

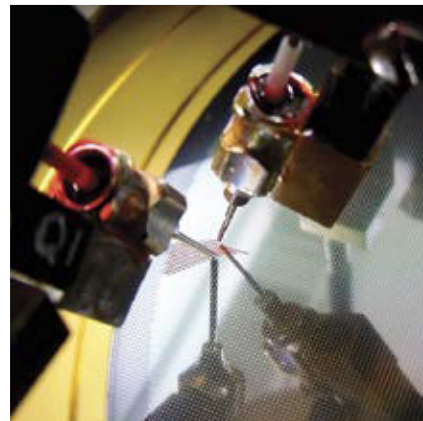
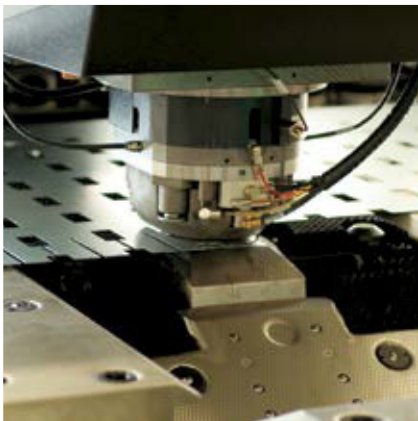


**mm OEM-2306**

Non-contact position sensing using Eddy Current Technology Specifically for OEM applications



**RoHS**





**FEATURES**

- Supports both dual and single coil sensors
- Terminal I/O connections
- Analog DC single ended and bipolar voltage outputs
- Front PCB accessible coarse and fine calibration controls
- RoHS compliant

**NON-CONTACT POSITION AND DISPLACEMENT SENSING**

The OEM-2306 is a non-contact linear displacement measuring instrument with the performance of the KD-2306 signal conditioning electronics in a smaller bare PC board format. It is factory configured for each specific set up for lower cost in higher volume applications. The board level configuration makes it ideal for integration into OEM equipment. It is a costeffective replacement for LVDTs, air gauges, dial indicators and micrometers.

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

Many aspects of the physical configuration and calibration can be specified 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)

Modified frequency response available on request.

**Nonlinearity**

<1%FS Typ

**Thermal sensitivity**

Standard 0.1%FS/°F

Compensated 0.02%FS/°F

**Output options**

0-10 VDC (standard)

0-5 VDC ±5 VDC





OEM-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)**

|            |       |     |     |      |     |     |   |   |         |     |   |  |
|------------|-------|-----|-----|------|-----|-----|---|---|---------|-----|---|--|
| 2U / 2UM   | 0.020 | 0.5 | 2U  | 2UM  | 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 |  |
| 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 |  |
| 4SB        | 0.160 | 4.0 | ■   |      | 16  | 0.4 | S | S | 0.5 MHz | 10  | I |  |
| 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 |  |
| 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 |  |
| 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) Reference Sensors Data Sheet for dimensional information

**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**

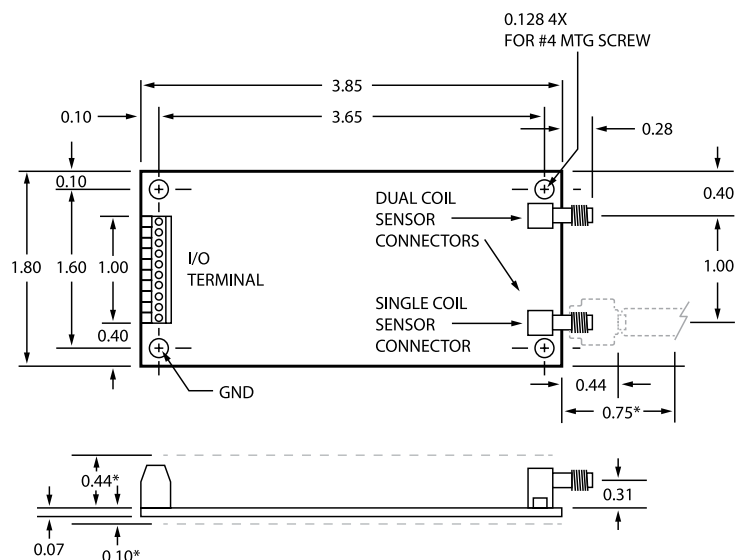
- Special calibrations
- non standard range/target material
- temperature compensation
- at specific temperature and cryogenic
- Sensor cables
- non standard lengths
- in line splice
- hermetic and non-hermetic bulkhead splice
- Microseal treatment of sensor for moisture resistance
- Custom sensor design
- Electronics enclosure for drop-in replacement of KD-2300 series

**ORDERING INFORMATION**

This product is only for volume OEM applications. For low volume applications refer to the KD-2306 data sheet. 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

Contact Kaman to speak with an applications engineer for assistance.



\*Notes: 1. Component clearance dimensions  
Dimensions are in inches