550951 A

Position Sensors and Systems

Temposonics I

Ordering Guide

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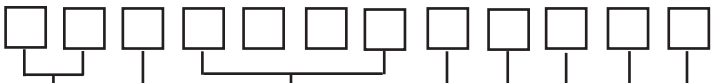
For 24-hour Technical Assistance Call
1-800-633-7609

MTS®

TEMPOSONICS I - How to Order a Transducer by Model Number

Obsolete Temposonics I Model number



Style
01 = Standard
02 = SRH (small ruggedized head). See Note 1.
03 = Flexible, see Note 2.
XX = Special (leave blank, to be coded by MTS)

Stroke Units (See Note 3)
1 = Inches and tenths
2 = mm

Stroke Length (See Notes 3, 7 & 8)
The value t to enter is dependent on the Stroke Units (See above)
For example; 0120 represents 12.0 in. or 120 mm.
0365 represents 36.5 in or 36-5/8 in.
1200 represents 120.0 in. or 1200 mm

Null Space and Dead Space (See Notes 4 & 7)
5 = 5 in. (125 mm) dead space and 2 in. (50 mm) null (standard for strokes up to 200 in. (5080 mm))
7 = 7 in. (180 mm dead space and 2 in. (50 mm) null (standard for strokes over 200 in. (500 mm)).
9 = Special null or dead space (Enter 9 and specify below)

Transducer Cable Driver
0 = No. Up to 100 ft signal cable from transducer (standard for all digital and analog systems)
1 = Yes. For 100 to 250 ft maximum cable (see Note 1). Available for analog only. Standard for intrinsically safe.

Head Electronics Temperature Range (See Note 6)
1 = -40 ˚F to +180 ˚F (standard for strokes greater than 12 in. (300 mm), positive pulse.
2 = -40 ˚F to +180 ˚F (standard for strokes greater than 12 in. (300 mm), negative pulse), see Note 10.
X = Other (leave blank and specify below)

Environmental
0 = NEMA 1, dust-tight enclosure (standard with styles 01 & 03)
3 = Intrinsically safe (6 wire) use with styles 01 & 03) See Notes 1 & 5.
4 = NEMA 6, hermitically-sealed enclosure (available with style 02) See Note 1.
5 = NEMA 4, splash-proof enclosure (standard with style 02) See Note 1.
X = Other (leave blank and specify below)

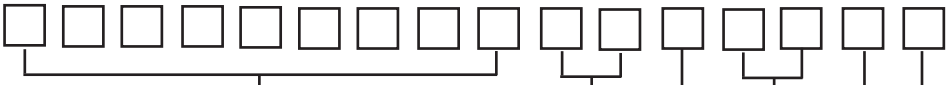
Transducer Cable (See Note 9)
0 = 5 ft with connector - Analog styles 01 & 03)
1 = 2 ft with connector - Digital (styles 01 & 03) former standard.
2 = None - Analog (style 02, specify extension cable below)
3 = None - Digital (style 02, specify extension cable below)
6 = 5 ft pigtail - Analog
7 = 5 ft pigtail - Digital
8 = 5 ft with connector - Digital (new standard, see Note 9)
9 = Other length or connector (specify below) Digital

Special Requirements and Accessories. Specify separately:
Other null or dead space: ____ in (mm) Integral cable length =_____ Extension cable length = _____
Special connectors: _____
Special considerations and/or options not shown: _____
Accessory part number(s): _____ Magnet, standard ❑ Other ❑ _____

NOTES:
1. Available at extra cost. Consult MTS Sensors Division for more information.
2. All flexible styles require MTS engineering approval.
3. 30 ft maximum stroke for styles 01 and 02; length restrictions apply to some special styles (consult MTS Sensors Division for more information).
4. Style 03 is available with 3-inch null and 8-inch dead space (for strokes up to 200 inches), or with 3-inch null and 10-inch dead space (for strokes over 200 inches).
5. Intrinsically safe is defined as approved by Factory Mutual for use Class I, Div. I, Groups C and D hazardous environments. Intrinsically safe units require user supplied approved safety barriers and special installation procedures. (Consult MTS Sensors Division for more information).

TEMPOSONICS I - How to Order an Analog Output Module by Model Number

Obsolete Temposonics I Model number



Transducer
First 9 digits of transducer model number

Enclosure Style (See Note 1)
30 = No enclosure (board only)
31 = With strain relief connectors (Standard).
32 = With 6-pin and 5-pin connectors (See Note 2).
XX = Special (leave blank, to be coded by MTS Sensors Division) (See Note 2)

Temperature Range and Temperature Coefficient
0 = +35 °F to +150 °F and 20 ppm/ °F t.c.
1 = -40 °F to +180 °F and 20 ppm/ °F t.c. (See Note 2)

Displacement Outputs (Standard)

Normal (Forward acting)	**Reverse acting**
10 = 0 to +10 V	20 = 0 to +10 V reverse
30 = 0 to +5 V	40 = 0 to +5 V reverse
50 = 10 to +10 V	60 = -10 to +10 V reverse
70 = 5 to +5 V	80 = -5 to 5 V reverse
01 = 0 to -10 V	02 = 0 to -10 V reverse

Displacement Outputs (Optional) (See Notes 2 and 3)

Optional (See Notes 2 and 3)

03 = 4 to 20 mA ungrounded	04 = 4 to 20 mA ungrounded reverse
05 = 4 to 20 mA grounded	06 = 4 to 20 mA grounded reverse
07 = 0 to 20 mA ungrounded	08 = 0 to 20 mA ungrounded reverse

99 = Other voltages (Specify below in Special Option Details Part A)
90 = Differential (See Note 4)
09 = Dual channel (2 independent channels) (See Note 4)

DC Power Supply Voltages
0 = ± 15 Vdc (standard)
1 = 24 Vdc (See Notes 2 and 3)
X = Other (to be coded by MTS Sensors Division) (See Note 2)

Velocity Options (Specify values in B below) (See Note 2)

0 = None
1 = Forward-acting voltage output (0 to +10 V towards tip and 0 to -10 V towards head)
2 = Reverse-acting voltage output (0 to -10 V towards tip and and 0 to +10 V towards head)
X = Other (To be coded by MS Sensors Division)

Special Option Details:

A Displacement option 99 (other voltage): Minimum voltage = _____ Vdc Maximum voltage = _____ Vdc

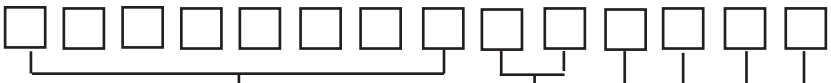
B Specify the following to velocity options 1 and 2: Minimum **operating speed** _____ **in./s =** _____**Vdc (0 in./s = 0 Vdc)**
Normal operating speed _____ **in./s =** _____**Vdc**
Maximum operating speed _____**in./s =** _____**Vdc**

NOTES:

1. Available at extra cost. Consult MTS Sensors Division for more information.
2. All flexible styles require MTS engineering approval.
3. 30 ft maximum stroke for styles 01 and 02; length restrictions apply to some special styles (consult MTS Sensors Division for more information).
4. Style 03 is available with 3-inch null and 8-inch dead space (for strokes up to 200 inches), or with 3-inch null and 10-inch dead space (for strokes over 200 inches).
5. Intrinsically safe is defined as approved by Factory Mutual for use Class I, Div. I, Groups C and D hazardous environments. Intrinsically safe units require user supplied approved safety barriers and special installation procedures. (Consult MTS Sensors Division for more information).

TEMPOSONICS I - How to Order a DIB by Model Number

Obsolete Temposonics I Model number



Transducer
First 8 digits of transducer model number

Style
40 = ± 15 Vdc +35 °F to +150 °F (Standard)
41 = ± 15 Vdc -40 °F to 180 °F (Obsoleted)
42 = Universal ±15 Vdc (See Note 2)
43 = ±12 Vdc +35 °F to +150 °F (See Note 1)
44 = ±12 Vdc -40 °F to +180 °F (Obsolete) (See Note 1)
XX = Special (To be determined by MTS Sensors Division)

Update Time

0 = ≤ 1.5 ms	3 = ≤ 3.5 ms	6 = ≤ 10.0 ms	9 = External Interrogate
1 = ≤ 2.5 ms	4 = ≤ 5.0 ms	7 = ≤ 15.0 ms	X = None. other, or to be determined by MTS Sensors Division.
2 = ≤ 3.0 ms	5 = ≤ 7.5 ms	8 = ≤ 25.0 ms	

Interrogation
0 = Internal (Standard)
1 = External (See Notes 1 and 4)

Recirculation

0 = 1	3 = 8	6 = 64
1 = 2	4 = 16	7 = 128
2 = 4	5 = 32	

Environmental
0 = Standard (NEMA 1)
2 = Conformably coated (See Notes 5 and 6)

Digital interface box design changes: Effective for all orders placed after 2/15/88: All digital interface boxes are supplied with 100 ft transducer drive capability.

NOTES:
1. Used with MTS Motion Plus INCOL controllers. For all other applications, use ±15 Vdc..
2. Universal boxes are factory set for a maximum stroke length.
3. As required when used with MTS Motion Plus TDC controllers.
4. Applied to printed circuit boards. Normally used in high-humidity environments.
5. Available at extra cost.

TEMPOSONICS I - How to Order a Digital Counter Card by Model Number

Obsolete Temposonics I Model number

Transducer
First 8 digits of transducer code

Output Format

80 = Natural binary parallel transmission (12 bits)
81 = Natural binary parallel transmission (13 bits)
82 = Natural binary parallel transmission (14 bits)
83 = Natural binary parallel transmission (15 bits)
84 = Natural binary parallel transmission (16 bits)
85 = Natural binary parallel transmission (17 bits)
86 = Natural binary parallel transmission (18 bits)
87 = Natural binary parallel transmission (19 bits)
8X = Natural binary (Ask MTS Sensors Division to complete code)
89 = natural binary, other than above

90 = BCD 3 digits 12 bits (999 max reading)
91 = BCD 3-1/2 digits 14 bits (3999 max reading)
92 = BCD 4 digits 16 bits (9999 max reading)
93 = BCD 4-1/4 digits 17 bits (19999 max reading)
94 = BCD 4-1/2 digits 18 bits (39999 max reading) (See Note 2)
95 = BCD 5 digits 20 bits (99999 max reading) (See Note 2)
9X = BCD (Ask MTS Sensors Division to complete code) (See Note 2)
99 = BCD other than above

Orientation
0 = Forward count (Standard)
1 = Reverse count

Data Validation
0 = 1 microsecond latch pulse and latch inhibit input (Standard)
1 = 12 microsecond latch pulse and latch inhibit (See Note 4)
X = Other than above or special (Consult MTS Sensors Division for more information)

Resolution (Scaled) (See Notes 1 and 3)
0 = 0.1 in. (2.5 mm for metric strokes)
1 = 0.01 in. (0.25 mm for metric strokes)
2 = 0.004 in. (0.1 mm for metric strokes)
3 = 0.002 in. (0.05 mm for metric strokes)
4 = 0.001 in. (0.025 mm for metric strokes)
5 = 0.0005 in. (0.0125 mm for metric strokes)
6 = 0.00025 in. (0.0063 mm for metric strokes)
9 = Other unscaled (Consult MTS Sensors Division and specify resolution separately)

New Features and Design Changes
- Zero preset by DIP switches - can be reset in the field if desired.
- Latch inhibit offered as standard at no charge (pin 24).
- Latch pulse now offered on pin 3 (was on pin 24).
- Millimeter resolution is now standard for strokes specified in millimeters.
- Card width now 4-1/2 in. (was 4-1/4 in.).

NOTES:
1. All transducers with strokes specified in mm will be supplied with resolution in mm unless specified otherwise.
2. Two cards are required for this output format at additional cost.
3. For details about how to select resolution, contact MTS Sensors Division. The standard counter card clock crystal is 27-28 MHz. Other clock crystals are available at extra cost.
4. Available at extra cost. Consult MTS Sensors Division for more information.

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