

SENSOR DATA SHEET

KDM-8206

Modular rack-mount  
multichannel  
non-contact  
position sensing



**KAMAN**  
PRECISION PRODUCTS

# KDM-8206

## FEATURES

- > Modularized rack format
- > Standard 3U-by-7T Eurocard measuring channel
- > Resolution to 10 microinches or better
- > Multiple channels, 19" rack-mounted or bench-top enclosures
- > Wide range of standard and moderate temperature sensors
- > Coarse and fine calibration controls
- > Auto-synchronization of multiple measuring channels
- > RoHS compliant
- > CE-marked measuring channel

## SPECIFICATIONS

Technology	Inductive bridge
Size	One 7T slot wide
Power supply	
Voltage	±15 Vdc
Current	≤50 mA per side
Regulation	±0.5 Vdc
Output signal	0-10 Vdc analog voltage standard 4-20mA current
Resolution	0.0 1% of FS
Non-linearity	< 1% of FS
Target materials	Ferrous and non-ferrous (ferrous standard - 4130 steel, nonferrous standard - 6061 T6 aluminum, other materials optional)
Frequency response	50 KHz (-3db) standard 100 Hz to 120 KHz optional
Thermal sensitivity	0.1% of FS per °F 0.02% of FS per °F with factory temperature compensation (0.05%FS/°F for .5U2)
Operating temperature measuring channel	+32°F to +132°F (0°C to +55°C)
Storage temperature measuring channel	-67°F to +220°F (-55°C to +105°C)



## KDM - 8206 MEASURING MODULE

The KDM-8206 high-precision displacement measuring system is packaged in a modularized rack format for multi-channel displacement, run-out, and position measurements. It is ideal for industrial, laboratory, and production test applications.

The 3U-by-7T Eurocard measuring module is the fundamental component of this non-contact measuring system, along with the sensors listed on *page 3*. This module — which conditions the sensor signal — contains the inductive bridge and signal conditioning circuits that produce the measurement output, a linear voltage proportional to the physical displacement of the target relative to the sensor.

## OPTIONS

- > Calibration to non-standard target material
- > Calibration to non-standard sensor range
- > Calibration to customer supplied target
- > Calibration for non-standard output
- > Cryogenic calibration
- > Temperature compensation to a specific temperature
- > Non-standard sensor cable length
- > In-line sensor cable splice (hermetic or non-hermetic)
- > Microseal sensor treatment for moisture resistance
- > Custom sensor design

# KDM-8206

## KDM-8206 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
	inch	mm	non-fer	ferrous	μ in	μ m					

### STANDARD TEMPERATURE SENSORS: -67° TO +220° F (-55° TO +105° C)

.5U1/.5U2	0.020	0.5	.5U1	.5U2	4	0.1	S	U	1 MHz	10	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	0.2	S	U	0.5 MHz	15	R
15U2	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
30U2	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

Reference Sensors Data Sheet for dimensional information

\* Must specify actual target material. Performance specifications may change.

# SENSOR DATA SHEET

## KDM-8206

### RACK-TYPE ENCLOSURES

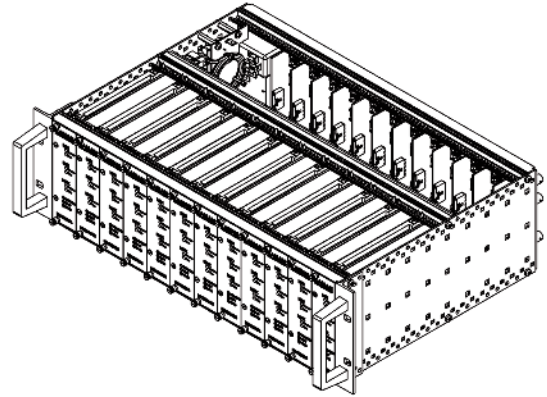
Kaman offers three types of enclosures for the KDM-8206 measuring channel.

#### Standard features

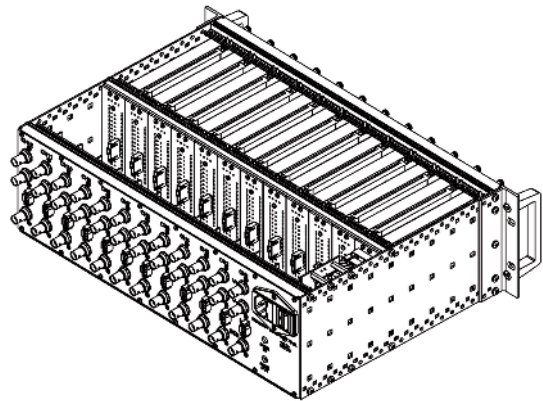
- > 110/220 vac, 50/60 Hz input power supply
- > BNC coaxial output connectors for measuring channel voltage outputs
- > Two-position terminal blocks for measuring channel current outputs
- > Twin BNC connectors for sensor inputs
- > +15 and -15 power supply indicator LEDs

#### Options

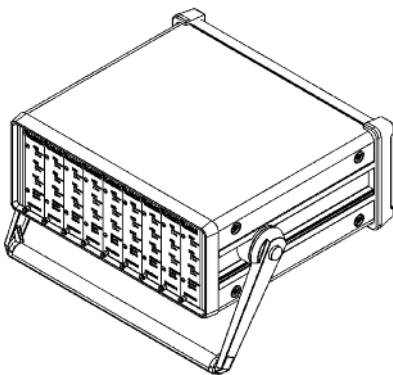
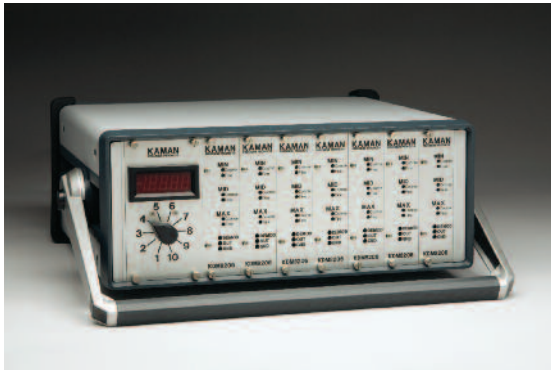
- > Meter
- > Rack-to-rack synchronization
- > True differential output



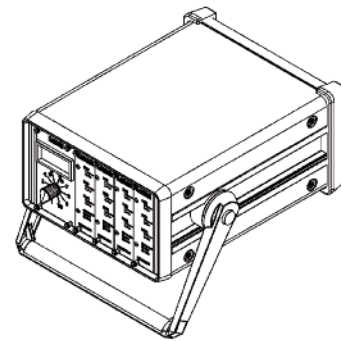
**3U/84HP 19-inch full rack - front view**  
12-channel capacity, 12.7 inches/323 mm deep.



**3U/84HP 19-inch full rack - back view**  
12-channel capacity, 12.7 inches/323 mm deep.



**3U/63HP mid rack**  
Bench-top Eurocard instrument case with handle and 9-channel capacity, 12.3 inches/312 mm deep.



**3U/42HP half rack**  
Bench-top Eurocard instrument case with handle and 6-channel capacity (12.3 inches/312 mm deep).