

# Accutech VC10

## Wireless Valve Controller Field Unit



### Product at a glance

The Accutech™ VC10<sup>1</sup> valve controller is a fully integrated valve controller and plunger arrival field unit. The product is rated for Class1 Div1 environments, is ideally suited for wellhead installations or may be used to wirelessly control pneumatic valves in general industrial applications. Its integrated pressure and plunger arrival sensors and power system optimise battery life, provide valuable diagnostics to operators and reduces maintenance and operational costs.

#### Features include:

- Battery-powered wireless pneumatic valve controller
- Self-powered with up to 50,000 actuations before battery replacement
- Pressure transducer used for closed-loop valve control
- Two digital inputs with one used as a counter for plunger arrival sensing
- Energy-efficient 3-way magnetic latching solenoid valve with self-optimising pulse width and retry logic
- Configurable valve control state for sensor power-up and default conditions

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### Specifications - Accutech VC10

#### General

Sensor Type	Gauge Pressure, discrete digital inputs (including one with counter function)
Control Type	3-way magnetic latching solenoid
Location	Field Unit (fully certified for use in Class 1, Div 1 environments)
Frequency Range	900 MHz license-free band

#### Functional

##### Gauge Pressure Sensor

Accuracy	$\pm 0.25\%$ of full-scale (sensor card 0...125 PSI) pressure reading over rated temperature range
Stability	Combined zero and span stability: less than $\pm 0.1\%$ of sensor URL per year at 21 °C (70 °F)
Gauge Pressure Ranges	250 PSI

##### Digital Inputs

Inputs	Two contact closures. One input 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 1.0 k<math>\Omega</math></li> <li>• Input Isolation between Input 1 to Input 2 = 20 k<math>\Omega</math></li> <li>• The counter input supports a maximum input frequency of 5 Hz with a 50% duty cycle. The input must be in a state for 100 ms for the state to be recognized. Detection of rising or falling edge or both edges.</li> </ul>

##### Control Output

Valve Control	<ul style="list-style-type: none"> <li>• 3-way magnetic latching solenoid valve (ASCO 3/2 Series Maglatch: HV428342001)</li> <li>• Remotely controlled by writing desired output state to base radio Modbus™ registers</li> <li>• Configurable default state and power-up state</li> </ul>
Operating Ambient Environment	<ul style="list-style-type: none"> <li>• -30...+60 °C (-22...+140 °F) (below -20 °C LCD visibility is reduced)</li> <li>• Humidity: 0...95%, non-condensing</li> </ul>
Process Connection	1/2 in. MNPT
Power	<ul style="list-style-type: none"> <li>• Self-contained power with integrated batteries</li> <li>• 4: 'D-cell' lithium batteries offer battery life up to ten years of service, depending on data rates and battery options.</li> </ul>
Activations	Up to 50,000
Certifications	<p>North America HAZLOC:</p> <ul style="list-style-type: none"> <li>• cCSAus (VC10 is certified for use in Canada and the US)</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 I, Div. 2, Groups A, B, C &amp; D, T4</li> </ul> <p>EMC &amp; Radio:</p> <ul style="list-style-type: none"> <li>• North America: FCC , IC</li> </ul>

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### Common Accutech Field Unit Specifications

#### Features

Local Configuration Interface	<ul style="list-style-type: none"> <li>• Integrated LCD with membrane-switch buttons</li> <li>• Display provides pressure reading and error messages, if applicable</li> <li>• Configure sampling and RF parameters locally</li> </ul>
Remote Configuration Interface	Accutech Manager, Windows®-based GUI software, providing network-wide monitoring and performance-management features and field unit configuration capabilities
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>
Self-Diagnostics	<ul style="list-style-type: none"> <li>• Low battery notification – indicates the need to replace the battery (approximately one month advance notification)</li> <li>• Contains software and hardware that continuously monitors operation. Any sensor or device parameter that is out of specification is identified and reported</li> </ul>
RF Characteristics	<ul style="list-style-type: none"> <li>• 902...928 MHz band (FCC/IC)</li> <li>• 915...928 MHz band (Australia)</li> <li>• Up to 1500 m (~5000 ft.) typical range with obstructions</li> <li>• The RF module in each field unit is individually tested and calibrated</li> <li>• Transmit Power: +13 dBm</li> <li>• Receive Sensitivity: -113 dBm</li> <li>• Adjacent Channel Rejection: 48 dBc</li> <li>• Alternate Channel Rejection: 62 dBc</li> </ul>
Operating Shock and Vibration	Tested per IEC 60068-2-6 (vibration) and IEC 60068-2-27 (shock)
Electromagnetic Compatibility	Operates within specification in fields from 80...1,000 MHz with field strengths to 30 V/m. Meets IEC 61000-6-2 General Immunity Standard and IEC 6100-6-4 compatibility emissions standard
Output Resolution	24-bit analog-to-digital conversion

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### Model Code - Accutech VC10

TBUAVCTA4C00 represents a typical part number.

Model	Type
TBUAVC	Wireless Valve Controller Field Unit Field Unit

Code	Select: RF Module Type
T	902...928 MHz band (FCC / IC)

Code	Select: Certifications
	NEMA 4X – Div 1
A	CSA - see certification details on previous page

Code	Select: Housing & Battery Pack
4	NEMA 4X Aluminum Housing with 4 D-cells

Code	Select: Future Option
C	None

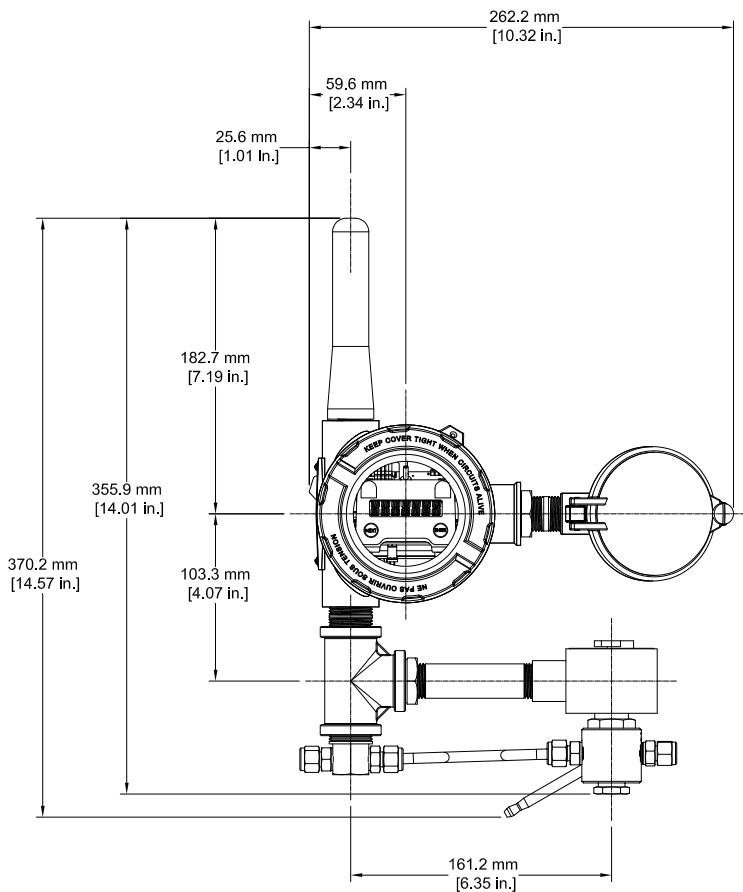
Code	Select: Future Option
00	None

# Accutech VC10

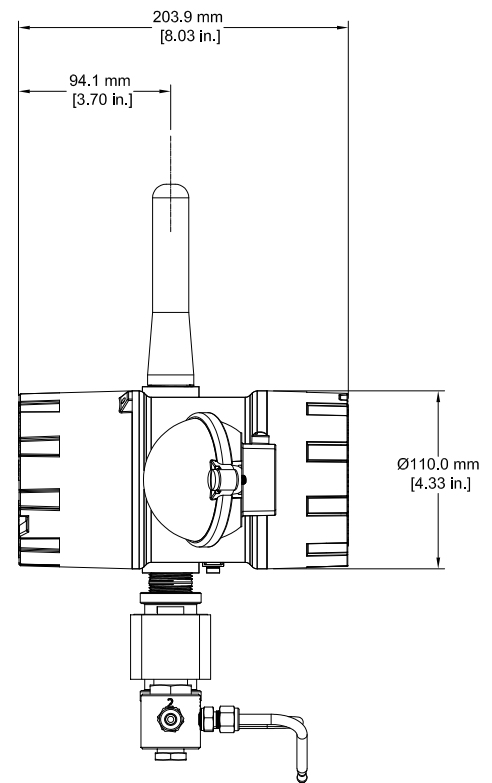
## Wireless Valve Controller Field Unit

### Dimensions - Accutech VC10

#### FRONT VIEW



#### SIDE VIEW



**Footnote:** 1- The VC10 is available in North America only.

**Disclaimer:** Schneider Electric reserves the right to change product specifications. For ordering information call direct worldwide: +1 (613) 591-1943; Toll Free within North America: +1 (888) 267-2232 or Email: [orderstrss@se.com](mailto:orderstrss@se.com). For more information visit [www.se.com](http://www.se.com).

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