

Accutech BR20

DIN Rail Mounted Base Radio (with optional long haul radio)

Features:

- Accutech base radio
- Optional long-haul Trio K-Series radio
- DIN rail-mounted metal enclosure
- Support for max. 100 Accutech field units
- License-free 900MHz band communication
- Secure frequency-hopping, spread-spectrum transmission
- LCD for base radio configuration
- CSA Class I, Div 2 rating
- 3-Year Warranty (parts and labor)

The Accutech BR20 base radio bridges the price and performance gap by providing both wireless data links to Accutech field units in its standard configuration and long-haul links to centralized data collection sites with an optional Trio K-Series data radio; all within a robust, DIN-rail mounted metal enclosure. Secure, license-free 900MHz, spread-spectrum technology is used throughout with a full suite of hardware options and configuration and diagnostics tools available to minimize maintenance costs and optimize operation.

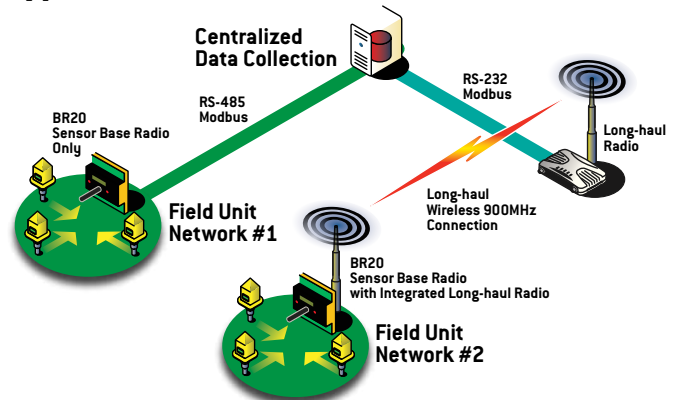
Expensive, hard-wired sensor installations are eliminated thanks to the easy-to-install-and-configure BR20 which provides process instrumentation data from field units through a wireless connection. The BR20 is configured locally via an LCD/keypad or remotely with Accutech Manager, which also acts as a user-friendly environment for wireless network diagnostics and management of the Accutech network. A wide range of field units are supported with a maximum of 100 possible per base radio network.

The optional integrated long-haul Trio radio shares all the features of Trio K-Series radios, including RS-232 and RS-485 user interfaces, channel-sharing, collision-avoidance and support for leading industrial communication protocols. A separate system port eliminates the need to interrupt critical data flow during configuration and diagnostics sessions which are handled by the Trio TView+ application.

The BR20 can be used to collect Accutech field unit data alone or as part of a larger system with the optional long-haul radio. The product is powered by readily-available 11-30VDC and is certified Class I, Div 2, Groups A, B, C and D for installation in hazardous locations.



Typical Connections



Accutech Base Radio

Functional																			
Location	Interfaced with RTU/PLC or PC																		
Radio Frequency Range	902-928MHz license-free band																		
RF Channel Data Rate	32,000, 64,000, 128,000 or 256,000 bps																		
Features																			
Configuration Interface	Local: LCD and Keypad Remote: Accutech Manager, Windows™-based GUI software, providing network-wide fault and performance-management features and field unit configuration capabilities																		
RF Characteristics	<ul style="list-style-type: none"> ■ 902MHz - 928MHz band (FCC/IC) ■ 915MHz - 928MHz band (Australia) ■ 915MHz - 921MHz band (New Zealand) ■ Up to 5000ft (~1500m) typical range with obstructions ■ The RF module in each radio is individually tested and calibrated over the full temperature range to ensure reliable wireless operation 																		
Output Options	RS-485 digital communications with conversion to RS-232 or USB for interface with PC or server and Accutech Manager Serial Modbus RTU over RS-485 Modbus RTU in TCP or UDP (with optional third-party converter)																		
Self-Diagnostics	Contains extensive self-checking software and hardware that continuously monitors operation. Any sensor or device parameter that is out of spec is identified and reported.																		
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Warranty	3-Year parts and labor																		

Long-Haul Trio K-Series Radio (Must be ordered at time of purchase. Radio cannot be retrofitted in field)

Functional	
Location	Master, remote, repeater or network-bridge
Radio Frequency Range	<ul style="list-style-type: none"> ■ 902MHz - 928MHz band (FCC/IC) ■ 915MHz - 928MHz band (Australia) ■ 915MHz - 921MHz band (New Zealand)
RF Channel Data Rate	32,000, 64,000, 128,000 or 256,000 bps
Features	
Configuration Interface	TView+: Windows™-based GUI software, providing configuration, network management and diagnostics
Radio Frequency Accuracy	± 2.5ppm
Transmitter	Power: 0.01W - 1W (+30 dBm) in 0.5 dB steps Protection: Over-temperature and reverse power Modulation: 2 Level GFSK Tx Key-up Time: <50µS
Receiver	Selectivity: Better than 50dB Intermodulation: Better than 65dB
Connections	Data Ports: 2 x RJ45 female port wired as DCE (modem) System/Diagnostics Port: 1 x RJ45 for diagnostic, configuration and re-programming Antenna: Two SMA Terminations: 5-pole removable terminal block, 12-22AWG, 15A contacts 8-pole RJ-45 style jacks LED Display: Four Bi-color Red/Green LEDs: Power/Tx, Sync/NoRx, Port A Rx/Tx, Port B Rx/Tx
Modem	Data Serial Port A: RS-232 RJ45 (DCE - RxD, TxD, CTS, RTS, DTR, DCD) Or RS-485 RJ45 (2 wires, Termination DIP switch-enabled) Data Serial Port B: RS-232 RJ45 (DCE - RxD, TxD) RxD and TxD are 3.3V CMOS signals. (Shared with the System/Diagnostics connection) System/Diagnostics Port: RS-232 RJ45 (DTE - RxD, TxD) RxD and TxD are 3.3V CMOS signals. (Shared with Push to Talk (PTT) input.) (RJ45 Shared with the Port B connection.) Flow Control: Hardware or 3 wire interface Bit Error Rate: <1 x 10 ⁻⁶ @ -109dBm Encryption: 256-bit AES encryption (within North America/Australia only) Collision Avoidance: Channelshare™ collision avoidance system Multistream™: Simultaneous delivery of multiple data protocols
General	Transmit Current: 500mA (at 13.8VDC nominal) Receive Current: <120mA (at 13.8VDC nominal) RSSI Output: Receive Signal Strength Indication analog output available on P1 connector Factory Default Input: Restore Factory Defaults available on P1 connector 1PPS: 1PPS (pulse per second) input available on P1 connector Push-to-Talk: PTT input available on Port B/DIAG COM port connector. DIP Switch-enabled Power Supply Voltage Monitor: Yes Operating Modes: Half and Full duplex
Diagnostics	<ul style="list-style-type: none"> ■ Network-wide operation from any remote terminal ■ Non-intrusive protocol - runs simultaneously with the application ■ Over-the-air re-configuration of all parameters ■ Storage of data error and channel occupancy statistics ■ Built-in error rate testing capabilities
Approvals and Certifications	IC: RSS 139 (RSS 210) ACA: AS1468-2003 Hazardous Locations - North America: cCSA _{US} Non-Incendive Electrical Equipment for use in Class I, Division 2 Hazardous Locations per CSA Std C22.2 No. 213-M1987 / UL1604 (3rd Ed.) Temperature Code T4 Safety: CAN/CSA Std. C22.2 No.0-M91 (R2001) and CSA C22.2 No. 142-M1987 and UL508 (17th Ed.) in Canada and USA. Digital Emissions: FCC 47 CFR Part 15, Subpart B, Class A Verification ICES-003 Issue 4 (Canada) AS/NZS CISPR 22: 2996 (Australia/New Zealand) C-Tick compliance. Registration number N15744.
Warranty	3-Year parts and labor

AC-BR20-1000 represents a typical part number

Model	Type
AC-BR20	Base Radio with optional long-haul radio
Code	Select: Accutech RF Module Type
1	902MHz - 928MHz band (FCC/IC)
2	915MHz - 928MHz band (Australia)
3	915MHz - 921MHz band (New Zealand)
Code	Select: Long Haul Radio
0	None
900MHz Frequency Band	
B	Trio Spread Spectrum Radio with encryption, 902-928MHz (FCC/IC)
C	Trio Spread Spectrum Radio with encryption, 915-928MHz (Australia)
D	Trio Spread Spectrum Radio, 915-928MHz (Brazil)
E	Trio Spread Spectrum Radio, 921-928MHz (New Zealand)
2.4 GHz Frequency Band	
K	Trio Spread Spectrum Radio with Encryption, 500mW (Canada, USA & Australia)
L	Trio Spread Spectrum Radio, 500mW (Outside of Europe, Canada, USA & Australia)
Code	Future Option
0	None
Code	Future Option
0	None

