



ANTENNA & CABLE MONITOR

ACCURATELY DETECTS ANTENNA SYSTEM DEGRADATION AND FAILURES

Bird's Antenna & Cable Monitor is the solution for monitoring your transmission antenna systems. Service providers and self maintained end user's can rely on this monitor and alarm to keep their critical sites up and running. Designed to detect antenna and cable faults that transmitter-internal VSWR monitors may not detect, it also provides accurate in-line power measurement functionality.



- Worldwide systems include Tetra, Cellular and PCS with digital or analog modulation
- Other applications include 3G, AMPS, Broadcast, CDMA, CDMA 2000, DCS, EDGE, Government, GPRS, GSM, iDEN, Industrial, NPSPAC, Microwave, Military, Paging, Public Safety, Rail, SMR, TDMA, Tetrapol, Trunking, UHF, Utilities, VHF, W-CDMA and WLL
- Models available from 136-225 MHz, 225-520 MHz, 470-960 MHz, 960-2400 MHz
- Accurately monitors your antenna and cable system VSWR levels
- Integral coupler with high directivity optimizes measurement accuracy. Measures small changes in antenna VSWR with high feeder and interface losses.
- Provides alarms if an antenna or cable failure should occur
- Also monitors transmitter output power and includes low or high power alarms
- Measures true average power of signals with high peak-to-average characteristics - works with any modulation!
- Measure forward and reflected power as well as VSWR and Return Loss
- The excellent passive intermod performance allows the unit to be inserted into multichannel systems with a single transmit/receive antenna with no degradation of receiver performance.
- Sample ports allow measurement of the forward and reflected signals without the need for system downtime
- Can be rack mounted at output of transmit combiner or linear power amplifier
- Local or remote set-up/operation via RS-232 port and PC software package. (For other telemetry options, such as TCP/IP, contact the factory)

PC Software Tool 7005A970 (Optional Accessory)

<u>Model</u>	<u>Description</u>
7005A970	PC software, displays Antenna & Cable Monitor readings and alarms, controls alarm set points
ACM-RACK	19" rack shelf, mounts up to two Antenna & Cable Monitors
ACM-RACKU	19" rack shelf with universal power supply (100 to 240 VAC, 50 to 60 Hz), mounts up to two +11 to +26 VDC Antenna & Cable Monitors
ACM-SS15	Surge suppressor for 15-pin power and alarm connector, compatible with +11 to +26 VDC or ± 36 to ± 72 VDC Antenna & Cable Monitor
SUBCON-15/M-SH	DB 15-pin connector



RF Measurement and Management in Your World



BIRD® ANTENNA & CABLE MONITOR SPECIFICATIONS

Forward Power Measurement

*Frequency Range:	136 - 225 MHz, 225 - 520 MHz, 470 - 960 MHz, 960 - 2400 MHz
Measurement Range:	2.5 to 100 W, contact factory to inquire about other power measurement ranges
Power Accuracy	± 5% of reading, ± 1 count at calibration frequencies
Frequency Response (band endpoints)	136 - 225 MHz, ±10% 225 - 520 MHz, ±8% 470 - 960 MHz, ±5% 960 - 2400 MHz, ±5%
Insertion Loss:	0.1 dB, 136 - 960 MHz, 0.15 dB 960 - 2400 MHz
VSWR:	1.07, 136 to 960 MHz 1.1, 960 to 2400 MHz, N Connectors 1.1, 960 to 2000 MHz, 7/16 Connectors 1.2, 2000 to 2400 MHz, 7/16 Connectors

Reflected Power Measurement

Directivity:	30 dB, 136 to 960 MHz, 26 dB, 960 to 2400 MHz
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VSWR Alarm Characteristics

Alarm Set Point:	1.3, 1.4, 1.5, 1.6, 1.7, 1.8 to 1
Relay Contact Type:	Dry, Form C, relay contacts, common, normally open, normally closed
Contact Rating:	100 VDC @ 0.5 A
Visual Alarm:	Red LED will illuminate to indicate alarm
Stimulus:	VSWR set point exceeded, response time proportional to overload
Reset:	Local Mechanical reset switch Remote input (Reset if VDC is 0 to +0.8 volts)

Monitor Ports

Connectors:	Female N, TNC or BNC
Coupling:	-63 dB approx., Subject to changes in full-scale power

Interface Port

Connector:	Female DB-9, compatible with IBM PC AT serial port
Protocol:	Serial RS-232, 9600 baud, no parity, 8 data bits, 1 stop bit, no handshake

Physical and Environmental Specifications

General:	ThruLine® sensor for direct insertion in 50-ohm line
RF Connectors:	N or 7/16 DIN, see chart below
Maximum Line Section Power:	Dependent on frequency and connector See chart below
Alarm/Power Connector:	15-pin male "D" connector
Operating Temperature:	0°C to 50°C
Storage Temperature:	-20°C to 80°C
Humidity:	0 to 95% maximum (non-condensing)
Altitude:	Up to 3000 meters above sea level
Passive Intermodulation	
Products:	Less than -130 dBc
Power Requirements:	+11 to +26 VDC or ±36 to ±72 VDC
Dimensions:	4.75" (121 mm) wide (7.55" (192 mm) with connectors), 4.2" (107 mm) high, 1.06" (27 mm) deep
Weight:	Less than 2 lbs. (0.9 kg)
EMC:	European Standard EN 61326-1:1997 + Addendums A1: 1998 and A2:2001 - Electrical equip. for measurement, control and laboratory use
Safety:	European Standard EN 61010-1:2001 - Safety Requirements - Electrical equip. for measurement, control and laboratory use - ECM Requirements.

MODEL STRUCTURE

ACM					
Freq. Range (MHz)	RF Input Conn.	RF Output Conn.	Monitor Port Conn.	Input Voltage	
L1 = 136 - 225 MHz,	NM= N Male	NM= N Male	N = N Female	L= + (11 to 25) VDC	
L2 = 225 - 520 MHz,	NF = N Female	NF = N Female	T = TNC Female	H= ± (36 to 72) VDC	
M = 470 - 960 MHz,	DM = 7/16 DIN Male	DM = 7/16 DIN Male	B = BNC Female		
H = 960 - 2400 MHz	DF = 7/16 DIN Female	DF = 7/16 DIN Female			

