

LOKN Pempek OBP Intrinsically Safe Remote Console

The LOKN Series Radio Remote Console is an AS4240 compliant device designed for the most rigorous of environments. Fully waterproof and impact resistant, the LOKN Series of remote consoles can be used for a variety of industrial remote control applications where safety critical control is required.

Features

- **Industrial Intrinsically Safe Remote Console**

- Exia / ATEX / MSHA Approved
- 12 Dual Function Mil-STD Toggle Switches
- Up to 40 Multi-Purpose Functions
- Integral LED Matrix Display
- Integral Rechargeable Battery

- **Embedded Industrial Microcontroller**

- Low Power PIC Controller
- Integral Flash / RAM
- Advanced Monitoring Software

- **Narrow Band VHF/UHF**

- 8/16 Channels @ 25KHz Spacing
- CCITT CRC Data Protection
- FSK Frequency Modulated
- VHF & UHF Bands
- Up to 100m line-of-sight range.

- Operates Minus 10°C to +55°C
- All industrial components

- **Heavy Duty Enclosure**

- Fully Self Contained IP67 Rating
- Stainless Steel Engraved Facia
- Stainless Steel Switch Guard
- Internal Antenna
- Leather Bound Protective Case
- Rugged Construction



Typical Applications

- Continuous Bolter/Miners
- Continuous Haulage
- Mobile Bolters
- Mobile Roof Supports
- Remote Control Scoops
- Remote Control Loaders
- Any intrinsically safe industrial remote control application

LOKN Pempek OBP Intrinsically Safe Remote Console

Ordering Information

Part Number	Description
LOKN01	Remote Console UHF (Generic 458MHz)
LOKN02	Remote Console VHF (DBT Dash3 174MHz)
LOKN03	Remote Console VHF (DBT 1038 151MHz)
LOKN04	Remote Console VHF (VAB ABM20 151MHz)
LOKN05	Remote Console VHF (Joy Standard 151MHz)
LOKN06	Remote Console VHF (Joy MCS 151MHz)
LOKN07	Remote Console UHF (DBT 1038 458MHz)
LOKN09	Remote Console UHF (DBT 30MB 458MHz)
LOKN10	Remote Console UHF (Waratah 12CM 458MHz)
LOKN11	Remote Console UHF (VAB ABM 458MHz)
LOKN12	Remote Console UHF (VAB Dash3 458MHz)
LOKN13	Remote Console UHF (VAB ABL5 458MHz)
LOKN14	Remote Console VHF (DBT 1036 151MHz)
LOKN15	Remote Console UHF (VAB ABM 458MHz 'Norway')
LOKN16	Remote Console UHF (VAB ABM 458MHz 'United Kingdom')
LOKN18	Remote Console VHF (VAB ABM 151MHz 'Elder')
LOKN19	Remote Console UHF (VAB Mitsui S200 458MHz)
LOKN20	Remote Console VHF (DBT MRS 151MHz)
LOKN21	Remote Console VHF (Generic 151MHz)
LOKN22	Remote Console UHF (VAB Germany Mk1 458MHz)
LOKN23	Remote Console UHF (VAB Germany Mk11 458MHz)
LOKN24	Remote Console UHF (MTI Highwall 458MHz 'USA')
LOKN26	Remote Console UHF (Dash 0/1/2 Series 458MHz 'USA')
LOKN27	Remote Console UHF (VAB ABM 458MHz 'United Kingdom')
LOKN28	Remote Console UHF (VAB ACM10 458MHz 'India')
LOKN30	Remote Console UHF (Joy Phase Equivalent 312/318MHz 'USA')
LOKN31	Remote Console VHF (VAB ABL5 151MHz)
LOKN32	Remote Console UHF (Oak Creek 458MHz)
LOKN50	Remote Console VHF (Mitsui S200 151MHz)
LOKN51	Remote Console VHF (Mitsui S200 151Mhz 'Elder')
LOKN52	Remote Console UHF (Crinum 458Mhz)
LOKN53	Remote Console UHF (Dash 0/1/2 Reverse Function 458MHz 'USA')
LOKN54	Remote Console UHF (VAB ABM 458MHz 'USA')
LOKN55	Remote Console UHF (ARO 458MHz Keyed Lemo 'USA')
LOKN56	Remote Console UHF (Dash 0/1/2 458MHz Keyed Lemo 'USA')
LOKN58	Remote Console UHF (Jeffrey R102 458MHz 'USA')
LOKN59	Remote Console UHF (Jeffrey R101 458MHz 'USA')

LOKN Pempek OBP Intrinsically Safe Remote Console

Electrical Characteristics

Supply	
Voltage	Internal Battery
Battery Type	NiCd 5-Cell 1.2V Matched
Battery Capacity	2.3AH
Battery Current	Actively Limited to 275mA, Fuse / Diode Protected.*
Wattage MIN	690mW
Wattage MAX	750mW

Radio Module	
Supply	6.0VDC @ 90mA
Frequency	VHF (151MHz / 174MHz) UHF (458MHz / 472MHz) PLL Synthesised
Deviation	±2.6KHz
Power	17dBm (±2dBm)
Channels	32 (25KHz Spacing)
Modulation	Frequency Shift Keyed FM (Narrow Band)
Range MIN	100 metres† "Line of Sight"
Range MAX	500 metres "Line of Sight"
Data Integrity	CCITT CRC (16 Bit)
Bandwidth	25KHz @ 1200bps
Antenna	Internal Passive Patch Antenna
Classification	Transmitter

Radio Module	
Baud	1200bps
Format	8N1
CRC	CCITT 16-bit
Frame	Packet Oriented, Bit Masks
Throughput	10Hz

Environmental	
Operating Temperature	Minus 10°C to +55°C
IP Rating	IP67
Humidity	T.B.A.
MTBF	5000 hours‡
Throughput	10Hz

Certification	
Australia	AUS Ex 01.3733X
Europe	BVS 04 ATEX E 088
USA	2G-4317

* Under fault conditions, the actively limiting supply within the battery pack will trip and remain isolated until such time the trip load is removed.

† Figure cited when matched with LOKN Remote Consoles.

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

LOKN Pempek OBP Intrinsically Safe Remote Console

VHF/UHF Transmitter Abstract

The LOKN Remote Console incorporates a shielded VHF or UHF Narrow Band FM transmitter module which can be programmed to operate in either the 151MHz/174MHz (VHF) or 458/472MHz (UHF) spectrums. Transmitter power levels are factory tuned to specification (17dBm nominal) along with voltage controlled oscillator levels to generate wanted frequency.

A dedicated onboard microcontroller directly interfaces with a PLL synthesiser to generate the exact wanted frequency which is selected via dynamic high level UART programming. An NRZ signal is transferred directly from the host processor into the onboard modem which works to modulate the data in the radio frequency carrier.

Mechanical Characteristics

Dimension	Measurement	Description
A	140	Height
B	130	Depth
C	240	Width

Notes

- All dimensions are in millimetres.

Material

- Enclosure is Nylon.
- Facia is stainless steel.

Switches

- Long Lever Stainless Steel Toggle
- Dual Pole Cross Over Contacts
- MIL-S-3950-G

Fasteners

- M3 x 10mm x 4

Mass

- 4.5kg (9.9lb)

