# Accutech SI10
## Wireless switch-input field unit

Schneider Electric

The Accutech™ SI10 wireless switch input field unit determines the state of contact switches without running wiring in the field. Two switch contacts operate with a debounce filter or as a counter by counting contact state changes up to 5Hz. Two optional switch outputs* may be added for switching external power sources up to 1A at 30V.

Accutech field units automatically report field data to a centralised Accutech base radio over distances of up to 3000ft (~1000m). Each field unit is self-contained, featuring an integrated 900MHz or 2.4GHz (license-free band), frequency hopping, spread-spectrum transceiver and antenna, and long-lasting battery that offers 5+ years of maintenance-free service (up to 10 years depending on data rates and battery options). Accutech networks are highly scalable with the possibility of 100 field units per base radio and 256 base radios per installation. Accutech field units are housed within a weather-resistant NEMA 4X enclosure with options for a remote sensor and remote antenna on select models. Field units are available in a wide range of certifications and come with a 3-Year warranty (parts and labor).

# Product Data Sheet Accutech SI10
# Specifications

| > | Accutech SI10 |
|---|---|
| **Functional** | |
| Sensor Type | Switch-Input with optional Switch Outputs* |
| Location | Field Unit |
| Frequency Range | 900MHz and 2.4GHz license-free bands |
| Power | Integrated battery |
| Network Capacity | • Max. 100 field units per base radio<br>• Max. 256 base radios per network |
| **Features** | |
| Inputs | Two contact closures. One or both inputs may be used in counter mode. (For installation in hazardous areas, the contacts must be simple devices with no energy storage capability). |
| Input Characteristics | • Max. switch impedance 1.0kΩ<br>• Input Isolation between Input 1 to Input 2 = 20kΩ<br>• The counter inputs support a maximum input frequency of 5Hz with a 50% duty cycle. The input must be in a state for 100ms for the state to be recognised. Detection of rising or falling edge or both edges. |
| Outputs* | • 2: optional switch outputs. Outputs are dry contact; external power is required for equipment being controlled.<br>• Max. switching up to 1A at 30V<br>• Remotely controlled by writing data to base radio<br>• Configurable default and power-up state |
| Remote Configuration Interface | Accutech Manager, Windows®-based GUI software, providing network-wide monitoring and performance-management features and field unit configuration capabilities. |
| Local Configuration Interface | • Integrated LCD with membrane-switch buttons.<br>• Display cycles through Switch 1, 2 and error messages, if applicable<br>• Configure RF parameters locally using membrane-switch buttons |
| RF Characteristics | 900MHz:<br>• 902 to 928MHz Frequency Hopping Spread Spectrum (FHSS), FCC certified ISM license-free band<br>• 915 to 928MHz (Australia)<br>• Data Rates: 4,800, 19,200 or 76,800bps<br>• 0.4W maximum<br>2.4GHz:<br>• 2400 to 2483.5MHz ISM license-free band Frequency Hopping Spread Spectrum (FHSS) Radio<br>• Data Rates: 50/100kbps (FSK Modulation)<br>• Typical Electrical Transmit Power: +10.6dBm<br>• Typical Receive Sensitivity (0.1% BER): - 102dBm @ 50kbps, - 99dBm @ 100kbps<br>• Typical CW Receiver Blocking Rejection: 64dB for CW @ +/- 5MHz, 74dB for CW @ +/- 30MHz |
| Self-Diagnostics | • Low battery notification – indicates the need to replace the battery (approximately one month advance notification).<br>• Contains 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 | • -40 to +85°C (-40 to +185°F) electronics<br>• -40 to +85°C (-40 to +185°F) display (below -20°C LCD visibility reduced)<br>• Humidity: 0 to 95%, non-condensing |
| Power | • Self-contained power<br>• 1: D Cell, Lithium Thionyl battery<br>• Battery life up to ten years of service, depending on configuration |
| Physical Characteristics: | • Fittings: 316L Stainless Steel<br>• Epoxy coated Aluminum enclosure |
| Operating Shock and Vibration | Tested per IEC 60068-2-6 (vibration) and 2-27 (shock) |
| Electromagnetic Compatibility | Operates within specification in fields from 80 to 1,000MHz with field strengths to 30V/m. Meets IEC 61000-6-2 General Immunity Standard and IEC 61000-6-4 compatibility emissions standard |
| Certifications | North America HAZLOC:<br>• cCSAus<br>• Intrinsically Safe: Exia IIC; AEx ia IIC<br>• Class I, Div. 1, Groups A, B, C & D, T4<br>• Class II, Div. 1, Groups E, F and G, T3<br>• Class III, T3.<br>• Class 1, Zone 0, AEx ia IIC, T3<br>• Class I, Div. 2, Groups A, B, C & D, T4<br>• Class II, Div. 2, Groups F and G, T4<br>• Class III, T4.<br>• Explosion Proof:<br>• Class I, Div. 1, Groups A, B, C & D; T4<br>• Class I, Div. 2, Groups A, B, C & D; T4<br>ATEX/IECEx HAZLOC:<br>• LCIE<br>• Intrinsically Safe: Ex ia IIC T3<br>• Flame Proof: Ex d IIC T4.<br>EMC & Radio:<br>• North America : FCC , IC<br>• Europe: CE Mark (R&TTE)<br>• Australia: C-Tick |

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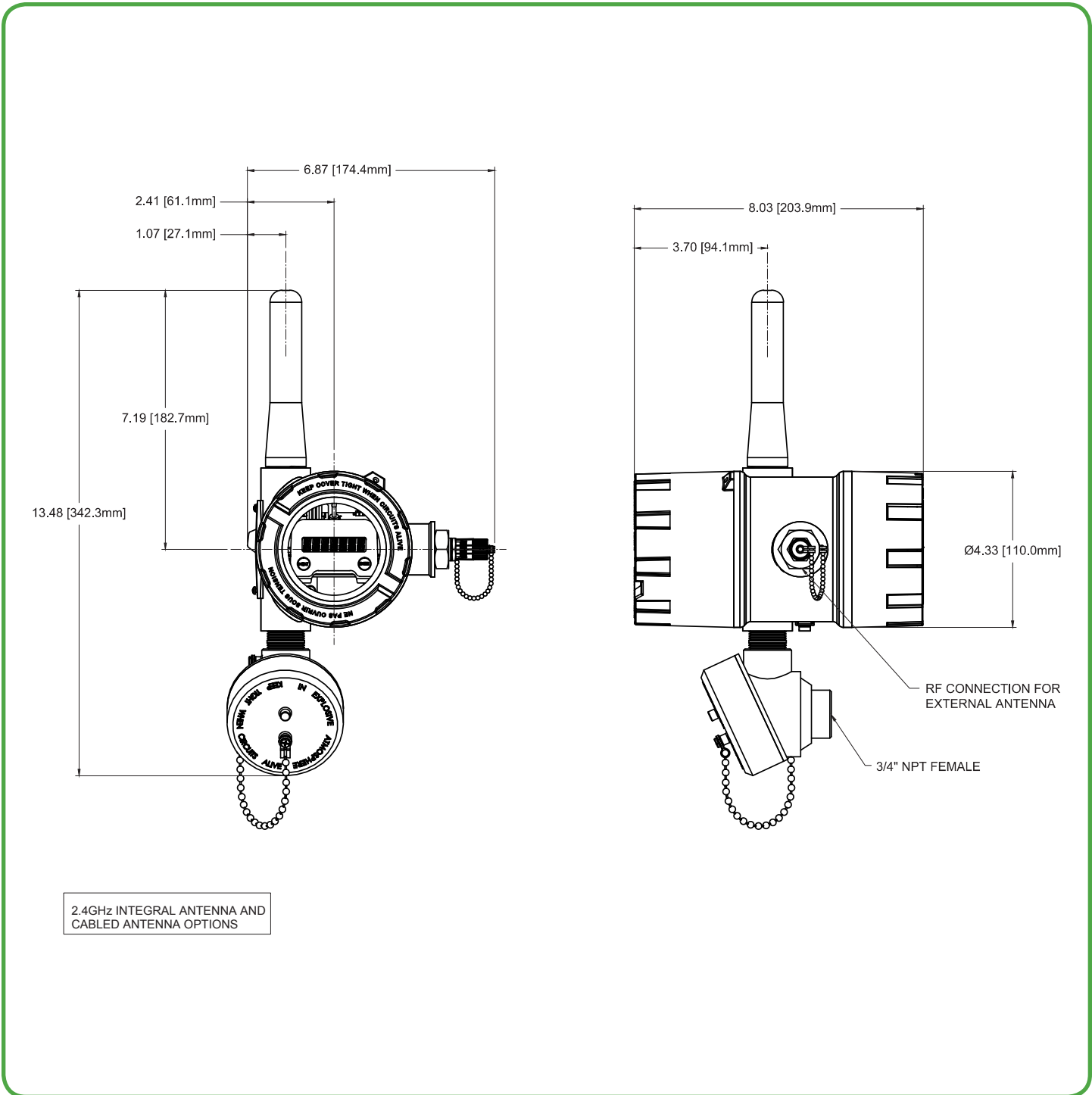
# Product Data Sheet Accutech SI10
# Model Code

| | AC-SI10-TJ11N00-A represents a typical part number. |
|---|---|
| **Model** | **Type** |
| TBUASI | Wireless Dual Contact Switch Input Field Unit |
| **Code** | **Select: RF Module Type** |
| T | 902MHz - 928MHz band (FCC / IC) |
| D | 915MHz - 928MHz band (Australia) |
| F | 2.4GHz band |
| **Code** | **Select: Certifications** |
| A | Explosion Proof Protection – Div 1<br>CSA – see previous page for certification details |
| E | Non-Incendive Protection – Div 2<br>CSA – see previous page for certification details |
| J | CSA – see previous page for certification details |
| Q | ATEX & IECEx – see previous page for certification details |
| N | Flame Proof Protection<br>ATEX & IECEx – see previous page for certification details |
| **Code** | **Select: Housing & Battery Pack** |
| 1 | NEMA 4X Aluminum Housing with 1 Cell |
| 2 | NEMA 4X Aluminum Housing with 2 Cells (not available for ATEX/IECex) |
| 4 | NEMA 4X Aluminum Housing with 4 Cells (not available for ATEX/IECex) |
| **Code** | **Select: Digital Outputs*** |
| N | None |
| E | 2 Digital outputs – supported by BR20 Base Radio only (suitable for Div2 rating only) |
| **Code** | **Select: Integral Antenna** |
| 00 | Integral Antenna (2.4GHz unit comes default with integral antenna and external antenna connector) |
| 04 | External Antenna connector (900MHz only, antenna and cables purchased separately) |
| **Code** | **Select: Junction Box** |
| A | No Junction Box (exposed lead wires) |
| B | NEMA4 - Aluminum Rear Entry |
| D | NEMA 4X - Stainless Steel Rear Entry |

\* Requires BR20 as network base radio

# Product Data Sheet Accutech SI10
## Dimensions



6.87 [174.4mm]

2.41 [61.1mm]

1.07 [27.1mm]

7.19 [182.7mm]

13.48 [342.3mm]

8.03 [203.9mm]

3.70 [94.1mm]

Ø4.33 [110.0mm]

RF CONNECTION FOR
EXTERNAL ANTENNA

3/4" NPT FEMALE

2.4GHz INTEGRAL ANTENNA AND
CABLED ANTENNA OPTIONS