Position Sensors and Systems

Temposonics II

Ordering Guide

CONTENTS

For 24-hour Technical Assistance Call
1-800-633-7609

MTS®

TEMPOSONICS II BUILD-TO-ORDER UNITS

How to Order Temposonics II Position Sensors

Temposonics II Transducer, Standard

Style
RB = STANDARD, 3/8 in. SST rod, screw on integral connector
RC = 3/8 in. SST rod, quarter turn integral connector
RO = 3/8 in. SST rod, 5 ft. integral cable, pigtail connection

The following styles (R1 - R3) are deivations of Style RO. Each style includes a 6 or 10 pin connector instead of pigtails, which provide the capability to either retrofit an original Temposonics transducer design with a Temposonics II or to connect directly to an interface module.

R1 = Style RO with 6 pin connector (P/N 370015) instead of pigtails
STANDARD for Temposonics II transducers with integral cable and connected to an Analog Output Module with MS connectors.
[Also for retrofitting original Temposonics transducer with a greater than 12 inch stroke length (+ interrogation pulse) and connected to an Analog Output Module]

R2 = Style RO with 6 pin integral connector (P/N 370015) instead of pigtails
Used in retrofit situations ONLY.
[For retrofitting original Temposonics transducer with a less than 12 inch stroke length (- interrogation pulse) and connected to an Analog Output Module]

R3 = Style RO with 10 pin connector (P/N 370160) instead of pigtails
(A*vailable for use with Personality Modules* **ONLY***)*

Stroke Length Units
U = Inches (U.S. Customary)
M = Millimeters (Metric), av*ailable in 5 mm increments*

Stroke Length
The *value to enter depends on stroke length units indicated above.*
For example:
0120 = 12.0 inches or 120 mm
1200 = 120.0 inches or 1200 mm

NOTES:

1. All Temposonics II transducers have a positive interrogation pulse.
   The original Temposonics transducer had a negative interrogation pulse for stroke length of 12 inches or less and a positive interrogation pulse for stroke lengths of 12.1 inches or longer. In retrofit situations, the extension cable can be configured for a direct replacement. Contact an MTS Applications Engineer for additional details.
2. Temposonics II transducers have a 2.5 inch dead zone at the tip. Previous versions of the Temposonics transducer had either a 5 inch or a 7 inch dead zone; please consider the overall length requirement in your application.
3. Build-to-order units range from 1 to 300 inches, in 1/10th inch increments.

How to Order Temposonics II Transducer with APM

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Temposonics II Transducer

Style
(See "How to Order Temposonics II Transducer")

Stroke Length Units
U = Inches (U.S. Customary)
M = Millimeters (Metric), *available in 5 mm increments*

Stroke Length
The value to enter depends on stroke length units indicated above.
For example:
0120 = 12.0 inches or 120 mm
1200 = 120.0 inches or 1200 mm

A = **Analog Personality Module**

Output
S1 = 0 to +10 Vdc
S2 = -10 to +10 Vdc
S3 = 0 to -10 Vdc
S4 = 0 to +10 Vdc, reverse acting
S5 = -10 to +10 Vdc, reverse acting
S6 = 0 to -10 Vdc, reverse acting
C0 = Build-to-Order, customized set points
Set Points must be defined by customer, see below.

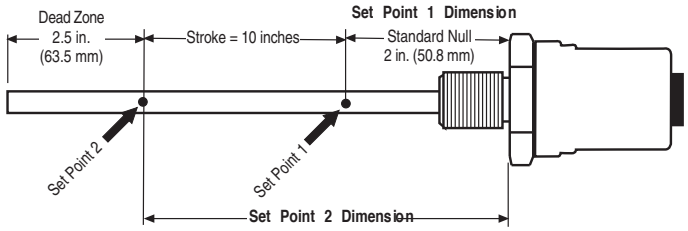
Performance Mode
R = Resolution Preferred Mode (0.001 in. resoluion, limited to maximum stroke length of 48 inches)
B = Balanced Mode (0.003 in. resolution)
U = Update Preferred Mode (optimum update time, 0.007 in. resolution)

NOTES:
1. **Standard Set Points:** Null (zero) is set at 2 inches from flange; Full Scale Set Point is at 2.5 inches from tip of the transducer.

In addition to the model number, zero and full scale set points must also be provided at time of order if a customized sensing range is required See example below for details on how to define set points.

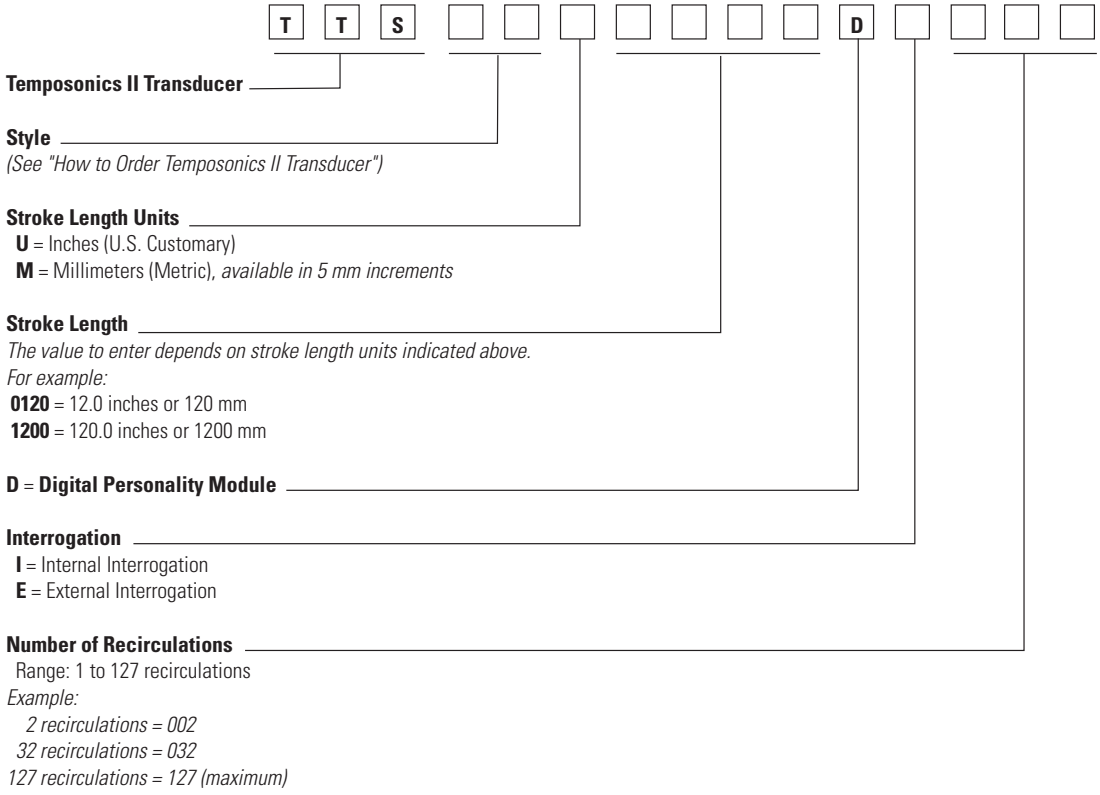
How To Define Customized Set Points

Given:
Stroke Length: 10 inches
Output: 0 to + 10 Vdc
Set Point #1: 2 inches from the flange (standard Null) = 0.000V
Set Point #2: 12 inches from the flange = +10.000V

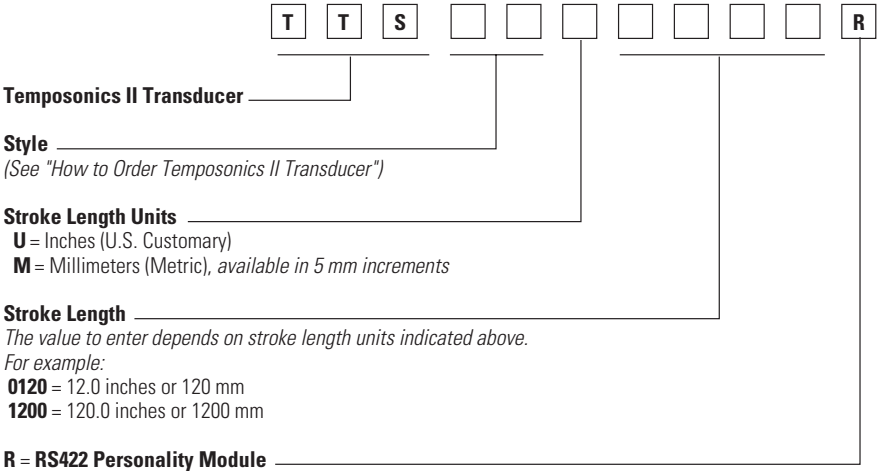


NOTES:
1. Express Set Point in inches or millimeters from face of transducer's flange.
   - If Stroke Length Units are expressed in inches, define Set Point in inches and tenths (XXX.X in.)
   - If Stroke Length Units are expressed in millimeters, define Set Point in millimeters (XXXX mm)
2. Define polarity of voltage at each Set Point
3. Define Set Point voltage (range: 0 to 10 Vdc). Express to 0.001 V

How to Order Temposonics II Transducer with DPM



5.4 How to Order Temposonics II Transducer with RPM



How to Order Analog Output Module

Enclosure Style
- **31** = Strain relief connectors (standard)
- **32** = 5 and 6 pin MS connectors
  (mating connectors required, order separately)
- **35** = Plug-in card, can mount in rack
  (to mount, use *15-pin edge connector: P/N 370034, or edge card holder: P/N 370170)*

Displacement Output

(Standard, select one)
- **10** = 0 to 10 Vdc
- **20** = 0 to 10 Vdc, reverse acting
- **30** = 0 to 5 Vdc
- **40** = 0 to 5 Vdc, reverse acting
- **50** = -10 Vdc to + 10 Vdc
- **60** = -10 Vdc to + 10 Vdc, reverse acting
- **70** = -5 to + 5 Vdc
- **80** = -5 Vdc to + 5 Vdc, reverse acting
- **01** = 0 to -10 Vdc
- **02** = 0 to -10 Vdc, reverse acting

(Options)
- **03** = 4 to 20 mA ungrounded
- **04** = 4 to 20 mA ungrounded, reverse acting
- **05** = 4 to 20 mA grounded
- **06** = 4 to 20 mA grounded, reverse acting

DC Power Supply Requirement Options
- **0** = ±15 Vdc **(Standard)**
- **1** = 24 Vdc **(Option)**

Velocity Option
- **0** = None (Standard)

Options:
- **1** = Forward acting voltage output
- **2** = Reverse acting voltage output
- **3** = Forward acting current output (grounded)
- **4** = Reverse acting current output (grounded)
- **5** = Forward acting current output (ungrounded)
- **6** = Reverse acting current output (ungrounded)

Maximum Velocity
- ___ ___ ___ = Maximum Velocity (range 1 to 400 inches/second or 0.01 to 9.99 meters/second)

This three digit velocity code represents either inches per second or meters per second. The code corresponds to the 'Unit of Measurement' selected.

Consult Applications Engineering when ordering velocity output options

Style
- (Refer to pages 13 and 14 for description of choices: RB, RC, RO, R1, R2, R3)

Unit of Measurement
- **U** = Inches (U. S. Customary)
- **M** = Millimeters (Metric), lengths available in 5 mm increments

Stroke Length
- ___ ___ ___ ___ = Length

Range: 1 to 300.0 in. in 0.1 in. increments or 25 to 7620 mm in 5 mm increments.

For example:
0120 = 12.0 inches or 120 mm
0600 = 60.0 inches or 600 mm

Mating Connectors for Enclosure Style '32'
- 6-pin MS connector (female): 370015
- 5-pin MS connector (female): 370017

NOTE: *AOM Options*

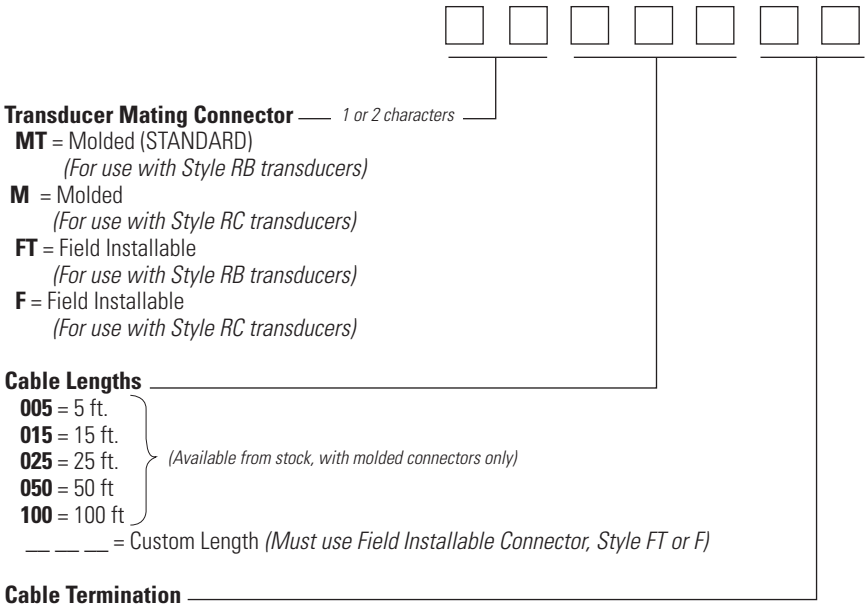
Only two (2) options may be selected per AOM.

Valid Output Combinations (Displacement. & Velocity)
The chart below indicates what combinations of current output and velocity output are valid.

Current Output Codes	Velocity Output Codes
03	5
04	6
05	3
06	4

ACCESSORIES

Extension Cables for Temposonics II Transducers



Transducer Mating Connector — *1 or 2 characters*
- **MT** = Molded (STANDARD)
  (For use with Style RB transducers)
- **M** = Molded
  (For use with Style RC transducers)
- **FT** = Field Installable
  (For use with Style RB transducers)
- **F** = Field Installable
  (For use with Style RC transducers)

Cable Lengths
- **005** = 5 ft.
- **015** = 15 ft.
- **025** = 25 ft.
- **050** = 50 ft
- **100** = 100 ft

(Available from stock, with molded connectors only)

__ __ __ = Custom Length *(Must use Field Installable Connector, Style FT or F)*

Cable Termination
- **C1** = 6 pin female, P/N 370015
  STANDARD connection to Analog Output Module with MS connectors.
  [For retrofitting an original Temposonics transducer system with AOM and stroke length > 12 inches (+ interrogation pulse)]
- **C2** = 6 pin female, P/N 370015
  Use in retrofit situations ONLY.
  [For retrofitting an original Temposonics transducer system with AOM and stroke length ≤ 12 inches (- interrogation pulse)]
- **C3** = 10 pin, P/N 370160 [for use with Digital Personality Modules(DPM) only]
- **P0** = Pigtail Connection

Transducer Accessories

Part	*Description*	*Part Number*
Replacement Fluoroelastomer O-Ring	Seals Temposonics transducers in hydraulic cylinders. For use on 3/4-16 thread.	560315
Hex Nut Jam	3/4-16, 303 stainless steel thin hex lock w/nylon insert	500015
Magnet Spacer	Non-ferrous aluminum spacer, 1/8 in. thickness, use with standard magnet (P/N 201542)	400633
Magnet Mounting Screws	Stainless steel #6-32 x 7/8 in. SS Phillips HD screw	560357
Connector Kit	Field Installable 10 pin female connector *(For use with Style RB and RC transducers)*	400755-3
Connector	Environmental, 10 pin male MS connector	370160
Cable	Low capacitance, 5 twisted pair, 24 AWG w/overall shield and drain wire	530018

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