

## Operational Features

- Wide Range operating input voltage range: 16,8 ÷ 146V (14,4 up to 154V for 100ms).
- Internal Microcontroller:
  - customizable follow-up timer via  $\mu$ C
  - customizable power on, power off, potential hole behavior/reaction
  - customizable power cycle
  - customizable overcurrent protection for each output
  - power on, power off, potential hole behavior/reaction
  - CANBUS communication
  - Diagnostic
- Output power: 130W with > 86% efficiency at full rated load current
- Pick output power 190W
- Outputs: 24V + 3 customizable output voltages from 3.3 up to 24V + 1x standby voltage (3V-8V)
- Isolated Input/Output voltage
- Output voltages ripple < 1%
- Class S1 C1 at full power ( $\leq 10$ ms potential hole), C2 at 90W.
- Inrush current protection
- Output capacitors discharge
- Delivers full power with minimal derating
- No minimum load requirement
- Diagnostic LEDs
- Meets requirements of standard EN50155
- The system shall ensure operation up to 5000m height above sea level
- Temperature range  $-40^{\circ} \div +70^{\circ}\text{C}$
- Sharing Circuit with the possibility to connect in parallel up to 3 WR-PS20
- Output voltages insensitive to the loss of input voltage for  $T \leq 25$ ms
- Power failure signal activated by the loss of the Power Supply



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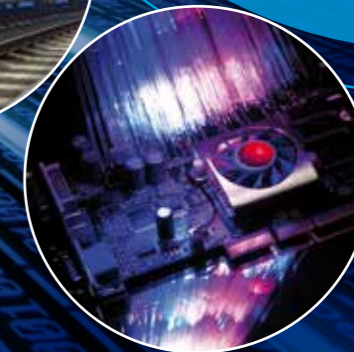


#### Normative:

The system is compliant to EMC to prEN 50121-3-2 and EN 50121-3-2 and EN55011; compliant humidity to EN 50155 (Damp heat cyclic); compliant to shock and vibration test specified in EN50155 and EN61373; pr EN 50121-3-2, Feb. 97; Governing Standard BS EN 50155:2007 Railway applications - Electronic equipment used on rolling stock.

#### Notes:

MB Elettronica SRL can change these specifications at its discretion without notice .  
These specifications are to be considered indicative of the functionality of the product, for the latest information contact MB Elettronica SRL.



# WR-PS20

WIDERANGE POWER SUPPLY  
CUSTOMIZABLE HARDWARE DESIGN



## MAIN FEATURES

- Wide range input voltage between 16,8 up to 146V (14,4 up to 154V for 100ms).
- 3 Customizable output voltage from 3.3 up to 24V
- Customizable standby voltage 3-8V (default 5V)
- Option Hardware customizable board form factors and connectors
- Internal Microcontroller
- EN 50155 approval for railway Applications
- High efficiency >86%
- $\mu$ C Diagnostic system and proactive analysis
- Setting and Diagnostic data via CANBUS
- Over Temperature protection
- Overvoltage protection
- Overcurrent protection
- Reverse input protection
- I/O Insulation (1500 Vac)
- Wide Operating temperature range: - 40°C to + 70°C
- Class S2 C1 at full power 130W (Class C2@ 90W)



## WR-PS20

The MB wide range power supply has been designed for railway applications. The product extends the concept of "custom configuration", providing the system of a microcontroller that allows to customize some behaviors like thresholds, power sequence. Moreover also the hardware has been included in the customization options in order to allow our customers to use our product as platform to fit their needs. The form factor and connectors can be customized, allowing to address all possible installation or cabling requirements.

High EMC immunity (surge, burst, radiated and conducted disturbances) and the shock/ vibration and thermal shock resistance make the WR-PS20 the best choice for stringent requirements.

The input voltage wide range covers from 16,8V up to 146V and the product is EN50155 compliant.

The microcontroller on board controls all the running parameters and introduces a proactive protection against: over-temperature, overload, short-circuit, reverse input, overvoltage and input under-voltage. Moreover the CANBUS allows to monitor and interact with the power supply for logging and maintenance.



### Protection Features

- Input under-voltage lockout
- Overcurrent protection based both on Hardware and Software
- Short circuit protection
- Active back bias limit
- Output Overvoltage protection
- Thermal shutdown
- Overvoltage circuit self-diagnostic by microcontroller

### Controls and diagnostics

- On/Off control
- Power Supply Sync signal for parallel power supply installation (up to 3)
- Power fail signal
- CANBUS port

