

Modems

BELL-202/202T and V.23 Modems



Rack Mount



Box/Standalone

OVERVIEW

ASE DM series products are [Bell-202/202T](#) and [V.23 modems](#) designed for operation over leased line communication circuits as commonly used in the electric power and pipeline SCADA industries. These modems include commonly requested features such as 900Hz soft-carrier turn on, LED indicators, digital control over timing parameters (in millisecond increments), Push to talk (PTT) circuit, transmit levels from 0 to -30 db, and input power from 5 to 160 VDC. Modems are available in a 19-inch rack configuration with a 16-slot custom backplane and redundant AC power supplies, or packaged in a stand-alone metal box. A “board only” version is also available for manufacturers.

RACK MOUNT MODEM FEATURES

The rack mount chassis measures 19 inches wide by 5.25 (3U) inches high, and fits into standard EIA cabinets. The chassis holds 16 single-channel modems and redundant power supplies. The modems are hot swappable. The 16 Channel Modem Chassis contains slots for two standard 3U VME power supplies. The power supply has a 40-watt universal input (90 to 254VAC) with overvoltage protection

and continuous short circuit protection. The power supply output is +5VDC at 8.0 amps and does not require a minimum load to obtain regulation. The power supply module contains a +5VDC adjustment pot accessible from the front panel for adjustment +/- 0.3 volts. The 16 Channel modem chassis can run on a single supply. The second power supply can be added to provide the user with a higher mean time between failure. Power supplies are also hot swappable.

STANDALONE BELL 202/202T AND V.23 MODEM FEATURES

The standalone modems are available in two formats: in a metal enclosure (Box) or with 3U VME faceplate. The metal enclosure is 187 x 105 x 36 mm or 7.35” x 4.14” x 1.42”. Flanges are provided at both ends for mounting the equipment. The 3U VME mounting bracket has screw downs for standard VME chassis.

SPECIFICATIONS FOR RACK MOUNT AND STANDALONE MODEMS

ITEM	CHARACTERISTICS
DATA RATES	0-1200 bps
OPERATING MODE	Half or full duplex; 2 or 4 wire private line, Bell-202/V.23 jumper selectable
OPERATING FORMAT	Serial
LINE REQUIREMENTS	Voice grade, private lines
LINE IMPEDANCE	600 ohms, balanced
BELL 202 MODULATION	FSK: Mark-1200 Hz; Space-2200 Hz; Soft Carrier-900 Hz +/- 1%
V.23 MODULATION	FSK: Mark-1300 Hz; Space-2100 Hz; Soft Carrier-900 Hz +/- 1%
TRANSMITTER	Output Level: 0 dBm, switch selectable to -30 dBm in 2 dBm increments RTS/CTS Delay: 0 to 252 mS, switch selectable (4 ms increments) 900 Hz Soft Carrier option
RECEIVER	Receiver Operating Range: 0 to -35 or -41 dBm Receiver Squelch: 156 mS for 2 wire only Carrier Detect On Delay: 2 to 30 mS (2mS increments)
ELECTRICAL ISOLATION	Power Supply: 1800 VAC Telco Connection: 1500 Vrms (Primary to Secondary)
ENVIRONMENTAL	Operating Temperature: 0 - 70° C Storage Temperature -40 to 80° C Humidity: 0 to 95% Relative Humidity (non-condensing)
PHYSICAL CHARACTERISTICS	Standalone (Box): 187x105x36mm or 7.35x4.14x1.42 inches Rack mount / 3U VME: 19" Rack mount is 5 1/4" high with slots for 16 modems plus redundant power supplies
POWER	Standalone (Box/3U VME): 12-160 VDC @ 100mA Rack mount: 5VDC @ 100mA per card
USER EQUIPMENT INTERFACE	25 Pin EIA Connector (RS232 C Compatible) 2 pin PTT output
TELCO INTERFACE	RJ11 Jack (Box and Rack-mount), Terminal Blocks also available on Rack-mount
DIAGNOSTIC	Analog Loop Back Switch
FRONT PANEL LED DISPLAY	TXD, RXD, RTS, CTS, CD and PWR

BELL 202/V.23 MODEMS – STANDALONE

MODEL	MOUNTING OPTIONS	INPUT POWER
DM-FSK-I-B	No enclosure, board only	Regulated 5 VDC or unregulated 12-160 VDC
DM-FSK-I-V	VME Mounting bracket for mounting in a 3U logic chassis without backplane. Requires access to rear of board for external power, RS-232 and Telco connections	
DM-FSK-I-M	Metal box enclosure	

BELL 202/V.23 MODEMS – RACK MOUNT

MODEL	MOUNTING OPTIONS	INPUT POWER
DM-FSK-X-V	Single channel modem for use with SM-RACK-16 chassis and backplane	From SM-RACK-16 chassis backplane
SM-RACK-16	19" VME Rack mount chassis with 5V logic power supply holds 16 DM-FSK-X-V modems	120 VAC
SM-RACK-PS	Redundant 5V logic power supply	120 VAC