

# Passage Detection Sensor

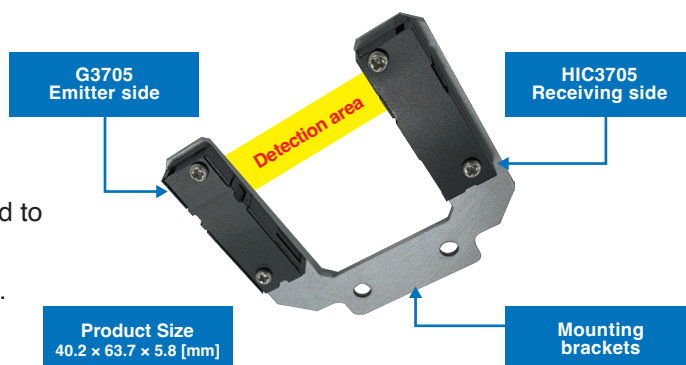
## Passage Detection Sensor / HIC3705

### Product outline

- This is a sensor that outputs the change in the amount of light shielding when an object passes through the area as a voltage.

### Features

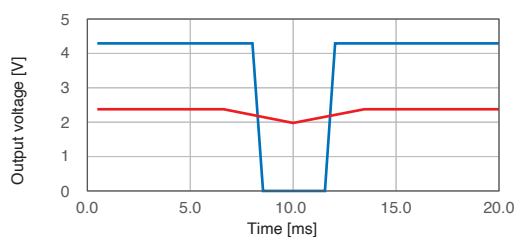
- Minimum detectable size  $\phi 1.5\text{mm}$
- Detection area  $7.5\text{mm} \times 30\text{mm}$
- The detection distance can be customized using mounting brackets
- Integrated light emitter and receiver, no need to align the optical axis during installation
- Detected objects : balls, tablets, screws, etc.



### Specification

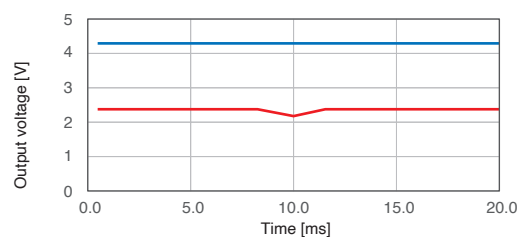
Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Recommended operating voltage	Vcc	—	4.5	—	5.5	V
Output voltage	VOH	Vcc=5V, IF=8mA, d=30mm, When no object is detected or when a steel ball of $\phi 0.7 \text{ mm}$ or less is detected	4.0	4.3	4.5	V
	VOL	Vcc=5V, IF=8mA, d=30mm, When detected a $\phi 1.5\text{mm}$ steel ball	0	—	0.4	V
Analog output voltage	Va	Vcc=5V, IF=8mA, d=30mm	—	2.37	—	V

- Waveform when detected  $\phi 1.5\text{mm}$  sphere  
(Free fall height 30mm)



Blue signal : Output voltage Vo

- Waveform when sphere of  $\phi 0.7\text{mm}$  or less is detected  
(Free fall height 30mm)



Red signal : Analog output voltage Va

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