

PSBEN/LCD series power supply unit

Buffer switched mode power supply 13,8VDC



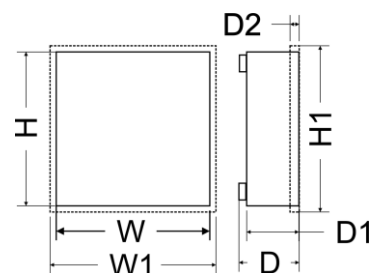
COD:
TYPE:

PSBEN 5012D/LCD v.1.0
PSBEN 13,8V/5A/40Ah/EN/LCD buffer, switched mode PSU

EN



BLACK POWER



"This product is suitable for the systems designed in compliance with the EN 50131 grade 1, 2 lub 3 and Iienvronmental class."

Function	Requirements of the EN 50131-6 standard			PSBEN5012D/LCD
	Grade 1	Grade 2	Grade 3	
EPS network absence	YES	YES	YES	YES
Battery low voltage	YES	YES	YES	YES
Protection against full battery discharge	-	-	YES	YES
Battery fault	-	-	YES	YES
No battery charge	-	-	YES	YES
Output low voltage	-	-	YES	YES
Output high voltage	-	-	-	YES
PSU fault	-	-	YES	YES
Surge protection	-	-	YES	YES
Short circuit protection	YES	YES	YES	YES
Overload protection	YES	YES	YES	YES
Output fuse activation	-	-	-	YES
Battery fuse fault	-	-	-	YES
EPS technical output	YES	YES	YES	YES
APS technical output	YES	YES	YES	YES
Battery low voltage indication	-	-	-	YES
PSU technical output	YES	YES	YES	YES
Remote test (option)	-	-	-	YES
Tamper resistance – enclosure opening	YES	YES	YES	YES
Tamper resistance – detachment from the mounting surface	-	-	YES	YES

Features:

- EN50131 compliant: grades 1÷3
- mains supply of 230VAC
- uninterrupted voltage of 13,8VDC
- fitting battery: 40Ah/12V
- high efficiency 69%
- PSU current efficiency:
 - 2,8A – for grades 1 , 2 *
 - 1,33A – for grade 3 **
 - 5A – for general use ***
- serial port for communication with a computer, "Power security" program
- remote monitoring (option: WiFi, Ethernet, USB)
- load current control
- output voltage control
- output fuse status control
- dynamic battery test
- battery circuit continuity control
- battery voltages control
- battery fuse status control
- battery charge and maintenance control
- deep discharge battery protection (UVP)
- battery output protection against short circuit and reverse polarity connection
- battery charging current: 0,6A/1,5A/2,2A/3A jumper selectable
- remote test (option)
- START button for battery activation
- STOP button for disconnecting during battery-assisted operation
- optical indication – LCD panel
 - electrical parameters reading
 - failure indication
 - PSU settings adjusted from the panel level
 - 3 levels of access, password-protected
 - PSU operation history
 - failure history
 - real-time clock, battery-backed
- acoustic indication
- adjustable times indicating AC power failure
- EPS technical output indicating AC power loss
- PSU technical output indicating PSU failure
- APS technical output indicating battery failure
- internal memory of PSU operating status
- protections:
 - SCP short circuit protection
 - OLP overload protection
 - OHP overheat protection
 - OVP over voltage protection
 - surge protection
- against sabotage: unwanted enclosure opening, detachment from the mounting surface

DESCRIPTION

The buffer power supply has been designed in accordance with the requirements of the EN50131 standard, grade 1÷3 and II environmental class. It is intended for an uninterrupted supply to alarm system devices requiring stabilized voltage of 12V/DC (+/-15%). Depending on a required protection level of the alarm system in the installation place, the PSU efficiency is to be measured as follows:

* Grade 1, 2 - standby time 12h

Output voltage 2,8A + 2,2A battery charge

** Grade 3 - standby time 30h if the faults of the main power source are reported to the Alarm Receiving Centre - ARC (in accordance with 9.2 - EN-50131-1).

Output voltage 1,33A + 3A battery charge

- standby time 60h if the faults of the main power source are reported to the Alarm Receiving Centre - ARC (in accordance with 9.2 - EN-50131-1).

Output voltage 0,66A + 3A battery charge

*** General use – if the PSU is not mounted within an installation which is EN-50131 compliant, the acceptable current efficiency amounts to:

1. Output voltage 5A (without battery)
 2. Output voltage 4,4A + 0,6A battery charge
 3. Output voltage 3,5A + 1,5A battery charge
 4. Output voltage 2,8A + 2,2A battery charge
 5. Output voltage 2A + 3A battery charge
- Total current of the receivers + battery: 5A max.**

In case of power decay, a battery back-up is activated immediately. The PSU is housed in a metal enclosure (colour: RAL 9005) which can accommodate a 40h/12V battery. It features a micro switch that indicates door opening (faceplate) and detaching from the mounting surface.

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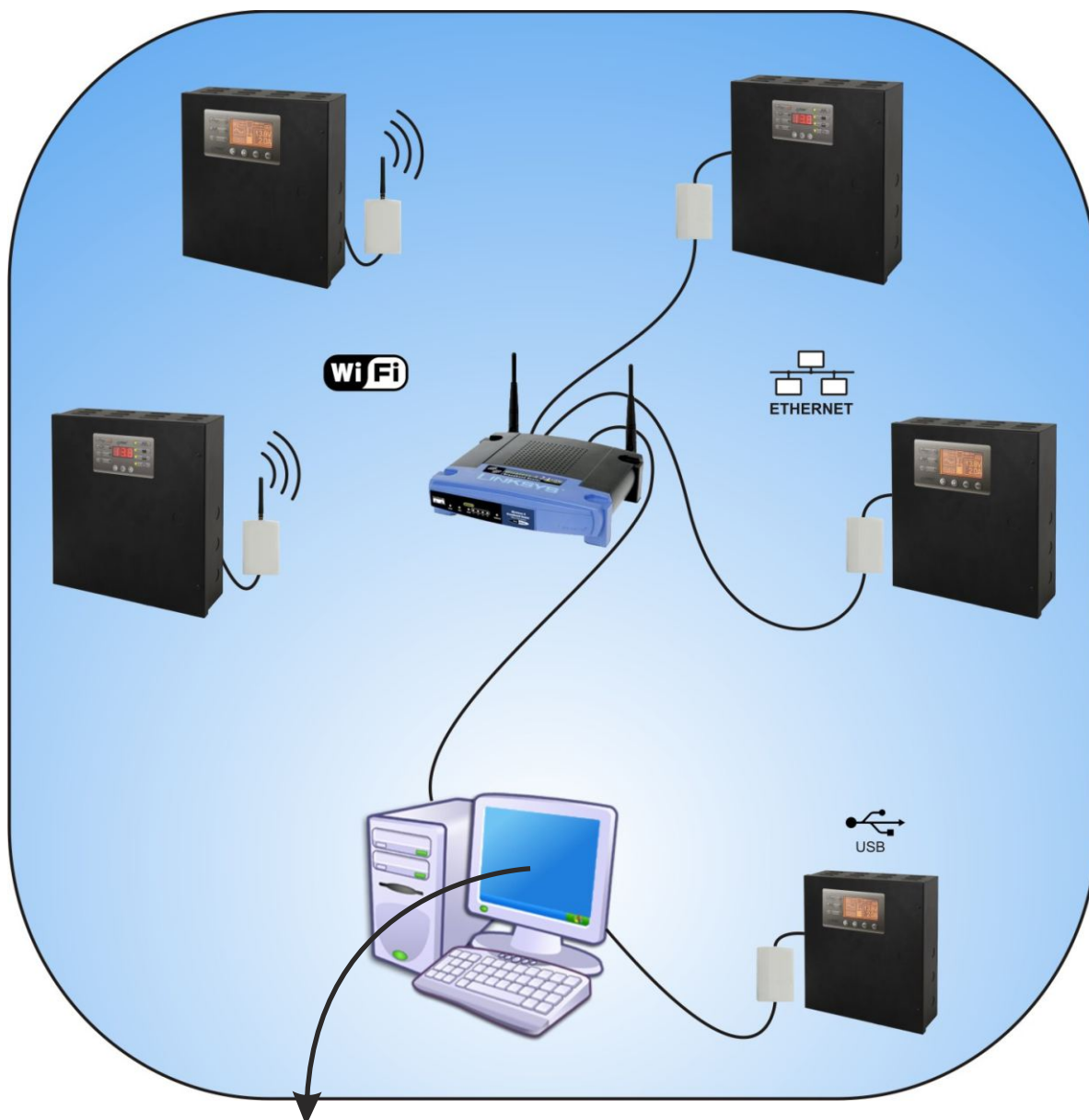
SPECIFICATIONS	
PSU type	A, protection grade 1+3, II environmental class
Mains supply	230V/AC (-15%/+10%)
Current consumption	0,6A
PSU power	78W
Efficiency	69%
Output voltage	11,0V÷13,8Vdc – buffer operation 10,0V÷13,8Vdc – battery-assisted operation
Output current	- for grades 1, 2: $I_o = 3,33A + 2,2A$ battery charge - for grade 3: $I_o = 1,33A + 3A$ battery charge - (connection with ARC required, compliant with 9.2 – EN50131-1) $I_o = 0,66A + 3A$ battery charge - for general use: $I_o = 5A$ (without battery) $I_o = 4,4A + 0,6A$ battery charge $I_o = 3,5A + 1,5A$ battery charge $I_o = 2,8A + 2,2A$ battery charge $I_o = 2A + 3A$ battery charge
Voltage adjustment range	12,0 V ÷ 14,5 V
Ripple voltage	30mV p-p max.
Current consumption by the PSU systems	65mA – battery-assisted operation
Battery charging current	0,6A / 1,5A / 2,2A / 3A – I_{BAT} (J1, J2, J3) jumper selectable
Over voltage protection OVP	$U > 16,5V$, disconnection of the output voltage, automatic return (AUX+ disconnection)
Short circuit protection SCP	200% ÷ 250% of the PSU power - current limiting and/or fuse fault in the battery circuit (fuse-element replacement required)
Overload protection OLP	110% ÷ 150% (@25°C) of the PSU power - current limiting with the PTC polyswitch, manual restart (failure requires disconnection of the DC output circuit)
Battery circuit protection SCP and reverse polarity connection	6,3A - current limiting, F_{BAT} fuse (failure requires fuse-element replacement)
Deep discharge battery protection UVP	$U < 10,0 V (\pm 2\%)$ – disconnection (-BAT) of the battery, adjustment via P_{BAT} jumper
Technical outputs: - EPS; output indicating AC power failure	- R type – relay, 1A@ 30V DC/50V AC max. - OC type, 50mA max. normal state: L (0V) level, failure: hi-Z level - time lag, approx. 5s/140s/17m/2h 20m (+/-5%)
- APS; output indicating battery failure	- OC type, 50mA max. normal state: L (0V) level, failure: hi-Z level
- PSU; output indicating PSU failure	- OC type, 50mA max. normal state: L (0V) level, failure: hi-Z level
- TAMPER; output indicating enclosure opening or detaching from the mounting surface	- micro switches, NC contacts (enclosure closed and fixed to the mounting surface), 0,5A@50V DC (max.)
Optical indication:	- LEDs on the PSU pcb: • LCD panel with electrical parameters • failure indication • PSU configuration from the panel level • 3 access levels protected by passwords • PSU operation history – 6000 settings • failure history - 2000 events • real-time clock with battery back-up
Enclosure	metallic, IP20, colour: RAL 9005
Dimensions	325 x 355x 178 (400 x 350 x 170+8) (WxHxD) [mm] (+/- 2)
Net/gross weight	7,10kg/7,60kg
Fitting battery	40Ah/12V (SLA) max.
Closing	Cheese head screw x2 (at the front), lock assembly possible
Notes	The enclosure does not adjoin the assembly surface – the distance: 8mm PSU cooling: convectional

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Remote parameter control system.



POWER SECURITY

