

CHANNEL POWER SENSOR MONITOR

Ethernet

4042E-PTT



Inputs That Adapt, Alarms That Deliver

The Bird 4042E-PTT is a high-performance RF power monitoring solution engineered for modern multi-channel environments. With 16 Push-To-Talk (PTT) inputs, expanded I/O, and secure Ethernet-based remote management, it delivers seamless integration and real-time insights.

- **Accurate Transmitter Monitoring** – Measures forward power and VSWR at the antenna input for precise tracking.
- **Intelligent Alarm Control** – PTT triggers alarms only during transmission, preventing false alerts.
- **Remote Mastery** – Secure web GUI and SNMPv2 enable real-time visibility and control.
- **Flexible Integration** – User-defined inputs and alarm outputs support custom system connections.

Built on the trusted 4042E platform, the 4042E-PTT ensures accuracy, adaptability, and peak performance for LMR and RF networks.

Smarter Antenna Monitoring for
Maximum System Reliability

KEY SPECIFICATIONS

- **Frequency Range:** 100 to 1000 MHz
- **Power Handling:** Forward: 500 W, Reflected: 10 dB below forward
- **Connectivity:** RJ-45 Ethernet, SNMPv2 compatible
- **PTT Inputs:** 16 terminals (3.3 VDC output)
- **User Inputs:** 2 terminals (3.3 VDC output)
- **HCA Outputs:** 2 terminals, NC/NO configurations
- **Interface:** Web-based GUI with password protection
- **Alarms:** Configurable for forward, VSWR, and user inputs

APPLICATIONS

- **Public Safety:** Reliable operation for emergency communication networks.
- **Telecom:** Continuous diagnostics and alarm management in RF environments.
- **Industrial:** Customizable monitoring for complex RF systems.
- **Medical:** Dependable RF monitoring for healthcare systems.
- **Marine:** Supports maritime communication and navigation.
- **Aviation:** Ensures seamless air traffic and ground communications.
- **Utilities:** Monitors RF systems in infrastructure networks.

Essential Features for Advanced RF Systems

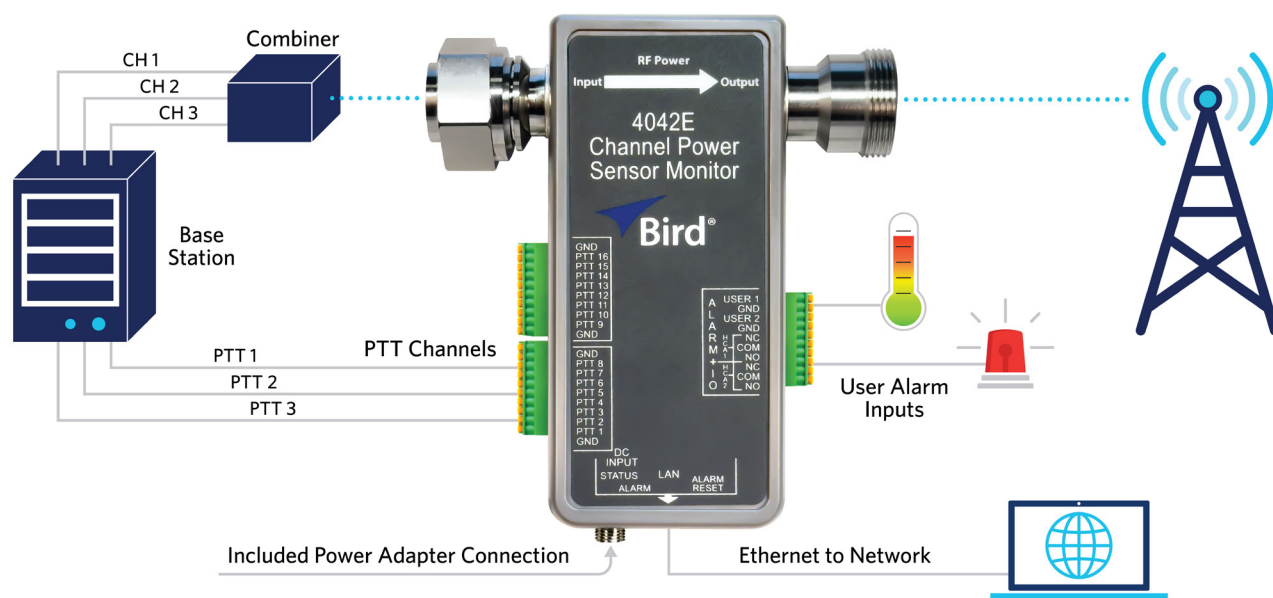
Designed to Elevate Performance and Reliability

The Bird 4042E-PTT excels in applications like Land Mobile Radio (LMR) systems, where multiple transmitters demand continuous, reliable oversight and integrates seamlessly between combiners and antennas to monitor up to 16 channels in real time.

Application Highlights:

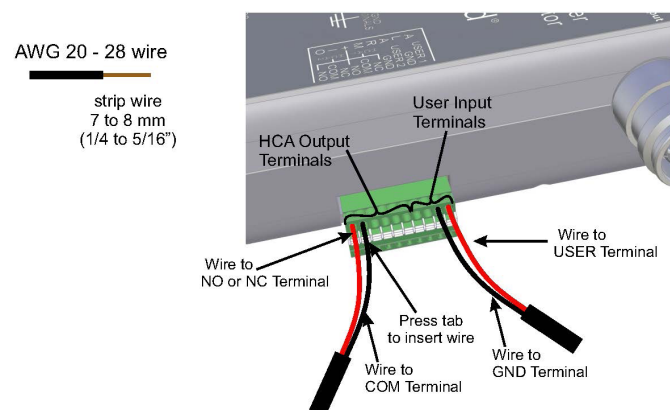
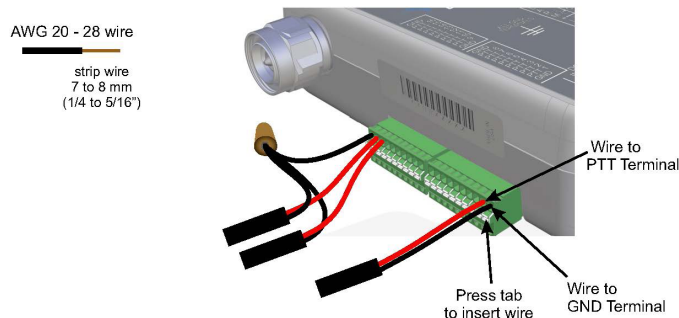
- **LMR Optimization** – Measures power and VSWR at critical points, ensuring each channel performs within spec, even under heavy use.
- **PTT-Driven Efficiency** – Links alarms to transmitter activity across 16 PTT inputs, perfect for intermittent or emergency communications.
- **Networked Deployment** – Connects via Ethernet to central monitoring stations, supporting SNMP for automated alerts and multi-site management.
- **Mismatch Detection** – Tracks reflected power spikes and VSWR deviations, alerting operators to antenna mismatches or combiner faults that could degrade signal quality and disrupt LMR performance.

Enhance RF system reliability with the 4042E-PTT, providing clear visibility into forward power, reflected power, and VSWR at the transmit side of the antenna—ensuring accurate measurements and fast fault detection to maintain optimal performance.



4042E-PTT

Key Features



16 Push-To-Talk PTT Inputs

- Prevent false alarms by ensuring detection only during transmitter activity. Configurable for open/closed logic for precise control.
- Each PTT input corresponds to an individual RF channel, enabling monitoring of single-channel or aggregate power.
- Users can configure the system to trigger alarms per channel or based on total combined power.

Alarm + I/O Connector

User Inputs:

- Two user inputs available for connecting sensors/contacts of the customer's choice.
- Supports automated monitoring.
- Configurable as normally open (NO) or normally closed (NC) connections

HCA Outputs:

- Two outputs for connecting indicators, audible alarms, facility alarm panels, or other devices.
- Provides flexible alarm configurations for various monitoring needs.

Table View Settings Bird 4042E RF Power Sensor Logout admin				
Sensor Name: 4042E-PTT				
Forward	0.0 W			
Reflected	0.0 W			
VSWR	1.00			
Temperature	52.6 °C			
Uptime	0:00:15:02			
User Input	Alarm State			
1	Disabled			
2	Disabled			
Channel Name	Forward Power	Reflected Power	VSWR	PTT State
100 MHz	0.0 W	0.0 W	1.0	Disabled

Web-based GUI

- Allows real-time monitoring of both individual channel power and total aggregate power.
- Configurable alarm thresholds for single-channel or composite power conditions.
- Secure, remote access for system adjustments and diagnostics.

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4042E-PTT

Specifications

MEASUREMENTS

Frequency Range	100 to 1000 MHz
Measurement Type	In-Line, Directional RF True Average Power by Channel, or aggregate Power (by scanning channels)
Channel Bandwidth	6.25, 12.5, 25 kHz selectable
Forward Power Measurement Range	10W to 500W Single Channel or Aggregate Forward Average Power
Reflected Power Measurement Range	1W to 50W Single Channel or Aggregate Reflected Average Power
Impedance	50 Ohms nominal
Insertion Loss	0.2 dB max
Insertion VSWR	1.15 max
Directivity	25 dB min
Peak/Average Ratio	12 dB max
Measurement Accuracy	± 5% of reading

CONNECTORS

Interfaces	Ethernet 10/100/1000BASE-T (auto-sense) Version 2.0/IEEE 802.3
User I/O Connectors Terminal block, push-in (3) 2.5mm pitch, 20-28AWG wire range	16 Push-to-talk (PTT), 2 User Inputs & Ground, 2 NO/NC alarm relay switches
RF Connectors	Input: See selection guide below Output: See selection guide below

SYSTEM

User I/O Push-to-Talk	16 channels, 3.3V,10k internal pull-up, NO or NC logic (UI selectable)
User Input	2 channels, 3.3V, 10k internal pull-up, NO or NC logic (UI selectable)
Alarm Relay	2 Form-C hard-contact alarm relay switches, NO/NC/COM, 110 VDC/125 VAC, 1A Max. contact rating
Power Supply	5.5-25 VDC, 3W max, 0.08 in (2 mm) power jack. 15 VDC adapter included
Operating Position	Any

ENVIRONMENTAL

Humidity	95% max, non-condensing
Altitude	15,000 ft (4,600 m) max
Operating Temperature	0 °C to 50 °C (32 °F to 122 °F)
Storage Temperature	-40 °C to 80 °C (-40 °F to 176 °F)

PHYSICAL

Mounting	Integrated rear threaded bosses
Size (without connectors)	5.4 in L x 3.8 in W x 1.4 in H (137 mm x 97 mm x 36 mm)
Weight	0.6 lb (0.27 kg)

CERTIFICATIONS

Certifications	CE, ROHS
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SENSOR SELECTION GUIDE

Model Number	Frequency Range (ff)	Forward Power (ww)	Communication Interface (xx)	Input Connector (yy)	Output Connector (zz)
4042E-1-ffwwxx-yyzz	43 = 100 to 1000 MHz	05 = 10 W to 500 W	13 = Ethernet	01 = N(f) 02 = N(m) 03 = 4.3/10(f) 04 = 4.3/10(m) 05= 7/16 DIN(F) 06= 7/16 DIN(M)	01 = N(f) 02 = N(m) 03 = 4.3/10(f) 04 = 4.3/10(m) 05= 7/16 DIN(F) 06= 7/16 DIN(M)

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