

Order Form Instructions

To finalize an order, please complete the *Order Information* section below, and select your Model code on page 2. Options and accessories are available on page 3.

Submit this document to greylineorders@greyline.com, and Greyline will provide an order confirmation.

Application Optimization

Greyline now offers custom engineered transit-time flow meters. If the optional *Application Information* section below is completed, Greyline will provide a TTFM 6.1 which has been optimized for this application.

ORDER INFORMATION

| | | | |
|-----------------------------|--|--------------------------|--|
| Name: | | Order Date: | |
| Company: | | Purchase Order #: | |
| Project Name: | | Needed by (date): | |
| Project Location: | | Shipping Method: | |
| Specifying Engineer: | | | |

APPLICATION INFORMATION (OPTIONAL)

| | | | |
|---|--|--|--|
| Display Engineering Units (English, SI) | | Display Language (English, Spanish, French) | |
| Application | | | |
| Fluid | | | |
| Fluid Temperature | | | |
| Pipe Material | | | |
| Nominal Pipe Size | | Pipe OD (If no pipe chart available) | |
| Pipe Schedule | | Pipe Wall Thickness (If no pipe chart available) | |
| Pipe Liner Material | | Pipe Liner Thickness (If lined) | |
| Max Flow Rate | | | |

TTFM 6.1 Ultrasonic Transit Time Flow Meter

Model

| |
|------------|
| TTFM 6.1 - |
|------------|

Approximate shipping weight: 12 lbs / 5.5 kg

STANDARD FEATURES:

- Pair of SE16B ultrasonic transducers - clamp-on for 2" to 48" (50 mm to 1200 mm) pipes
- Sensor cables - pair 25 ft / 7.6 m triaxial with BNC connectors
- Flow rate range - ± 0.07 to 40 ft/sec (± 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) ± 0.015 ft/sec (± 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 silicone coupling compound
- Enclosure - watertight, NEMA4X (IP66) polyester and polycarbonate
- Display - white, backlit matrix
- Totalizer - 14 digit
- Calibration - built-in 5-key programmer
- Output - isolated 4-20mA (1000 ohm)
- 2 control relays - 5 amp, SPDT - programmable for flow proportional pulse output, and/or flow alarm
- Datalogger - 128 Megabyte storage capacity
- Power input - 100-240VAC 50/60Hz, 10 VA maximum
- CE
- Application optimization available - see order form

POWER INPUT

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

ENCLOSURE & ELECTRONICS PROTECTION

| | |
|--|---|
| Standard - NEMA4X (IP66) polycarbonate enclosure | 1 |
| NEMA4X polycarbonate enclosure with conformally coated electronics | 2 |
| CXJ8106 - Explosion Proof NEMA7 (non-returnable & non-refundable) ¹ | 3 |

¹Lead Time for a TTFM 6.1 with this option is 2 weeks

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 - SE16B Transducers, Non-Incendive for Class 1 Div 2, Groups A,B,C,D | 1 |
| QTY 2 ISB Intrinsic Safety Barriers for transducer installation in Class 1 Div 1, Groups C, D; Class 2, Groups E, F, G; Class 3; Type 4 | 2 |

TRANSDUCERS

| | |
|--|---|
| Standard - SE16B pair, clamp-on for 2" to 48" (50 mm to 1200 mm) pipes | B |
|--|---|

TRANSDUCER MOUNTING HARDWARE

| | |
|---|---|
| Standard - TMK-B1; Includes stainless brackets, mounting clamps, alignment bar and silicone coupling compound | 1 |
| TMK-B21 - Includes conduit-ready & heavy-duty stainless brackets, mounting clamps, alignment ruler for 2-6" pipes, and silicone coupling compound | 2 |
| TMK-B22 - Includes conduit-ready & heavy-duty stainless brackets, mounting clamps, alignment ruler for pipes $\geq 8"$, and silicone coupling compound | 3 |

TRANSDUCER CABLES & CONNECTIONS

| | |
|---|---|
| Standard - 25 ft / 7.6 m pair triaxial with BNC connectors and seal jackets | A |
| 50 ft / 15 m pair triaxial with BNC connectors and seal jackets | B |
| 100 ft / 30 m pair triaxial with BNC connectors and seal jackets | C |

SERIAL COMMUNICATIONS

| | |
|---|---|
| Standard - None | 1 |
| Modbus® RTU via RS-485 or HART (field selectable) | 2 |

CONTROL RELAYS

| | |
|--|---|
| Standard - 2 relays, rated 5 amp SPDT, programmable | A |
| 4 Extra Relays (6 total), rated 5 amp SPDT, programmable | B |

OPTIONS AND ACCESSORIES

| QTY | CODE | DESCRIPTION | |
|-----|------------|---|--|
| | TXC | Transducer cable extension up to 500 ft / 150 m (Triaxial pair) | |
| | JB4X | Transducer cable Junction Box, NEMA4X/IP66 | |
| | 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 0.5 oz. 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 0.5 oz. 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 0.5 oz. 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 tris 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) | |
| | CC-SL30 | Super Lube® Silicone 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) | |
| | CHS | Spare set Electronics with Mounting Chassis (Standard features) | |
| | MNL | Additional Manuals (One supplied with each unit) | |

REPLACEMENT PARTS

| | | | |
|--|--------|--|--|
| | SE16B* | Spare/Replacement single Transducer for 2" to 48" (50 mm to 1200 mm) ID pipes (two transducers are used with each flowmeter) | |
| | TTT25 | Replacement pair 25 ft (7.6 m) transducer triaxial cables with BNC connectors and seal jackets | |
| | TTT50 | Replacement pair 50 ft (15 m) transducer triaxial cables with BNC connectors and seal jackets | |
| | TTT100 | Replacement pair 100 ft (30 m) transducer triaxial cables with BNC connectors and seal jackets | |

* Provide Instrument Serial number when ordering replacements