

DSS Digital Sensing System

with AllCast™ rugged, environmentally sealed enclosures
H3703/H3713 Detector



- **Extremely rugged/impact resistant**
- **Edge or center-guide**
- **Width measurement**
- **High tolerance to dust/film buildup**
- **Sealed to IP64 rating**
- **Simple setup/operation**
- **Typical accuracy ± 0.02 in. (0.50 mm) per edge**
- **Wide opacity range without adjustments**
- **Sealed plug-in connections**

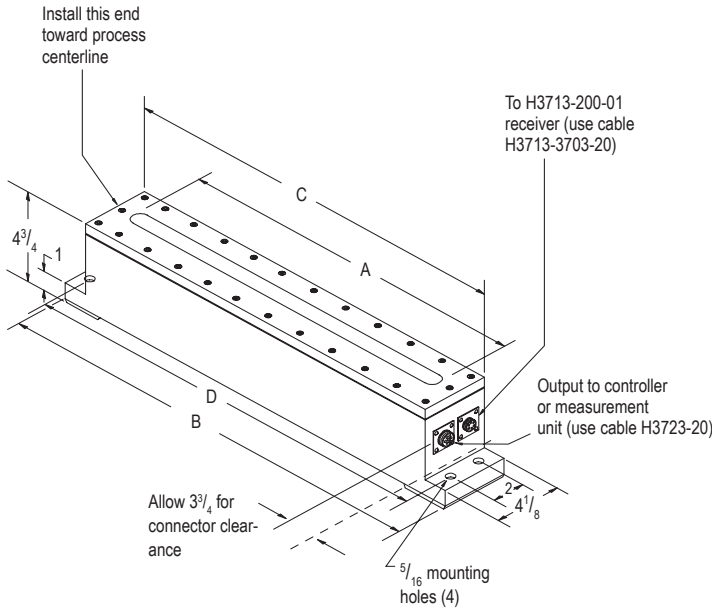
A variation of the popular H3700/H3710 DSS System, this version is enclosed in housings that will endure the most rugged environments, with heavy cast aluminum walls, sealed MS connectors, and thick tempered glass lenses. These units should be employed where splash resistance and/or a heavy degree of impact resistance is required.

Fives North American's digital detector is a non-contact, photoelectric control used to sense the process material edge or centerline in various guiding applications.

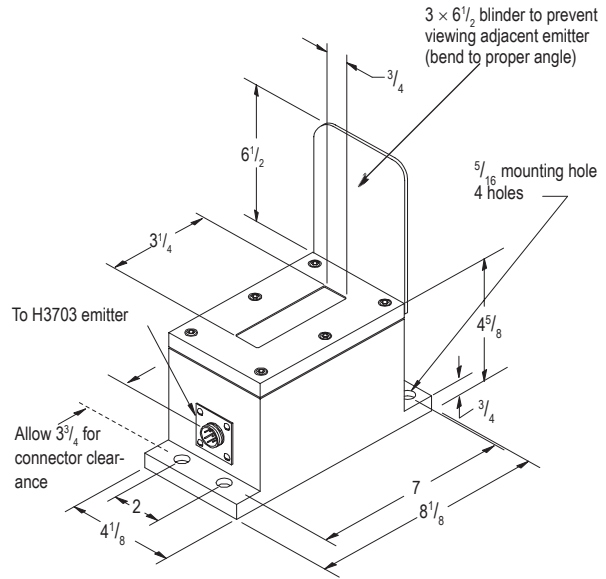
The detector scans at a rate as high as 200 times per second providing immediate response to changes in line conditions with a typical accuracy of ± 0.02 in. (0.50 mm) per edge. Unlike most analog photoelectric systems, the digital design is not affected by normal accumulations of dust and dirt--system maintenance is significantly reduced.

The detector consists of two components, an emitter (H3703) and a wide angle receiver (H3713). One emitter/receiver pair can be used individually as a single edge guide, or a width measuring device. Alternatively, two emitter/receiver pairs can be used to center guide materials wider than the combined emitter lengths. The emitter (10, 20, 30, or 40 inch) employs a series of LED's (light emitting diode) spaced every 0.1" that are lit sequentially at a rate of 20 kHz. The receiver is a tuned pre-amplifier and a set of silicon photocells that measures light intensity of each LED. This digital measurement is then sent to either a Fives North American interface (H3740) for an analog output or a width measurement unit for a width output.

DIMENSIONS inches



H3703 SERIES EMITTER



H3713-200-01 RECEIVER

Model Number	Dimensions in inches				Active emitter length	Scan rate	Emitter to Receiver Gap		
	A	B	C	D			Recommended gap	Minimum gap (consult factory)	Max. gap (NOTE 2)
H3703-10-14	10 ⁷ / ₁₆	16 ¹ / ₈	14	15	10"	200/sec.	20"	10"	65"
H3703-20-24	20 ⁷ / ₁₆	26 ¹ / ₈	24	25	20"	100/sec.	40"	20"	65"
H3703-30-34	30 ⁷ / ₁₆	36 ¹ / ₈	34	35	30"	66.7/sec.	60"	30"	65"
H3703-40-44	40 ⁷ / ₁₆	46 ¹ / ₈	44	45	40"	50/sec.	65"	40"	65"

- Notes:**
1. Actual gap must be specified at time of order. All emitters are factory calibrated at the specified gap.
 2. The proper selection of emitter to receiver gap is crucial in optimizing performance. Larger gaps provide better insensitivity to passline change, such as edge flutter. Smaller gaps may be required if intense ambient light conditions exist; such as, strobe lights, high intensity fluorescent lights, sodium vapor lights, etc. Consult the factory when selecting a gap for critical applications.
 3. Strobe lights operating within 200 ft. of a DSS System require special consideration. Please consult factory.

SPECIFICATIONS

Power input: 12 V dc at 250 mA (from H3740-100-01)

Signal output: digital pulse (to H3740 interface)

Operating temperature range: 32-122 F (0-50 C)

Connections: plug-in from receiver and interface (cable P/N H3720-20 from interface, H3713-3703-20 from receiver)

Interface: North American H3740-100-01

Housing: heavy wall aluminum casting

Gasketing: closed cell neoprene, silicone adhesive sealant

Lens: Boro-silicate glass

Cable length (receiver to emitter): Use 20 foot extension cable P/N H3713-3703-20. All connections are plug-in type.

Accuracy: typical ±0.02 inches (0.5 mm)/edge

Scan rate: see table

Emitter-Receiver gap: see table and notes

Process passline-emitter lens gap:

- 2"-6" recommended for measurement accuracy
- 1" minimum
- 25% of emitter-receiver gap maximum (or 15" whichever is less)

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