Ground Control

This compact, mid-bandwidth data transfer device offers essential satellite network capability and broad interface options, while drawing very low power. RockREMOTE Mini uses the Iridium Certus 100 airtime service, with upload speeds of 22 Kbps, and download speeds of 88 Kbps. To optimize your use of the space segment, Iridium Messaging Transport (IMT) is available on this device. Switch between IP and IMT as your application requires. Keeping the carrier cost efficient and cost-effective.

Ground Control are experts in the world of remote IoT solutions. The RockREMOTE Mini offers a reliable rugged device for anyone looking to connect a LAN or WAN in remote, challenging locations, potentially low in power supply and with unreliable or zero cellular network coverage. It might be small but it packs a punch! We provide everything you need to access your data in real-time, from anywhere across the globe with a clear view of the sky.

Key Features

- **Low Power**
  Primary design consideration for the Mini. Power consumption in idle 0.25W, and 7.25W average transmit.

- **Rugged & Resilient**
  Rugged & Resilient - IP67 environmental rating, making the Mini suitable for a broad range of extreme conditions at land or sea, in mobile or static usecases.

- **Low Cost**
  The device is offered at a competitive market price, and optional IMT message transfer can help minimize protocol overheads of data hungry devices. Iridium's Certus 100 satellite service provides an established reputable, reliable, low latency satellite service.

- **Integrator Friendly**
  Space saving in size, compact, rugged. The device comes with wired Ethernet and POE capability, optional Serial, and GPIO input/out. Wireless configuration over BLE 5.0 and all remote management functionality for device and data controls is accessable via Cloudloop IoT platform or equivalent functional API. Developer documentation and example coding provided.

Ground Control

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Physical & Environmental

Device Size (LxWxH)	182.10 x 74.49 x 53mm
Weight	550g
Form Factor	Aluminum Casing
Vibration Rating	Mechanical vibration and shock to SAE J1455 when mounted as instructed
Operating Temperature	-40C to +70C, <95% RH
EMC Compliance	CE& FCC & IC (TBC)
Power Cabling	Power included in 2m 12 core IO cable
Iridium Antenna	TNC
Iridium Antenna cable	Various options ranging from 0.5m to 9m
GNSS Antenna connection	SMA

Compute Module

Processor	ARM Cortex M7, 550MHz
Memory	564kB RAM, 1GB Flash
Operating System	FreeRTOS based

Controls & Monitoring

Cloudloop IoT Platform	Provides account, subscription, device and data management tools to ensure your IoT system delivers
Integrator/Developer Support	API for all functions within the Cloudloop Platform. Pre-integrated data destinations. Developer documentation and coding examples
RockREMOTE Dashboard	Wireless configuration using a smart phone app via BLE. Remote configuration via Cloudloop Device Manager
Security	Configurable firewall

Interfaces

Ethernet	Adaptor cable 8 way to RJ45 plug
Serial	RS232 or RS485
Digital - General Purpose I/O	GPIO port 2 inputs, 2 outputs, GPIO group is isolated from the product circuitry. Connection via 12 way cable assembly
Circular 12 Pin	Power, Serial & I/O
Circular 8 Pin	Ethernet (2m terminated cable provided)
SMA Connector To External Antenna	GNSS
TNC Connector To External Antenna	For connection of recommended Certus 100 antenna
SIM Card Slot	Standard (2FF) x 1 Satellite

Electrical / Power

Voltage Required	10-30V DC
Power Consumption	<10mW/30mW (12V/24V) (sleep)
Peak Current Draw	<1.66A@12V, 833mA@24V, 10% duty cycle during Iridium transit

Communications

Iridium Certus 100	TCP/IP: 22Kbps up/88Kbps down
Iridium Messaging Transport (IMT)	Data transfer packet size flexible from 1 to 100,000 bytes
GNSS	GPS, Glonass, Bei-dou, Galileo, QZSS
LAN	10/100 Ethernet PoE capability
WAN	Iridium Certus 100 / IMT
Bluetooth	BLE 5.0
Serial	AT Command set for IMT message exchange

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