

**TTFM 6.1 Transit-Time Ultrasonic Flow Meter**

Approximate shipping weight: 12 lbs / 5.5 kg

**STANDARD FEATURES:**

Pair of SE16B ultrasonic transducers -  
 clamp-on for 2" to 10" (50 mm to 250 mm) pipes  
 Sensor cables - pair 25 ft / 7.6 m triaxial with BNC connectors  
 Flow rate range -  $\pm 0.07$  to 40 ft/sec ( $\pm 0.02$  to 12 m/sec)  
 Accuracy -  $\pm 1.0\%$  of flow rate from 1.5 to 40 ft/sec (0.46 to 12 m/sec)  
 $\pm 0.015$  ft/sec ( $\pm 0.0046$  m/s) below 1.5 ft/sec (0.46 m/s)  
 Installation – TMK-B1 kit; Stainless steel transducer brackets, mounting  
 clamps, alignment bar and coupling compound  
 Enclosure - watertight, NEMA4X (IP66) polyester and polycarbonate  
 Display - white, backlit matrix, with 14 digit totalizer  
 Calibration – Wet calibrated at factory. Built-in 5-key programmer  
 Outputs - isolated 4-20mA (1000 ohm), and 2 control relays - 5 amp, SPDT  
 programmable for flow proportional pulse output, flow direction, and/or flow  
 alarm  
 Datalogger – 26 million data point capacity  
 Power input - 100-240VAC 50/60Hz, 10 VA maximum  
 CE, Transducers Non-Incendive for Class 1 Div 2, Groups A,B,C,D

**Model**

Please configure model on next page





## Order Form

TTFM 6.1

### TTFM 6.1 Transit-Time Flow Meter

#### Model

TTFM 6.1

#### POWER INPUT

Standard – 100-240VAC 50/60Hz, 10VA Maximum		A
9-32VDC, 10W Maximum		B

#### ENCLOSURE & ELECTRONICS PROTECTION

Standard NEMA4X (IP66) polycarbonate		1
NEMA4X polycarbonate enclosure with conformally coated electronics		2
CXJ8106 – Explosion proof NEMA7 (CSA Class I, Div 1) <sup>1</sup>		3
CXJ8106 – Explosion Proof NEMA7 (ATEX/IECEx Ex db IIB+H2 Gb) <sup>1</sup>		5

#### ENCLOSURE TEMPERATURE RATING

Standard (-5° to 140°F / -20° to 60°C)		A
Heater and Thermostat 115VAC, 15 VA additional to Power Input (25 VA total)		B
Heater and Thermostat 230VAC, 15 VA additional to Power Input (25 VA total)		C

#### INTRINSIC SAFETY

Standard – All transducers, Non-Incendive for Class I, Div 2, Groups A,B,C,D		1
QTY 2 ISB for transducer installation in Class I, Div 1, Groups C,D; Class II, Groups E,F,G; Class III; Encl. Type 4		2
QTY 2 ISB for transducer installation in ATEX/IECEx Zone 0, Ex ia IIB T4 Ga		3

#### TRANSDUCERS (each with 25ft / 7.6m cable)

Standard – SE16B pair, recommended for 2 to 10 inch (50 to 250 mm) nominal pipes, BNC connectors and IP65 rating		B
SE16A pair, recommended for 0.5 to 2 inch (15 to 50 mm) nominal pipes, BNC connectors and IP65 rating		A1
SE16A pair, recommended for 0.5 to 2 inch (15 to 50 mm) pipes, sealed cable with IP67 rating, for installation in wet environments		A2
SE16C pair, recommended for 12 to 48 inch (300 to 1,200 mm) nominal pipes, BNC connectors and cable strain-relief fittings for IP68 rating (up to 3m for 3 hrs)		C

#### TRANSDUCER MOUNTING HARDWARE - Hardware Must Match Transducer Selection

TMK-B1 for SE16B transducers – Includes brackets, clamps, alignment bar		1
TMK-B21 for SE16B transducers – Includes conduit-ready & heavy-duty stainless brackets, clamps, and alignment ruler for 2-6" pipes		2
TMK-B22 for SE16B transducers – Includes conduit-ready & heavy-duty stainless brackets, clamps, and alignment ruler for pipes $\geq$ 8"		3
TMK-A1 for SE16A transducers – Includes track mount with ruler and clamps		4
TMK-C1 for SE16C transducers – Includes brackets, clamps, and alignment bar with ruler. For 12" to 18" (300 mm to 450 mm) pipes.		5
TMK-C2 for SE16C transducers – Includes brackets, clamps, and alignment bar with ruler. For 20" to 48" (500 mm to 1200 mm) pipes.		6

#### TRANSDUCER CABLE LENGTH

Standard – 25 ft. 7.6m, cable type matches Transducer selection		A
50 ft / 15 m, cable type matches Transducer selection		B
100 ft / 30 m, cable type matches Transducer selection		C

#### SERIAL COMMUNICATIONS

Standard – None		1
Modbus® RTU via RS-485		2

#### CONTROL RELAYS

2 – Standard		A
4 Extra Relays (6 total), rated 5 amp SPDT, fully programmable		B

<sup>1</sup> Lead Time for a TTFM 6.1 with this option is 2 weeks. Non-returnable & Non-refundable

**OPTIONS AND ACCESSORIES**

Code	Description
TXC	Transducer cable extension up to 500 ft / 150 m (Triaxial pair, price is per foot)
JB4X	Transducer cable Junction Box, NEMA4X/IP66
TMK-A1	Transducer Mounting Kit with track mount with built-in ruler, pair of pipe clamps for OD up to 4" (100 mm), and Super Lube® coupling compound
TMK-B1	Transducer Mounting Kit with pair of stainless mounting brackets, pair of pipe clamps for OD up to 30" (750 mm), alignment bar, and SuperLube® coupling compound
TMK-B21	Transducer Mounting Kit with pair of stainless heavy-duty & conduit-ready mounting brackets, pair of pipe clamps, alignment ruler for 2-6" pipes, and SuperLube® coupling compound
TMK-B22	Transducer Mounting Kit with pair of stainless heavy-duty & conduit-ready mounting brackets, pair of pipe clamps, alignment ruler for 8" and larger pipes, and SuperLube® coupling compound
TMK-C1	Transducer Mounting Kit with pair of stainless mounting brackets, pair of pipe clamps for OD up to 18" (450 mm), alignment bar with built-in ruler, and SuperLube® coupling compound
TMK-C2	Transducer Mounting Kit with pair of stainless mounting brackets, pair of pipe clamps for OD up to 48" (1200 mm), alignment bar with built-in ruler, and SuperLube® coupling compound
TMK-B1S	TMK-B1 mounting kit with Expansion Springs – for outdoor HDPE pipe installations
TMK-B21S	TMK-B21 mounting kit with Expansion Springs – for outdoor HDPE pipe installations
TMK-B22S	TMK-B22 mounting kit with Expansion Springs – for outdoor HDPE pipe installations
PC16-MB1	Replacement Stainless Transducer Mounting Bracket (from TMK-B1 kit)
PC16-MB2-S	Replacement Stainless Transducer Mounting Bracket (from TMK-B2 kit) – Stationary Side (Ruler screws into this bracket)
PC16-MB2-D	Replacement Stainless Transducer Mounting Bracket (from TMK-B2 kit) – Dynamic Side (Ruler slides along this bracket)
PC9	Replacement SS pipe clamp for pipe OD up to 9" (225 mm)
PC22	Replacement SS pipe clamp for pipe OD up to 22" (550 mm)
PC48	Replacement SS pipe clamp for pipe OD up to 48" (1,200 mm)
CT	Coupling Tape – lower maintenance for permanent installations (price is per foot)
CC-SL30	Super Lube® Coupling Compound, 3.0 oz tube
CC-SL30HT	Coupling Compound for Fluid Temp. > 120°C (250°F) – Super Lube® Dielectric Grease 3.0 oz tube
PM	Panel Mount Flange assembly
SCR	Enclosure Sunscreen (iridite aluminum)

*Replacement Parts - Please provide instrument serial number when ordering replacement SE16 transducers*

Code	Description
SE16A*	Spare/Replacement <b>single</b> Transducer (two transducers are used with each flowmeter)
SE16A-TTT25*	Spare/Replacement <b>single</b> Transducer with sealed 25 foot cable (two transducers are used with each flowmeter)
SE16A-TTT50*	Spare/Replacement <b>single</b> Transducer with sealed 50 foot cable (two transducers are used with each flowmeter)
SE16A-TTT100*	Spare/Replacement <b>single</b> Transducer with sealed 100 foot cable (two transducers are used with each flowmeter)
SE16B*	Spare/Replacement <b>single</b> Transducer (two transducers are used with each flowmeter)
SE16C*	Spare/Replacement <b>single</b> Transducer (two transducers are used with each flowmeter)
TTT25	One pair 25 ft (7.6 m) cables with BNC connectors and seal jackets for SE16A & SE16B transducers
TTT50	One pair 50 ft (15 m) cables with BNC connectors and seal jackets for SE16A & SE16B transducers
TTT100	One pair 100 ft (30 m) cables with BNC connectors and seal jackets for SE16A & SE16B transducers
TTT25-C	One pair 25 ft (7.6 m) cables with threaded strain-relief connection for SE16C transducers
TTT50-C	One pair 50 ft (15 m) cables with threaded strain-relief connection for SE16C transducers
TTT100-C	One pair 100 ft (30 m) cables with threaded strain-relief connection for SE16C transducers