

Accutech AI10 & AV10 Wireless Multi-Input Field Unit

Accutech field units eliminate costly hard wired installations by providing an easy-to-install and secure wireless link between field-based process instrumentation and control infrastructure. They are intended for use in extreme environments where typical wired communication is not feasible or economical. Field units are configured locally through a LCD/keypad or remotely with Accutech Manager, which also provides a user-friendly environment for wireless network diagnostics and management. A wide range of process types are supported with a maximum of 100 field units possible per base radio network.

AI10 & AV10 Features:

- Dual analog inputs
- Milliamp and voltage analog input variants
- Dual contact-closure digital inputs

Ideal for adding wireless capabilities to existing or new wired measurement sensors such as radar tank gauges, flow meters and chemical analyzers, the Accutech AI10 and AV10 wireless multi-input field units provide dual analog inputs in either current (4-20mA) or voltage (0-10V) configurations. Each unit also includes two discrete contact closure inputs for simple apparatus use.

All Accutech field units automatically report field data to a centralized Accutech base radio over distances of up to 5000ft (1524m). Each field unit is self contained, featuring an integrated 900MHz (license-free band), frequency hopping, spread-spectrum transceiver and antenna, and long-lasting battery for up to 10 years of maintenance-free operation. Accutech field units are housed within a compact and weather-proof NEMA 4 enclosure with options for a NEMA 4X or explosion-proof enclosure, remote sensor and remote antenna on select models. Field units are available in a wide range of certifications and are protected by an industry-leading 3-Year warranty (parts and labor).



AI10 & AV10 Specifications

| Functional | |
|--|---|
| Sensor Type | Multi-Input |
| Location | Field Unit |
| Frequency Range | 902-928MHz |
| Power | Integrated battery |
| Features | |
| Inputs | <ul style="list-style-type: none"> Two 4-20mA inputs sharing a common ground and two discrete contact closure inputs (AI10) Two 0-10 V inputs sharing a common ground and two discrete contact closure inputs (AV10) |
| Input Characteristics | <ul style="list-style-type: none"> 10Ω impedance, analog (AI) 100kΩ impedance, analog (AV) |
| Accuracy | <p>± 0.1 % of Full-scale reading at reference conditions Ambient Temperature Effect = ± 0.01% of reading per °C</p> |
| Sampling and Transmission Characteristics | <p>The Multi-Input Field Unit samples analog signals (4-20mA or 0-10V) at regular intervals. The data may then be transmitted to the Base Radio for centralized monitoring and data acquisition.</p> <p>The user specifies how frequently the process is monitored and how often data is transmitted.</p> <ul style="list-style-type: none"> Input 1 and Input 2 – user configured low rate and high rate Conditions Sampling rate – user selectable from 1 to 60 seconds (low rate) and from 1 to 30 seconds (high rate) Transmission rate – user selectable from 1 second to 60 seconds (low and high rate) <p>Accutech Manager can be used for real-time monitoring of the process information. The user can set thresholds to represent “alarm” or abnormal conditions.</p> |
| RF Characteristics | <ul style="list-style-type: none"> 902MHz - 928MHz band (FCC/IC) 915MHz - 928MHz band (Australia) 915MHz - 921MHz band (New Zealand) The RF module in each radio is individually tested and calibrated over the full temperature range to ensure reliable wireless operation |
| Self-Diagnostics | <ul style="list-style-type: none"> Low battery alarm – indicates the need to replace the battery (approximately one month warning) 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 |
| General | |
| Operating Ambient Environment: | <ul style="list-style-type: none"> -40° to +185°F (-40° to +85°C) electronics -4° to +158°F (-20° to +70°C) display (full visibility) -40° to +185°F (-40° to +85°C) display (with reduced visibility) Humidity: 0 to 95 %, non-condensing |
| Power: | <ul style="list-style-type: none"> Self-contained power One ‘C’ Cell Up to ten (10) year battery life (depends on sample rate and RF-update rate) |
| Materials of Construction: | <ul style="list-style-type: none"> Aluminum junction box GE Lexan® cover V-0 rating and UV stable |
| Operating Shock and Vibration: | Certified per IEC EN00068 2-6 (vibration) and 2-27 (shock) |
| Random Vibration Characteristics: | Certified to withstand 6 g's, 15 minutes per Axis from 9 – 500Hz |
| Electromagnetic Compatibility Safety Certifications: | <ul style="list-style-type: none"> Operates within specification in fields from 80 to 1,000MHz with field strengths to 30V/m Meets EN 50082-1 general immunity standard and EN 55011 compatibility emissions standard Explosion Proof: <ul style="list-style-type: none"> Div 1: CSA - Class I, Div. 1, Groups A, B, C & D; Class II, Div. 1, Groups F & G; Class III, Div. 1 Div 2: CSA - Class I, Div. 2, Groups A, B, C and D; Class II, Div. 2, Groups F and G; Class III Intrinsically Safe: <ul style="list-style-type: none"> CSA - Exia IIC; AEx ia IIC: Class I, Div. 1, Groups A, B, C & D; Class II, Div. 1, Groups E, F & G; Class III, Div. 1 FM Class T4 for max operating temp ≤ 185°F (85°C) CSA Temp Code T3, operating temp ≤ 185°F (85°C) CSA Class I, Div 2 Temp Code T4, operating temp ≤ 185°F (85°C) |

AI10

AC-AI10-TG11N00-A represents a typical part number.

| Model | Type |
|--------------|---|
| AC-AI10 | Dual 4-20mA input and dual contact-closure digital input Field Unit |
| Code | Select: RF Module Type |
| T | 902MHz - 928MHz band (FCC/IC) |
| D | 915MHz - 928MHz band (Australia) |
| N | 915MHz - 921MHz band (New Zealand) |
| Code | Select: Safety Rating |
| G | General Purpose (non-hazardous locations) |
| | Explosion Proof Div 1 |
| A | CSA - Class I, Div. 1, Groups A, B, C & D; Class II, Div. 1, Groups F & G; Class III, Div. 1 |
| | Explosion Proof Div 2 |
| E | CSA - Class I, Div. 2, Groups A, B, C and D; Class II, Div. 2, Groups F and G; Class III |
| | Intrinsically Safe |
| J | CSA - Exia IIC; AEx ia IIC; Class I, Div. 1, Groups A, B, C & D; Class II, Div. 1, Groups E, F & G; Class III, Div. 1 |
| Code | Select: Housing |
| 1 | NEMA 4 - Available with general purpose or intrinsically safe ratings |
| 2 | Aluminum - Available with all ratings. Required for explosion-proof safety rating |
| Code | Select: Battery Pack |
| 1 | One 'C' Cell |
| Code | Future Option |
| N | None |
| Code | Select: Integral Antenna or Cable & Connector Interface |
| 00 | Integral Antenna with Explosion Proof Antenna Cover (meets explosion-proof Div 1/ Div 2 & intrinsically safe rating) |
| 01 | Integral N-Male connector for Remote Antenna (meets explosion-proof Div 2 & intrinsically safe rating) |
| 10 | 10ft. Cable with N-Male connector for remote antenna configurations (meets explosion-proof Div 2 & intrinsically safe rating) |
| 25 | 25ft. Cable with N-Male connector for remote antenna configurations (meets explosion-proof Div 2 & intrinsically safe rating) |
| Code | Select: Junction Box |
| A | No Junction Box (exposed lead wires) |
| B | NEMA 4 - Aluminum Rear Entry |
| C | NEMA 4 - Epoxy Coated Cast Aluminum Rear Entry |
| D | NEMA 4X - Stainless Steel |
| E | Explosion-Proof |

AV10

AC-AV10-TG11N00-A represents a typical part number.

| Model | Type |
|--------------|---|
| AC-AV10 | Dual 0-10 volt input and dual contact-closure digital input Field Unit |
| Code | Select: RF Module Type |
| T | 902MHz - 928MHz band (FCC/IC) |
| D | 915MHz - 928MHz band (Australia) |
| N | 915MHz - 921MHz band (New Zealand) |
| Code | Select: Safety Rating |
| G | General Purpose (non-hazardous locations) |
| | Explosion Proof Div 1 |
| A | CSA - Class I, Div. 1, Groups A, B, C & D; Class II, Div. 1, Groups F & G; Class III, Div. 1 |
| | Explosion Proof Div 2 |
| E | CSA - Class I, Div. 2, Groups A, B, C and D; Class II, Div. 2, Groups F and G; Class III |
| | Intrinsically Safe |
| J | CSA - Exia IIC; AEx ia IIC; Class I, Div. 1, Groups A, B, C & D; Class II, Div. 1, Groups E, F & G; Class III, Div. 1 |
| Code | Select: Housing |
| 1 | NEMA 4 - Available with general purpose or intrinsically safe ratings |
| 2 | Aluminum - Available with all ratings. Required for explosion-proof safety rating |
| Code | Select: Battery Pack |
| 1 | One 'C' Cell |
| Code | Future Option |
| N | None |
| Code | Select: Integral Antenna or Cable & Connector Interface |
| 00 | Integral Antenna with Explosion Proof Antenna Cover (meets explosion-proof Div 1/ Div 2 & intrinsically safe rating) |
| 01 | Integral N-Male connector for Remote Antenna (meets explosion-proof Div 2 & intrinsically safe rating) |
| 10 | 10ft. Cable with N-Male connector for remote antenna configurations (meets explosion-proof Div 2 & intrinsically safe rating) |
| 25 | 25ft. Cable with N-Male connector for remote antenna configurations (meets explosion-proof Div 2 & intrinsically safe rating) |
| Code | Select: Junction Box |
| A | No Junction Box (exposed lead wires) |
| B | NEMA 4 - Aluminum Rear Entry |
| C | NEMA 4 - Epoxy Coated Cast Aluminum Rear Entry |
| D | NEMA 4X - Stainless Steel |
| E | Explosion-Proof |

