L0WR Wireless Remote Console Muesli Bar - Push Button Handset

The L0WR Longwall Shearer handset is an intrinsically safe (Ex ia) radio control handset providing membrane-style push buttons for radio remote control of mobile mining equipment.

Using the side strap - the unit can be comfortably held in one hand; providing access to control buttons from a single thumb. The internal re-chargeable battery provides up to 16 hours of continuous use between re-charge cycles.

An internal motion sensor provides customisable safety shutdown options - such as console drop, console tilt or sudden impact shock.

Pempek's two-way radio control technology also offers options for collecting and storing machine data while the machine is being controlled.

The data is collected at the end of each shift by the charging station. Data is then available for machine reporting and performance analytics.

The L0WR model has been customized specifically for controlling longwall shearers.

The L0WR features control labels in English.

The L0WR model operates in 915 MHz band.

- Radio Remote Control Console is an intrinsically-safe, hand-held radio remote control handset; designed for remote control and monitoring of mobile mining equipment
- The console features a bi-directional radio data link supporting 2-way communication with the control system fitted to the mining machine. The communication link allows operator key press commands to be sent to the machine for control. The communication link also provides a pathway for machine data to be sent back to the remote console in real time
- The remote console features three (3) multi-colored LEDs to indicate status and diagnostic information to the operator
- A built-in data logging facility allows machine data and console diagnostics to be recorded during the operating shift. This logged data can later be extracted at the surface and used to develop reports on mining production and machine maintenance records
- There are several variants of the L0WR console, each of which has been developed to match a specific type or model of mining machine. Each L0WR model is fitted with a printed keypad membrane that matches the control functions of the machine that it was designed for

Charging

- The L0WR Muesli Bar Remote Console may be charged using an L0SS Remote Console Charging station

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L0WR Remote Console Features

Engraving above is an example only

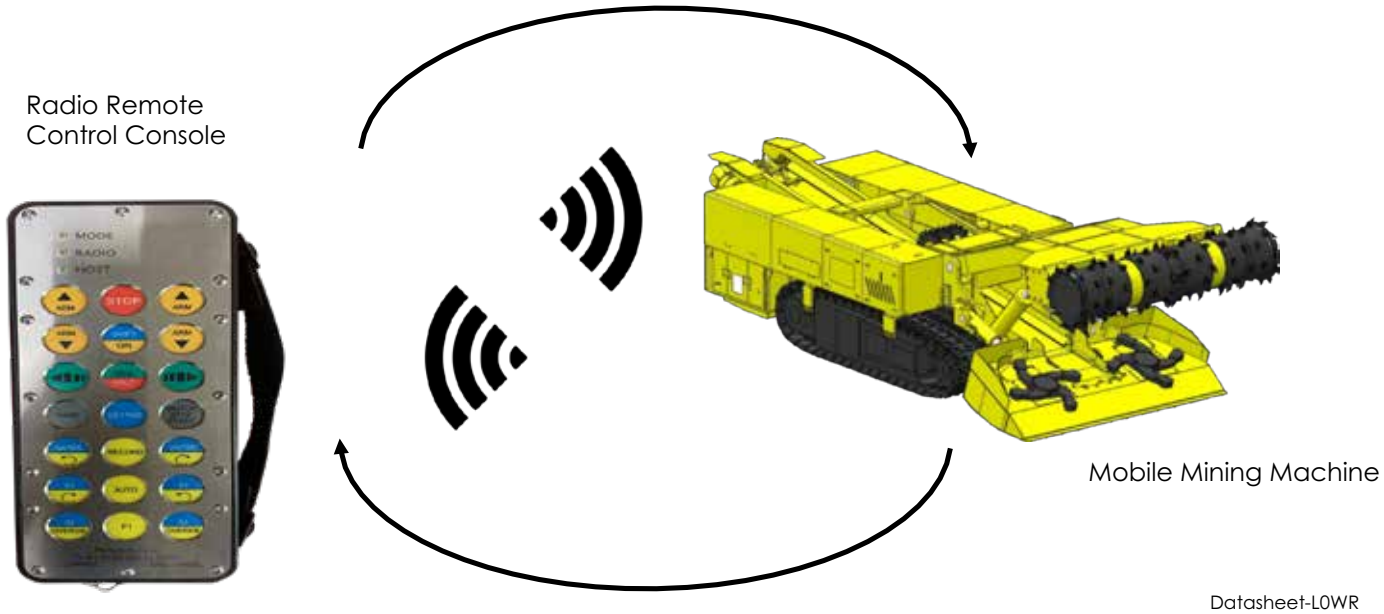
Pempek Remote Control – Principle of operation

The remote console establishes and maintains a 2-way radio data link with the control system on-board the mobile mining machine. By way of this link, any keypress commands made by the operator are sent to the machine for control purposes.

The link also allows the machine to send data back to the remote console. The remote console features an internal "Flash" memory for storing the received machine data. This allows a data logging history to be compiled of the machine performance. Mine management can later retrieve the data logging information from the remote console and use it to generate mining machine performance and reliability reports.

The machine control system can control – by way of the feedback data pathway – one of the diagnostics lights (HOST LED) on the front panel of the console. This allows the machine to alert the operator to different status conditions.

Remote console sends switch information to control machine



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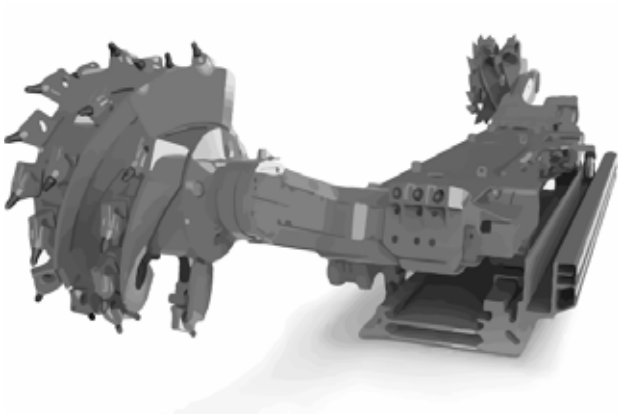
We offer various configuration options to suit, Bolters Miners, Continuous Miners, and Road Headers.

L0WR****
Wireless Remote Console Muesli Bar Push Button Handset For Longwall Shearer



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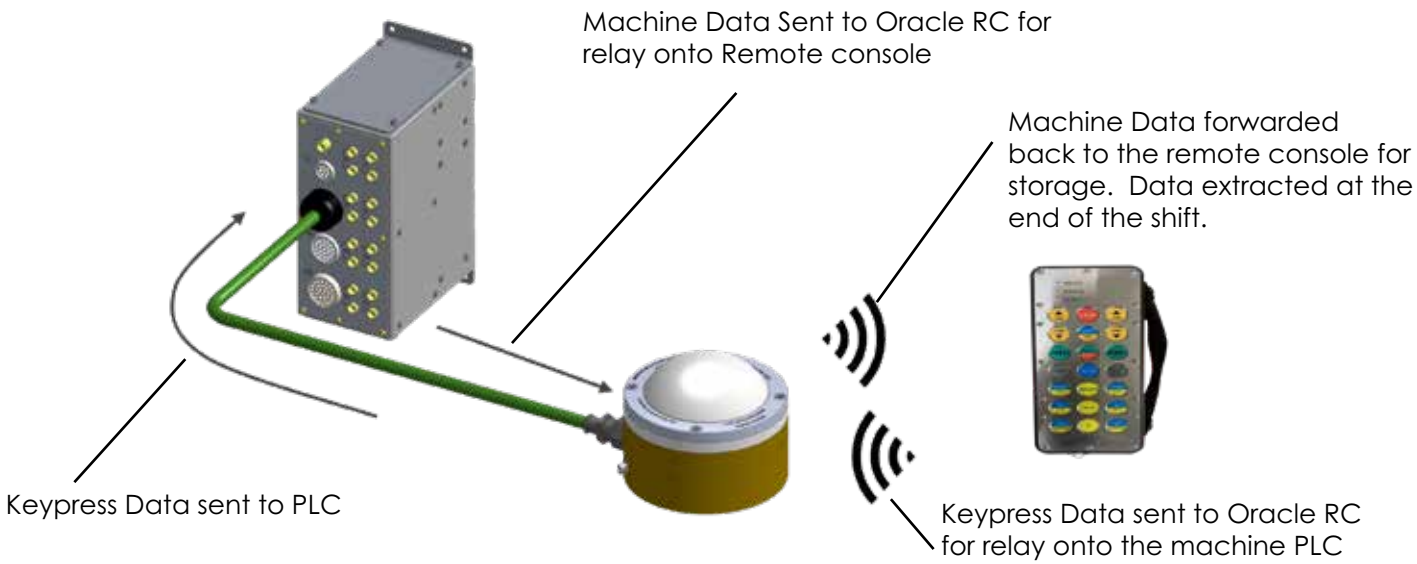
The L0WR Remote Console can be adapted to a wide range of machine control applications. For each new application it is necessary for Pempek to configure a control button assignment to suit the machine to be controlled. This consists of custom membrane keypad printing and allocation of a unique part number (model number) for the configuration.

In order for a machine control system to communicate with the remote console, a Pempek "Oracle" Radio Data Transceiver Base Station is required. The Oracle features a self-contained radio data transceiver that maintains constant communication with the remote console. The Oracle can then be controlled and monitored by the machine control system over an industry-standard fieldbus. Oracle models are available to support the following fieldbuses: RS-422, CANopen, Ethetnet/IP, Ethernet Powerlink and OpenSAFETY (Ethernet Powerlink).

System Integration Options

Machine sends data logging and display information to remote console



Safety Notice

- The advent of remote control has afforded the operator a notable improvement in personal safety
- However, the potential for injury or fatality still exists when operating heavy machinery remotely
- Thus, it is expressly important that the operator observe safe work practice when operating a remote control mining machine
- This will be defined by mine management and should encompass relevant standards (such as MDG5002, or others) where applicable

Safety Recommendations for System Integrators

System integrators will use the L0WR0201 and machine-specific control system hardware and software - in order to support the safe, reliable radio remote control. Pempek Systems strongly recommends that the following suggestions be implemented by system integrators in order to maintain an improved level of functional safety when using the L0WR Remote Console as part of a complete machine control system.

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L0SS0101 Charging Station

The L0WR Remote Console may be charged using an Remote Console Charging station(in the non-hazardous zone only). Connection in hazardous zones using the umbilical cord is only permitted using a Pempek supplied charger which is still under development.

Connect the L0WR Remote Console to the Remote Console Charger via the cable provided with the charger. Charger and remote must be in the non-hazardous zone.

Connect via L0SS Charging Cable

L0MT Oracle RC Flameproof Ex d Radio Control Transceiver

The L0MT 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.