

Pulsar

**EN54-2A17LCD** v.1.0/III CODE: TYPE: EN54 27,6V/2A/2x17Ah/LCD

power supply for fire alarm systems





# "This product is suitable for the systems designed in compliance with the standards EN 54-4 and EN 12101-10"

Requirements	Requirements according to standards	PSU EN54-2A17LCD
External Power Supply failure indication	YES	YES
Two independent power supply outputs protected against short-circuit	YES	YES
Temperature-compensated battery charging	YES	YES
Measurement of the resistance of the battery circuit	YES	YES
Low battery indication	YES	YES
Deep discharge battery protection	YES	YES
Protection against short-circuit of the battery terminals	YES	YES
Blown battery fuse indication	YES	YES
Charging circuit failure indication	YES	YES
Low output voltage indication	YES	YES
High output voltage indication	YES	YES
Indication of power supply failure	YES	YES
Overvoltage protection	YES	YES
Short-circuit protection	YES	YES
Overload protection	YES	YES
Output of collective failure ALARM	YES	YES
EPS technical output	YES	YES
APS technical output	YES	YES
PSU technical output	-	YES
Input of an external failure indication EXTi	-	YES
Controlled relay output EXTo	-	YES
Remote battery test	-	YES
230V AC mains supply voltage measurement	-	YES
LCD optical indication	-	YES
Tamper indicating enclosure opening	-	YES



#### **PSU** features:

- In accordance with standards: EN 54-4, EN12101-10
- 27,6V DC/ 2A uninterruptible power supply
- battery housing for two 17Ah/12V batteries
- independently protected outputs AUX1 and AUX2
- high efficiency 82%
- low level of voltage ripple
- microprocessor-based automation system
- intelligent PSU overload protection
- measurement of the resistance of the battery circuit
- automatic temperature-compensated charging
- battery test
- two-stage battery charging process
- · accelerated battery charging
- monitoring of the continuity of the battery circuit
- · monitoring of the battery voltage
- · monitoring of the battery fuse
- monitoring of charging and maintenance of the batteries
- deep discharge battery protection (UVP)
- battery overcharge protection
- battery output protection against short-circuit and reverse connection
- monitoring of the load current
- output voltage control
- fuse monitoring of AUX1and AUX2 outputs
- 230V AC mains voltage measurement
- "SERIAL" communication port with implemented MODBUS RTU protocol
- free program "PowerSecurity" to monitor the performance of the PSU
- remote control (options: WiFi, Ethernet, RS485, USB)
- remote battery test (required additional modules)

- cooperation with optional EN54-LB4 or EN54-LB8 fuse modules
- optical indication of PSU overload OVL
- · acoustic indication of failure
- adjustable delay for 230V AC power loss indication
- · output of collective failure ALARM
- · input of collective failure EXTi
- controlled relay output EXTo
- technical inputs/outputs with galvanic isolation
- EPS technical output indicating 230V AC power loss
- PSU technical output indicating PSU failure
- · APS technical output indicating battery failure
- internal memory of PSU operating status
- · optical indication LCD panel
  - readings of electrical parameters, including: voltage, current, resistance of the circuit, mains supply voltage
  - failure indication
  - configuration of the PSU settings from the control panel
  - two levels of password protected access
  - operation memory of the PSU
  - failure memory
  - · real time clock with battery backup
- protections:
  - SCP short-circuit protection
  - OLP overload protection
  - OHP overheat protection
  - OVP overvoltage protection
  - Surge protection
  - Antisabotage protection (Tamper)
- closing the enclosure lock
- convection cooling
- warranty 5 years from the production date

### General description

The buffer power supply has been designed for an uninterrupted supply of fire alarm systems, smoke and heat control systems, fire protection equipment and fire automatics requiring stabilized voltage of 24V DC (± 15%). The PSU is fitted with two independently protected outputs AUX1 and AUX2, which supply voltage of **27.6 V DC** with a total output current:

Continuous operation Output current Imax a=1A

Instantaneous operation
Output current Imax b=2A

In case of power loss, the PSU switches to battery power, providing uninterruptible power supply. The PSU is enclosed in a metal casing (color: RAL 3001 - red) with battery housing for two 17Ah/12V batteries. The PSU works with maintenance-free lead acid batteries made with AGM technology or gel technology.

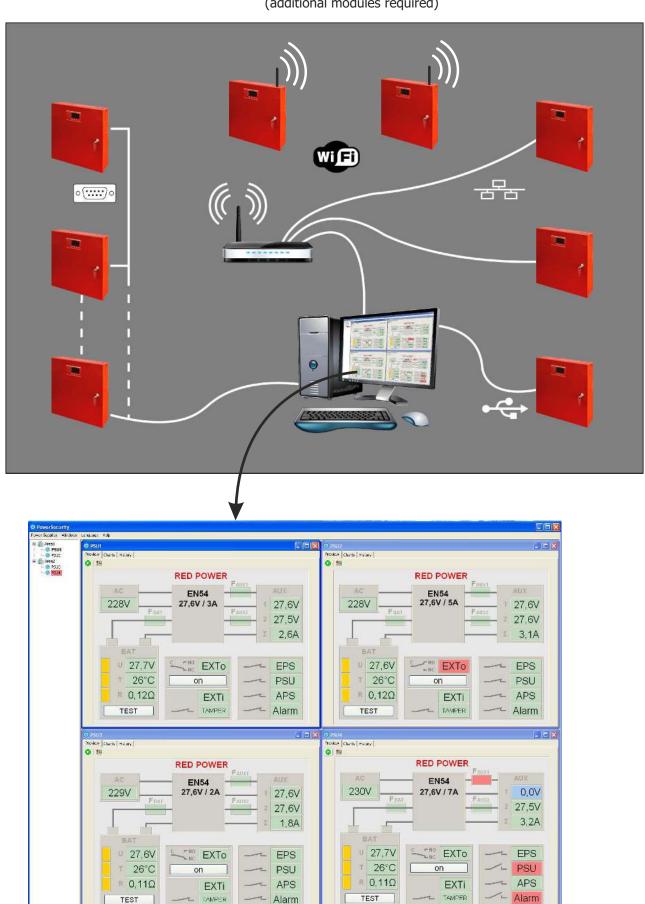


Functional clase SN 12(91-10-2007)  Amins supply  250V AC (-15%+10%)  Current consumption  O, SAR (2350V AC  250V BPUS passes  56V  Efficiency  020V-27,8V DC - buffer operation  Continuous operation: Imax as 1A  Maximal resistance of the battery circuit  Rapple voltage  Current consumption by the PSU  during battery-assisted operation  Current consumption by the PSU  during battery-assisted operation: Imax b-2A  Replie voltage  1 = 55mA - LCD panel backlight off  Curdent of the passes supply is considered with the communication interface or current consumption by the PSU  during battery-assisted operation  Interface operation of the Date of the Current of the Curr		Ι.
Current consumption   0.39A @230V AC   PSU's power   Factor   550W   PSU's power   550W   PSU		
Power frequency		
PSU spower   SoW   Setting   SoW   Setting		
Efficiency  Output votage at 20 °C 10 virth control of the battery circuit  Ripple votage  Current consumption by the PSU during battery-assisted operation  Current consumption by the PSU during battery-assisted operation  Eathery changing current  Sattery changing current  Sat		
Output current Output		
20 of Control course   20,00 + 27,6 V DC - battery-assisted operation   Imax a=1A   Continuous operation: Imax b=2A   Simple voltage   20,00 + 27,6 V DC   Simple voltage   20,00 + 20,00 + 20,00   Simple voltage   20,00 + 20,00 + 20,00 + 20,00   Simple voltage   20,00 + 20		
Output current  Maximal resistance of the battery circuit  30m Ohm  Soft Depth package  Current concumption by the PSU  Legislator concumption should be considered.  Admit of the power supply is connected with the communication interface or fuse module, additional current consumption should be considered.  Admit of the power supply is connected with the communication interface or fuse module, additional current consumption should be considered.  Admit of Coefficient of temperature compensation of the battery voltage indication  Ubat 22W during battery mode  Legislator protection OVP  Legislator protection SCP  Short-circuit protection SCP  Coefficient of temperature compensation of the battery voltage protection OVP  Legislator protection SCP  Short-circuit protection SCP  Short-circuit protection SCP  Admit February meeting fuse (failure requires fuse replacement)  Legislator february meeting fuse (failure requi		
Instantaneous operation: Imax b=2A		
Maximal resistance of the battery circuit  Som Ohm Rypele voltage  Current consumption by the PSU during battery-assisted operation  Caution III file power supply is connected with the communication interface or take module, additional current consumption should be considered.  **TATAL Coefficient of temperature compensation of the battery voltage indication  Overvoltage indication  Usual Styl 50, 51 of Section 40 °C (-5 °C + 40 °C)  Usual Styl 50, 51 of Section 40 °C (-5 °C + 40 °C)  Vervoltage protection OVP  Usual Styl 50, 51 of Section 40 °C (-5 °C + 40 °C)  Usual Styl 50, 51 of Section 40 °C (-5 °C + 40 °C)  Vervoltage protection 52 °C Fa. 15 °A. Faust Faust mode  Non-tricruit protection 52 °C Fa. 15 °A. Faust Faust mode  Vervoltage protection 52 °C Fa. 15 °A. Faust Faust mode  Fastery circuit protection 52 °C Fa. 15 °A. Faust Faust mode  Fastery circuit protection 52 °C Fa. 15 °A. Faust Faust mode (failure requires fuse replacement)  Hardware - Software  Battery circuit protection 52 °C Fa. 15 °A. Faust Faust melting fuse (failure requires fuse replacement)  U-20V (± 2%) – battery disconnection  Pose glaschange battery protection UVP  U-20V (± 2%) – battery disconnection  TamPier output indicating enclosure opening  Technical output adjuster  - APS FLT; indicating battery failure  - PSP LT; indicating fast of failure  - Voltage . OFF – 10-30V DC  Voltage . OFF – 10-30	Output current	
Rupple voltage  Current consumption by the PSU (1 = 55mA – LCD panel backlight off Caution if the power supply is connected with the communication interface or fuse module, additional current consumption should be considered.  Admit PC (-5 °C + 40 °C)  Coefficient of temperature compensation of the battery voltage indication  Overvoltage protection OVP  UN30,5V40,6V - disconnection of the output voltage (ADX+ disconnection), automatic return  Short-circuit protection SCP  F3,15A - F <sub>2000</sub> F <sub>2000</sub> modified graph of the output voltage (ADX+ disconnection), automatic return  Short-circuit protection SCP and reverse  F6A - F <sub>200</sub> F <sub>2000</sub> modified graph (2 %), automatic return  F6A - F <sub>200</sub> F <sub>2000</sub> modified graph (2 %), automatic return  F6A - F <sub>2000</sub> modified graph (2 %), automatic return  F6A - F <sub>2000</sub> modified graph (2 %), automatic graph (	Maximal resistance of the hattery circuit	
Current consumption by the PSU during battery-assisted operation  Battery charging current  Conficient of temperature compensation of the battery of temperature of temperature of temperature of temperature compensation of the battery of temperature		
Estimate   Court	Tripple voltage	
during battery-assisted operation  Battery charging current  1A  1A  40mW °C (-5 °C + 40 °C)  Low battery voltage indication  Overvoltage protection OVP  U-30,5 ∨20,5 ∨ disconnection of the output voltage ( AUX+ disconnection), automatic return  Short-circuit protection SCP  13.15A - F <sub>AUX</sub> - F <sub>AUX</sub> melting fuse (failure requires fuse replacement)  Poer food protection SCP  13.15A - F <sub>AUX</sub> - F <sub>AUX</sub> - F <sub>AUX</sub> is somewhere the substrated of the output voltage ( AUX+ disconnection), automatic return  Short-circuit protection SCP  13.15A - F <sub>AUX</sub> - F <sub>AUX</sub> - F <sub>AUX</sub> melting fuse (failure requires fuse replacement)  Poer float protection SCP  13.15A - F <sub>AUX</sub> - F <sub>AUX</sub> - F <sub>AUX</sub> - F <sub>AUX</sub> melting fuse (failure requires fuse replacement)  Poer discharge battery protection UVP  13.15A - F <sub>AUX</sub> - F	Current consumption by the PSU	
fuse module, additional current consumption should be considered.		
Coefficient of temperature compensation of the battery voltage indication   Ubat < 23%, during battery mode	<b>,,</b>	
Coefficient of temperature compensation of the battery voltage indication  Low battery voltage indication  Ober < 23V, during battery mode  Usas (23V, during battery mode)  Veryoltage protection OVP  Short-circuit protection SCP  F3.15A. F_MANN, FAMS melting fuse (failure requires fuse replacement)  Hardware < Software  F3.15A. F_MANN, FAMS melting fuse (failure requires fuse replacement)  Hardware < Software  F3.15A. F_MANN, FAMS melting fuse (failure requires fuse replacement)  Hardware < Software  F3.15A. F_MANN, FAMS melting fuse (failure requires fuse replacement)  Hardware < Software  F3.15A. F_MANN, FAMS melting fuse (failure requires fuse replacement)  Pastery circuit midicating onlosure opening  Technical outputs:  - PFS FLT; indicating pastery failure  - APS FLT; indicating battery failure  - APS FLT; indicating battery failure  - PSPU FLT; indicating PSI failure  - ALARM; indicating collective failure  EXTI cental input  Voltage, ON* - 10*30V DC  Voltage, ON* - 10*30V DC  Voltage, ON* - 10*30V DC  Voltage, ON* - 0*2V DC  Voltage, ON* - 0*30V DC  Vol	Battery charging current	1A
Ubat < 23V, during battery mode   U>30,534_0,53V - disconnection of the output voltage (AUX+ disconnection), automatic return protection SCP   F3,15A - F <sub>Aux</sub> , F <sub>Buxe</sub> meiting fuse (failure requires fuse replacement)   F3,15A - F <sub>Bux</sub> , F <sub>Buxe</sub> meiting fuse (failure requires fuse replacement)   F3,15A - F <sub>Bux</sub> , F <sub>Buxe</sub> meiting fuse (failure requires fuse replacement)   F3,15A - F <sub>Bux</sub> , F <sub>Buxe</sub> meiting fuse (failure requires fuse replacement)   F3,15A - F <sub>Bux</sub> , F <sub>Buxe</sub> meiting fuse (failure requires fuse replacement)   F5A - F <sub>Bux</sub> meiting fuse (failure requires fuse replacement)   F5A - F <sub>Bux</sub> meiting fuse (failure requires fuse replacement)   F5A - F <sub>Bux</sub> meiting fuse (failure requires fuse replacement)   F5A - F <sub>Bux</sub> meiting fuse (failure requires fuse replacement)   F5A - F <sub>Bux</sub> meiting fuse (failure requires fuse replacement)   F5A - F <sub>Bux</sub> meiting fuse (failure requires fuse replacement)   F5A - F <sub>Bux</sub> meiting fuse (failure requires fuse replacement)   F5A - F <sub>Bux</sub> meiting fuse (failure requires fuse replacement)   F5A - F <sub>Bux</sub> meiting fuse (failure requires fuse replacement)   F5A - F <sub>Bux</sub> meiting fuse (failure requires fuse replacement)   F5A - F <sub>Bux</sub> meiting fuse (failure requires fuse replacement)   F5A - F <sub>Bux</sub> meiting fuse (failure requires fuse replacement)   F5A - F <sub>Bux</sub> meiting fuse (failure requires fuse replacement)   F5A - F <sub>Bux</sub> meiting fuse (failure requires fuse replacement)   F5A - F <sub>Bux</sub> meiting fuse (failure requires fuse replacement)   F5A - F <sub>Bux</sub> meiting fuse (failure requires fuse replacement)   F5A - F <sub>Bux</sub> meiting fuse (failure requires fuse fuse replacement)   F5A - F <sub>Bux</sub> meiting fuse (failure requires fuse replacement)   F5A - F <sub>Bux</sub> meiting fuse (failure requires fuse fuse replacement)   F5A - F <sub>Bux</sub> meiting fuse (failure requires fuse fuse fuse replacement)   F5A - F <sub>Bux</sub> meiting fuse (failure requires fuse fuse fuse fuse replacement)   F5A - F <sub>Bux</sub> meiting fuse fuse fuse fuse fuse fuse fuse fuse		40m\//90 / 5 90 · 40 90\
Overvoltage protection OVP   Substitute		-40mV/ *C (-5 *C ÷ 40 *C)
Submot-circuit protection SCP  S1,54. FMaxBuding fuse (failure requires fuse replacement)  Hardware - Software  F5A. FBat - Buding fuse (failure requires fuse replacement)  Hardware - Software  F5A. FBat - Buding fuse (failure requires fuse replacement)  Hardware - Software  F5A. FBat - Buding fuse (failure requires fuse replacement)  Deep discharge battery protection UVP  U-20V (£ 2%) - Dattery disconnection  Microswitch TAMPER  Technical outputs:  - EPS FLT; indicating AC power failure  - APS FLT; indicating AC power failure  - APS FLT; indicating battery failure  - APS FLT; indicating battery failure  - APS FLT; indicating PSU failure  - ALARM: indicating PSU failure  - ALARM: indicating collective failure  EXTI technical input  Voltage _OFF - 0-2V DC  Level of galvanic isolation 1500V_ass  EXTO relay output  Tag_ 30V DC 50V AC  - LEDs on the PCB of the power supply unit, - LCD panel  - readings of electrical parameters, including: voltage, current, resistance of the circuit, mains supply voltage/alure indication  - configuration of the PSU settings from the control panel  - 2 levels of password protected access  - operation memory of the PSU - 6144 values  - failure memo - 2048 events  - Faux  - F	Low battery voltage indication	
Short-circuit protection SCP Overload protection SCP F3.15A. F <sub>Baxe, Famor</sub> melting fuse (failure requires fuse replacement) Hardware - Software Battery circuit protection SCP and reverse polarity connection Deep discharge battery protection UVP TAMPER output indicating enclosure opening Tachnical outputs: - EPS FLT; indicating AC power failure - APS FLT; indicating battery failure - PSU FLT; indicating battery failure - PSU FLT; indicating bottory failure - PSU FLT; indicating pollective failure - PSU FLT; indicating polle	Overvoltage protection OVP	
Overload protection OLP  Battery circuity protection SCP and reverse polarity connection  Deap discharge battery protection UVP  U-20V (± 2%) - battery disconnection  TAMPER output indicating enclosure opening  Technical outputs: - EPS FLT; indicating AC power failure - APS FLT; indicating battery failure - PSU FLT; indicating PSU failure - PSU FLT; indicating collective failure  - PSU FLT; indicating battery failure - PSU FLT; indicating believe failure  EXTi technical input  EXTo relay output  TAMPER     **Voltage, ON" − 10+30V DC Voltage, ON" − 10+20V DC Level of galvanic isolation 1500V <sub>NMS</sub> EXTo relay output  TAMPER     **Voltage, ON" − 10+20V DC Level of galvanic isolation 1500V <sub>NMS</sub> **LEDs on the PCB of the power supply unit, − LCD panel - Reveloped panelers, including, voltage, current, resistance of the circuit, mains supply voltagefailure indication - configuration of the PSU settings from the control panel - 2 levels of password protected access - operation memory of the PSU − 8144 values - failure memo − 2048 events - Failury - Selectrical for provided access - Selectrical failure evention for the production date - Reveals—Will interface, ENE-PRE Communication - Rev	<b>.</b>	
F5A - F <sub>BAT</sub> melting fuse (failure requires fuse replacement)		
polarity connection Deep discharge battery protection UVP  I AWPER output indicating enclosure opening TAMPER output indicating enclosure opening Technical outputs: - EPS FLT; indicating AC power failure - APS FLT; indicating BSU failure - PSU FLT; indicating PSU failure - PSU FLT; indicating olicitive failure  EXTi technical input  EXTo relay output  I A@ 30V DC 0, 50V AC Level of galvanic isolation 1500V <sub>flusts</sub> - PSU FLT; indicating collective failure  EXTo relay output  I A@ 30V DC 0, 50V AC Level of galvanic isolation 1500V <sub>flusts</sub> - LCD panel - readings of electrical parameters, including: voltage, current, resistance of the circuit, mains supply voltagefailure indication - configuration of the PSU settings from the control panel - configuration of the PSU settings from th		Hardware - Software
Deep discharge battery protection UVP  TAMPER output indicating enclosure opening TCechnical outputs: - EPS FLT; indicating AC power failure - APS FLT; indicating BSU failure - APS FLT; indicating BSU failure - ALARM; indicating PSU failure - ALARM; indicating PSU failure - ALARM; indicating ollective failure  EXTi technical input  EXTo relay output  Total indication:  To	Battery circuit protection SCP and reverse	F5A - F <sub>BAT</sub> melting fuse (failure requires fuse replacement)
TAMPER output indicating enclosure opening Technical outputs: -EPS FLT; indicating AC power failure -APS FLT; indicating battery failure -PSU FLT; indicating pSU failure -PSU FLT; indicating PSU failure -PSU FLT; indicating pSU failure -ALARM; indicating collective failure  EXTI technical input  Voltage ,OFT - 10 - 24 DC Voltage ,OFT - 10 - 28 DC Voltage		
Technical outputs: -EPS FLT; indicating AC power failure -APS FLT; indicating battery failure -APS FLT; indicating battery failure -ALS FLT; indicating battery failure -ALS FLT; indicating PSU failure -ALS FLT; indicating PSU failure -ALS FLT; indicating SU failure -ALS FLT; indicating		
- EPS FLT; indicating AC power failure - ABS FLT; indicating pattery failure - PSU FLT; indicating PSU failure - PSU FLT; indicating PSU failure - ALARM; indicating collective failure - ALARM; indicating collective failure  EXTi technical input  Voltage ,ON" - 10+30V DC Voltage ,ON" - 0+2V DC Level of galvanic isolation 1500V <sub>RMS</sub> EXTo relay output  1A@ 30V DC /50V AC - LEDs on the PCB of the power supply unit, - LCD panel - readings of electrical parameters, including: voltage, current, resistance of the circuit, mains supply voltagefailure indication  Optical indication:  - readings of electrical parameters, including: voltage, current, resistance of the circuit, mains supply voltagefailure indication - configuration of the PSU settings from the control panel - 2 levels of password protected access - operation memory of the PSU - 6144 values - failure memo - 2048 events - real time clock with battery backup  Acoustic indication: Piezoelectric indicator - 75dB /0,3m  LCD screen battery  Fuses: - FMAINS - FRAT - FAMS - FRATS - FAMS - FRATS - FAMS - FRATS - FAMS - FRATS - FAMS - FAMS - FRATS - FAMS - FAM		MICROSWITCH LAMPER
- delay time approximately 10s/1m/10m/30m (+/-5%) - configured from the control panel - type - electronic, max 50mA/30V DC, galvanic isolation 1500V <sub>RMS</sub> - RSP FLT; indicating PSU failure - type - electronic, max 50mA/30V DC, galvanic isolation 1500V <sub>RMS</sub> EXTi technical input Voltage _ON* - 10+30V DC Voltage _ON* - 10+30V DC Voltage _OFF* - 0+2V DC Level of galvanic isolation 1500V <sub>RMS</sub> EXTo relay output 1A@ 30V DC /50V AC		ture electronic may 50m A/20\/ DC relyanic isolation 1500\/
- APS FLT; indicating PSU failure - PSU FLT; indicating PSU failure - ALARM; indicating collective failure  - Voltage ,ON" – 10+30V DC - Voltage ,OFF" – 0+2V DC - Voltage ,OFF – 0+2V DC - Volta	- EPS FLT; indicating AC power failure	
- APS FLT; indicating battery failure - PSU FLT; indicating PSU failure - ALARM; indicating collective failure  EXTi technical input  EXTo relay output  Inage: OFF - 0 + 2V DC Level of galvanic isolation 1500V <sub>RMS</sub> EXTo relay output  Inage: OFF - 0 + 2V DC Level of galvanic isolation 1500V <sub>RMS</sub> EXTO relay output  Inage: OFF - 0 + 2V DC Level of galvanic isolation 1500V <sub>RMS</sub> Inage: OFF - 0 + 2V DC Level of galvanic isolation 1500V <sub>RMS</sub> Inage: OFF - 0 + 2V DC Level of pasword isolation 1500V <sub>RMS</sub> Inage: OFF - 0 + 2V DC Level of pasword isolation 1500V <sub>RMS</sub> Inage: OFF - 0 + 2V DC Level of pasword parameters, including: voltage, current, resistance of the circuit, mains supply voltagefailure indication  on configuration of the PSU settings from the control panel  e 1 elevels of password protected access on peration memory of the PSU - 6144 values of pasword protected access on peration memory of the PSU - 6144 values of pasword protected access on peration memory of the PSU - 6144 values of pasword protected access on peration memory of the PSU - 6144 values of pasword protected access on peration memory of the PSU - 6144 values of pasword protected access on peration memory of the PSU - 6144 values of pasword protected access on peration memory of the PSU - 6144 values of pasword protected access on peration memory of the PSU - 6144 values of pasword protected access on peration memory of the PSU - 6144 values of pasword protected access on peration memory of the PSU - 6144 values of pasword protected access on peration memory of the PSU - 6144 values of pasword protected access on peration of the PSU settings from the control pasword protected access on peration of the PSU - 6144 values of pasword protected access on peration of the PSU settings from the protected pasword protected access on peration of the PSU settings from the protected pasword protected access on peration of the PSU settings from the protected pasword protected access on peration of the PSU settings from the protected pasword protected p		
- PSU FLT; indicating PSU failure - ALARM; indicating collective failure  Voltage ,OFT - 0-2V DC Voltage ,OFFT - 0-2V DC Voltage ,OFT - 0-2V DC Level of galvanic isolation 1500V <sub>BMS</sub> EXTo relay output  1A@ 30V DC /50V AC - LED son the PCB of the power supply unit, - LCD panel - readings of electrical parameters, including: voltage, current, resistance of the circuit, mains supply voltagefailure indication  Optical indication:  - configuration of the PSU settings from the control panel - 2 levels of password protected access - operation memory of the PSU - 6144 values - failure memo - 2048 events - real time clock with battery backup - piezoelectric indicator - 75dB /0,3m  LCD screen battery  3V lithium battery, CR2032  Fuses: - Faixt	- APS FLT: indicating battery failure	<u> </u>
ALARM; indicating collective failure  EXTi technical input  EXTo relay output  EXTo relay output  1A@ 30V DC /50V AC  - LEDs on the PCB of the power supply unit, - LCD panel - readings of electrical parameters, including: voltage, current, resistance of the circuit, mains supply voltagefailure indication  Optical indication:  Optical indication:  Optical indication:  Optical indication:  Optical indication:  Optical indication:  - configuration of the PSU settings from the control panel - 2 levels of password protected access - operation memory of the PSU - 61144 values - failure memo - 2048 events - real time clock with battery backup  Acoustic indication: - piezoelectric indicator - 75dB /0.3m  LCD screen battery  Total / 250V - Fear - Fea		type clock of the control of the con
Voltage _ONT = 10+30V DC   Voltage _OFF" = 0+2V DC   Level of galvanic isolation 1500V <sub>RMS</sub>		
EXTi technical input	•	Voltage "ON" – 10÷30V DC
Level of galvanic isolation 1500V <sub>RMS</sub>	EXTi technical input	Voltage "OFF" – 0÷2V DC
- LEDs on the PCB of the power supply unit, - LCD panel - readings of electrical parameters, including: voltage, current, resistance of the circuit, mains supply voltagefailure indication: - configuration of the PSU selfis from the control panel - 2 levels of password protected access - operation memory of the PSU – 6144 values - failure memo - 2048 events - real time clock with battery backup - piezcelectric indicator - 756B /0.3m - Power of the PSU – 6144 values - failure memo - 2048 events - real time clock with battery backup - piezcelectric indicator - 756B /0.3m - Power of the PSU – 6144 values - failure memo - 2048 events - real time clock with battery backup - piezcelectric indicator - 756B /0.3m - Power of the PSU – 6144 values - piezcelectric indicator - 756B /0.3m - Power of the PSU – 6144 values - failure memo - 2048 events - real time clock with battery backup - piezcelectric indicator - 756B /0.3m - Power of the PSU – 6144 values - failure memo - 2048 events - real time clock with battery backup - piezcelectric indicator - 756B /0.3m - Power of the PSU – 6144 values - failure memo - 2048 events - real time clock with battery backup - piezcelectric indicator - 756B /0.3m - Power of the PSU – 6144 values - piezcelectric indicator - 756B /0.3m - Power of the PSU – 6144 values - piezcelectric indicator - 756B /0.3m - Power of the PSU – 6144 values - piezcelectric indicator - 756B /0.3m - Power of the PSU – 6144 values - piezcelectric indicator - 756B /0.3m - Power of the PSU – 6144 values - piezcelectric indicator - 756B /0.3m - Power of the PSU – 6144 values - piezcelectric indicator - 756B /0.3m - Power of the PSU – 6144 values - piezcelectric indicator - 756B /0.3m - Power of the PSU – 6144 values - piezcelectric indicator - 756B /0.3m - Power of the PSU – 6144 values - piezcelectric indicator - 756B /0.3m	·	
- LCD panel - readings of electrical parameters, including: voltage, current, resistance of the circuit, mains supply voltagefailure indication - configuration of the PSU settings from the control panel - 2 levels of password protected access - operation memory of the PSU – 6144 values - failure memo - 2048 events - real time clock with battery backup  Acoustic indication: - piezoelectric indicator - 75dB /0,3m  LCD screen battery  T 1A / 250V - F <sub>MAINS</sub> - F <sub>MAINS</sub> - F <sub>BAT</sub> - F 5A / 250V - F 3,15A / 250V - F 3,15A / 250V - F 3,15A / 250V - SHATC - FAUX2 - FAUX2 - VBB-TTL ,INTU" interface; USB-TTL communication - RS485 ,INTR" interface; USB-RS485 communication - LVBR-TST interface; Ethernet communication - RS485 ,INTR" interface; Ethernet communication - RS485-Ethernet "INTRE" interface; Ethernet communication - RS485-Ethernet "INTRE" interface; RS485-WiFi wireless communication - RS485-Ethernet "INTRE" interface; RS485-WiFi wireless communication - RS485-Ethernet "INTRE" interface; RS485-WiFi wireless communication - RS485-WiFi "INTRW" interface; RS485-WiFi wireless communication - RS485-WiFi	EXTo relay output	
Price of the circuit, mains supply voltage, current, resistance of the circuit, mains supply voltage failure indication:  Poptical indication:  Configuration of the PSU Settings from the control panel confloating from the control panel configuration of the PSU bettings from the control panel configuration of the PSU betting from the control panel configuration of the PSU betting from the control panel configuration of the PSU betting from the control panel configuration of the PSU betting from the control panel configuration of the PSU betting from the control panel configuration of the PSU betting from the control panel configuration of the PSU betting from the control panel configuration of the PSU betting from the control panel con		
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Potical indication:  - configuration of the PSU settings from the control panel - 2 levels of password protected access - operation memory of the PSU – 6144 values - failure memo - 2048 events - real time clock with battery backup  Acoustic indication: - piezoelectric indicator - 75dB /0,3m  LCD screen battery  3V lithium battery, CR2032  Fuses: - F <sub>MAINS</sub> - F <sub>BAT</sub> - F <sub>BAT</sub> - F <sub>ALVX</sub> - F <sub>AUXY</sub> - VUSB-RS485 ,INTR" interface; USB-TTL communication - RS485 ,INTR" interface; USB-RS485 communication - RS485 ,INTR" interface; USB-RS485 communication - Ethernet ,INTE" interface; USB-RS485 communication - Ethernet ,INTE" interface; USB-RS485 communication - RS485-Ethernet "INTRE" interface; RS485-Ethernet communication - RS485-Ethernet "INTRE" interface; RS4		
e 2 levels of password protected access e operation memory of the PSU − 6144 values e failure memo - 2048 events e real time clock with battery backup  Acoustic indication:  LCD screen battery  37 lithium battery, CR2032  Fuses:  FMAINS FRAINS FSA / 250V FSA T FAUX1 FS 3,15A / 250V FS		
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e failure memo - 2048 events e real time clock with battery backup  - piezoelectric indicator ~75dB /0,3m  LCD screen battery  3V lithium battery, CR2032  Fuses:  - F <sub>MAINS</sub> - F <sub>BAT</sub> - F <sub>SAY</sub> - F <sub>AUX1</sub> - F <sub>AUX2</sub> Additional equipment (not included)  - Custing conditions  - Coperating battery  - Closing  - Key lock  Certificates, declarations, warranty  - Piezoelectric indicator ~75dB /0,3m  - FAUX2  - FAUX2  - FAUX3  - FAUX4  - FAUX4  - FAUX4  - FAUX5  - FAUX5  - FAUX5  - USB-TTL interface; USB-TTL communication - RS485 inNTR" interface; USB-RS485 communication - RS485 inNTR" interface; USB-RS485 communication - Ethernet inNTRE" interface; Ethernet communication - RS485-WiFi "Interface; WiFi wireless communication - RS485-WiFi "Interface; RS485-WiFi wireless communication - RS485-Ethernet "Intrace" interface; RS485-WiFi w		· · · · · · · · · · · · · · · · · · ·
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- FMAINS - FBAT - FAUX1 - FAUX2 - LUSB-TTL "INTU" interface; USB-TTL communication - RS485 "INTR" interface; RS485 communication - RS485 "INTUR" interface; USB-RS485 communication - LUSB-RS485 "INTUR" interface; USB-RS485 communication - LUSB-RS485 "INTUR" interface; USB-RS485 communication - WiFi "INTW" interface; Ethernet communication - WiFi "INTRW" interface; WiFi wireless communication - RS485-WiFi "INTRW" interface; RS485-WiFi wireless communication - RS485-WiFi "INTRW" interface; USB-RS485 wiFi wireless communication - RS485-WiFi "Interface; USB-RS485 wiFi wireles	<u>,</u>	ov initiati pattery, GR2002
F 5A / 250V F 3,15A / 250V F 3,15A / 250V F 3,15A / 250V  - FAUX2  - USB-TTL "INTU" interface; USB-TTL communication - RS485 "INTR" interface; RS485 communication - RS485 "INTR" interface; USB-RS485 communication - RS485 "INTR" interface; USB-RS485 communication - USB-RS485 "INTR" interface; USB-RS485 communication - WiFi "INTW" interface; WiFi wireless communication - RS485-Ethernet "INTRE" interface; RS485-Ethernet communication - RS485-WiFi "INTRW" interface; RS485-WiFi wireless communication - RS485-WiFi wireless communicati		T 1A / 250V
F 3,15A / 250V  - USB-TTL "INTU" interface; USB-TTL communication - RS485 "INTR" interface; USB-RS485 communication - USB-RS485 "INTUR" interface; USB-RS485 communication - USB-RS485 "INTUR" interface; USB-RS485 communication - USB-RS485 "INTUR" interface; USB-RS485 communication - Ethernet "INTE" interface; USB-RS485 communication - WiFi "INTW" interface; USB-RS485 communication - Ethernet "INTE" interface; USB-RS485-WiFi wireless communication - WIFI "INTW" interface; RS485-WiFi wireless communication - RS485-WiFi "INTRW" interface; RS485-WiFi wireless communication - RS485-WiFi wireless communica		
F 3,15A / 250V  - USB-TTL ,INTU" interface; USB-TTL communication - RS485 ,INTR" interface; USB-RS485 communication - RS485 ,INTUR" interface; USB-RS485 communication - USB-RS485 ,INTUR" interface; USB-RS485 communication - Ethernet ,INTE" interface; USB-RS485 communication - Ethernet ,INTE" interface; USB-RS485 communication - RS485-Ethernet communication - RS485-WiFi wireless communication - RS485-Wi		
Additional equipment (not included)  Additional equipment (not included)  Page 2  Additional equipment (not included)  Additional equipment (not included)  Additional equipment (not included)  Additional equipment (not included)  Page 2  Bell Page 2  Bell Page 2  Bell Page 2  Bell Page 3  Bell Page 4  B		
Additional equipment (not included)  - USB-RS485 "INTUR" interface; USB-RS485 communication - Ethernet "INTE" interface; Ethernet communication - WiFi "INTW" interface; WiFi wireless communication - RS485-Ethernet "INTRE" interface; RS485-Ethernet communication - RS485-WiFi "INTRW" interface; RS485-WiFi wireless communication - RS485-Ethernet communication - RS485-WiFi wireless communication - RS485-WiFi		
- Ethernet "INTE" interface; Ethernet communication - WiFi "INTW" interface; WiFi wireless communication - RS485-Ethernet "INTRE" interface; RS485-Ethernet communication - RS485-WiFi "INTRW" interface; RS485-WiFi wireless communication - RS485-WiFi "INTRW" interface; RS485-WiFi wireless communication - RS485-WiFi "INTRW" interface; RS485-WiFi wireless communication  Operating conditions  2nd environmental class ( EN12101-10:2007 ), -5 °C+75 °C  Enclosure  Steel plate DC01 1,2mm, color: RAL 3001 (red)  Enclosure dimensions  420 x 420 x 102 (WxHxD) [mm] (+/- 2)  Net/gross weight  8,6/9,9 kg  2x17Ah/12V (SLA) max. 370 x 180 x 95mm (WxHxD) max  Fitting battery  Certificate of constancy of performance CNBOP-PIB No 1438-CPR-0385, certificate of approval CNBOP-PIB No 2174/2014, CE, RoHS, 5 years from the production date  Notes  Notes  The enclosure does not adjoin the mounting surface so that cables can be led.		
(not included)  - Ethernet "INTW" interface; Ethernet communication - WiFi "INTW" interface; WiFi wireless communication - RS485-Ethernet "INTRE" interface; RS485-Ethernet communication - RS485-WiFi "INTRW" interface; RS485-WiFi wireless communication - RS485-WiFi "INTRW" interface; RS485-WiFi wireless communication - RS485-WiFi "INTRW" interface; RS485-WiFi wireless communication  Operating conditions  2nd environmental class ( EN12101-10:2007 ), -5 °C+75 °C  Enclosure  Steel plate DC01 1,2mm, color: RAL 3001 (red)  420 x 420 x 102 (WxHxD) [mm] (+/- 2)  Net/gross weight  8,6/9,9 kg  2x17Ah/12V (SLA) max. 370 x 180 x 95mm (WxHxD) max  Fitting battery  Closing  Key lock  Certificate of constancy of performance CNBOP-PIB No 1438-CPR-0385, certificate of approval CNBOP-PIB No 2174/2014, CE, RoHS, 5 years from the production date  Notes  Notes	Additional equipment	
- WiFi "INT IW" interface; WiFi wireless communication - RS485-Ethernet "INTRE" interface; RS485-Ethernet communication - RS485-WiFi "INTRW" interface; RS485-WiFi wireless communication - RS485-WiFi "INTRW" interface; RS485-WiFi wireless communication  2nd environmental class ( EN12101-10:2007 ), -5 °C÷75 °C  Enclosure  Steel plate DC01 1,2mm, color: RAL 3001 (red)  420 x 420 x 102 (WxHxD) [mm] (+/- 2)  Net/gross weight  8,6/9,9 kg  2x17Ah/12V (SLA) max. 370 x 180 x 95mm (WxHxD) max  Fitting battery  Closing  Key lock  Certificate of constancy of performance CNBOP-PIB No 1438-CPR-0385, certificate of approval CNBOP-PIB No 2174/2014, CE, RoHS, 5 years from the production date  Notes  Notes		
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Enclosure dimensions       420 x 420 x 102 (WxHxD) [mm] (+/-2)         Net/gross weight       8,6/9,9 kg         2x17Ah/12V (SLA) max. 370 x 180 x 95mm (WxHxD) max       H → W         Closing       Key lock         Certificates, declarations, warranty       Certificate of constancy of performance CNBOP-PIB No 1438-CPR-0385, certificate of approval CNBOP-PIB No 2174/2014, CE, RoHS, 5 years from the production date         Notes       The enclosure does not adjoin the mounting surface so that cables can be led.		
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CE, RoHS, 5 years from the production date  The enclosure does not adjoin the mounting surface so that cables can be led.	Certificates, declarations, warranty	
Notes The enclosure does not adjoin the mounting surface so that cables can be led.	,	
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# Parameters remote control system.

(additional modules required)



TEST

- Alarm

TAMPER

TEST

TAMPER



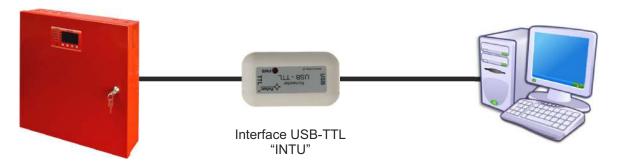
## Remote monitoring (options: Wi-Fi, Ethernet, RS485, USB).

The PSU has been adjusted to operate in a system that requires a remote control of the parameters in a monitoring centre. Transmitting data concerning PSU status is possible due to an additional, external communication module responsible for communication in Wi-Fi, Ethernet or RS485 standard. It is possible to connect the PSU and the computer via the USB –TTL interface.

Different connection topologies, presented later in this chapter, are only a part of possible communication schemes. More examples can be found in the manuals dedicated to individual interfaces.

#### Communication via the USB-TTL interface.

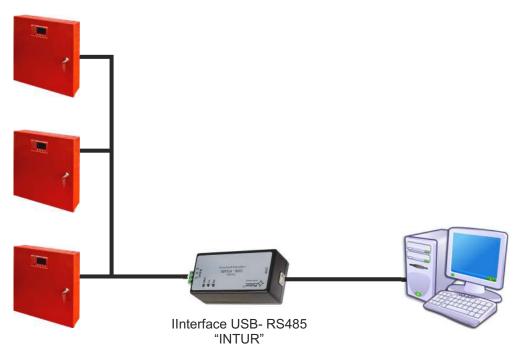
The easiest way of communication between the PSU and the computer is provided by the USB-TTL "INTU" interface. This interface allows direct connection between the computer and the PSU and is recognizable by the operating system as a virtual COM port.



USB-TTL communication using the USB-TTL "INTU" interface.

### RS485 network communication.

Another type of network communication is the RS485 communication using two-wire transmission path. To achieve this kind of data exchange, the PSU should be equipped with the additional RS485 TTL "INTR" interface, converting data from the PSU into the RS485 standard and the USB-RS485 "INTUR" interface, converting data from the RS485 network to the USB. Offered interfaces are galvanically isolated and protected against surges.



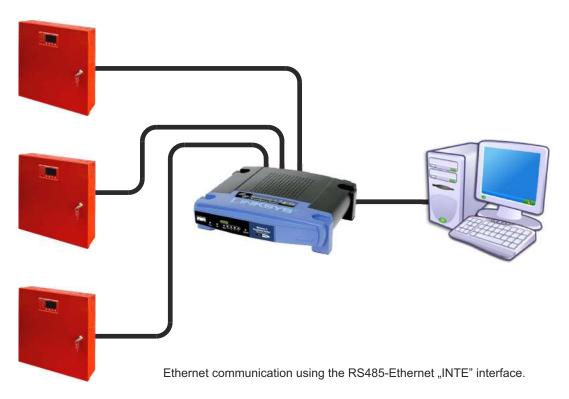
RS485 communication using the "INTR" and "INTUR" interfaces.



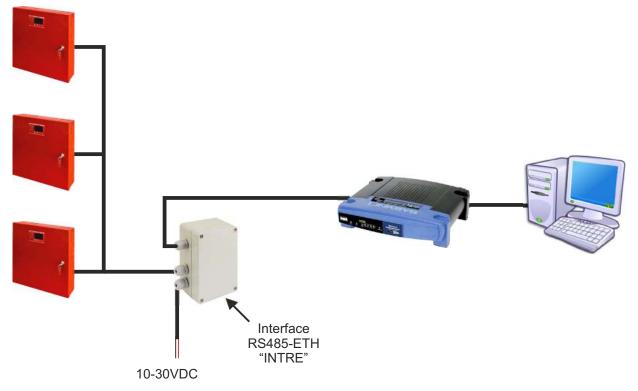
### ETHERNET network communication.

Communication in the Ethernet network is possible due to the additional interfaces: Ethernet "INTE" and RS485-ETH "INTRE", according to the IEEE802.3 standard.

The Ethernet "INTE" interface features full galvanic isolation and protection against surges. It should be mounted inside the enclosure of the PSU.



The RS485-ETHERNET "INTRE" interface is a device used to convert signals between the RS485 bus and the Ethernet network. For proper operation, the unit requires an external power supply in the range of 10÷30V DC e.g. drawn from a PSU of the EN54 series. The physical connection of the interface takes place under galvanic isolation. The unit is mounted in a hermetic enclosure protecting against adverse environmental conditions.

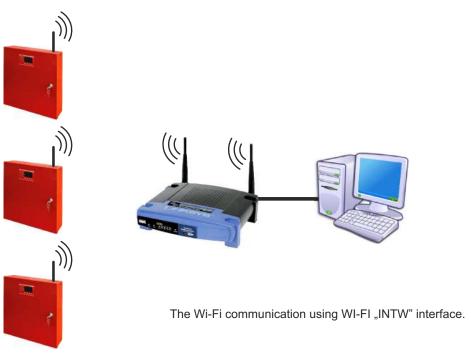


Ethernet communication using the RS485-Ethernet "INTRE" interface.

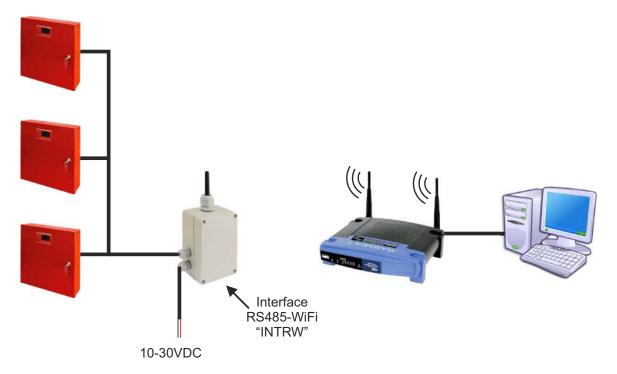


### The Wi-Fi wireless communication.

The Wi-Fi wireless communication can be implemented on the basis of additional interfaces: WI-Fi 'INTW' and RS485-WiFi, operating within 2,4GHz frequency band, according to the IEEE 802.11 bgn standard. The WiFi 'INTW' interface shall be mounted in a selected location inside the enclosure so that the antenna is exposed to the outside.



The RS485-WiFi "INTRW" interface is a device used to convert signals between the RS485 bus and the WiFi network. For proper operation, the unit requires an external power supply in the range of 10÷30V DC e.g. drawn from a PSU of the EN54 series. The physical connection of the interface takes place under galvanic isolation. The unit is mounted in a hermetic enclosure protecting against adverse environmental conditions.



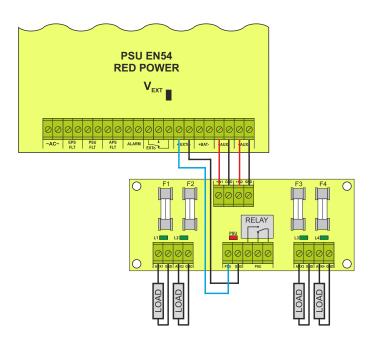
The The Wi-Fi communication using the RS485-WIFI "INTRW" interface.



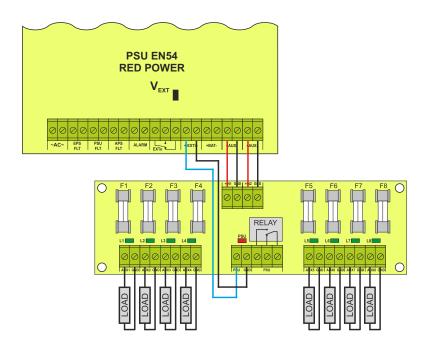
#### Fuse modules EN54-LB4 end EN54-LB8

Fuse modules EN54-LB4 end EN54-LB8 allow to connect 4 or 8 receivers to the PSU. Output state is indicated by green LEDs.

Blown fuse signal is transmitted to the input of collective failure EXTi (ALARM) and saved in the internal memory of PSU. The PSU's relay output can also be used for remote control, including external optical indication.



The connection of fuse module: EN54-LB4.



The connection of fuse module: EN54-LB8.