fives north american

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GUIDING SYSTEMS

April 2010

H3662
Line Scan Sensor

- **Width, edge and center position sensing**
- **Field of view up to 875 mm (34.4")**
- **Accurate width measurement**
- **Quick setup, simple operation**
- **0.3% Linearity**
- **Integrated sensor array and light source**
- **Direct plug connector at controller**
- **Automatic compensation for dust**
- **2000 Pixel resolution**

The H3662 Line Scan Sensor is an edge, centerline, or width detecting sensor. Using IR light, it illuminates a retroreflective tape (reflector), which is placed behind the web. The light returned by the reflector is imaged onto a linear array within the sensor. Any web that is placed between the reflector and the sensor is "seen" dark in front of a bright background. The sensor compensates for uniform decay of the optics due to dust build-up or discoloration of the lens/reflector cover. When the internal limit is reached, the alarm output of the sensor is activated.

An integrated microcontroller analyzes the signal from the array and detects the exact position of the web's edges. Depending on the previously set control mode, an analog output signal is generated.

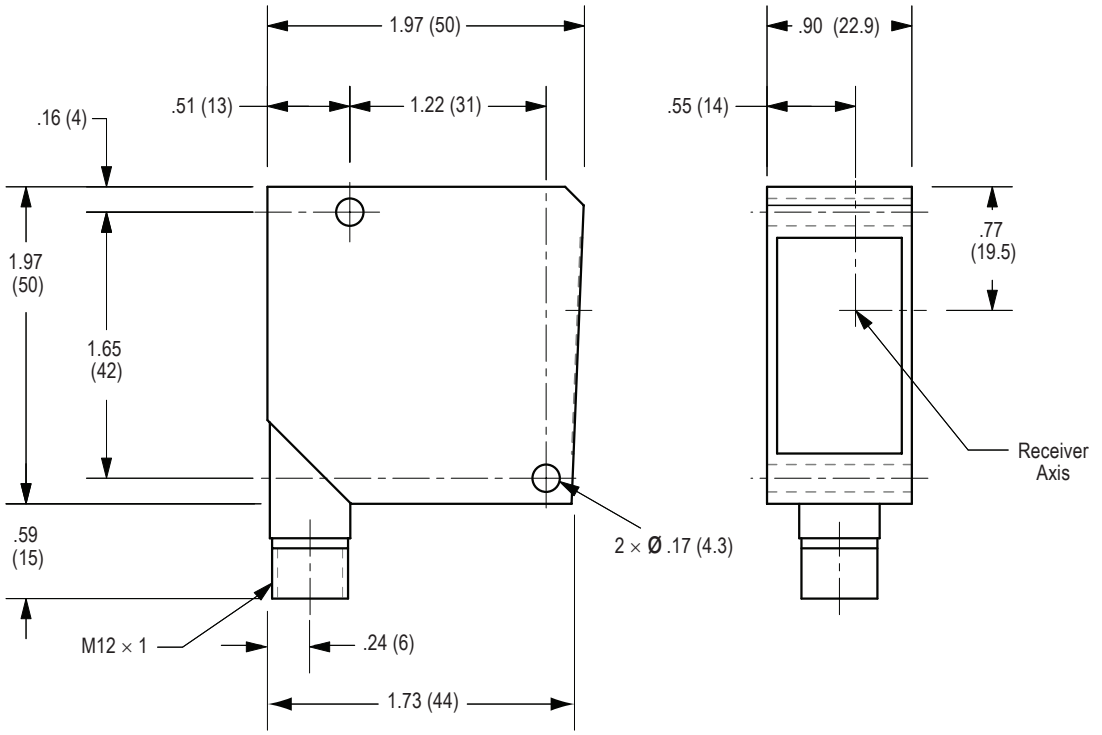
The following modes can be set using buttons on the rear of the sensor.

Edge mode: Position of the first edge from the left or the first edge from the right.
Center mode: Center position of the web.
Width mode: Distance from the first to the last edge.

The H3662 is an enhancement of the H3661; providing all H3661 features while adding a hardware switching input to freeze the sensor's automatic gain control. This is useful when sensing very light materials with voids in them; such as tire cord. The H3662 uses all the same cabling as the H3661; and is additionally compatible with the H3661-UIKIT.

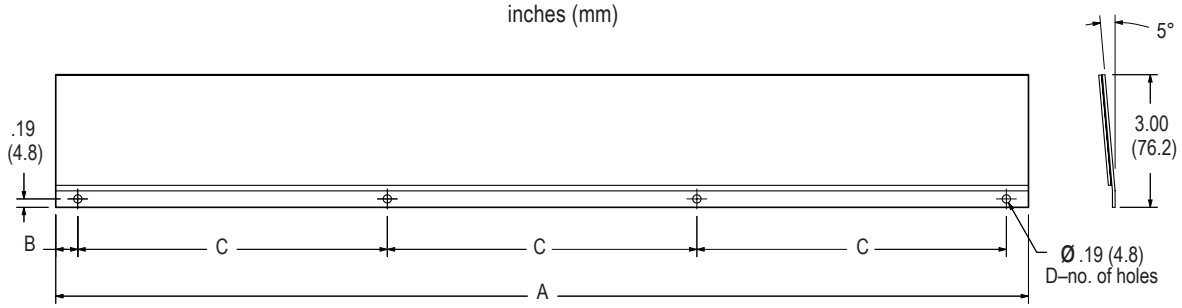
DIMENSIONS

inches (millimeters)



Reflector Dimensions

inches (mm)



Part Number	A	B	C	D
H3660-RFL-150	9.88 (250)	0.44 (11.2)	4.50 (114)	3
H3660-RFL-350	22.00 (559)	0.50 (12.7)	7.00 (178)	4
H3660-RFL-875	44.50 (1130)	0.50 (12.7)	7.25 (184)	7

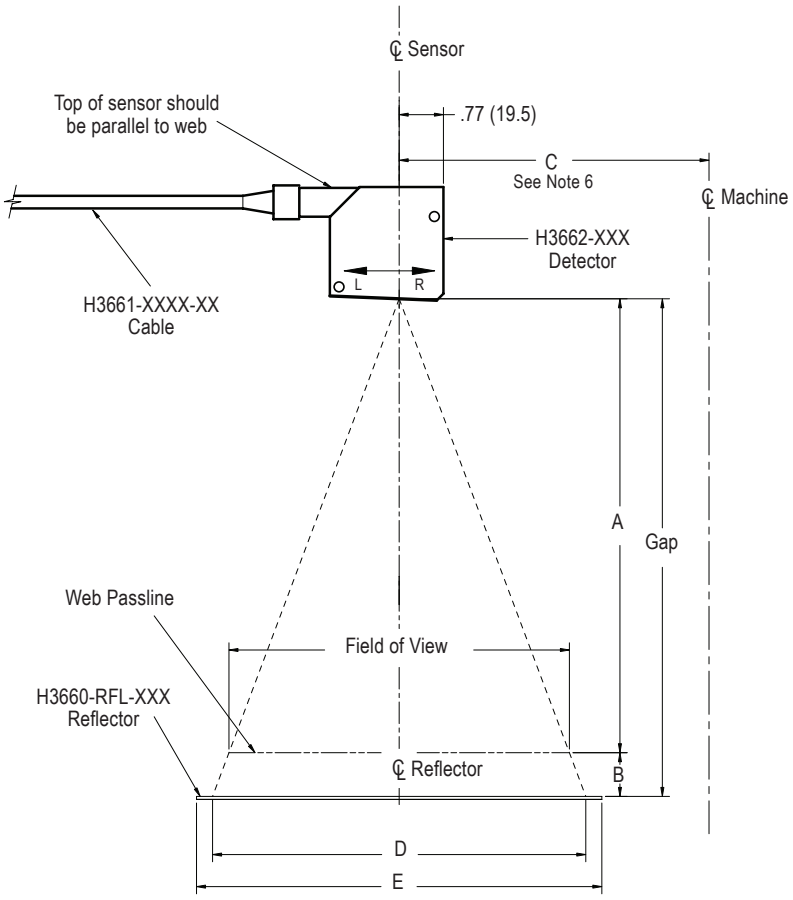
TECHNICAL DATA

Analog output.... 1.0-5.0 V dc or 3.33-16.67 mA (depending on cable selection)
Fault output..... 6.0 V dc or 20 mA (depending on cable selection)
Power.....15 to 28 V dc at 150 mA or less (supplied by SimPlex™ controller)
Resolution..... 2000 pixels (0.05% of field of view)
Linearity .....better than ± 0.3%
Sampling frequency .....500 samples/second or greater
Serial port .....RS485 (for use with H3661-UIKIT-001)

Light source .....infrared, 880 nm
Operating temperature range..... 0-55 C (32-130 F)
Housing material .....zinc die cast
Environmental rating ..... IP 67
Optical window material ..... glass

MOUNTING DIMENSIONS

inches (millimeters)



Detector Part Number	Reflector Part Number	Field of View[3]	Gap[1]	A[2]	B[5]	D[7]	E[8]
H3662 – 150	H3660-RFL-150	5.91 (150)	11.81 (300)	7.87 (200)	3.94 (100)	8.86 (225)	9.63 (245)
H3662 – 350	H3660-RFL-350	13.78 (350)	29.53 (750)	19.69 (500)	9.84 (250)	20.67 (525)	21.75 (552)
H3662 – 875[4]	H3660-RFL-875	15.75 (400) 34.45 (875)	37.80 (960) 66.93 (1700)	25.20 (640) 55.12 (1400)	12.60 (320) 11.81 (300)	23.62 (600) 51.65 (1312)	44.00 (1118)

NOTES

1. "Gap" specified is the maximum "Gap" allowable. If the gap needs to be shorter, the "A" dimension must be maintained within ±10% of specification.
2. The "A" dimension must be maintained to within ±10% of specification.
3. The field of view will change in direct proportion to variations in the "A" dimension.
4. For the H3662-875 model, the field of view can vary from 15.75" (400 mm) to 34.45" (875 mm), depending on the "A" dimension. The "A", "Gap" and "B" dimensions are calculated by the following equations:

   A = 1.6 × desired field of view (between 15.75" and 34.45")

   Max. Gap = A × 1.2

   Max. B = Max. Gap – A
5. The "B" dimension can vary from $^1/_2$" (12 mm) to the maximum value specified in the table above.
6. For single edge guide systems or two sensor systems, the "C" dimension is calculated by the following equation:

   C = (Max. Strip Width + Min. Strip Width) ÷ 4
7. "D" dimension is the field of view at the web passline projected to the reflector at max. "B".
8. "E" dimension is the length of the reflective tape on the reflector. Reference respective reflector drawing for overall dimensions.

ORDERING INFORMATION

Part number	Description
H3662-150	Line Scan sensor with 150 mm field of view
H3662-350	Line Scan sensor with 350 mm field of view
H3662-875	Line Scan sensor with 400 to 875 mm field of view
H3661-6415-15	15 foot power cable, H3661/H3662 to SimPlex™
H3661-6415-30	30 foot power cable, H3661/H3662 to SimPlex™
H3661-6600-15	15 foot power cable, H3661/H3662 to H6600
H3661-6600-30	30 foot power cable, H3661/H3662 to H6600
H3661-4-20MA-15	15 foot power cable, 4-20 mA output
H3661-4-20MA-30	30 foot power cable, 4-20 mA output
H3660-RFL-150	Reflector assembly for H3660/H3661/H3662-150
H3660-RFL-350	Reflector assembly for H3660/H3661/H3662-350
H3660-RFL-875	Reflector assembly for H3660/H3661/H3662-875
H3661-RT50-5	Roll of Retro-Reflective Tape (5 meters × 50 mm)
H3661-UIKIT-001	H3661/H3662 User Interface Kit including 24 V dc power supply, USB to RS485 converter, and software

MOUNTING BRACKETS

Fives North American will provide standard or custom mounting brackets for H3662 Sensor applications. Standard "C" shape brackets for the H3662-150 Sensor are in stock. Also available are mounting brackets and "O" frames for edge guide, center guide or width measurement applications that are custom designed to fit your application and mounting requirements.

H3662-150CEG-001

Custom mounting frame for center guide application

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