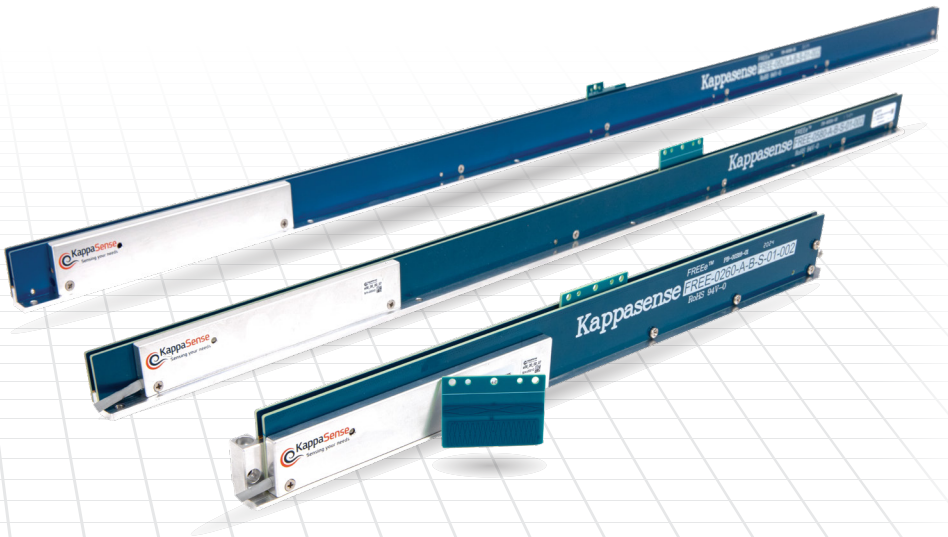


# FREE<sup>e</sup>™

Cable-free Readhead Absolute Linear Encoder



- Cable-Free, ultra light Readhead
- Wide mechanical tolerances

- Multiple Readheads
- Harsh environment

## LINEAR ENCODER WITH CABLE-FREE READHEAD

KappaSense's FREEe™ is a linear encoder technology platform in which the readhead is a passive device weighing only 3 grams. This means that, with this encoder, moving cables are not required! All the encoder cabling is static and connected to the scale.

A primary factor of concern in linear motion systems is the robustness of the cables that are connected to the moving element. The FREEe™ solution enhances machine reliability by obviating the need for moving encoder cables.

In addition, KappaSense's encoders offer wide mechanical tolerances & Harsh Environment operation which makes it suitable for myriad applications.

## TECHNICAL SPECIFICATION

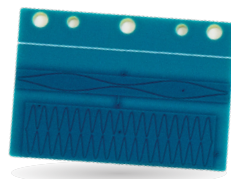
Encoder Parameter	Value
Encoder Type	Absolute / Incremental
Encoder Interface	BiSS C, AQB
Stroke length	See ordering information table
Accuracy	$\pm 40 \mu\text{m}^1$
Resolution	$2 \mu\text{m}^2$
Repeatability	$2 \mu\text{m}^2$
Operating Speed	6 m/sec
Operating temp range	$0 \div 70 \text{ }^\circ\text{C}$
Power Consumption	5V 0.2A
Roll, Pitch, Yaw	$\pm 0.5^\circ$
Lateral Offset	$\pm 0.5\text{mm}$
Readhead height Tolerance	$\pm 0.5\text{mm}$

<sup>1</sup> Contact us for improved Accuracy

<sup>2</sup> Depending on Scale Length

## KEY FEATURES

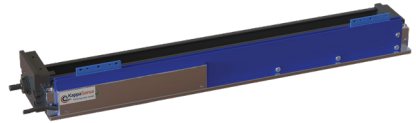
- > Cable-free Readhead motion
- > Extended installation tolerance
- > Contamination Immunity:  
dust, grease & more
- > Customizable
- > Resilient to vibration
- > Immunity to magnetic fields
- > Wide temperature range



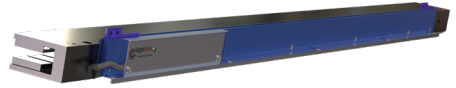
Readhead can be modified to different forms & materials

## APPLICATIONS

- > Machine Automation
- > CNC & Laser Printing
- > Medical Robotics
- > Linear motors & Stages
- > Electro-Optical control
- > Challenging environments  
(Temperature, Vibrations, Dirt)



Ball screw Actuator Feedback



Linear motor direct mount

## REGULATORY COMPLIANCE

- > RoHS
- > EMC Immunity IEC 61000-6-2
- > EMC Emissions IEC 61000-6-4

## MULTIPLE READHEADS

Kappasense FREEe™ platform can offer the ability to implement multiple Readheads on a single linear scale, thereby giving the ability to control more than 1 load on the same axis with a single encoder.

### The benefits are substantial:

- > BOM cost reduction
- > HW space consumption reduced
- > Less Weight
- > Absolute position

### Applications:

- > Linear Transport Systems / Track Systems
- > Conveyors
- > Multi-lenses Optical devices



# FREE<sup>e</sup>™

## Cable-free Readhead Absolute Linear Encoder

### ORDERING INFORMATION

Description	Product Family	Measuring Length	Sensing	Communication	Environment	# of Readheads	Factory Specific
	Free	XXXX	X	X	X	XX	XXX
<b>Options</b>	Free	0140	A - Absolute	B - BISS C	S - Standard	01- Single	001
		0260	I - Incremental*	A -AQB	V - Vacuum*	02- Dual*	
		0580					
		0820					
		...					
		1100					

Ordering Example: FREE-0260-A-B-S-01-001

\* Contact for more information

### 8 good reasons for choosing KappaSense Capacitive Linear Encoders (C.L.E)

- 
 Capacitive, Absolute, Linear Encoder
- 
 Installation Flexibility
- 
 Temperature Range
- 
 Cable Free Readhead
- 
 Limited Liquid Sensitivity
- 
 No Magnetic Sensitivity
- 
 Limited Dust Sensitivity
- 
 Field-proven in flagship machine

How can we assist you?

**You are always welcome to contact us.**



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