Datasheet

Pempek
made for mining

L0MT1401 Oracle RC Flameproof Ex d Radio Control Transceiver 868.7 to 869.2 MHz Russia

The L0MT1401 Oracle RC is a self-contained, flameproof (Ex d) radio control data transceiver supporting radio remote control of mobile mining machinery.

The module communicates with a variety of Pempek manufactured handheld remote control consoles via a 2-way radio data stream. (based on the Narrow-version 866 MHz band)

A single cable entry to the product supplies power and data communications. A range of field bus options are support - including RS-422, Ethernet and Ethernet/IP. A host PLC communicates with the Oracle via field bus to receive key-press commands from the remote handset, and send machine status and data logging information back to the handset.

The PLC can also configure the operating channel.

The L0MT1401 radio frequency configuration makes it suitable for use in Russia.

Note that certification for use in Russia is pending.

Contact your sales representative for more details.

Self-contained, certified, flameproof (Ex d) housing

No external antenna cable required

Antenna is built into the housing of the product

Flexible power supply options (PoE or 24VDC)

Single gland entry for power and data cable

Built in radio control data integrity protection

Supports PLC safety functions such as handset model verification and handset serial number pairing

Simple, easy way to add remote control to any flameproof application

Easy maintenance

Easy configuration

Radio Band: 868.7 to 869.2 MHz

Radio Signal Strength: Less than 100mW
Power Supply: 24VDC

Ambient Temperature: -10$^{\circ C}$ to +60$^{\circ C}$

Ingress Protection: IP 65

Field Bus: RS-422 / Ethernet (Ethernet/IP Available, Contact Sales Representative) Default Firmware: P0TE0001 (RS-422 /Ethernet)

Material
Enclosure is free machining brass.
Enclosure retainer is stainless steel.
Radome is Teflon.

Fasteners: M6 x 50mm x 4

Mass: 7.5kg (16.5lb)

Typical Application

- Underground mining vehicles
- Continuous Miners
- Bolter Miners
- Road Headers
- Longwall Shearers
- Feeder Breakers
- Mobile Bolters
- Shuttle Cars

L0MT1401 Oracle RC Flameproof Ex d Radio Control Transceiver 868.7 to 869.2 MHz Russia

Electrical Characteristics

Supply	
Voltage	24VDC
Wattage MIN	1.2W
Wattage MAX	2.5W

Radio Module	
Supply	5.0VDC @ 115mA / 3.3VDC @ 220mA
Frequency	UHF 2.4GHz / 5.0GHz
Power	100mW
Channels	32 (250KHz Spacing) / 16 (3.0MHz Spacing)
Modulation	Frequency Hopping Spread Spectrum
Range MIN	100 metres "Line of Sight"
Range MAX	500 metres "Line of Sight"
Data Integrity	CCITT CRC (16 Bit)
Bandwidth	250KHz / 3.0MHz @ 115Kbs / 1.5Mbs
Antenna	Internal Passive Loop Antenna
Classification	Transceiver

Communications	
Baud	115Kbs / 1.5Mbs RS-422
Format	8N1
CRC	CCITT 16-bit
Frame	Packet Oriented, Bit Masks
Throughput	T.B.A.

Environmental	
Operating Temperature	Minus 10°C to +55°C
IP Rating	IP67
Humidity	T.B.A.
MTBF	10,000 hours*

Certification	
Australia	Pending
Europe	-
USA	Pending

*Figure cited on usage rate equaling 16 hours per day, 6 days per week, 52 weeks per year where failures are due to manufacturing.

pempek
made for mining

L0MT1401 Oracle RC Flameproof Ex d Radio Control Transceiver 868.7 to 869.2 MHz Russia

∅ 149.0

118.9

88.5

Dimensions (mm)
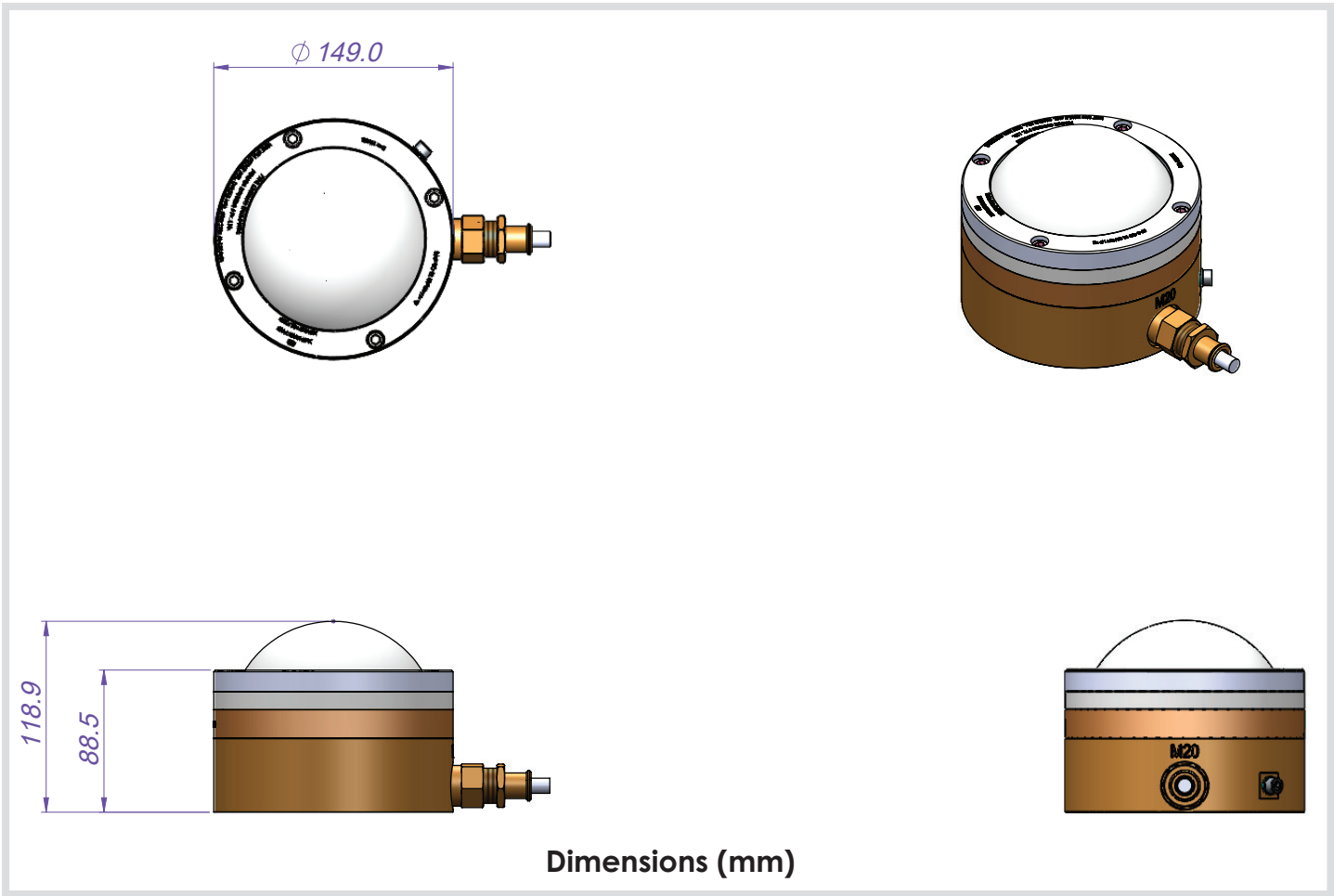
Wiring Specification

PIN	Connector 19mm Ex id Gland Description	Signal
1	24VDC Supply	24VDC Supply
2	24VDC Supply Return	24VDC Supply Return
3	RS-422 TX+	Communications
4	RS-422 TX-	Communications
5	RS-422 RX+	Communications
6	RS-422 RX-	Communications