Model SCT-Q10/SCR-Q10 Signal Coupler

Model List	Detection Method
SCT-Q10	Transmitter
SCR-Q10	Receiver

Application

- Signal transmission between a mobile device and a stationary device
- Electronic Signal transmission using a separate power source

Features

- Low-price, small-sized signal transmitter.
- Does not use light to couple the signal and so is unaffected by dust or water droplets.
- Class IP67 ingress protection means these devices can be used in environments where water droplets are dispersed.

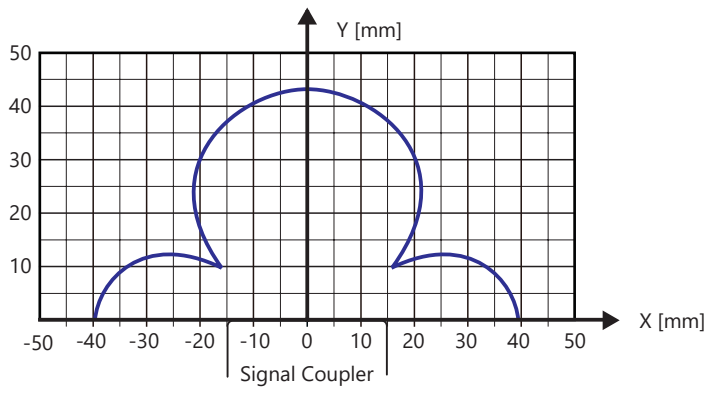
Rating / Performance

Model	SCT-Q10	SCR-Q10
Transmission Side	Front side detection	
Transmission Distance	3 to 38 mm, when centered	
Power Voltage	12 V to 24 V DC (Operating voltage range : 10 V to 30 V DC)	
Power Consumption	10 mA DC or less	15 mA DC or less
Input	Short-circuit between Input and GND when Contact ON, or short-circuit using a semiconductor such as a transistor	
Output		NPN transistor open collector 30 V DC, 50 mA DC or less
Operation Indication	Red LED (Lit when On)	
Transmission Frequency	10 kHz or more	
Response Time	50 µs max.	
Temperature Range	-10 to 60 °C (-20 to 60 °C during storage)(Without dew condensation or freezing)	
Humidity Range	95 % RH or less (85 % RH or less during storage)(Without dew condensation)	
Breakdown Voltage	500 V AC, 50/60 Hz for 1 min (Between live parts and the case)	
Insulation Resistance	50 MΩ or more, at 500 V DC megger (Between live parts and the case)	
Vibration Resistance	Durability : 10 to 55 Hz, Double amplitude : 1.5 mm in X-, Y-, and Z-direction, each 2 hours (Device not powered)	
Shock Resistance	Durability : 200 m/s^2 (Approx. 50 G) in X-, Y-, and Z-direction, each 3 times (Device not powered)	
Ingress Protection	IP67	
Case Material	ABS resin	
Cable	ø6, 3-core round cord of 0.5 mm^2 and insulation 1.9 mm and 1 m in length (Oil and heat resistant)	
Weight	Approx. 100g	

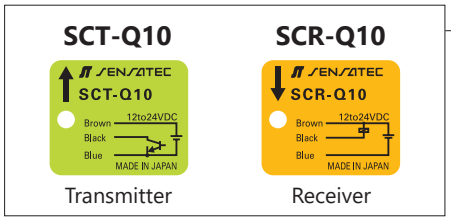
Characteristics Graph (Typical Example)

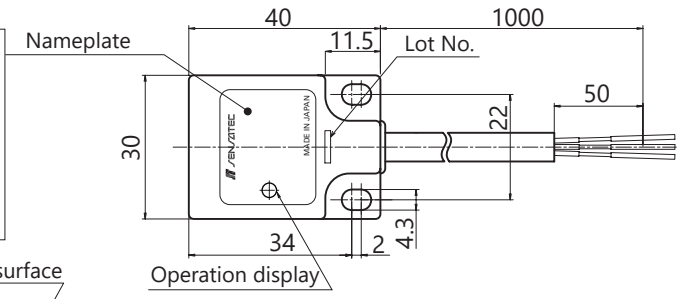
Reference drawing of transmission coverage area

To ensure reliability of transmitted data, ensure the distance between sensing face of SCT-Q10 and SCR-Q10 are within 3 to 38 mm. These values are not for guaranteed performance. Use with 5 to 35 mm with some margin.

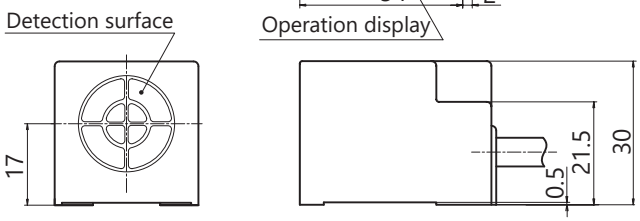


Dimensions

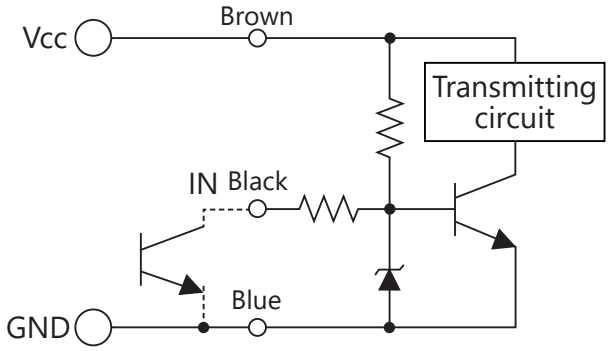




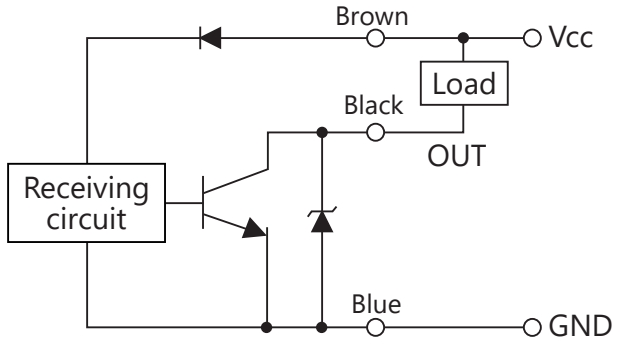
SCT-Q10	Wire Color	SCR-Q10
GND	Blue	GND
IN	Black	OUT
Vcc	Brown	Vcc



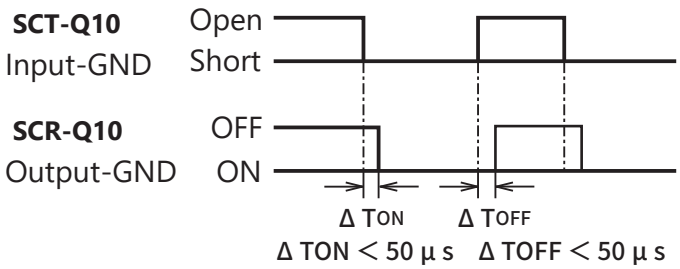
Input Circuit (SCT-Q10)



Output Circuit (SCR-Q10)



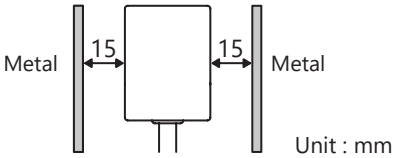
Transmission Timing Diagram



Precautions During Use

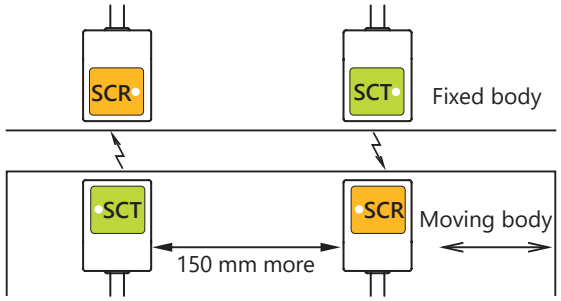
Influence of surrounding metal

- Note that any metals located within around 15 mm of the signal coupler may affect its transmission distance, at least to some extent.



Interference

- When both transmitter and receiver are installed both on fixed and movable devices, maintain at least 150mm center-to-center distance between each transmitter and its adjacent installed receiver.



Effects of high frequency devices

- In case there is any machinery in the vicinity generating high frequency electromagnetic radiation, such as switches, the device may be susceptible and alfunction.
  Keep away from such sources to the maximum extent possible so that the device is not affected.

Installation

- The case fastening should be at a torque of 1.2 N·m or less.