ROOTS® Modem MDM-2

The ROOTS® MDM-2 is a full-duplex, two-wire, 300-2400 baud, dial-up modem and is compatible with CCITT V.22bis / V.22 / V.21, and Bell 212A / 103 data communications standards.

It automatically performs a complete handshake as defined by CCITT V.22bis / V.22 / V.21, and Bell 212A / 103 data standards, determining the baud rate and operating mode when connected to a remote modem. The modem also supports the AT Commands compatible with the Hayes Smartmodem™ command set.

Designed for remote telemetry systems, the modem operates on a 5 to 15-VDC input power (see note 1) and draws a very low 75mA (typical) current. The modem also includes a switched power mode, providing a typical standby current of 50p. The modem has a operating temperature range of -40°F to +185°F (-40°C to +85°C) and a humidity range of 0 to 95% non-condensing.

The RXD and TXD communication lines should be "crisscrossed" between the modem and the data collection equipment (FLINT).
Refer to drawing B053509-000.

PRODUCT INFORMATION

Operation:	Full-duplex on 2-wire dial-up line
Data Rates:	2400, 1200, 300bps
Compatibility:	v.22bis / V.22 / V.21, Bell 212A / 103
Modulation:	High Speed - QAM (quadrature amplitude modulation) Medium Speed - DPSK (differentially coherent phase shift key) Low Speed - FSK (frequency shift key)
Control:	AT command interpreter
Transmitter output:	-11.5 dBm minimum
Receive dynamic range:	-3 to -43 dBm
Interface:	RS-232: TXD, RXD, DCD, DSR, CTS, RTS, DTR, RI
Line impedance:	600-ohm, transformer coupled
Line protection:	IEEE472 Lightning and Transient Protection
User configuration:	Non-Volatile EEPROM to store user configuration
Handshake:	Automatic as defined by the V.22bis / V.22 / and Bell 212A / 103
Equalization:	Adaptive equalization with auto-retrain
Dialer type:	DTMF or Pulse
Power Mode	Switched power or constant power (jumper selection)
Input voltage range:	5 to 15 Vdc
Active Current:	74 mA typical
Standby Current:	50 uA typical (switched power mode only)
Environment:	-40°F to 185°F (-40°C to 85°C) humidity 0 - 95% non-condensing

APPLICATION NOTE:
The recommended power source is specified as 5 to 15 volts DC. If a regulated power source is used, it's output voltage can be anywhere in the specified range.

If a power adaptor is used, the actual voltage applied to the unit is at least 1.4 times the specified adaptor output voltage at rated load. Thus we recommend that a power adaptor rated at 7.5 volts DC be used to power the unit. One source for such a power adaptor is Stancor, part number STA-3575A.
In addition, when power adaptors are used, it would be wise to install a voltage limiting device to prevent power surges from over-voltages on the modem power input.

This can be accomplished by installing a zener diode across the input power terminals (cathode to pin 1 [+] and anode to pin 2 [-].) One such diode is 1N5349B, which is a 12 VDC unit rated at 5 watts, our part number B012266-017.

Ordering Information:
MDM-2 Part Number 052995-000

798 - 2k - gs

DRESSER DMD ROOTS

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