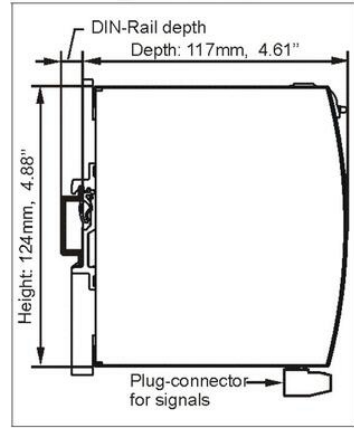


Fig. 25-1 Typical wiring diagram

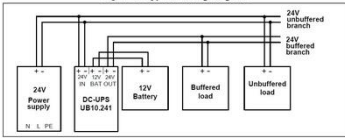


Fig. 25-1 Buffer time vs. output current with a 65Ah and a 100Ah battery

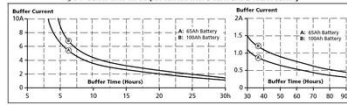


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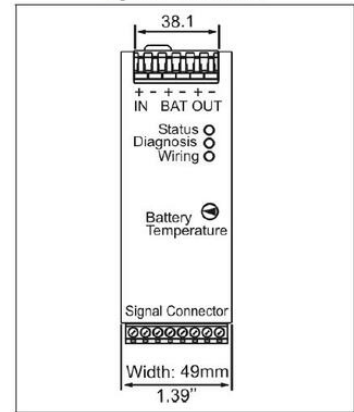


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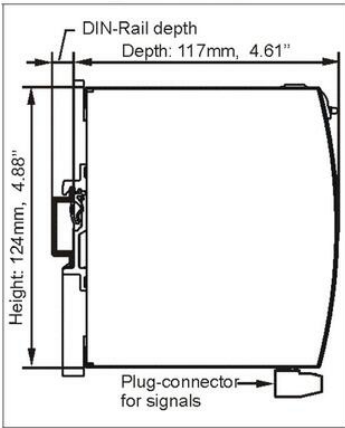


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