Monitoring Unit
UPC4 Master

KEY FEATURES

- · **Extensive battery management**
- · **DIN Rail mounting**
- · **Easy in use and programming**
- · **Free programmable signalling concept**
- · **CAN-Bus interface**
- · **Remote control and monitoring**
- · **Modbus integrated**

APPLICATIONS

Battery-backed DC power supply systems in all areas of industry, telecommunication, power generation and power distribution.

PRODUCT DESCRIPTION

Monitoring units of the new UPC4 Master series are integrated units for control, monitoring and signaling of battery-backed DC power supply systems. The unit is easy to use and programmable via display panel or RS232/ Ethernet interface in combination with PC software. On the basis of a free programmable signal matrix, the customer is able to configure several alarms to groups and which of all the signaling outputs are to be used.

The UPC4 Master is the communication center of the modular UPC4 structure. The control of the rectifier modules is realized via CAN communication bus. Due to the system wide CAN communication concept each of our power modules such as DC/DC converters, inverters and static bypass switches can additionally be monitored by the UPC4 Master. Additional input and output CAN modules, such as Mains Monitoring Board, Fuse Monitoring Board, Digital Input Board, Relay Board etc. are available. All these extensions are configurable and controlled by the UPC4 Master. As a special extension module the UPC4 Basic unit is available. It can be placed as close as possible to the measurement point and transmits the measured values digitally via CAN. Due to this, no long measurement wires are necessary. The UPC4 Master is able to support up to eight Basic units in the same system.

By connecting additional CAN modules to the UPC4 Master it is possible to set up several configurations, please see reverse side: "Options".

For remote control PC connection, external modem, SNMP or Modbus (Profibus is planned) can be used.

For the proprietary communication protocol special PC software (Multi Management Tool) for remote monitoring, controlling and parameter setting is available.

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Type	Monitoring Unit UPC4 Master
Article code	301-004-395.00
Supply voltage	3 x redundant power supply inputs 24 VDC ±10 % , supplied by external power supply units DC/DC or AC/DC
Voltage measuring range	0-320 VDC by UPC4 Basic unit
Current measuring range	±0-60 mV (shunt value programmable) by UPC4 Basic unit
Power consumption	Max. 25 W
LED indications	5 LEDs
Relay outputs	3 (isolated; max. 0.5 A @ 60 VDC), plus one per UPC4 Basic unit (isolated; max. 0.1 A @ 300 VDC)
Optocoupler output	One LVD optocoupler control output per UPC4 Basic unit
Interfaces:	
Ethernet	RJ45 10/100 Mbit
CAN interface	2 x RJ12 (100 kbit) and 2 x RJ45 (125 kbit); proprietary CAN protocol
Modem connection (not supported yet)	9-pole SUB-D male RS232 (modem optional, analogue, ISDN or GPRS/GSM)
Fieldbus (Modbus) connection	One 4-pole MSTB, 5 mm and one 9-pole SUB-D female RS485
Controller functions	Temperature compensated float charge, equalize charge, boost charge, battery test; boost charge automatic (power, voltage and time related), LVD control, PLD control; time controlled battery test; charge current limitation; drop diode control (double-stage)
Monitoring functions	Battery voltage, battery tap voltage, battery charge current, battery operation; isolation fault, battery voltage low, battery voltage high, CAN-Bus status, CAN-connected module status; external alarm loops, internally switchable isolation measurement, six general voltages, six general currents, six general resistors, six general temperatures
Event history function	Text message of active faults; stack memory for the last 500 faults/events; stacking "coming/going" with time stamp (permanent)
Battery test memory	Storage of the last 16 battery test results; storage of the last battery test curve
RTC with time and date	Yes
Control buttons	Two (for future functions)
Languages	German, English, Swedish; other versions loadable on demand
Ambient temperature	Operation: -20 °C to +45 °C; non condensing; storage: -40 °C to +85 °C
Cooling	Convection cooling
Max. installation altitude	1500 m
Audible noise	<30 dBA
Type of construction	DIN Rail mounting
Dimensions (W/H/D)	47/103/108 mm
Weight	approx. 0.8 kg
Type of enclosure / Protection class	IP20/III
Surfaces	Stainless steel, brush-finished, neutral, black print RAL 9005
CE conformity	yes
Compliance to safety standards	EN60950-1; EN50178; EN60146
Compliance to EMC standards	EN55011/22 class "B"; EN61000-4 T2-5

■ **OPTIONS**

| Article code	Designation
302-UP4-DCDC.LV	Power supply, DIN rail mounting, Vi=18-75 VDC; Vo=24 VDC, Imax=2,5 A
302-UP4-DCDC.HV	Power supply, DIN rail mounting, Vi=85-375 VDC; Vo=24 VDC, Imax=2,5 A
301-004-395.10	Monitoring Unit UPC4 Basic, 3 x voltage (0-300 V), 3 x current (60 mV shunt), 2 x temperature, one output relay, one LVD optocoupler control output
302-UP3-MMT.00	Configuration software "Multi Management Tool" (MMT)
302-003-RDD.00	Remote display for door mounting; connection via CAN interface
302-003-RDMD.00	Remote display for door mounting with mimic diagram; connection via CAN interface
302-DCC-0MM.00	Mains monitoring board 1/3 phase; DIN rail module; connection via CAN interface
302-DCC-0BM.00	Battery monitoring board DCC-BMB (for one additional battery string; V, V/2, I, T); DIN rail module; max. six modules DCC-BMB applicable
302-DCC-DI8.00	Signalling board with 8 digital alarm inputs; DIN rail module; connected via CAN interface
302-DCC-0RB.00	Relay board with 6 isolated signalling outputs; DIN rail module; connected via CAN interface
302-DCC-0FM.00	Fuse monitoring board (20 fuses, 24-60 VDC, 1-pole); open frame
302-UP3-0SW.02	SNMP monitoring software (Win)
TBD	Analog modem, GSM, DIN rail, VDC
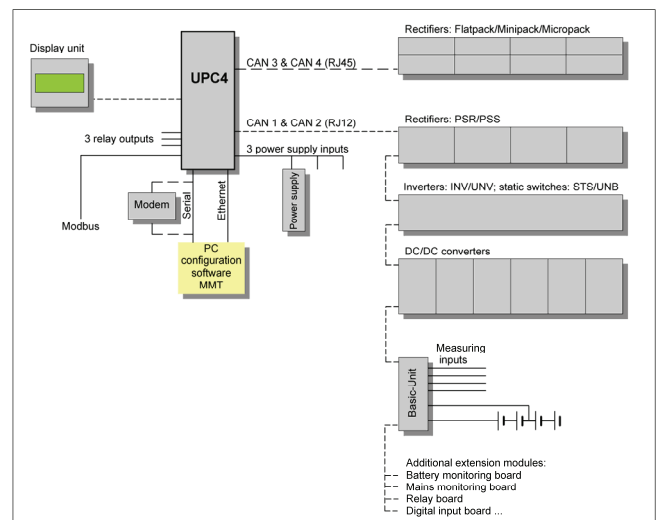
Diagram of an UPC4-controlled system

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