Life Is On | Schneider Electric

Accutech TM10

Wireless turbine meter totaliser

The Accutech™ TM10 wireless turbine meter field unit measures the volumetric flow rate of liquids or gases by detecting the frequency of pulses generated with a standard turbine meter (not included) and applying a user-configured proportional “K” factor. A 22-point correction curve is used as a final offset or for custom calibration of turbine meter as required. There are two principal outputs providing flow rate and totalised flow measurements.

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).

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Specifications

Functional

Sensor Type	Turbine Meter Totaliser
Location	Field Unit
Frequency Range	900MHz and 2.4GHz license-free bands
Power	Integrated battery
Network Capacity	• Max. 100 field units per base radio • Max. 256 base radios per network

Features

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 • Display provides flow, total and detected error messages • Configure sampling and RF parameters locally using membrane-switch buttons
Turbine Meter	
Electronic Accuracy and Stability	• Flow Rate accurate to ±0.01% of reading (not including turbine meter and pickup) • Applies to pulse frequencies above low cut-off of 4Hz
Physical Connection	1in. female NPT connection to Turbine Meter Union for easy removal, pickup installation and replacement
Magnetic Pickup	Two-wire, connector supplied. See supported model numbers in the Sensor Pickup section of the model code
Frequency Range	4Hz. to 10KHz
Input Sensitivity (typical)	• 3.5mV RMS @ 5Hz • 3.5mV RMS @ 50Hz • 5mV RMS @ 500Hz • 45mV RMS @ 5000Hz
RF Characteristics	900MHz: • 902 to 928MHz Frequency Hopping Spread Spectrum (FHSS), FCC certified ISM license-free band • 915 to 928MHz (Australia) • Data Rates: 4,800, 19,200 or 76,800bps • 0.4W maximum 2.4GHz: • 2400 to 2483.5MHz ISM license-free band Frequency Hopping Spread Spectrum (FHSS) Radio • Data Rates: 50/100kbps (FSK Modulation) • Typical Electrical Transmit Power: +10.6dBm • Typical Receive Sensitivity (0.1% BER): - 102dBm @ 50kbps, - 99dBm @ 100kbps • 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) • 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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Specifications

General	
Operating Ambient Environment	• -40 to +85°C (-40 to +185°F) electronics • -40 to +85°C (-40 to +185°F) display (below -20°C LCD visibility is reduced) • Humidity: 0 to 95%, non-condensing
Materials of Construction	• Fittings: 316L Stainless Steel • Epoxy coated Aluminum enclosure
Power	• Self-contained power • 1: D Cell, Lithium Thionyl battery • Battery life up to ten years of service, depending on configuration
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 EN 50082-1 General
Certifications	North America HAZLOC: • cCSAus • Intrinsically Safe: Exia IIC; AEx ia IIC • Class I, Div. 1, Groups A, B, C & D, T3 • Class 1, Zone 0, AEx ia IIC, T3 • Class I, Div. 2, Groups A, B, C & D, T4 ATEX/IECEx HAZLOC: • LCIE • Intrinsically Safe: Ex ia IIC T3 EMC & Radio: • North America : FCC , IC • Europe: CE Mark (R&TTE) • Australia: C-Tick

Disclaimer: Schneider Electric reserves the right to change product specifications. For more information visit www.schneider-electric.com.

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Model Code

TBUATMTJ1N00A00NA represents a typical part number.

Model	Type
TBUATM	Wireless Turbine Meter Totaliser Field Unit

Code	Select: RF Module Type
T	902MHz - 928MHz band (FCC / IC)
D	915MHz - 928MHz band (Australia)
F	2.4GHz

Code	Select: Certifications
J	Intrinsically Safe Protection CSA – see certification details on previous page
Q	ATEX & IECEx – see certification details on previous page

Code	Select: Housing & Battery Pack
1	NEMA 4X Housing with 1 D Cell

Code	Select: Future Option
N	None

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: Sensor Mounting
A	Integral (direct connect of magnetic pick-up below, or customer-supplied – no Junction Box)
R	Remote Sensor (requires selection of a Junction Box below)

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Model Code

TBUATMTJ1N00A00NA represents a typical part number.

Code	Select: Sensor Pickup
00	None (Intrinsic Safety rating “Option J” is available for customer-supplied pick-ups meeting specifications)
01	Magnetic pick-up, Electronic Data Devices model 4.303 - for turbine meters with an I.D. >= 7/8”
02	Magnetic pick-up, Electronic Data Devices model 4.5050 - for turbine meters with an I.D. <= 3/4”

Code	Select: Sensor Union
N	None (customer-supplied)
C	Stainless Steel Union, for Integral Sensor Mounting only (Shipped Assembled)

Code	Select: Junction Box
A	No Junction Box (exposed lead wires)
B	NEMA4 - Aluminum Rear Entry, for Remote Sensor Mounting only
D	NEMA 4X - Stainless Steel Rear Entry, for Remote Sensor Mounting only

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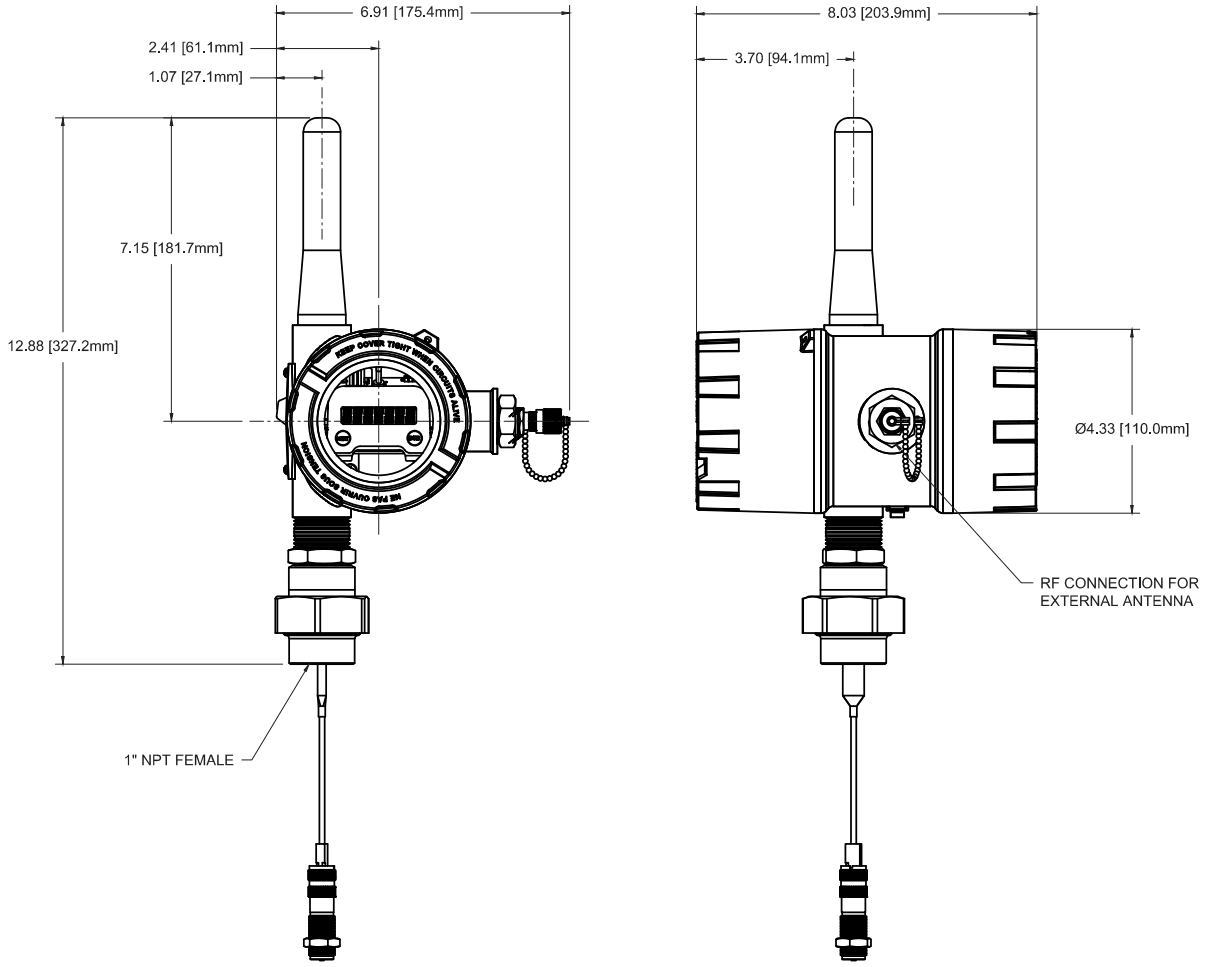
Dimensions



2.4GHz INTEGRAL ANTENNA AND CABLED ANTENNA OPTIONS

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