

Miniature Photoelectric Sensor

E3HQ

Ideal For Use In Harsh Chemical Environments

- Fluoroplastic housing and cable protect sensor against harsh chemicals
- 10 mm dia. housing fits in tight places
- Built-in amplifier allows direct connection of sensor to control interface
- Stainless steel bracket included to aid in mounting



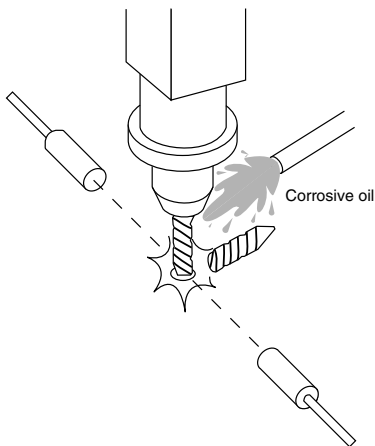
Ordering Information

■ SENSORS

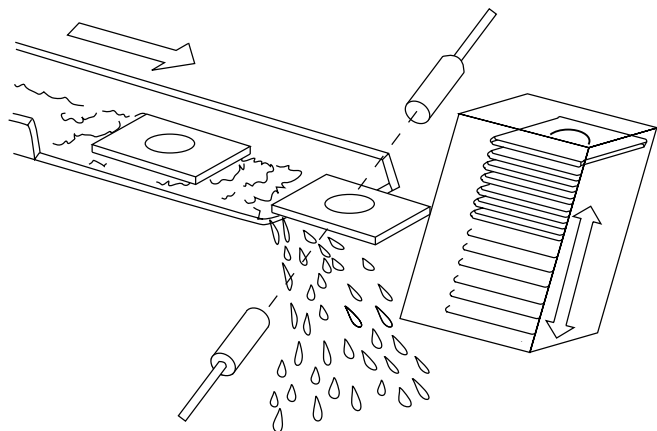
Sensing head	10 mm (0.39 in.) dia.	
Method of detection	Through-beam	
Sensing distance	80 cm (2.62 ft.)	
Operation mode	Light-ON	Dark-ON
Part number	E3HQ-CT11	E3HQ-CT12 (For 5 m cable, order E3HQ-CT12-5M)

■ TYPICAL APPLICATIONS

Detection of broken drill bit



Object sensing in caustic solution

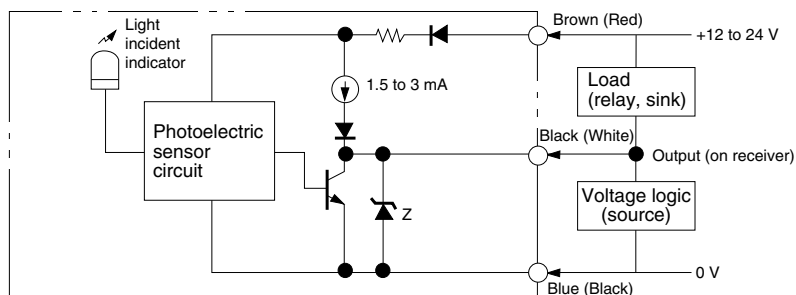


Specifications

Part number		E3HQ-CT1□	
Method of detection		Through-beam	
Supply voltage		12 to 24 VDC	
Current consumption	Emitter	25 mA max.	
	Receiver	15 mA max.	
Sensing distance		80 cm (2.62 ft.)	
Light source		Pulse modulated infrared LED	
Detectable object type		Opaque materials, 6 mm (0.24 in.) minimum dimension	
Operation mode	Light-ON	E3HQ-CT11	
	Dark-ON	E3HQ-CT12	
Sensitivity		Fixed	
Mutual interference protection		Not provided	
Control output	DC solid-state	Type	NPN transistor output with constant current source
		Max. load	Load (relay, sink) logic: 80 mA at 24 VDC Voltage (source) logic: 1.5 to 3 mA
		Max. on-state voltage drop	1 VDC at 80 mA
Response time	On	5 ms max.	
	Off	5 ms max.	
Circuit protection	Output short-circuit	Provided	
	DC power supply reverse polarity	Provided	
Indicators	Emitter	Power On (red LED)	
	Receiver	Light Incident (red LED)	
Materials	Sensor	Fluoroplastic-coated	
	Cable	Fluoroplastic-coated	
Connections	Prewired	Emitter	2-conductor cable, 2 m (6.56 ft.) length [E3HQ-CT12-5M, 5 m (16.4 ft) cable]
		Receiver	3-conductor cable, 2 m (6.56 ft.) length [E3HQ-CT12-5M, 5 m (16.4 ft) cable]
Weight	Emitter	40 g (1.4 oz.)	
	Receiver	45 g (1.6 oz.)	
Enclosure ratings	UL	1	
	NEMA	1, 3, 4X, 6, 12	
	IEC 144	IP67	
Approvals	UL	—	
	CSA	—	
Ambient temperature	Operating	-25° to 55°C (-13° to 131°F)	
	Storage	-30° to 70°C (-22° to 158°F)	

■ OUTPUT CIRCUIT DIAGRAM

E3HQ-CT1□



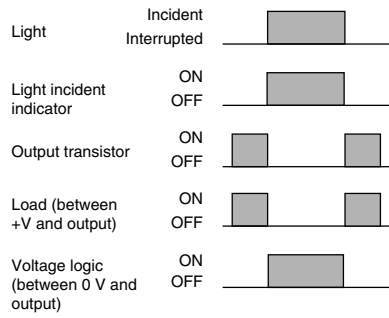
Note: IEC colors are shown first.

■ TIMING CHART

Light-ON operation mode



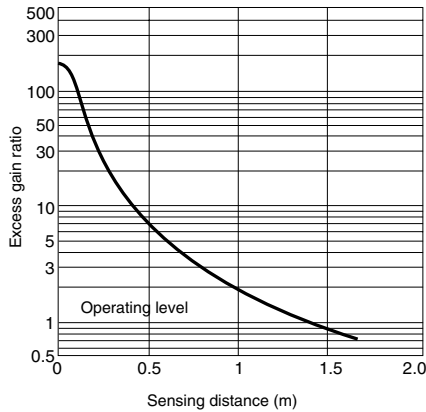
Dark-ON operation mode



Engineering Data

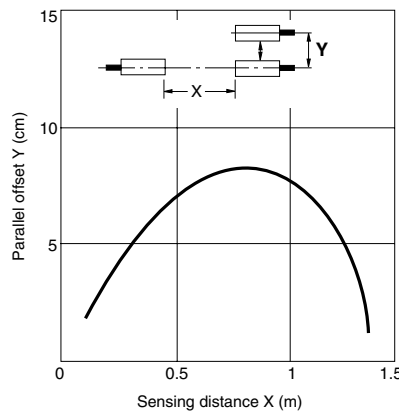
■ EXCESS GAIN RATIO

E3HQ-CT1□



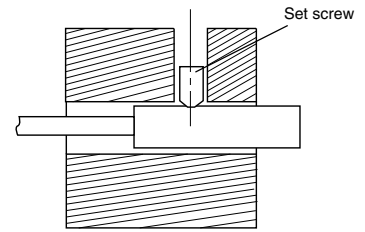
■ PARALLEL OFFSET

E3HQ-CT1□



■ TIGHTENING FORCE

Do not exceed the torque listed in the table below when tightening the set screw.

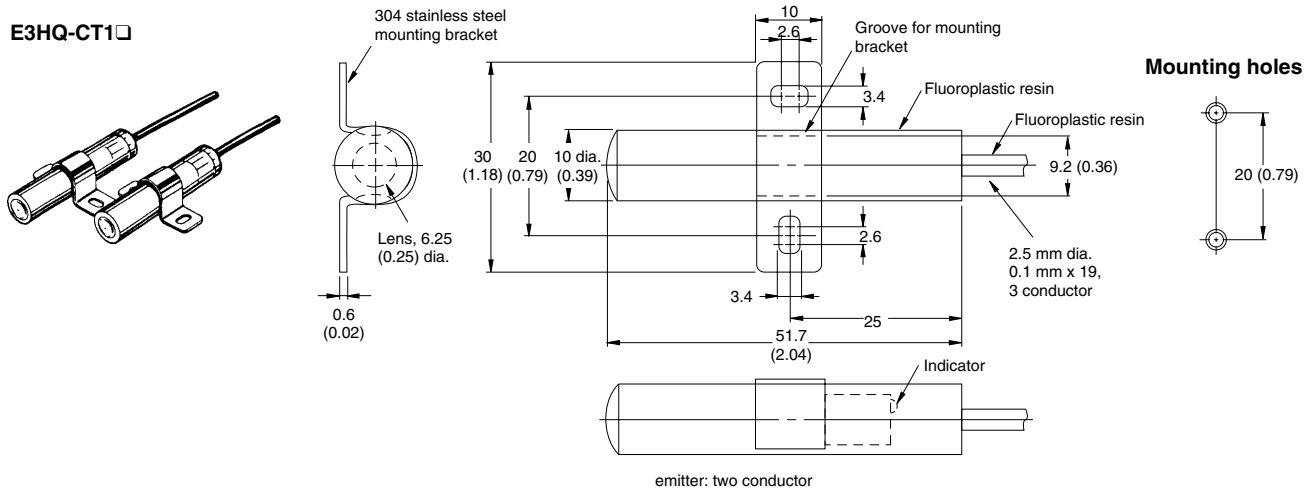


Model	Torque
E3HQ-CT1□	2 kgf-cm (1.7 in-lbs)

Dimensions

Unit: mm (inch)

E3HQ-CT1□





OMRON ELECTRONICS LLC

One East Commerce Drive
Schaumburg, IL 60173

1-800-55-OMRON

Cat. No. CEDSAX4A

11/01(1205)

OMRON ON-LINE

Global - <http://www.omron.com>
USA - <http://www.omron.com/oei>
Canada - <http://www.omron.com/oci>

Specifications subject to change without notice.

OMRON CANADA, INC.

885 Milner Avenue
Scarborough, Ontario M1B 5V8

416-286-6465

Printed in the U.S.A.