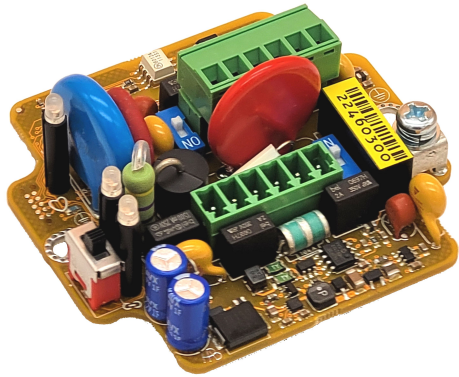


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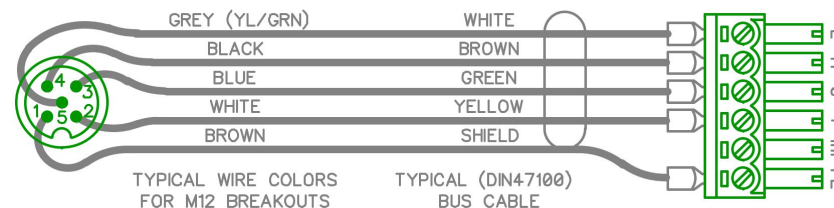
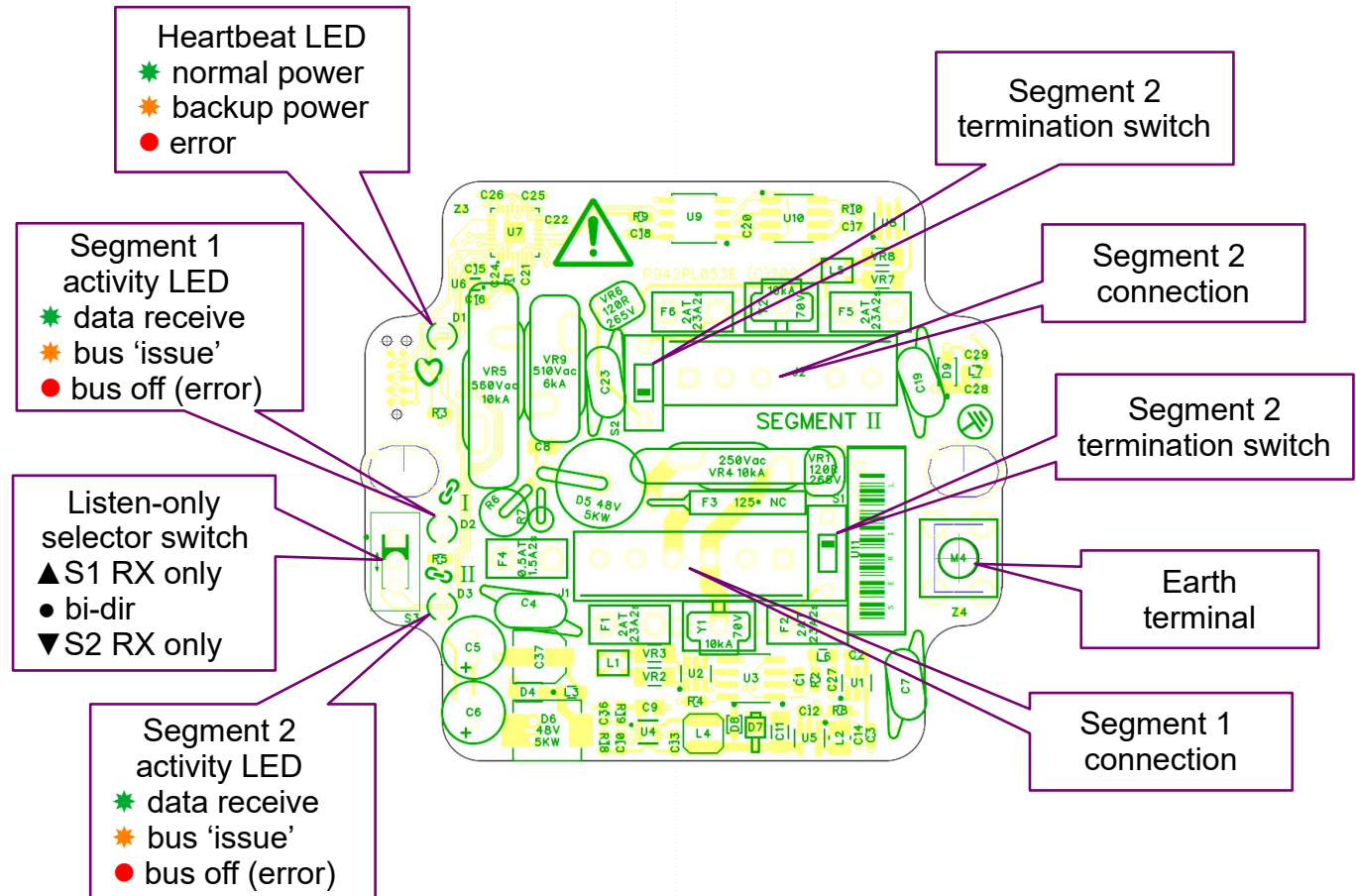
CAN-bus Repeater & Isolator (Rugged) Quick Start Guide

Full manual and product information available at whitebream.com/canbus-repeater-rugged.

P942RP014 v 1.0
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White Bream L.J. Costerstraat 13D 3261LH
Oud-Beijerland The Netherlands
<https://whitebream.com>



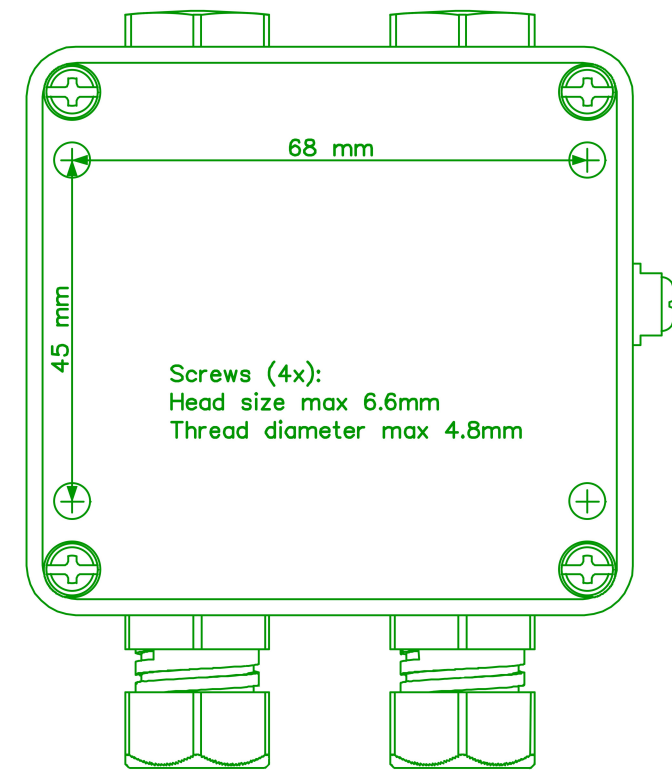
Shield via 1nF capacitor to break ground loops.

Power supply requirements:

- Powered from primary side DC input
- Secondary side powered by integrated DC/DC converter
- Bus powered 12-48VDC, power <1W
- Backup capacitor for ≥ 1 second of runtime
- Allowed isolation voltage up to 500VRMS
- Grounds and shields individually terminated to earth via 1nF Y1 capacitors
- 6kV Surge rated; 1.2/50 μ s 2 Ω on DC-input and across isolation, 12 Ω to earth, 10/700 μ s 25 Ω on CAN-bus
- Voltage across isolation barrier clamped with 550VDC/6.5kA varistor

CAN-bus specifications:

- Two-way CAN-bus & CAN-FD repeater up to 8Mbps
- Protocol independent; works with any CAN-based protocol including CANopen and J1939
- Propagation delay 100ns, equivalent to ~ 20 m of cable length
- Automatic disable of erroneous segments (non-terminated or stuck dominant)
- 120 Ω current-limited switchable termination on both segments
- One of the segments can be switched to silent mode



Heartbeat error indicator:

- Orange blinking indicates running of backup power
- Red LED indicates hardware malfunction, no clock in the FPGA

Bus error indicators:

- Orange blinking LED indicates bus hold period ended with a dominant state, possibly due to excessive reflections
- Red LED may indicate some kind of shorted situation were the bus never returns to a recessive state

Common CAN-bus problems:

- No communication at all \rightarrow Check if CAN-bus pair is not swapped. If in doubt, just try reversing to eliminate a possible cause, noting will get damaged. Don't forget to undo the reversal if it does not help!
- High error rate \rightarrow Common causes are too high bit-rate versus cable length, badly placed termination resistors, too many (>2) or too few termination resistors.

OEM & Mounting plate outline and dimensions:

