

C/O3/M Data Sheet

Overview

The C/O3/M Miniature Heavy Duty Magnetic Proximity Sensor is designed as a general purpose position or movement sensor. It should not be used in or relied on in safety related applications.

Principles of operation and use

The C/O3/M is a reed switch based sensor whose contacts change over when in the presence of a magnetic actuator. The non contact operation of these sensors make them suited to applications where misalignment or contamination from dust and solids are a concern. When mounted on or near ferrous surfaces the operating distance will be reduced. Avoid close proximity to strong magnetic fields i.e. electric motors and solenoids. The switch may be operated through a non ferrous skin such as non magnetic stainless steel, plastic, aluminium and non ferrous castings etc. possibly enabling the switch and its connections to be inside part of a housing or machine. C/O3/M sensors may be operated from three sides.

Loads

Maximum ratings in the "Specification and ratings" are for dc voltage and resistive loads. Protect against inductive, capacitive or reactive loads. For maximum contact life and reliability, ensure the ratings are not exceeded. Contact our technical department for advice on specific loads.

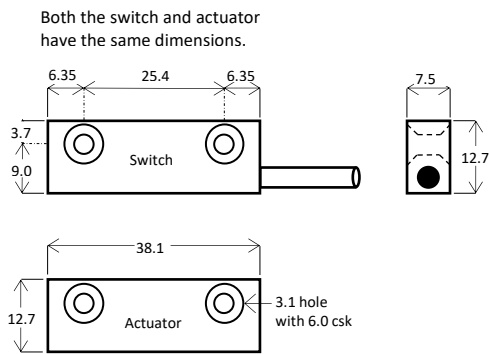
Fitting and adjustment

When considering fixing positions refer to "Principles of operation and use". Ensure vibration and shock limits will not be exceeded both in normal and in any foreseen abnormal operation. To help reduce the effects of vibration or shock the sensor unit may be mounted on a rubber pad or foam tape. The switch and actuator should not be fixed so that they slide longitudinally against each other as multiple operations may occur. They should be mounted so that that switch and actuator move parallel to each other, see "Operating positions". When adjusting the C/O3/M sensor for maximum operation distance it is recommended that it is magnetically overdriven by at least 25% i.e. With an application that gives a maximum operating distance of 16 mm it should be considered that the maximum distance is actually 16 mm less 25% = 12 mm, therefore to operate the sensor correctly the actuator magnet should be within 12 mm of the switch. Consideration should be given to the safe routing of the connecting cable, avoid tight bends and allow a minimum of 25mm of straight cable from the sensor housing before any bends. See "Schematic diagram" for electrical connections; check the contact ratings are not exceeded.

Maintenance

To clean wipe with a damp cloth, do not immerse in water or cleaning fluid. The C/O3/M sensor should be routinely checked for correct operation.

Dimensions



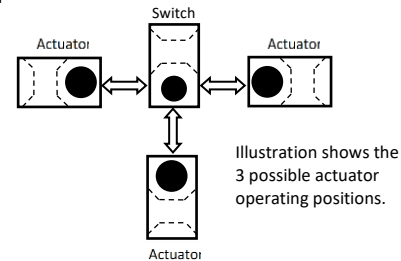
Order Codes

Type	Description
C/O3/M	Change over heavy duty magnetic proximity sensor
AM/4	Standard magnetic actuator
AM/8	Extra power magnetic actuator

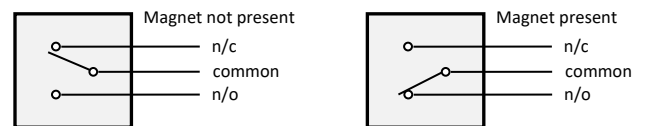
Specifications and ratings

Specification	C/O3/M
Contact form	Single Pole Change over
Max contact rating	3W
Max switching voltage	30VDC
Max switching current	0.2 AMPS
Max carry current	0.5 AMPS
Minimum breakdown voltage	150VDC
Capacitance	1.5pF
Contact resistance	100 mΩ
Temperature range	-40 to +70 °C
Max vibration	20 G's 10-2000 hertz's
Max Shock	30 G's 11ms ½ sine wave
Resonant frequency	6000±4000Hz
Pull in time	1ms
Release time	0.5ms
Environmental protection	IP65
Operating distance AM/4	Make 13mm release 19mm nominal
Operating distance AM/8	Make 20mm release 29mm nominal
Cable	0.5 metres of black round 7-2-3A DEF61-12
Connections	Blue = com, green = n/o, red = n/c
Housing material	Diecast zinc

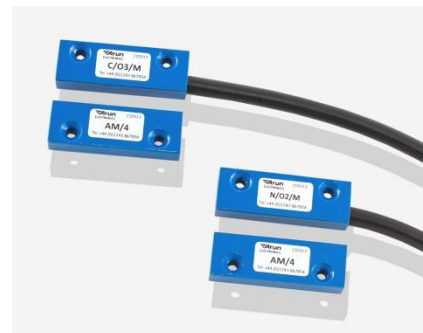
Operating positions



Schematic diagram



Image



To the best of our knowledge the Information contained in this data sheet is accurate. Knight Fire & Security Products Ltd disclaims any and all liability whatsoever for any of the purchaser's reliance on the information contained in this data sheet. The purchaser should test for themselves the products detailed in this data sheet to ensure their suitability for their application.