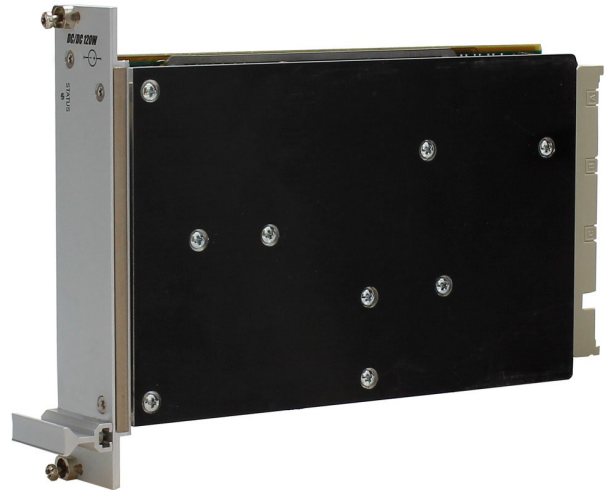


- 3U, 6 HP, 19" rack mountable
- Wide range input 24 V DC to 110 V DC nominal
- Configurable undervoltage threshold via rotary switch
- Output power 120 W without derating
- Hold up time 10 ms (EN 50155 Class S2)
- Active power sharing
- Inverse current protection
- H15 rear connector
- -40 °C to +70 °C (+85 °C)
- Conformal coating
- Input voltage according to S-9401
- EN 50155 compliance



DESIGNED FOR RAIL APPLICATIONS, VEHICLE AND WAYSIDE

The PU30 is a plug-in power supply unit for 19" systems (e.g., CompactPCI). It is especially designed for computer systems in public transport vehicles and for harsh environments, like railway applications, making it suitable for both rolling-stock and wayside use.

WIDE-RANGE INPUT

The PU30 has a nominal input power range of 24 V DC to 110 V DC with a max. input voltage range of 14.4 V DC to 154 V DC (according to EN 50155 and S-9401). The undervoltage threshold is configurable via rotary switch for the nominal voltages of 24, 36, 48, 72, 96, 110 V DC and 74 V DC.

ADVANCED POWER SUPPLY FUNCTIONALITY

The standard output voltage is 12.6 V DC with a dynamic load sharing between 12.6 V DC and 5 V DC with 120 W. The output power at 3.3 V DC is 30 W, which is shared with the 5 V DC load. Switch-on behavior is independent of the load.

The PU30 also has a standby voltage of 5 V DC with 5 W to supply the independent shelf controller, and to support wake-on-LAN functionality. The standby voltage is always on. The PSU provides an inhibit port for switching the output voltages. It also indicates the event of an input power failure, output voltage failure or an overtemperature.

RUGGED DESIGN

The PSU is coated conformally, and all components are secured against vibration. When more power supplies run in parallel, there is a load sharing. The double voltage monitoring ensures that the output voltage is within the valid range. In case of an error, the voltage is powered down. The thermal stress is extremely low due to integrated heat sinks and diversion of dissipated heat over the mounting surface.

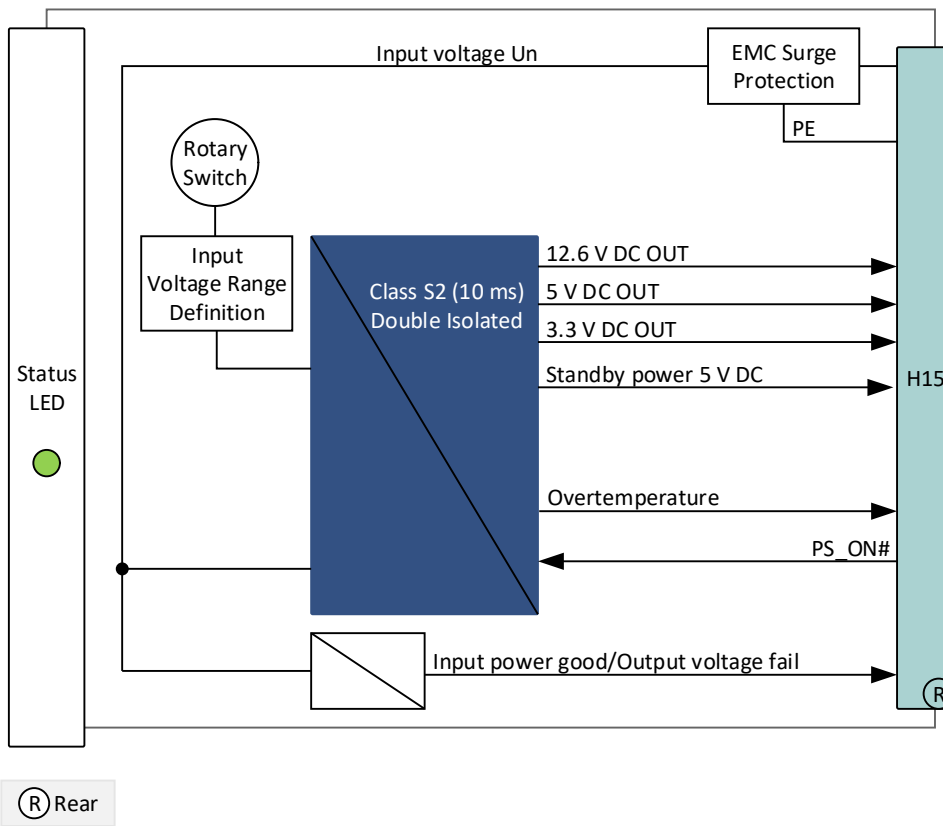
The PU30 is compliant with EN 50155, operating in the temperature range from -40 °C to +70 °C (10 min @ +85 °C).



www.duagon.com/products/pu30/

DATA SHEET

PU30 | DIAGRAM



PU30 | TECHNICAL DATA

PSU CHARACTERISTICS

- Supply voltage: 24 V DC to 110 V DC nom.
 - Supply voltage range: 14.4 V DC to 154 V DC
 - Undervoltage threshold (configurable): 24 V DC, 36 V DC, 48 V DC, 72 V DC, 96 V DC, 110 V DC
 - Undervoltage threshold (configurable): 74 V DC (according to S-9401)
 - Supply voltage range (for 74 V DC): 20 V DC to 130 V DC
 - Power-on/-off threshold according to EN 50155
- Output power: 120 W max.
- Output voltage
 - 3.3 V DC
 - 5 V DC
 - 12.6 V DC
- Output voltage (standby): 5 V DC
- Output voltage accuracy
 - +3.3 V: -1%/+1%
 - +5 V: -1%/+1%
 - +12.6 V: +12.2 V to +12.75 V (depending on load)
 - +5 V (standby): -4%/+4%
- Output current
 - 9 A nom. (@ 3.3 V DC)
 - 20 A nom. (@ 5 V DC)
 - 10 A nom. (@ 12.6 V DC)
 - 0.3 A nom. (continuous) (@ 5 V DC standby)
- Inrush current:
 - 15 A max. (t > 100 μs)
 - 0.2 A²s max.



- Interruption of voltage supply: 10 ms (EN 50155:2017, class S2)
- Dynamic load distribution
 - 120 W for complete temperature range without forced airflow
 - Load sharing: 190 W with 2 PSUs
- Efficiency: 79 % to 88 %, depending on input voltage, load distribution and output power
- Protection features
 - Reverse polarity protection
 - Inrush current limitation
 - Overtemperature protection
 - Overvoltage protection
 - Overload protection
- Up to two power supply units can be used in parallel
 - Voltage outputs suitable for parallel mode: 12.6 V DC, 5 V DC (standby)
- Power Variations
 - No functional disturbance with input voltage variations according to EN 50155

INTERFACES

- LED
 - Status: power status (operation, failure, standby)
- Rear I/O
 - 1x H15 (IEC 60603-2), 15-pin, plug

SUPERVISION AND CONTROL

- Output voltage supervision
- Temperature supervision

ELECTRICAL SPECIFICATIONS

- Supply voltage: 24 V DC to 110 V DC nom. (EN 50155)

- Isolation voltage
 - Input/output: 2200 V DC
 - Input/shield: 2200 V DC
 - Output/shield: 750 V DC

MECHANICAL SPECIFICATIONS

- Dimensions: 3U, 6HP
- Weight: 600 g
- Cooling: Air cooling, natural convection, airflow 0.4 m/s
- Integrated heat sink

PRODUCT COMPLIANCE: RAIL - ROLLING STOCK

- Operating temperature: -40 °C to +70 °C, +85 °C for 10 min (EN 50155:2017, class OT4, ST1)
- Rapid temperature variations: EN 50155:2017, class H1, no requirements
- Storage temperature: -40 °C (EN 60068-2-1:2007, Ab) to +85 °C (EN 60068-2-2:2007, Bb)
- Altitude: +5000 m max. (EN 50125-1:2014, class AX)
- Pollution degree: EN 50124-1:2017, class PD2
- Shock: 30 ms @ 50 m/s² (EN 61373:2010/AC:2017-09, vehicle body, cat. 1, class B)
- Vibration: 10 min @ 1.01 m/s² (functional) and 5 h @ 5.72 m/s² (long-life) (EN 61373:2010/AC:2017-09, vehicle body, cat. 1, class B)
- Fire protection: EN 45545-2:2013 + A1:2015, HL3
- EMC emission: EN 50121-3-2:2016 + A1:2019
- EMC immunity: EN 50121-3-2:2016 + A1:2019
- Useful life: 20 years (EN 50155:2017, class L4)

RELIABILITY

- MTBF: 1 389 701 h predicted @ 40 °C according to IEC/TR 62380 (RDF 2000)

PU30 | ORDERING INFORMATION

STANDARD MODELS

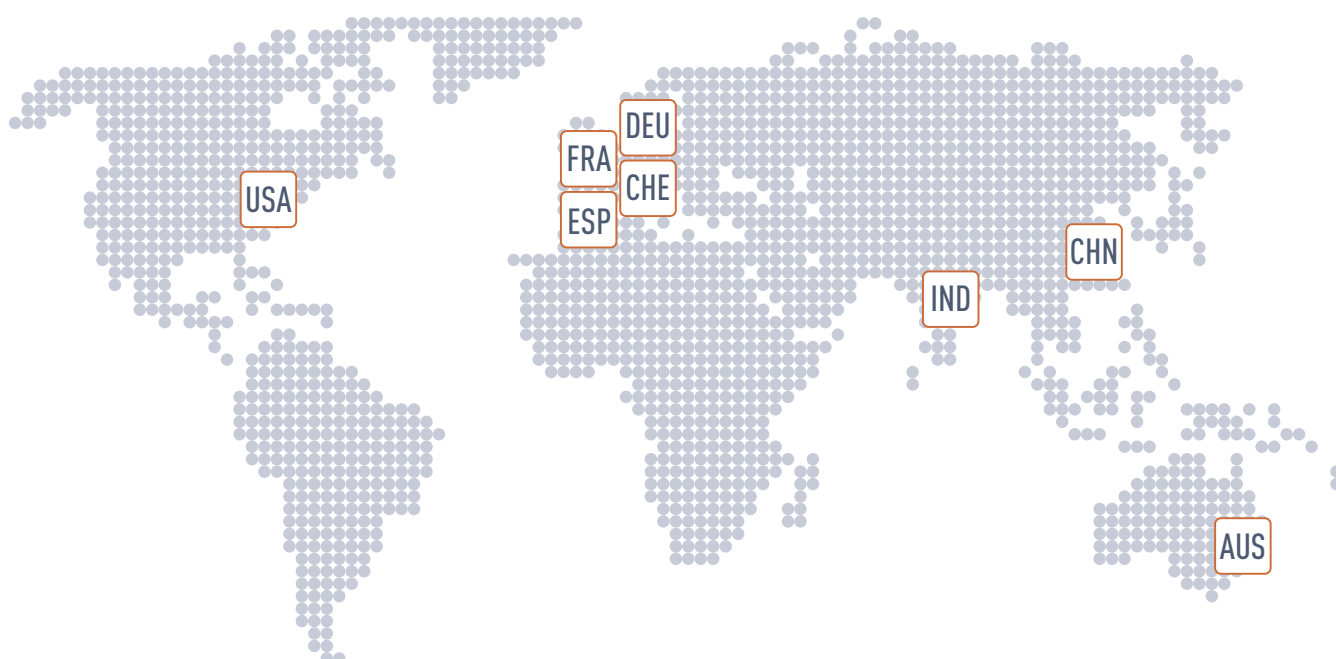
- 17PU30-00** 120 W, 3U 6 HP PSU, wide range input 24 V DC to 110 V DC, output 12.6 V DC / 5 V DC / 3.3 V DC, 5 V DC (standby), -40 °C to +85 °C, conformal coating



LEADING THE EMBEDDED FUTURE

duagon WORLDWIDE

duagon has a global presence with support and sales representatives across eight countries. With three decentralized engineering and production sites, our customers take advantage of the added competence and flexibility.



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