

# MDT4X2F Series Pressure Sensors With SIL2

*SIL2 AND PL 'C' RATING WITH LOCAL AND  
REMOTE REZEROING CAPABILITY*



## Description

The MDT4X2F Pressure Sensor Series provides special features for critical field applications in high noise surroundings. The utilization of unshielded cables is possible for long distance transmission free of noise interference for the converted process pressure signal 4-20 mA. The MDT4X2F comes equipped with adjustable zero and span side-mounted potentiometers. MDT4X2F Series mA sensors can be rezeroed in two ways: locally via the zero potentiometer, or remotely via shorting two pins together (contact closure). Optional thermocouple or RTD configurations are available to provide melt temperature.

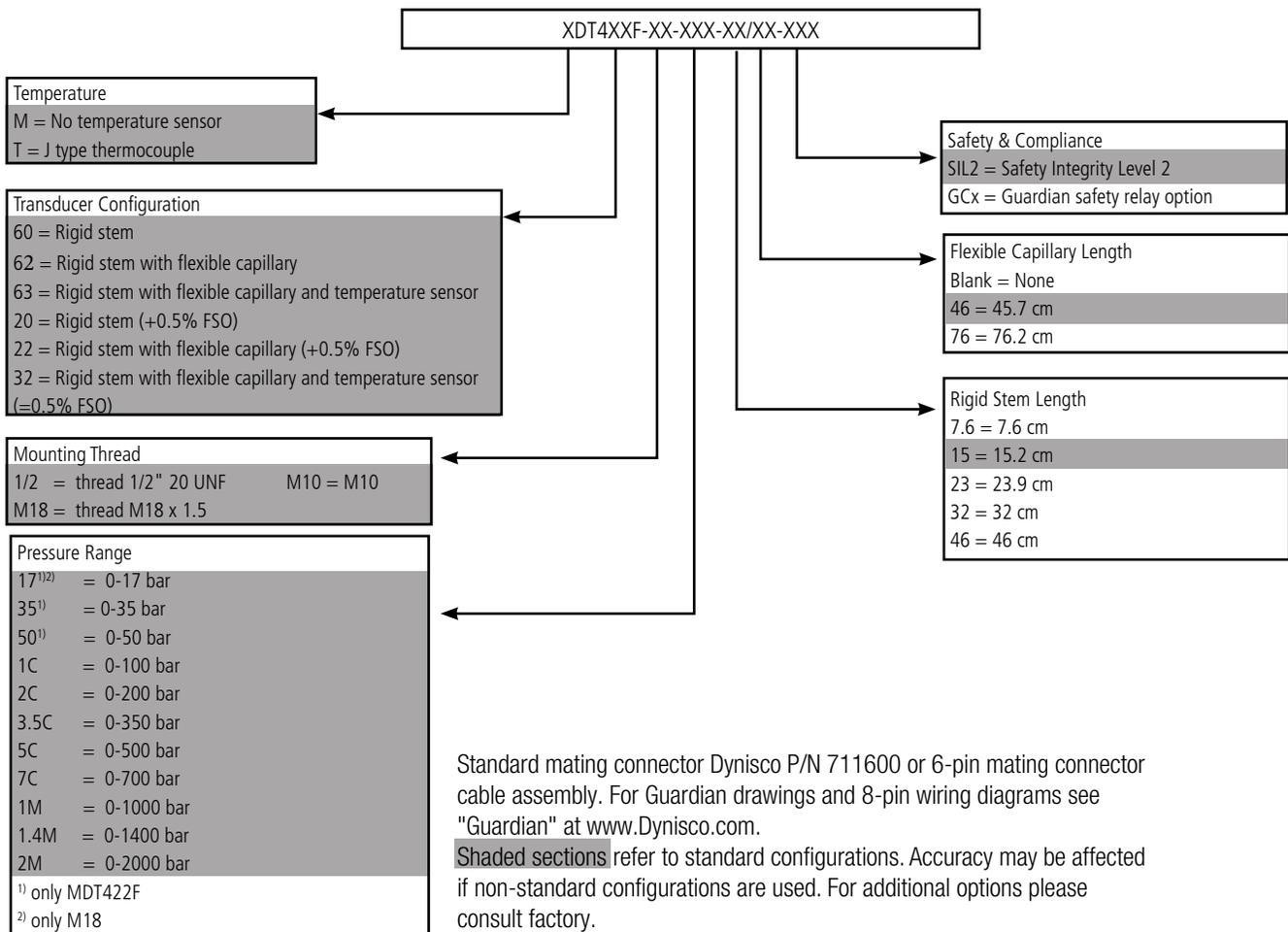
## Features

- Simple unshielded two-wire cable connection in high noise ambients
- Efficient rezero adjustments can be made locally or remotely to the sensor
- 4-20 mA two-wire signal output
- Installation for media temperatures up to 400°C
- Adjustable zero and span, via side-mounted pots
- Flexible capillary connection between stem with diaphragm and housing
- 3rd-party agency analysis (exida™) and self-certified based on FMEDA analysis and internal audit
- Meets Performance Level 'c' as defined by the Machinery Directive (Category 1)
- Meets the following compliance directives, when properly installed and used:
  - – SIL2
  - – Machinery Directive EN ISO 13849-1

Performance Characteristics	
<b>Pressure Range:</b>	0-17 bar to 0-2000 bar
<b>Accuracy:</b>	MDT422F $\pm 0.5\%$ FSO (up to 50 bar $\pm 1\%$ FSO);
<b>Repeatability:</b>	MDT422F $\pm 0.1\%$ FSO (up to 50 bar $\pm 0.2\%$ FSO); MDT462F $\pm 0.2\%$ FSO
<b>Resolution:</b>	Infinite
<b>Maximum Overload (without influencing operating data):</b>	2x pressure range for range 1000 and 1400
<b>Burst Pressure:</b>	6x pressure range max. 3000 bar
<b>Material in Contact with Media:</b>	15-5 PH SST (Mat. No. 1.4545) DyMax® coated
Electrical Characteristics	
<b>Configuration:</b>	4-arm Wheatstone bridge strain gage
<b>Internal Shunt Calibration:</b>	80% of full scale $\pm 1\%$
<b>Output Signal:</b>	2-wire 4-20 mA
<b>Supply Voltage:</b>	12-36 Vdc
<b>Zero Balance:</b>	$\pm 1\%$
<b>Rezero Initiation:</b>	Locally via zero potentiometer, or remotely via short circuit between pins "D" and "F"
<b>Range Calibration 80% FSO:</b>	"Short circuit" between connections pins "E" and "F" at the sensor or externally from the control room
<b>Load Resistance:</b>	Maximum 1200* at 36 Vdc Maximum 500* at 24 Vdc
<b>Isolation Resistance:</b>	1000M* at 50 Vdc

Temperature Influence	
<b>Diaphragm:</b>	
<b>Max. Temperature:</b>	400°C
<b>Zero Shift (due to temperature change):</b>	MDT422F X < 0.2 bar/10°C MDT462F X < 0.4 bar/10°C
<b>Housing:</b>	
<b>Max. Temperature:</b>	85°C
<b>Zero Shift (due to temperature change):</b>	$\pm 0.2\%$ FSO/10°C
<b>Sensitivity Shift (due to temperature change):</b>	MDT422 X $\pm 0.1\%$ f.s.v./10°C up to 50 bar $\pm 0.2\%$ f.s.v./10°C MDT462 X $\pm 0.4\%$ f.s.v./10°C
Approvals & Self Certifications	
<b>CE:</b>	Directive 2004/108/EC
<b>ISO:</b>	ISO 9001:2008 production environment
<b>PL'c':</b>	EN ISO 13849-1 meeting the performance requirements of a safety-related part of a control system for Performance Level 'c' (PL'c') safety system when installed per Category 1
<b>SIL2:</b>	Safety Integrity Level 2

## Ordering Guide



## ACCESSORIES

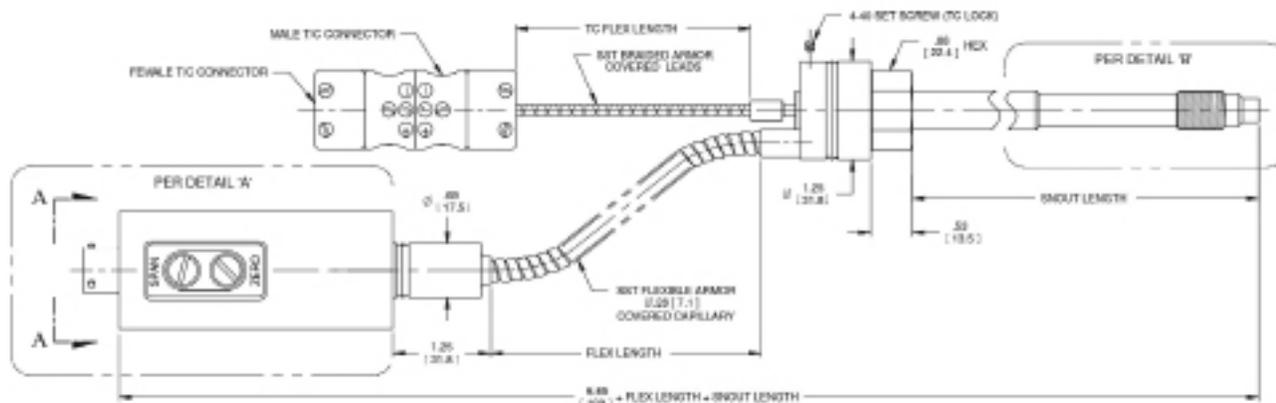
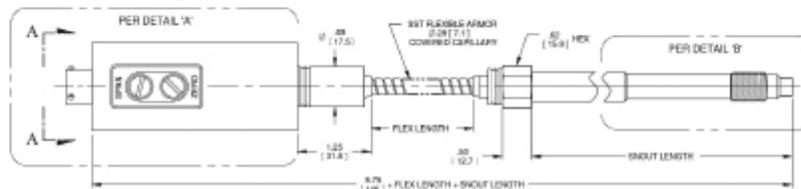
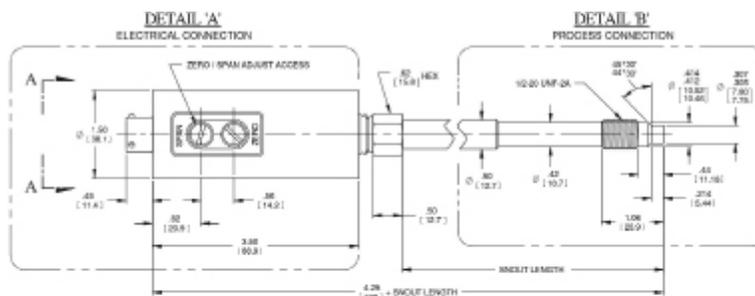
Cleaning Tool Kit, Machining Tool Kit, Guardian (Machinery Directive) Safety Relay—see Guardian Data Sheet for details; NaK Fill; UPR Process Indicator, ATC Process Controller. For additional options please contact the factory.

# Dimensions

CONNECTOR WIRING	
PIN	FUNCTION
A	SIGNAL + / EXCITATION +
B	SIGNAL - / EXCITATION -
C	NO CONNECTION
D	REZERO +
E	RCAL +
F	RCAL - / REZERO -

ZERO AND SPAN ADJUST ACCESS PROTECTED BY SEAL SCREWS

SEAL: CONDUCTOR PT06A-104P OR EQUIVALENT  
 WIRING CONDUCTOR PT06A-104S (SR) OR EQUIVALENT



**NOTES:**

1. DIMENSIONS ARE IN INCHES ( MILLIMETERS ).
2. DIMENSIONS ARE NOMINAL AND FOR REFERENCE ONLY.
3. NOT ALL CONFIGURATIONS & OPTIONS ARE SHOWN. CONSULT FACTORY.

All dimensions are inches (mm) unless otherwise specified.