

# GRM 200

outdoor iDirect satellite modem

A low-cost outdoor satellite modem, which combines the features of the high-performance iDirect iQ 200 series, with our innovative design, to deliver a tough modem that is ideal for fixed and mobile solutions

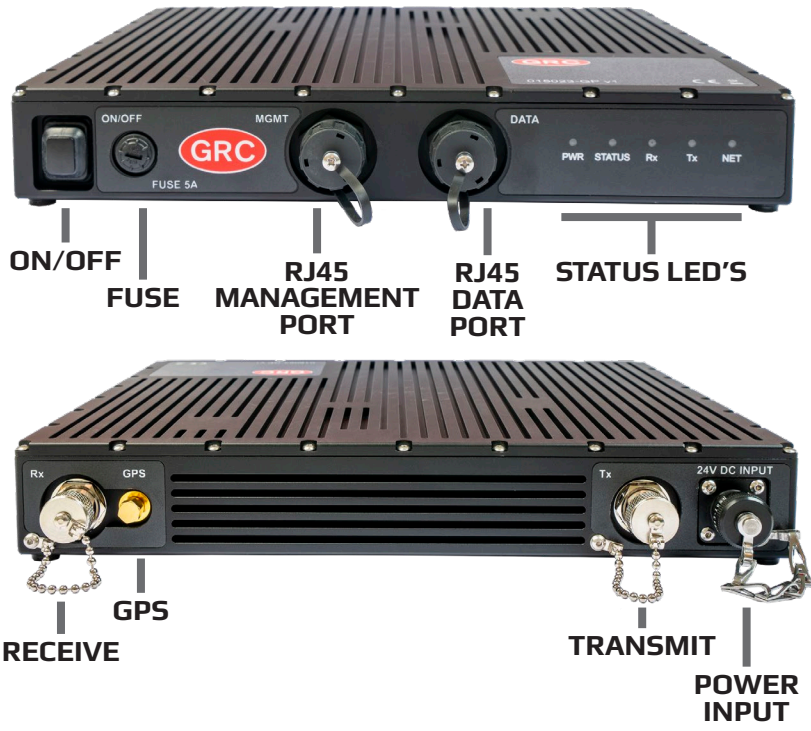


## KEY FEATURES

- iDirect Evolution and Velocity compatible
- Designed for outdoor use
- IP67 rated
- CE Marked
- Lightweight and low power requirements
- Suitable for both fixed and mobile applications
- Security features with 256-bit AES link encryption
- Increased data rates and adaptive TDMA return channel



SECURE SOLUTIONS FOR SATELLITE, LTE, RF, IP NETWORKS AND CLOUD SERVICES



GRM 200 is a low-cost, rugged, outdoor iDirect IQ 200 satellite modem for use in challenging environments.

Developed in conjunction with leading satellite hardware and airtime providers, the GRM (GRC Rugged Modem) series has been tested into iDirect hubs across multiple satellite service provider networks. Supporting both fixed location and mobile applications, it's been extensively trialled on a diverse range of terminals from satcom on-the-move (SOTM), to man portable and 1.3m static dishes.

Compatible with Evolution and iDirect Velocity networks, IP67 rated and CE Marked, GRM modems are designed to meet defence and commercial requirements, while still delivering a cost-effective modem, that's flexible enough to operate on a diverse range of terminals and networks, yet intuitive enough for end users with minimal training.



The GRM family of rugged iDirect Modems, including the GRM 950, 700, 200 and 200 Mini.

## TECHNICAL SPECIFICATIONS

### Mechanical / Environmental

|                       |   |
|-----------------------|---|
| Size                  | 5 x 30 x 27 cm (Height x Width x Depth)   |
| Weight                | 3.3 kg  |
| IP Rating             | IP67  |
| Operating Temperature | -40° to +60°C (-40° to +140°F)  |
| Altitude              | Operational up to 4,572m (15,000 ft)  |
| Humidity              | 95% non-condensing humidity   |
| Input Voltage         | 12-24VDC  |
| Power Consumption     | < 20W   |
| Certifications        | CE Certified, WGS Certified, built to meet FCC, UL, EU and Canadian standards, RoHS compliant |

### Network Configuration (Evolution only and software dependent)

|                  |   |
|------------------|---|
| Compatibility    | Evolution® and iDirect Velocity™ compatible                                     |
| Network Topology | DVB-S2* and DVB-S2X* with Adaptive TDMA Returns (Time Division Multiple Access) |

|              | Downstream<br>DVB-S2X*/ACM                           | DVB-S2*/ACM                 | Upstream<br>A-TDMA       |
|--------------|--|-----------------------------|--------------------------|
| Modulation   | QPSK, 8PSK, 16APSK, 32APSK, 64APSK, 128APSK, 256APSK | QPSK, 8PSK, 16APSK, 32APSK, | BPSK, QPSK, 8PSK, 16QAM* |
| Symbol Rates | 5 to 100 Msps  | 1 to 45 Msps                | 128 ksps to 15 Msps*     |

### Interfaces

|                        |   |
|------------------------|---|
| SATCOM Interfaces      | Tx: L-band/F-Type, 950-2400 MHz, 750<br>Rx: L-band/F-Type, 950-2150MHz, 75 Ω  |
| RF Power Transmit:     | Pmax of +0 dBm to Pmin of -35 dBm   |
| RF Power Receive:      | Max composite wide band receive level:<br>a) -5 dBm for symbol rates ≤ 45 Msps<br>b) 10 dB above wanted signal power level for symbol rates > 45 Msps |
| Minimum Receive Level: | -115+10*log (Fsymb(sps)) single carrier   |

Available BUC Power (IFL) +24V, 2.0A\*\* max available @ connector Tx Out 13, Available LNB Power (IFL) 18, 21V @ 0.5A\*\*, 22kHz tone @ connector Rx in

|                     |  |
|---------------------|--|
| Data Interfaces     | LAN: Dual 10/100/1000 Mbps Ethernet<br>GPS input   |
| Protocols Supported | TCP, UDP, ICMP, DHCP, NAT/PAT, DNS, ROHCv2, RIPv2, IGMPv2, IGMPv3, ICMP, IPv4 (IPv6 over L2o5), L3 |
| Traffic Engineering | QoS, CIR (Static and Dynamic)  |
| Additional Features | Inbound throughput, 256-bit AES Encryption*, OpenAMIP*   |

\* Feature is release and platform dependent  
\*\* Combined Tx and Rx power not to exceed 50W



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