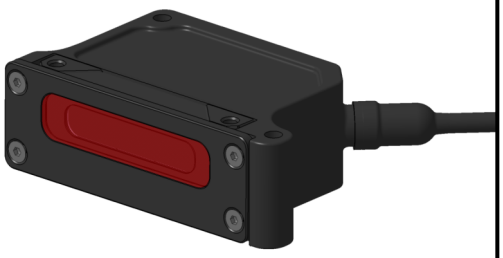
kasensors
SENSE ▪ ANALYSE ▪ CONTROL



RHL5 Laser Ride Height Sensor

The RHL5 Laser Ride Height Sensor builds on the success of its predecessor, offering class leading accuracy and reliability in a small, rugged package, but now also including the ability to dynamically configure the sensor via its CAN interface. Measurement rate, averaging filters and error handling can be adjusted on the fly, allowing the sensor configuration to be modified whilst fitted to the vehicle, ensuring the optimum signal is available under all running conditions.

The sensor incorporates a visible laser that is reflected off the track surface to a precision CCD detector which determines the height from the ground with a high degree of accuracy, whilst the on-board compensation ensures that different track colours and surfaces are correctly measured without error.

Supplied with either measurement ranges of 200mm or 500mm, the RHL5 is ideal for use on all types of vehicle. A user replaceable lens means that the part can be easily serviced in the field if required by the customer.

Technical Specifications

Product	**Model Range**	RHL5-200	RHL5-500
	Dimensions	61 x 37 x 20mm	
	Weight	52g (excluding cable)	
	Housing Material	Black anodised aluminium (7075-T7351)	
	Lens Material	Plastic (replaceable)	
Performance	**Accuracy**	±0.1%/FS	±0.2%/FS
	Resolution	0.02mm	
	Output (Analogue)	1 to 5Vdc	
	Output (CAN)	See 'CAN Configuration' Table (page 4)	
	Voltage Supply	11-30Vdc	
	Current Draw	50mA (Typical)	
	Laser Type	1mW, 670nm, Class 2 (DIN EN 60825-1 2009)	
	Ambient Light	<40,000Lx	
	Insulation Resistance	>100MΩ at 100Vdc all cable terminations to housing	
Environment	**Operating Temperature**	0°C to +90°C	
	Storage Temperature	-20°C to +90°C	
	Vibration	20G 10Hz-1kHz	
	Shock	50G 11ms	
	Ingress Protection	IP6K7	
	EMC	UNECE Regulation 10.06 ESA	
	ESD	ISO 10605:2008-07	

KA sensors adopts a continuous development program which sometimes necessitates specification changes without notice.

Sense

Analyse

Control

Features

- 200 & 500mm Range
- Dynamically Configurable By Customer
- Up To 4KHz Measurement Rate
- Customer Replaceable Lens

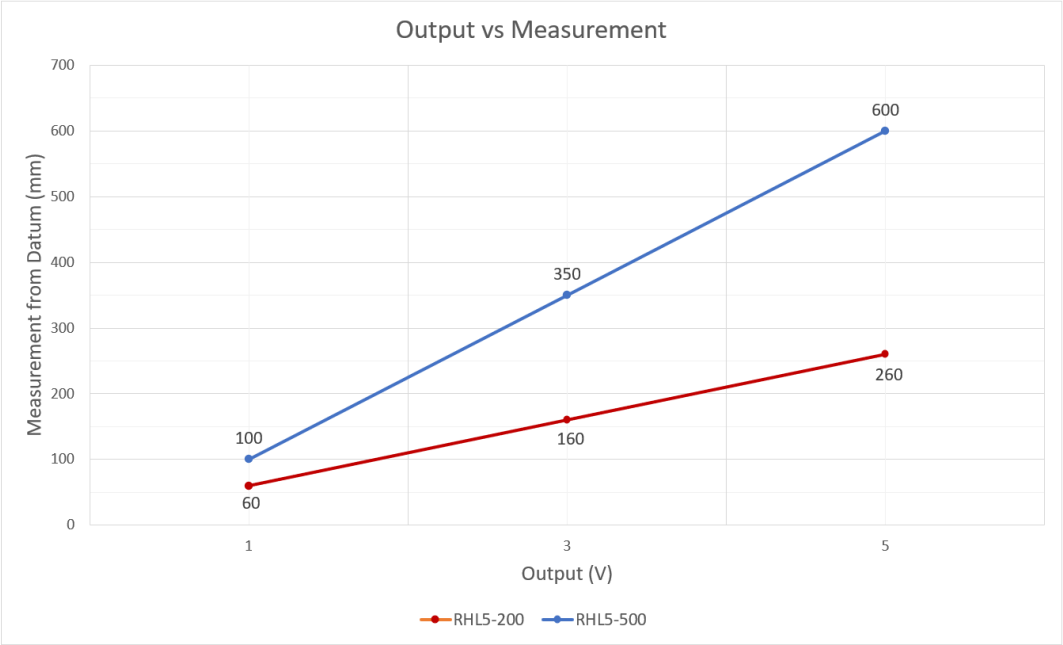
Applications

- Ride Height
- Suspension Setup
- Chassis Distortion
- Bodywork Deflection

bf1systems.com

sales@kasensors.com

Output Graph



Connection Details

+Ve Supply	0V/GND	Analogue Output	CAN (Hi)	CAN (Lo)
Yellow	Green	White	Red	Blue
100cm, 24AWG, 55spec Wire + DR25 Sleeve (Flying lead)				

Product Configuration

Part Number/ Order Code	Measurement Range (MR)	Start Measurement (SMR)	End Measurement	Special Code
RHL5-200-000	200mm	60mm	260mm	Default
RHL5-500-000	500mm	100mm	600mm	Default

Accessories

Part number	Description
RHL5-ReplaceLens-Assembly	Replacement Lens

Sense

Analyse

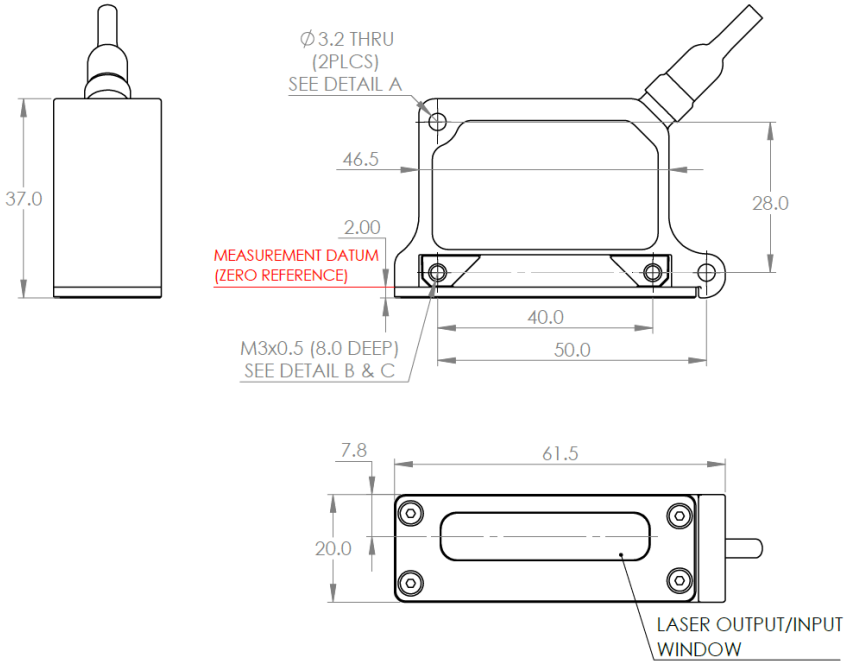
Control

bf1systems.com

sales@kasensors.com

Mechanical Details

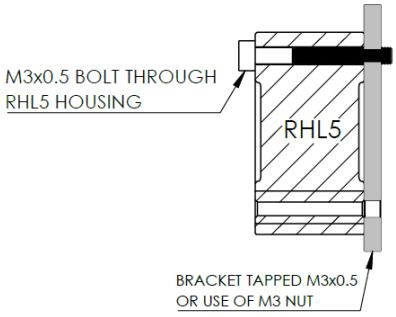
All dimensions in mm



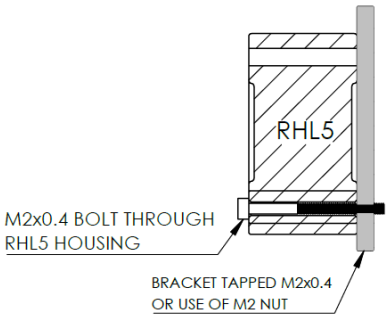
Mounting Examples

Examples only - not limited to.

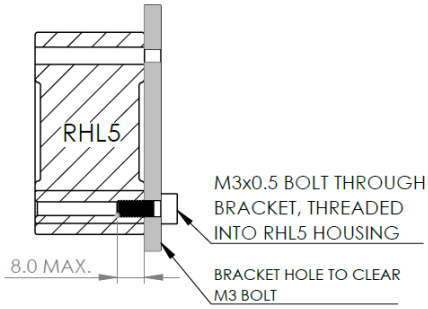
EXAMPLE A



EXAMPLE B



EXAMPLE C



Sense

Analyse

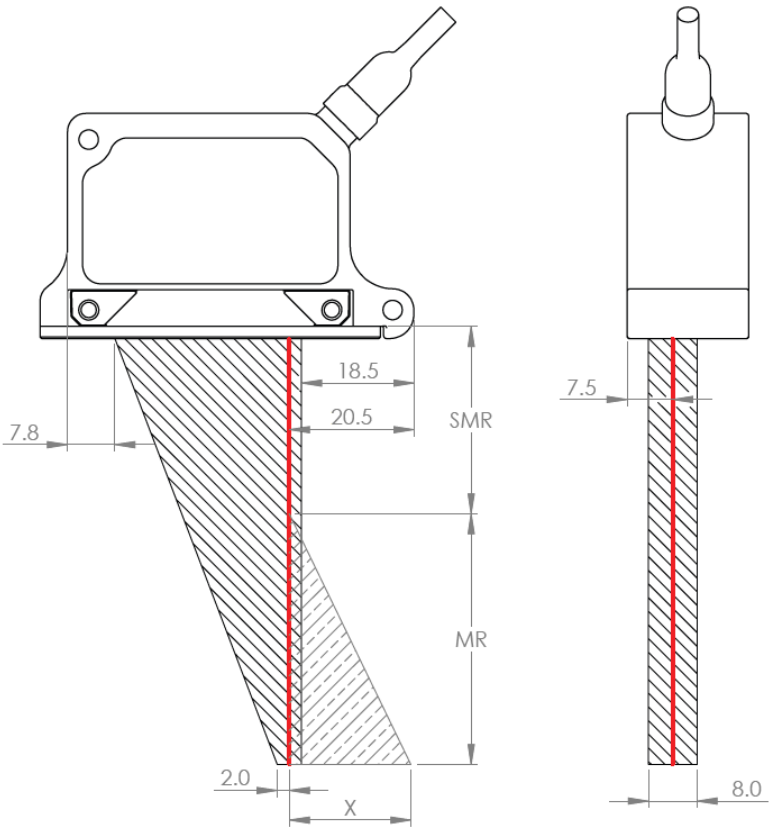
Control

bf1systems.com

sales@kasensors.com

Installation Details

All dimensions in mm



Part Number/ Order Code	X
RHL5-200-000	70mm
RHL5-500-000	190mm

Key	Description
	Laser Beam
	Measurement area—keep clear of obstructions.
	External light exclusion zone.

Sense

Analyse

Control

bf1systems.com

sales@kasensors.com

CAN Configuration (Key Features)

Parameter	Options	Description	Standard Value (As Delivered/ Default)
Measurement Rate	250Hz	Measurement rate of the sensor, ranging from 250Hz up to 4000Hz.	1000Hz
	500Hz		
	1000Hz		
	2000Hz		
	4000Hz		
Measurement Averaging	None	No averaging.	Median, depth of 3
	Moving	Moving average, with a depth of: 2, 4, 8, 16, 32, 64 and 128.	
	Recursive	Recursive average, with a depth of 2 to 32767.	
	Median	Median average, with a depth of 3, 5, 7 and 9.	
Error Handling (Outhold)	None	No error handling.	Infinite
	Infinite	Infinite holding of the last in-range measurement value.	
	<n>	Hold the last in-range measurement value for a defined number of cycles (1 to 1024).	
Region of Interest (ROI)	Start <n>	Specify a specific region of interest within the measurement range, <n> is defined as the percentage of the total range.	100% of Range
	End <n>		
CAN Interface			
CAN Type	High Speed (ISO 11898-2)		
Baud	Fixed 1 Mbps		
Termination Resistor	None		
Further details regarding the CAN setup/configuration can be found within the dbc (provided on request).			

Sense

Analyse

Control

bf1systems.com

sales@kasensors.com