

LOMT0801 Oracle RC Flameproof Ex d Radio Control Transceiver 915MHz

The LOMT0801 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.

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: IP65

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

Heavy Duty Enclosure:

Self-contained, certified, flameproof (Ex d) housing. Stainless Steel Engraved Facia Rugged Construction

Material

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

Fasteners: $M6 \times 50 \text{mm} \times 4$

Mass: 7.5kg (16.5lb)

Typical Application

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

Datasheet-LOMT0801



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Electrical Characteristics

| Supply | |
|-------------|-------|
| Voltage | 24VDC |
| Wattage MAX | 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 MIN | 100 metres "Line of Sight" | |
| Range MAX | 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. |

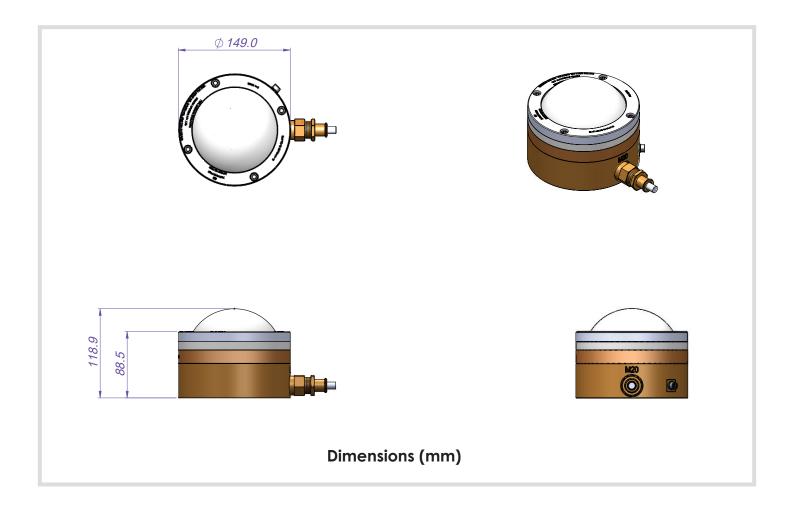
| Environmental | |
|-----------------------|--------------|
| Operating Temperature | -20°C + 40°C |
| Temperature Class | Т6 |
| Ingress Protection | IP65 |

| Approvals | |
|--------------------|--------------------------------|
| IEC Australia | IECEX TSA 07.0016X Group I/IIB |
| MSHA USA | 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. Datasheet-LOMT0801



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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 |