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PM Instrumentation

KD-2306

Non-contact position/displacement sensors

Features

- Supports both dual and single coil sensors
- Terminal I/O connections
- Auto-synchronization of multiple channels
- Analog DC and 4-20mA outputs
- Single ended, bipolar, and differential voltage outputs
- Front face coarse and fine calibration controls
- RoHS compliant and CE marked

KD-2306 electronics

Multi-purpose non-contact position and displacement sensing

The KD-2306 is a non-contact linear displacement measuring instrument. When paired with any of the supported sensors it becomes an easy to use, high precision static and dynamic measuring system. Applications range from lab work, to production/process automation. The DIN rail mount interface makes it ideal for integration into OEM equipment and industrial control applications. It is a cost-effective replacement for LVDTs, air gauges, dial indicators and micrometers.

A system includes a sensor and electronics. Every system comes with factory calibration complete with a NIST traceable calibration record. For customers who desire to do their own recalibration, zero, gain and linearity potentiometers are provided. The output voltage of the system is proportional to the distance between the face of the sensor and any metallic (conductive) target.

A variety of options are available including extending the sensor cable, extended range calibration, temperature compensation calibration, and sensor customization to fit the needs of the application.

Contact Kaman for assistance.

General Performance Specifications

The following specifications can be applied to the full range of systems using standard sensor options in the chart on page 3. Each sensor has specific performance specifications that can be better than those listed below.

Resolution	0.01%FS
Frequency response	50KHz (-3dB point) Higher frequency response available on request.
Nonlinearity	<1%FS
Thermal sensitivity	Standard 0.1%FS/°F Compensated 0.02%FS/°F
Output options	0-10 VDC (standard) 0-5 VDC ±5 VDC, 4-20 mA

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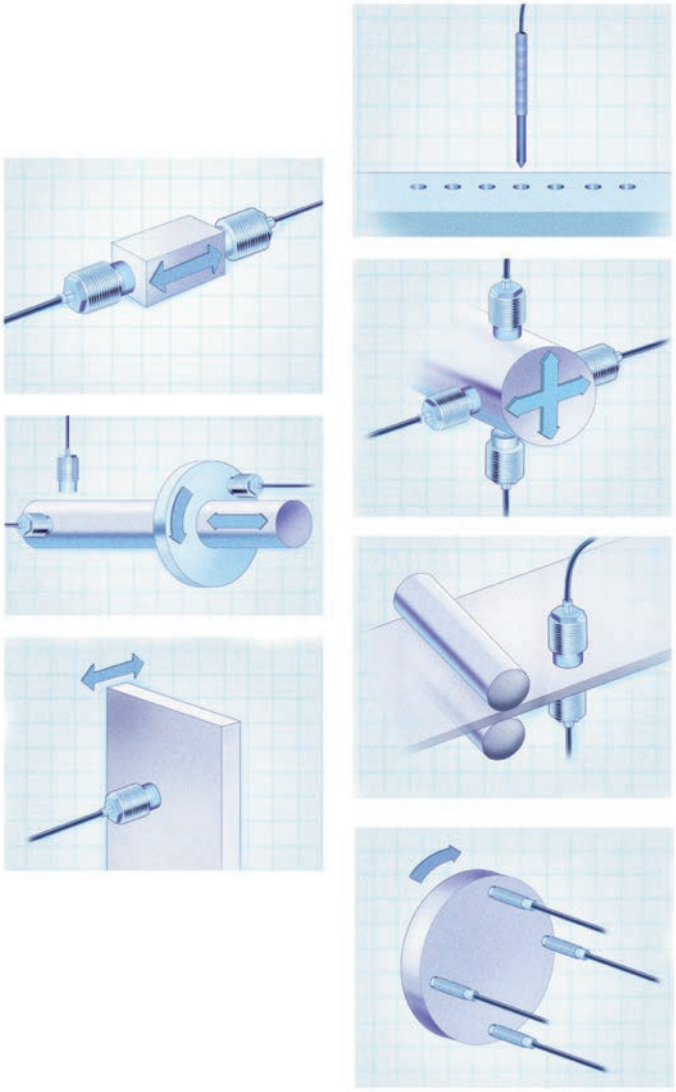
Sensor Family

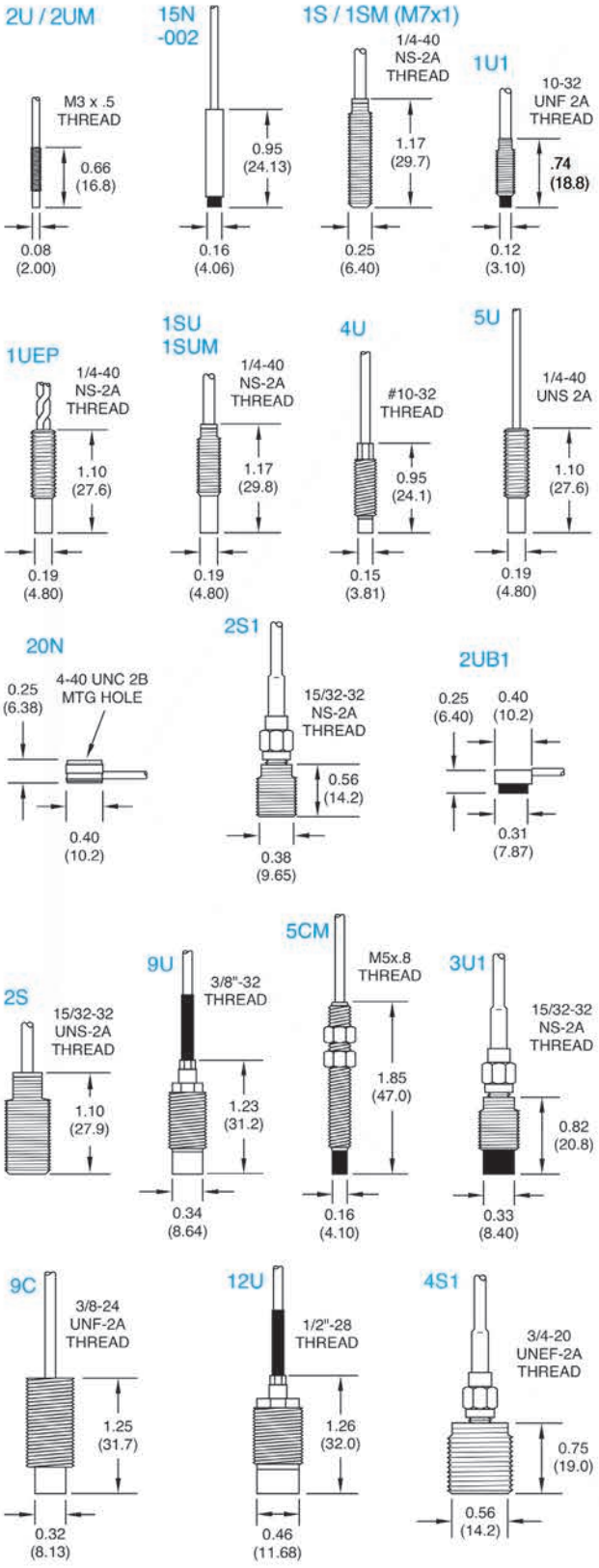
Let us help you choose the best sensor, conditioning electronics and calibration for your application.



Support available to help solve your most challenging application and technical questions.

Sensors (shown at 50%)

Note: All dimensions shown in inches (mm).



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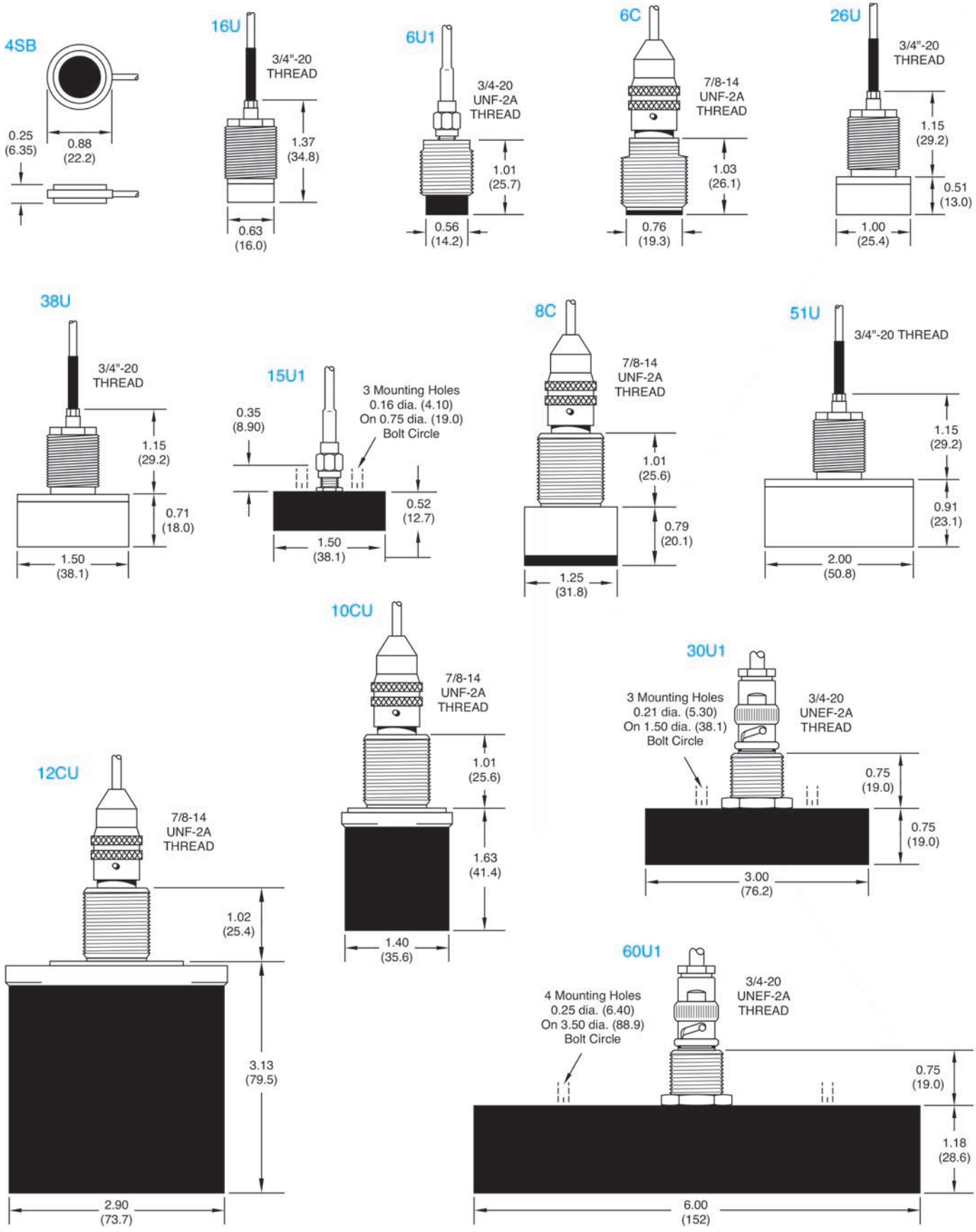
Sensors (shown at 50%)

Note: All dimensions shown in inches (mm).



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KD-2306 Sensors

SENSOR	STANDARD MEASURING RANGE		TARGET MATERIAL		STATIC RESOLUTION		SINGLE (S) OR DUAL (D) COIL	SHIELDED (S) OR UNSHIELDED (U)	OPERATING FREQUENCY	STANDARD CABLE LENGTH (FT)	INTEGRAL (I) OR REMOVABLE (R) CABLE	NOTES
	inch	mm	non-fer	ferrous	µ in	µ m						
STANDARD TEMPERATURE SENSORS: -67° TO +220° F (-55° TO +105° C)												
.5SU / .5SUM	0.020	0.5	.5SU	.5SUM	4	0.1	S	U	1 MHz	6.6	I	
1S /1SM	0.040	1.0	1S	1SM	4	0.1	D	S	1 MHz	10	I	
1U1	0.040	1.0	■		4	0.1	S	U	0.5 MHz	10	I	
1SU / 1SUM	0.050	1.3	1SU	1SUM	5	0.1	D	U	1 MHz	10	I	
2S1	0.080	2.0	■		8	0.2	S	S	0.5 MHz	10	R	N
2UB1	0.080	2.0	■		8	0.2	S	U	0.5 MHz	10	I	
2S	0.100	2.5	■	■	10	0.3	D	S	1 MHz	10	I	
3U1	0.120	3.0	■		12	0.3	S	U	0.5 MHz	10	R	
4S1	0.160	4.0	■	■	16	0.4	S	S	0.5 MHz	10	R	N
4SB	0.160	4.0	■		16	0.4	S	S	0.5 MHz	10	I	N
6U1	0.240	6.0	■	■	24	0.6	S	U	0.5 MHz	10	R	
6C	0.250	6.4	■	■	25	0.6	D	S	1 MHz	15	R	
8C	0.500	13	■	■	50	1.3	D	S	1 MHz	15	R	N
15U1	0.600	15	■		60	1.5	S	U	0.5 MHz	15	R	
10CU	1.000	25	■	■	100	2.5	D	U	1 MHz	15	R	
30U1	1.200	30	■	■	120	3.0	S	U	0.5 MHz	15	R	
12CU	2.000	50	■	■	200	5.0	D	U	1 MHz	15	R	
60U1	2.400	60	■	■	240	6.0	S	U	0.5 MHz	15	R	
MODERATE TEMPERATURE SENSORS: CRYOGENIC TO +400° F (+200° C), SENSOR DEPENDENT												
1UEP	0.040	1.0	■	■	4	0.1	D	U	1 MHz	10	I	
2SMT	0.100	2.5	■	■	10	0.3	D	S	1 MHz	10	I	
6CMT	0.250	6.4	■	■	25	0.6	D	S	1 MHz	15	I	
8CMT	0.500	13	■	■	50	1.3	D	S	1 MHz	15	I	N
9U	0.160	4.0	■	■	16	0.4	S	U	1 MHz	6.6	I	
12U	0.200	5.0	■	■	20	0.5	S	U	1 MHz	6.6	I	
16U	0.320	8.0	■	■	32	0.8	S	U	1 MHz	6.6	I	
26U	0.500	12	■	■	50	1.2	S	U	1 MHz	6.6	I	
38U	0.750	20	■	■	75	2.0	S	U	1 MHz	6.6	I	
51U	1.000	25	■	■	100	2.5	S	U	1 MHz	6.6	I	

Notes:
1) N = Not for new design
2) Reference Sensors Data Sheet for dimensional information

KD-2306

Non-contact position/displacement sensors

Specifications

Operating Temperature Range

Electronics	+32°F to +132°F (0°C to +55°C)

Storage Temperature Range

Electronics	-67°F to +220°F (-55°C to +105°C)

Power Supply Requirements

Voltage	+15 to +30 Vdc
Voltage regulation	±1/2 Vdc
Current	150 mA

Terminal Screw Torque

Maximum	7 lb-in

Accessories

Power Supply
Micrometer Calibration Fixture
Ceramic Calibration Spacers
(for sensor sizes above 6C)

Options

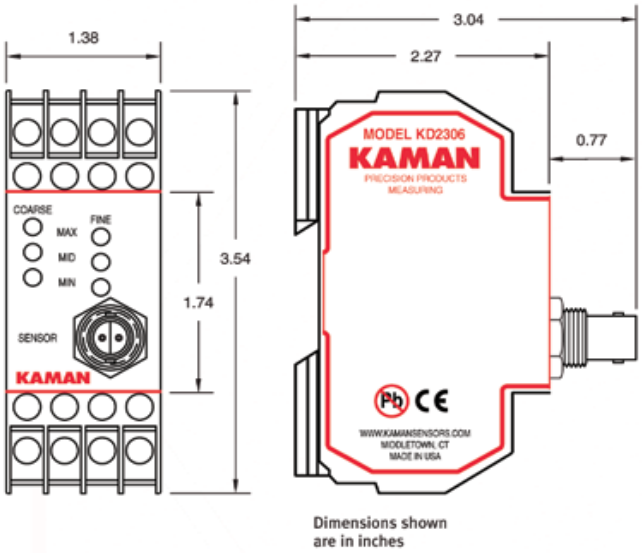
- Special calibrations
  - ❖ non standard range/target material
  - ❖ temperature compensation
  - ❖ at specific temperature and cryogenic
- Synchronization of multiple channels
- Sensor cables
  - ❖ non standard and extended length
  - ❖ in line or bulkhead splice
  - ❖ hermetic and non-hermetic bulkhead splice
- Microseal treatment for moisture resistance
- Custom sensor design

Ordering Information

Before ordering, you will need to determine which sensor model fits your application. You may also want to consider:

- ❖ sensor cable length
- ❖ optional calibration ranges
- ❖ temperature compensated calibrations and synchronization.

Contact Kaman to speak with an applications engineer for assistance.



Dimensions shown are in inches

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