Diamond Knowledge Base

Cascade Modem

Cascade Low Power Data Modem (CDM) for extreme temperatures The Cascade Modem is designed to operate reliably in harsh conditions. It serially connects (RS-232) with any data-collecting or electronic device that is battery, solar or AC powered.

Unlike the average “off the shelf” modem, the Cascade Modem is designed to work in high heat and humidity and in freezing cold temperatures alongside the road in dusty cabinets. It will dependably transmit data and control commands and has a temperature range of –40 to +85 C (-40 to +185 F).

Powering down to 170 micro amps (.001 watts) while awaiting the next call, the Cascade Modem uses far less power than most other modems, which draw as much as 35 milliamperes, or over 200 times as much power. In practical terms, this means a standard “off the shelf” modem requires a 10-watt solar panel while the CDM needs less than one watt of solar power.

The CDM can be interfaced with traffic classifiers, weigh-in-motion sites, weather stations, variable message signs, oil wells, pipelines etc. It is also hardened against lighting and has an external earth grounding to aid in static electricity suppression.

Features
Low power (uses 200 times less than the average modem)
Wide temperature operating range (-40°f to 185°f)
Automatic power-up and power-down
Lighting and ESD protection with static electricity suppression
LED status indicator
One Blink every fifteen seconds indicates unit is operational and is in power save mode.
Continuous blinking indicated ring signal or RS232 activity detected.
Continuous on indicates carrier detected and data being transmitted.
Optional ring activated relay
an optional ring delay can be added to the modem circuitry that actuates a normally open or closed contact for 1 second each time the modem is called. This isolated contact may be used to trip or activate any secondary device.

Specifications
Dimensions

Case
Plastic molded hardened case for temperature, weather, lighting and ESD protection

Weight Less than one pound

Power
5.5v DC to 14v DC. External AC/DC adapter included.

Telemetry
Baud Rate of 300 – 34400
Automatic baud rate adaptability, speed sensing, flow control and data buffers
Data and fax transmission/reception
Bell 103 and 212A as well as V.21, V.23 V.22A/B CCITT .22, V22bisB.32 VB.32bis, V.34bis, V.FC
MNP-10 compliant for cellular operations
Compliant with CFF68 Bell Core 10-89 ITV K.20 and K.21, UL1459 and 1950
Supports the AT command set with extensions and can operate with industry standard communications software

Protection
Built-in solid-state surge protection EMI/ESO 1000vAC and 1500vpp surge
Earth Ground lug : Assists with lighting and surge protection
Non-volatile internal memory to maintain operating parameters

Data Ports
RS232, DB9 connector
RJ14 Phone port
Operating Temp. Range
Standard 32°f - 122°f (0°c - 50°c)
Optional -40°f - 185°f (-40°c - 85°c)
0-90% relative humidity

http://support.diamondtraffic.com/knowledgemanager/questions/87/