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

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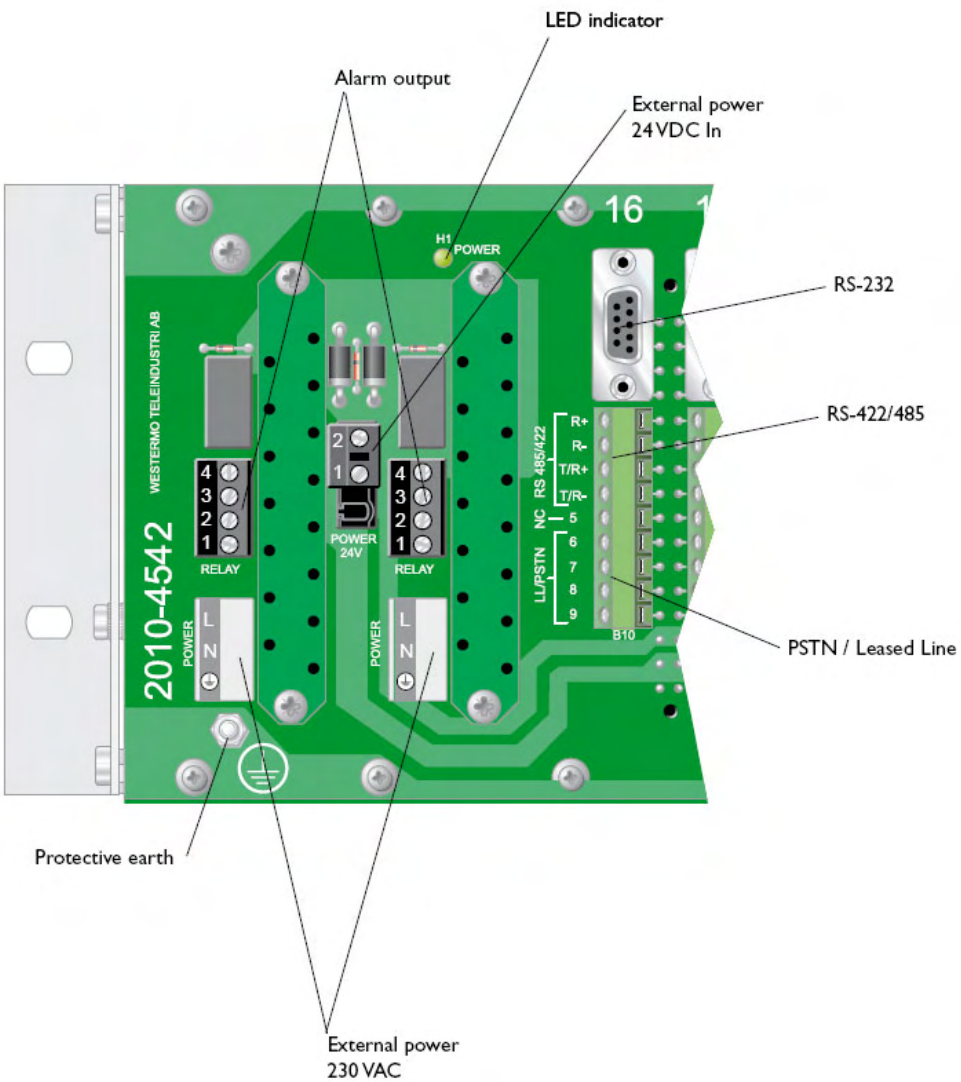
Interfaces


LED indicator
Alarm output
External power
24VDC In
RS-232
RS-422/485
PSTN / Leased Line
Protective earth
External power
230 VAC
H1
POWER
16
WESTERMO TELEINDUSTRI AB
2010-4542
RELAY
RELAY
POWER
24V
POWER
POWER
L
N
L
N
RS 485/422
R+
R-
T/R+
T/R-
NC
LL/PSTN
5
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8
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B10

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	12-24 AWG (0.2 – 2.5 mm^2)
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	12-24 AWG (0.2 – 2.5 mm^2)

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 lenght <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	12-24 AWG (0.2 – 2.5 mm^2)
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	12-24 AWG (0.2 – 2.5 mm^2)
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	12 - 24 AWG (0.2 – 2.5 mm^2)
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 <60 V)	2 kVrms 50 Hz 1 min 500 Vrms 50 Hz 1 min for GND
Environmental			
Temperature		Operating	–40 to +158°F (–40 to +70°C)
		Storage & Transport	–40 to +158°F (–40 to +70°C)
Humidity		Operating	5 to 95% relative humidity
		Storage & Transport	5 to 95% relative humidity
Reliability predicton (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

CE

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