

Rack

RV-07B

The RV-07B is a 19" rack which can hold up to 16 Westermo TR-36B modems as well as two PS-20 power supplies. The rack is designed to harsh industrial standards in applications where a number of modems are required in the same location. The rack has passed extensive approvals testing by both Westermo and external test houses, showing the rack can operate in environments with a high level of electromagnetic interference.



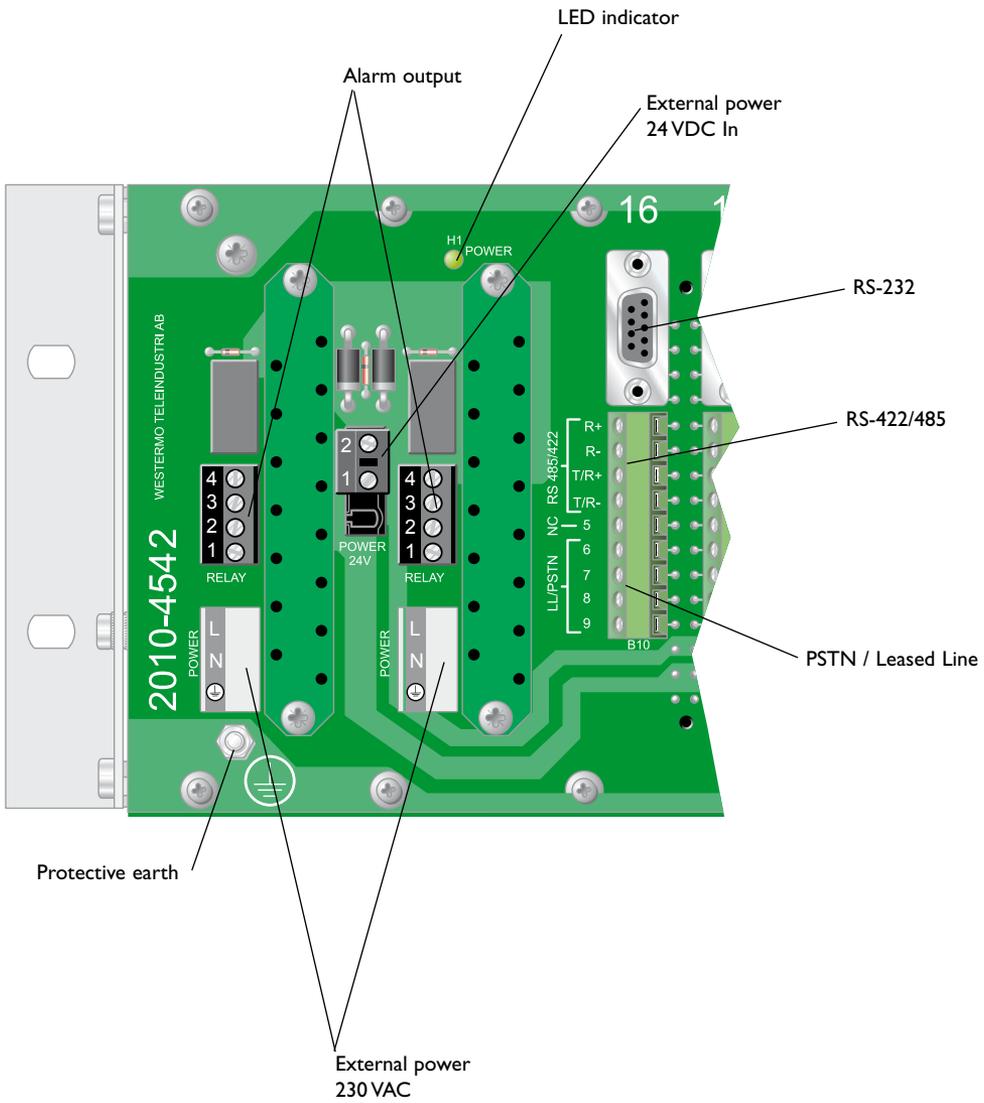
Using the RV-07B and TR-36B allows a number of modems to be connected to a backplane thus eliminating unnecessary wiring and also saving space.

The modems slide into the chassis from the front and connect to the backplane that provides all the connectors for the RS-422/485, RS-232, PSTN and Leased Line interfaces. The RV-07B can be fully powered by either one or two Westermo PS-20 power supplies. With two power supplies, redundant supply is possible. In case of a power failure, the second power supply activates and an alarm signal can be set up through the built-in fault relay.

The RV-07B rack is designed for use with the Westermo TR-36B modem, which is an analogue V.34 PSTN and Leased Line modem supporting modulation data rates up to 33.6 kbit/s. For more information, please refer to the TR-36B documentation.

- ⌘ Holds up to 16 TR-36B modems
- ⌘ Redundant power supply and fault relay

Interfaces



Technical Data

RV-07B populated with 16 TR-36B modems and supplied with two PS-20 HV power cards

| Power RV-07B, External 230 V | |
|------------------------------|---|
| Rated voltage | 100 – 240 VAC |
| Operating voltage | 90 – 254 VAC |
| Rated current | 470 mA @ 90 VAC 425 mA @ 100 VAC 310 mA @ 240 VAC 290 mA @ 254 VAC |
| Rated frequency | AC |
| Polarity | No polarity protection, an AC-product |
| Redundant power input | Yes |
| Isolation to | All other ports 3 kV _{rms} 50 Hz 1 min |
| Connection | Detachable screw terminal |
| Connector size | 0.2 – 2.5 mm ² (AWG 24 – 12) |
| Shielded cable | Not required |

RV-07B populated with one TR-36B modems and DC supplied

| Power RV-07B, External DC | |
|---------------------------|---|
| Rated voltage | 12 to 48 VDC |
| Operating voltage | 10 to 60 VDC |
| Rated current | 130 mA @ 12 VDC 63 mA @ 24 VDC 40 mA @ 48 VDC |
| Rated frequency | DC |
| Power consumption | 2 W |
| Startup current | 0.22 A _{peak} |
| Polarity | Polarity dependent |
| Connection | 32-pin Europe connector |

| Alarm output | |
|----------------|--|
| Isolation to | Power port 3 kV _{rms} 50 Hz 1 min Signal ports 2 kV _{rms} 50 Hz 1 min |
| Connection | Screw connector |
| Connector size | 0.2 – 2.5 mm ² (AWG 24 – 12) |

| RS-232 | |
|--------------------------|--|
| Electrical specification | EIA RS-232 |
| Data rate | 300 bit/s to 115.2 kbit/s |
| Data format | 7 or 8 data bits, Odd, even or none parity, 1 or 2 stop bits, 9-12 bits |
| Protocol | Transparent |
| Retiming | Yes |
| Circuit type | SELV |
| Transmission range | Cable length <15 m |
| Isolation to | Power port 3 kV _{rms} 50 Hz 1 min PSTN line 2 kV _{rms} 50 Hz 1 min Leased line 2 kV _{rms} 50 Hz 1 min RS-422/485 2 kV _{rms} 50 Hz 1 min |
| Connection | 9-pin D-sub female (DCE) |
| Shielded cable | Not required |
| Conductive housing | Isolated to all other circuits |
| Miscellaneous | Do not connect RS-232 and RS-422/485 simultaneously |

| RS-422/485 | |
|--------------------------|--|
| Electrical specification | EIA RS-485 2-wire or 4-wire twisted pair |
| Data rate | 300 bit/s to 115.2 kbit/s |
| Data format | 7 or 8 data bits, Odd, even or none parity, 1 or 2 stop bits, 9-12 bits |
| Protocol | Transparent |
| Retiming | Yes |
| Turn around time | <10 μs (half duplex) |
| Circuit type | TNV-1 |
| Transmission range | ≤ 1200 m, depending on data rate and cable type (EIA RS-485) |
| Settings | 120 Ω termination and failsafe biasing 680 Ω |
| Protection | Installation Fault Tolerant (up to ±60 V) |
| Isolation to | Power port 3 kV _{rms} 50 Hz 1 min PSTN line 2 kV _{rms} 50 Hz 1 min Leased line 2 kV _{rms} 50 Hz 1 min RS-232 2 kV _{rms} 50 Hz 1 min |
| Connection | Screw connector |
| Connector size | 0.2 – 2.5 mm ² (AWG 24 – 12) |
| Shielded cable | Not required |

| Public Switched Telephone Network (PSTN) | |
|--|--|
| Electrical specification | Public Switched Telephone Network |
| Data rate | 300 bit/s to 33.6 kbit/s |
| Protocol | B103, B212, V21, V22, V22B, V23C, V32, V32B, V34 |
| Circuit type | TNV-3 |
| Isolation to | Power port 3 kV _{rms} 50 Hz 1 min PSTN line 2 kV _{rms} 50 Hz 1 min Leased line 2 kV _{rms} 50 Hz 1 min RS-422/485 2 kV _{rms} 50 Hz 1 min RS-232 2 kV _{rms} 50 Hz 1 min |
| Connection | Screw connector |
| Connector size | 0.2 – 2.5 mm ² (AWG 24 – 12) |
| Shielded cable | Not required |

| Leased Line (LL) | |
|--------------------------|---|
| Electrical specification | 2- or 4-wire Leased Line |
| Data rate | 300 bit/s to 33.6 kbit/s |
| Protocol | B103, B212, V21, V22, V22B, V23C, V32, V32B, V34 |
| Transmission range | PSTN 30 dB Leased Line max 40 dB |
| Protection | Installation Fault Tolerant (up to ±60 V) |
| Isolation to | Power port 3 kV _{rms} 50 Hz 1 min PSTN line 2 kV _{rms} 50 Hz 1 min RS-422/485 2 kV _{rms} 50 Hz 1 min RS-232 2 kV _{rms} 50 Hz 1 min |
| Connection | Screw connector |
| Connector size | 0.2 – 2.5 mm ² (AWG 24 – 12) |
| Shielded cable | Not required |

Type tests and environmental conditions

| Electromagnetic Compatibility | | | |
|-------------------------------|------------|--|--|
| Phenomena | Test | Description | Test levels |
| Dielectric strength | EN 60950 | Signal port to other isolated ports | 2 kVrms 50 Hz 1 min |
| | | Power port to other isolated ports | 3 kVrms 50 Hz 1 min |
| | | Power port to other isolated ports with rated power (<60V) | 2 kVrms 50 Hz 1 min 500Vrms 50 Hz 1 min for GND |
| Environmental | | | |
| Temperature | | Operating | -40 to +70°C |
| | | Storage & Transport | -40 to +70°C |
| Humidity | | Operating | 5 to 95% relative humidity |
| | | Storage & Transport | 5 to 95% relative humidity |
| Reliability prediction (MTBF) | MIL-C217F2 | Operating | 378 900 hours @ +25°C |
| Altitude | | Operating | 2 000 m / 70 kPa |
| Service life | | Operating | 10 year |
| Packaging | | | |
| Dimension W x H x D | | | 485 x 135 x 180 mm |
| Weight | | | 2,05 kg |
| Degree of protection | IEC 529 | Enclosure | P 20 |
| Cooling | | | Convection |
| Mounting | | | 19" Rack |

Approvals

