

# Accutech SI10

Wireless switch-input field unit





The Accutech SI10 wireless switch input field unit is ideal for determining 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.

All 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 869MHz (license-free band), frequency hopping, spread-spectrum transceiver and antenna, and long-lasting battery that offers 3+ 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 compact and weather-proof NEMA 4 enclosure with options for a 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).

# Product Data Sheet Accutech SI10

## Specifications



### Accutech SI10

#### Functional

Sensor Type	Switch-Input with optional Switch Outputs*
Location	Field Unit
Frequency Range	900MHz and 869MHz (Europe) license-free bands
Power	Integrated battery
Network Capacity	<ul style="list-style-type: none"> <li>Max. 100 field units per base radio</li> <li>Max. 256 base radios per network</li> </ul>

#### 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	<ul style="list-style-type: none"> <li>Max. switch impedance 1.0k<math>\Omega</math></li> <li>Input Isolation between Input 1 to Input 2 = 20k<math>\Omega</math></li> <li>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.</li> </ul>
Outputs*	<ul style="list-style-type: none"> <li>2: optional switch outputs. Outputs are dry contact; external power is required for equipment being controlled.</li> <li>Max. switching up to 1A at 30V (Note Safety Certifications for SI10 with Outputs)</li> <li>Remotely controlled by writing data to base radio</li> <li>Configurable failsafe state and power-up state</li> </ul>
Remote Configuration Interface	Accutech Manager, Windows™-based GUI software, providing network-wide fault and performance-management features and field unit configuration capabilities.
Local Configuration Interface	<ul style="list-style-type: none"> <li>Integrated LCD with membrane-switch buttons.</li> <li>Display cycles through Switch 1, 2 and error messages, if applicable</li> <li>Configure RF parameters locally using membrane-switch buttons</li> </ul>
RF Characteristics	<ul style="list-style-type: none"> <li>902MHz - 928MHz band (FCC/IC)</li> <li>915MHz - 928MHz band (Australia)</li> <li>915MHz - 921MHz band (New Zealand)</li> <li>869MHz (Europe)</li> <li>Up to 3000ft (~1000m) typical range with obstructions</li> <li>The RF module in each Field Unit is individually tested and calibrated over the full temperature range to ensure reliable wireless operation</li> </ul>
Self-Diagnostics	<ul style="list-style-type: none"> <li>Low battery alarm – indicates the need to replace the battery (approximately one month warning).</li> <li>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</li> </ul>

#### General

Operating Ambient Environment	<ul style="list-style-type: none"> <li>-40 to +85°C (-40 to +185°F) electronics</li> <li>-20 to +70°C (-4 to +158°F) display (full visibility)</li> <li>-40 to +85°C (-40 to +185°F) display (reduced visibility)</li> <li>Humidity: 0 to 95%, non-condensing</li> </ul>
Power	<ul style="list-style-type: none"> <li>Self-contained power</li> <li>1: 'C' Cell</li> <li>Standard Accutech field units include a single C-Cell lithium battery that offers 3+ years of maintenance-free service (up to 10 years depending on data rates and battery options).</li> </ul>
Physical Characteristics:	<ul style="list-style-type: none"> <li>Base Plate: 304 Stainless Steel</li> <li>Cover: GE Lexan®, V-0 rating and UV stable</li> </ul>
Operating Shock and Vibration	Certified per IEC 60068-2-6 (vibration) and 2-27 (shock)
Random Vibration Characteristics	Certified to withstand 6 g's, 15 minutes per axis from 9 – 500Hz
Electromagnetic Compatibility	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
Safety Certifications	<p>North America HAZLOC:</p> <ul style="list-style-type: none"> <li>cCSAus</li> <li>Intrinsically Safe: Exia IIC; AEx ia IIC</li> <li>Class I, Div. 1, Groups A, B, C &amp; D, T4</li> <li>Class II, Div. 1, Groups E, F and G, T3</li> <li>Class III, T3.</li> <li>Class 1, Zone 0, AEx ia IIC, T3</li> <li>Class I, Div. 2, Groups A, B, C &amp; D, T4</li> <li>Class II, Div. 2, Groups F and G, T4</li> <li>Class III, T4.</li> <li>Explosion Proof:</li> <li>Class I, Div. 1, Groups A, B, C &amp; D; T4</li> <li>Class I, Div. 2, Groups A, B, C &amp; D; T4</li> </ul> <p>ATEX/IECEx HAZLOC:</p> <ul style="list-style-type: none"> <li>LCIE</li> <li>Intrinsically Safe: Ex ia IIC T3</li> <li>Flame Proof: Ex d IIC T4.</li> </ul> <p>EMC &amp; Radio:</p> <ul style="list-style-type: none"> <li>North America : FCC , IC</li> <li>Europe: CE Mark (R&amp;TTE)</li> <li>Australia/New Zealand: C-Tick</li> </ul>

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## Product Data Sheet Accutech SI10

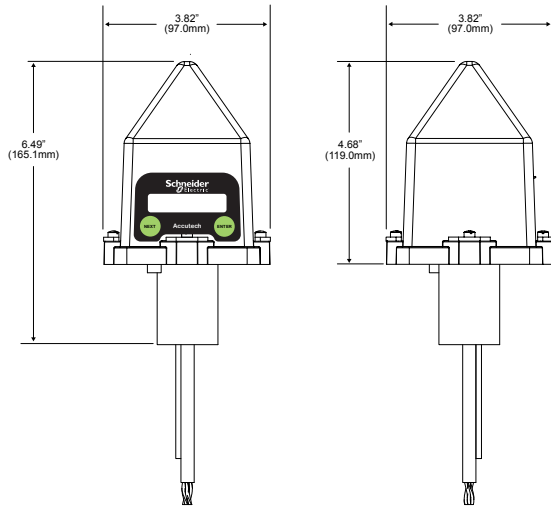
### Model Code

	AC-SI10-TJ11N00-A represents a typical part number.
<b>Model</b>	<b>Type</b>
TBUASI	Wireless Dual Contact Switch Input Field Unit
<b>Code</b>	<b>Select: RF Module Type</b>
T	902MHz - 928MHz band (FCC / IC)
D	915MHz - 928MHz band (Australia)
N	915MHz - 921MHz band (New Zealand)
E	869MHz (Europe)
<b>Code</b>	<b>Select: Safety Certifications</b>
A	CSA: Explosion proof protection: Div. 1: see specifications page
E	CSA: Non-incendive protection: Div. 2: see specifications page
J	CSA: Intrinsically safe protection: Div. 1: see specifications page
Q	ATEX/IECEx: Intrinsically safe protection: see specifications page
N	ATEX/IECEx: Flame proof protection: see specifications page
<b>Code</b>	<b>Select: Housing &amp; Battery Pack</b>
P	NEMA 4 Polycarbonate Housing with 1 Cell (available with Intrinsically Safe Rating)
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)
<b>Code</b>	<b>Select: Digital Outputs*</b>
N	None
E	2 Digital outputs - suitable for Div 2 rating only
<b>Code</b>	<b>Select: Integral Antenna or Cable &amp; Connector Interface</b>
00	Integral Antenna with Antenna Cover
01	External YAGI Antenna, 6db, attached to base of unit
10	10ft. (3.05m) cable with N-Male connector for remote antenna configurations
25	25ft. (7.62m) cable with N-Male connector for remote antenna configurations
<b>Code</b>	<b>Select: Junction Box</b>
A	No Junction Box (exposed lead wires)
B	NEMA 4 - Aluminum Rear Entry
D	NEMA 4X - Stainless Steel Rear Entry

\* Requires BR20 as network base radio

# Product Data Sheet Accutech SI10 Dimensions

## No Junction Box (Flying Leads)



## Junction Box Option

