DATA SHEET

IFX- F161

Ultrasonic Clamp-on flowmeter

1.1 GENERAL SPECIFICATIONS

Transit time flowmeter	
Transit time BTU meter (thermal energy measurement system) – PT1000 input – EN1434 compliant	
Operating Parameters:	For clean liquids in full pipes with less than 2% solids or gas bubbles
Programming:	Built-in 5-button keypad with English, French, Spanish and Italian menu language selection
Electronics Enclosure:	NEMA4X (IP66) polycarbonate with clear, shatterproof cover
Flow Velocity Range:	±0.021 m/s to 12.2 m/s (±0.07 ft/s to 40 ft/s)
Accuracy:	±1% of reading from 0.46 to 12.2 m/s (1.5 to 40 ft/s); ±0.0046 m/s (±0.0015 ft/s) for velocities below 0.46 m/s (1.5 ft/s). Repeatability & Linearity: ±0.25%
Display:	White, backlit matrix — displays 5-digit flow rate with floating decimal,14-digit totalizer, relay status, operating mode, and calibration menu
Power Input:	• 100-240 V AC (50/60 Hz), 10 VA maximum • Optional: 9-32 V DC, 10 W maximum
Analog Output:	Isolated 4-20mA, 0-5 V, 1 kΩ load maximum
Control Relays:	• 2 Relays, form 'C' dry contacts rated 5 A SPDT; programmable flow alarm and/or flow proportional pulse • Optional: 4 additional (6 total), rated 5 A SPDT
Data Logger:	Built-in 128 MB data logger with USB output and Windows software. Capacity for approx. 26 million data points
Operating Temp. (Electronics):	-20 °C to 60 °C (-5 °F to 140 °F)
Approximate Shipping Weight:	5.5 kg (12 lb)

1.2 TRANSDUCER SPECIFICATIONS

Pipe Diameter, Nominal:	SE16A: Recommended for 15 mm to 40 mm (0.5 in to 1.5 in), Suitable for 15 mm to 150 mm (0.5 in to 6 in) SE16B: Recommended for 50 mm to 250 mm (2 in to 10 in), Suitable for 50 mm to 1,200 mm (2 in to 48 in) SE16C: Recommended for 300 mm to 1,200 mm (12 in to 48 in), Suitable for 100 mm to 1,200 mm (4 in to 48 in)
Pipe Materials:	Any metal or plastic sonic conducting material including carbon steel, stainless steel, ductile iron, concrete-lined ductile iron, cast iron, PVC, HDPE, PVDF, fiberglass, copper, brass, aluminium, and pipes with bonded liners including epoxy, rubber, and Teflon
Operating Frequency:	SE16A: 2.56 MHz SE16B: 1.28 MHz SE16C: 640 kHz
Operating Temperature:	-40 °C to 150 °C (-40 °F to 300 °F)
Transducer Mounting Kit:	SE16A: Includes stainless steel track with pipe clamps, built-in ruler, and coupling tape. SE16B: Includes set of stainless steel transducer brackets, clamps, alignment bar, and coupling tape. SE16C: Includes set of stainless steel transducer brackets, clamps, alignment bar with built-in ruler, and coupling tape.
Protection rate	std with BNC connectors IP65 - IP67 when seal jackets properly installed (IP68 on request)
Transducer Cables:	Triaxial, 7.6 m (25 ft) with BNC connectors and seal jackets (extendable up to 152.4 m (500 ft))

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1.3   POPULAR OPTIONS

Industrial Automation Protocols:	Modbus RTU via RS485 or HART (field selectable)
Transducer Cables:	• 15.2 m (50 ft) triaxial with BNC connectors and seal jackets • 30.5 m (100 ft) triaxial with BNC connectors and seal jackets
Enclosure Heater:	Thermostatically controlled to -40 °C (-40 °F) — recommended for temperatures below 0 °C (32 °F)
Sunscreen:	Enclosure sunscreen for outdoor installations
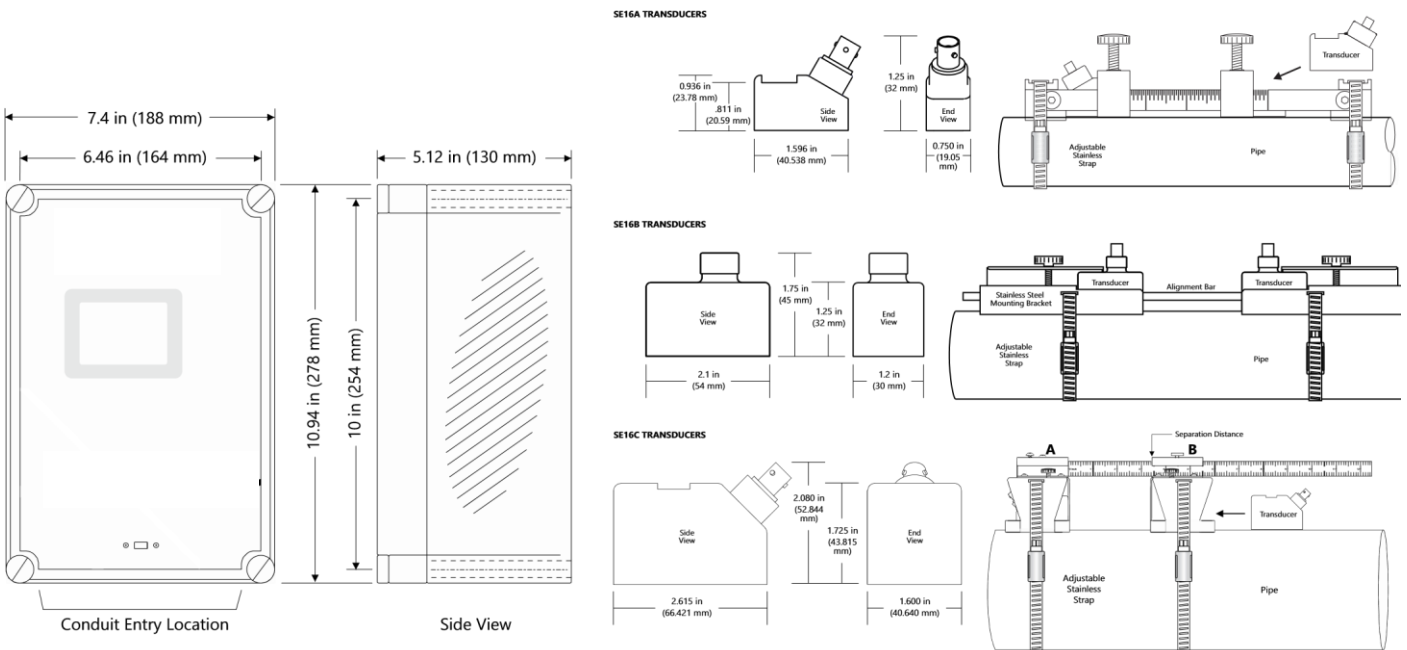
SE16A, SE16B, & SE16C Transducers & Mounting

TRANSDUCER NOMINAL PIPE SIZE RANGES

Recommended
Suitable

SE16A
SE16B
SE16C

15 mm (0.5 in)   40 mm (1.5 in)   50 mm (2 in)   100 mm (4 in)   150 mm (6 in)   250 mm (10 in)   300 mm (12 in)   1,200 mm (48 in)

1.4   HOW TO ORDER

<table>
<tr><td colspan="6" align="center">How to order
IFX-F161 Fixed Clamp-on Ultrasonic flow meter</td></tr>
<tr><td>Model code</td><td></td><td></td><td></td><td></td><td>Description</td></tr>
<tr><td>IFX-F161-</td><td></td><td></td><td></td><td></td><td>Fixed installation Flow meter Power supply</td></tr>
<tr><td>A1A1</td><td></td><td></td><td></td><td></td><td>Ultrasonic flow transmitter IFX-F161, 100/240 VAC, 50/60 Hz; NEMAX IP66 polycarbonate enclosure (-20 / +60 °C); isolated 4-20 mA out; Datalogger;</td></tr>
<tr><td>B1A1</td><td></td><td></td><td></td><td></td><td>Ultrasonic flow transmitter IFX-F161, 9/32 VDC; NEMAX IP66 polycarbonate enclosure (-20 / +60 °C); isolated 4-20 mA out; Datalogger;</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>Clamp-on sensors for IFX-F161</td></tr>
<tr><td></td><td>B</td><td></td><td></td><td></td><td>Standard – SE16B pair, recommended for 2 to 10 inch (50 to 250 mm) pipes, suitable for 10 to 48 inch (250 to 1,200 mm) pipes</td></tr>
<tr><td></td><td>A1</td><td></td><td></td><td></td><td>SE16A pair, recommended for 0.5 to 2 inch (15 to 50 mm) pipes, suitable for 2 to 6 inch (50 to 150 mm) pipes, BNC connectors and IP65 rating</td></tr>
<tr><td></td><td>A2</td><td></td><td></td><td></td><td>SE16A pair, recommended for 0.5 to 2 inch (15 to 50 mm) pipes, suitable for 2 to 6 inch (50 to 150 mm) pipes, sealed cable with IP67 rating, for installation in wet environments</td></tr>
<tr><td></td><td>C</td><td></td><td></td><td></td><td>SE16C pair, recommended for 12 to 48 inch (300 to 1,200 mm) nominal pipes, suitable for 4 to 12 inch (100 to 300 mm) nominal pipes, BNC connectors and cable strain-relief fittings for IP67 rating</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>Mounting Accessories</td></tr>
<tr><td></td><td></td><td>1</td><td></td><td></td><td>TMK-B1 for SE16B transducers – Includes brackets, clamps, alignment bar, and coupling tape</td></tr>
<tr><td></td><td></td><td>2</td><td></td><td></td><td>TMK-B21 for SE16B transducers – Includes conduit-ready & heavy-duty stainless brackets, clamps, alignment ruler for 2-6" pipes, and coupling tape</td></tr>
<tr><td></td><td></td><td>3</td><td></td><td></td><td>TMK-B22 for SE16B transducers – Includes conduit-ready & heavy-duty stainless brackets, clamps, alignment ruler for pipes ≥ 8", and coupling tape</td></tr>
<tr><td></td><td></td><td>4</td><td></td><td></td><td>TMK-A1 for SE16A transducers – Includes track mount with built-in ruler, clamps, and coupling tape.</td></tr>
<tr><td></td><td></td><td>5</td><td></td><td></td><td>TMK-C1 for SE16C transducers – Includes brackets, clamps, alignment bar with built-in ruler, and coupling tape. For 12" to 18" (300 mm to 450 mm)</td></tr>
<tr><td></td><td></td><td>6</td><td></td><td></td><td>TMK-C2 for SE16C transducers – Includes brackets, clamps, alignment bar with built-in ruler, and coupling tape. For 20" to 48" (500 mm to 1200 mm)</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>Clamp-on sensors cables & connections</td></tr>
<tr><td></td><td></td><td>A</td><td></td><td></td><td>Standard – 25 ft / 7.6 m pair triaxial with BNC connectors and seal jackets</td></tr>
<tr><td></td><td></td><td>B</td><td></td><td></td><td>50 ft / 15 m pair triaxial with BNC connectors and seal jackets</td></tr>
<tr><td></td><td></td><td>C</td><td></td><td></td><td>100 ft / 30 m pair triaxial with BNC connectors and seal jackets</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>Serial Communication</td></tr>
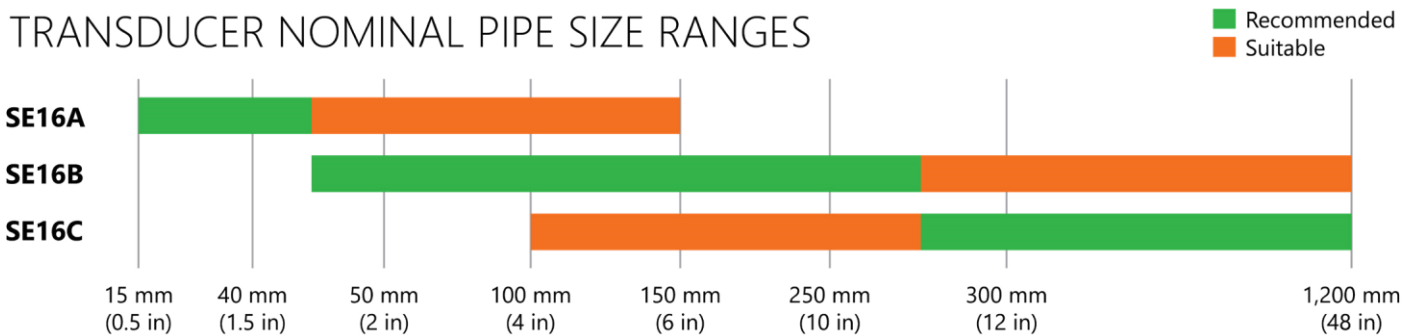<tr><td></td><td></td><td>1</td><td></td><td></td><td>Standard – None</td></tr>
<tr><td></td><td></td><td>2</td><td></td><td></td><td>Modbus® RTU via RS-485 or HART (field selectable)</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>Control Relays</td></tr>
<tr><td></td><td></td><td></td><td>A</td><td></td><td>Standard – 2 relays, rated 5 amp SPDT, programmable</td></tr>
<tr><td></td><td></td><td></td><td>B</td><td></td><td>4 Extra Relays (6 total), rated 5 amp SPDT, programmable</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>BTU meter</td></tr>
<tr><td></td><td></td><td></td><td>-000</td><td></td><td>Only Flowmeter</td></tr>
<tr><td></td><td></td><td></td><td>-BTU</td><td></td><td>Flowmeter and BTU meter</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td><td>Accessories (multiple choice allowed)</td></tr>
<tr><td></td><td></td><td></td><td></td><td>-A</td><td>none</td></tr>
<tr><td></td><td></td><td></td><td></td><td>-B</td><td>Acoustical paste Pack of 100 ml Suitable for temperature -30 +130 °C</td></tr>
<tr><td colspan="6" align="center">Example of order:
IFX-F161-A1A1B1A1A-000-A</td></tr>
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