

## L0MT0804 Oracle RC Flameproof Ex d Radio Control Transceiver ATEX 915MHz 24VDC

The 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 915 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 L0MT0804 model is configured only applications requiring ATEX certification.

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:** 902 to 928 MHz

**Radio Signal Strength:** Less than 100 mW

**Power Supply:** 24VDC

**Ambient Temperature:** -10°C to +60°C

**Ingress Protection:** IP 65

**Field Bus:** RS-422 / Ethernet (Ethernet/IP Available, Contact Sales Representative Default Firmware: POTE0001 (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

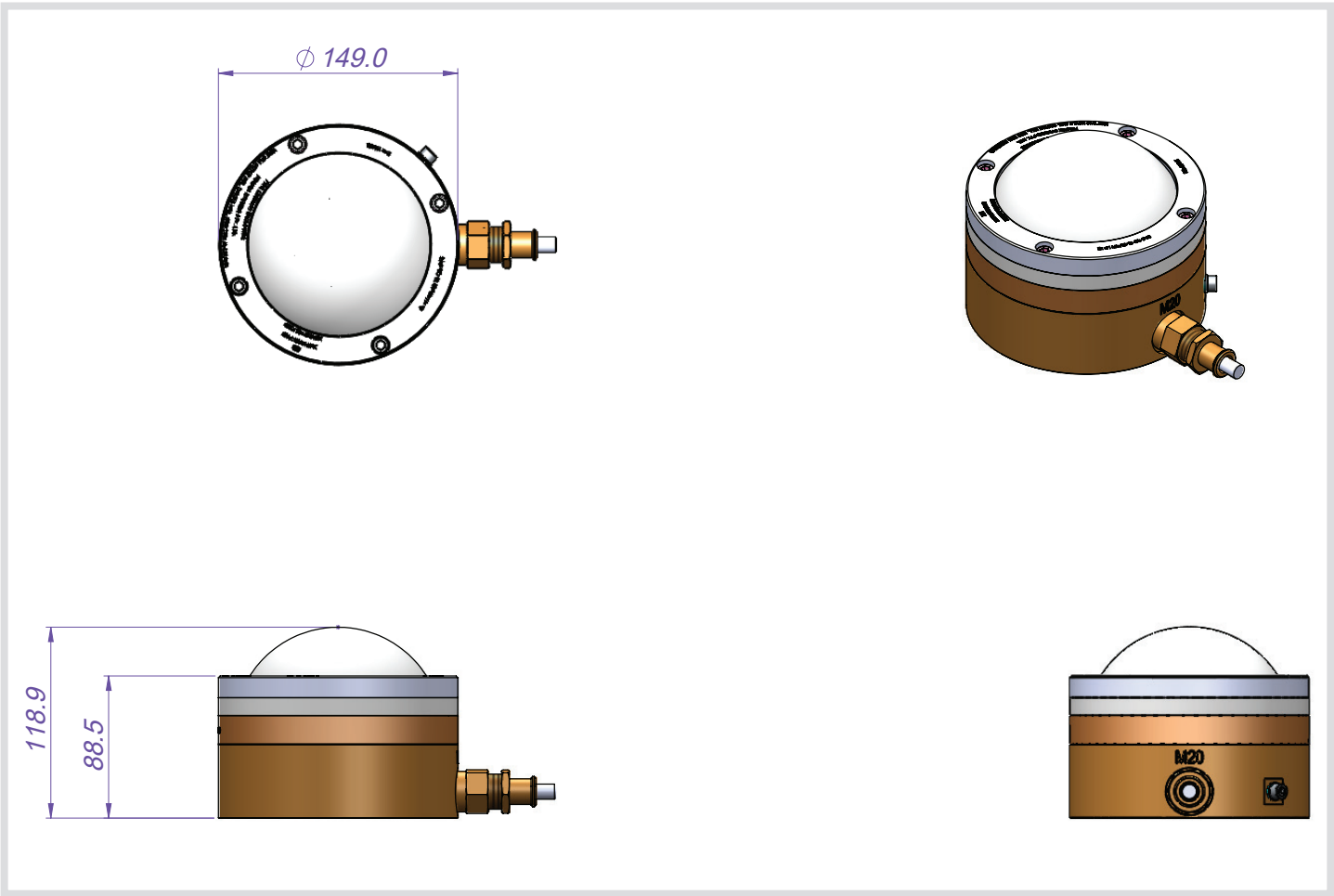
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### Electrical Characteristics

Supply	
Voltage	24VDC
Wattage <sup>MAX</sup>	5W
Radio Module	
Frequency	UHF 902-928MHz PLL SYNTHESIZED
Deviation	+/-20KHz
Transmit Power	+18dBm ±2
Receive Sensitivity	-107dBm @ 40kbps
Bit Rate	2.5Kbits 80Kbits 40Kbits Default
Channels	26
Modulation	Half Duplex NRZ
Range <sup>MIN</sup>	100 metres "Line of Sight"
Range <sup>MAX</sup>	500 metres "Line of Sight"
Channel Spacing	1MHz
Data Integrity	CCITT CRC
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	-20°C + 40°C
Temperature Class	T6
Ingress Protection	IP65
Approvals	
IEC <sup>Australia</sup>	IECEx TSA 07.0016X <sup>Group I/IIb</sup>
MSHA <sup>USA</sup>	18-XPA090007-0
Ingress Protection	IP65

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

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Dimensions (mm)

Wiring Specification

Connector 19mm Ex id Gland		
PIN	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