



### **Specifications**

#### **Environmental**

- Receiver Ingress Protection: IP64
- Transmitter Ingress Protection: IP54
- Operating Temperature: -20°C to 45°C (-4°F to 113°F)
- Storage Temperature: -20°C to 70°C (-4°F to 158°F)
- Humidity: 0-95%, non-condensing
- Altitude: Up to 5,000 meters (16,000 feet)
- Outdoor Use: Not for use in wet locations

### Mechanical

• Receiver Weight: 3.8 lbs

• Transmitter Weight: 5.6 lbs

# **Power Supply**

- Transmitter Battery: Rechargeable Li-Ion, 4S2P, 14.4V, 99Wh, 6.9Ah
- Transmitter Max Input Power: 17 Watts at 14.4V
- Receiver Battery: Rechargeable 26650 Li-Ion, 5500mAh, 3.6V
- Receiver Max Input Power: 1 Watt at 3.6V
- Flexible Receiver Battery System: 2 x D-Cell Alkaline

### **Battery Life**

- Transmitter (Li-Ion): 8 hours at 7.0 Watts
- Receiver (Li-Ion 26650): Over 17 hours
- Receiver (2 x D-Cell): Over 8 hours

## **Transmitter Output**

- Output Frequencies: 512Hz, 8.125KHz, 33.025KHz, 82.175KHz (user-selectable)
- Max Output Current: 0.45A
- Max Output Voltage: 90VRMS (user-selectable: 30V, 60V, 90V)
- Max Output Power:
  - o 9.5W for 512Hz, 8.125KHz, 33.025KHz
  - o 0.95W for 82.175KHz (fixed)
- Auto Power Down: User-configurable from 5 minutes to 9 hours, 15 minutes
- Stray Voltage Output Protection: Detects stray 50/60Hz voltages above 25V and automatically shuts off

### **Transmitter Operating Modes**

- **Direct Connection**: Red lead connects to the utility, black lead to a ground rod
- Coupling Clamp Connection: Clamp induces signal magnetically into the utility
- Inductive Connection: Transmitter's internal antenna radiates a magnetic field to energize the utility

# **Receiver Operating Modes**

- Peak & Null Mode: Auto-adjusting gain for peak detection over utilities
- Wide Peak Mode: Detects utilities from far lateral distances or deeper burial
- Narrow Peak Mode: Ideal for congested utility areas
- **Null Mode**: Detects utilities with low field distortion
- Passive Power Mode: Traces utilities passively energized by AC power
- Sonde Mode: Detects sondes and measures depth

### **Receiver Performance**

- Sensitivity:
  - o 512 Hz: 440μA @ 3 ft
  - o 8kHz: 40μA @ 3 ft
  - o 33kHz: 13μA @ 3 ft
  - 82kHz: 13μA @ 3 ft
- Max Depth: 32 ft (10 m) in all modes

### **External Connectors**

- Receiver: None
- Transmitter Accessory Jack: 4-Pole Male Neutrik NL4MPXX

## Compliance

- 47 CFR FCC Part 15, Subpart B
- IEC 61326-1: 2020, EN 61326-1: 2021
- 47 CFR Part 15, Subpart C
- ETSI EN 301 489-1 V2.2.3
- ICES-003, Issue 7
- ETSI EN 301 489-3 V2.1.1
- ICES-GEN, Issue 1
- EN 303 454 V1.1.1
- RSS-GEN Issue 5
- ANSI C63.4: 2014
- RSS-310: Cat 2, Issue 5: 2020
- IEC 61010-1: 2010



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