

# TopWorx™ Magnetic Target Switch

Models MTS and MTSM

Series  
**MTS**

## General Description

The Magnetic Target Switch (MTS) is a barrel-style, magnetic-target actuated proximity switch designed to deliver trusted performance and outstanding value in applications ranging from standard industrial to extreme-duty.



## Features & Benefits

- **Non-Contact Sensing** - using the provided target magnet, MTS does not require physical contact, resulting in significantly less maintenance and adjustment over time, especially versus mechanical limit switches.
- **Global Approvals** – easier to fit project specifications with easy, global general purpose, explosion-proof and intrinsically safe options.
- **316L Stainless Steel Enclosure** – resistant to corrosion, water ingress and other environmental strains.
- **Hermetically Sealed** – provides durability in harsh conditions and does not require fitment of separate conduit lead seals in conduit connected systems.



Specification	Low Current (Contact Form 1 & 2 <sup>(1)</sup> )	High Current (Contact Form 3 <sup>(1)</sup> )
Contact Type	Rhodium – SPDT (Form C)	Tungsten – SPDT (Form C)
Certifications	cULus, ATEX/IECEX, CE, UKCA (Regionals Available)	cULus, ATEX/IECEX, CE, UKCA (Regionals Available)
SIL Capable	SIL: 1/2; SC3	SIL: 1/2; SC3
Environmental Ratings	IP 66/67   NEMA 4, 4X, 6, 6P	IP 66/67   NEMA 4, 4X, 6, 6P
Seal Type	Hermetic	Hermetic
Explosion Proof	Yes	Yes
Intrinsically Safe <sup>(2)</sup>	Yes (Optional)	No
Nominal Sensing Distance <sup>(3)</sup>	7.5mm (0.30")	4.0mm (0.16")
Differential/Hysteresis <sup>(3)</sup>	3.0mm (0.12")	1.5mm (0.06")
Repeatability	0.06mm to 0.08mm (0.002" to 0.003")	0.06mm to 0.08mm (0.002" to 0.003")
Response Time (Max.)	4.2ms	4.2ms
Operating Temperature	-40°C to +85°C (-40°F to +185°F)	-40°C to +85°C (-40°F to +185°F)
Electrical Compatibility	AC/DC   NPN/PNP   NO/NC	AC/DC   NPN/PNP   NO/NC
Electrical Ratings (Max.)	AC: 0.2A @ 120V DC: 1.0A @ 24V	AC: 3.0A @ 120V   1.5A @ 240V DC: 2.0A @ 24V
Switching Frequency	60Hz	60Hz
Contact Resistance	0.1 Ohm	0.5 Ohm
Consumes Power	No	No
Vibration Resistance <sup>(4)</sup>	21.3g (208m/s <sup>2</sup> )   3.5mm amplitude	21.3g (208m/s <sup>2</sup> )   3.5mm amplitude
Shock Resistance <sup>(4)</sup>	40g (392m/s <sup>2</sup> )	40g (392m/s <sup>2</sup> )
Enclosure/Housing Material	316L Stainless Steel	316L Stainless Steel
Mounting Threads	5/8"-18 UNF or M18x1.0	5/8"-18 UNF or M18x1.0
Conduit/Cable Entry Threads	1/2"-14 NPT or M20x1.5	1/2"-14 NPT or M20x1.5
Connection Options	Lead Wires   Cables	Lead Wires   Cables

(1) See codification section.  
 (2) Intrinsically safe locations must have contact form 1, Area classification 1, and wiring option S.  
 (3) Sensing distance and differential rounded to nearest 0.5mm  
 (4) Maximum value measured at limit of testing equipment.

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## Ordering Information

Nomenclature guide below. Choose codes for desired features(s). Not all feature combinations are compatible. Please consult TopWorx or Online “Configure Your Product” guide at [www.topworx.com](http://www.topworx.com) for confirmation.

## Codification

	<b>MTS</b>	-	<b>3</b>	<b>1</b>	<b>B</b>	-	<b>N</b>	
<b>Model</b>								<b>Regional Certification</b> (Area Classification 1 only)
<b>MTS</b>	5/8"–18 UNF mounting thread 1/2"–14 NPT conduit entry							<b>B</b> INMETRO
<b>MTSM</b>	M18x1.0 mounting thread M20x1.5 conduit Entry							<b>K</b> KOSHA
								<b>N</b> CCCEx
								<b>P</b> PESO
								<b>R</b> EAC
								<b>Blank</b> No regional certification
<b>Contact Form</b>								<b>Wiring Options</b>
<b>1</b>	250mA Max. SPDT (Form C) Hermetic Seal							<b>A</b> 18 Gauge, PVC insulated lead wires 2 meters long
<b>2</b>	1A Max. SPDT (Form C) Hermetic Seal							<b>B</b> 18 Gauge, PVC insulated cable 2 meters long
<b>3</b>	3A Max. SPDT (Form C) Hermetic Seal							<b>S</b> 18 Gauge, Silicone blue cable 2 meters long (Only available with Contact Form 1)
<b>Area Classification</b>								
<b>1</b>	Hazardous Locations Global cULus   ATEX/IECEX (No conduit lead seal required)							
<b>2</b>	General Purpose Global cULus   CE   UKCA							

## Installation

The Magnetic Target Switch can be installed in any position, directly with the threaded body or through mounting kits designed for the application. Two mounting nuts are included with each switch.

## Extended Sensing

A standard target magnet bolt is included with all MTS models. The nominal sensing distance can be extended using optional target magnets, see table:

Part #	Low Current	High Current
AMS7	10.0mm (0.4")	5.0mm (0.2")
AMS12	30.5mm (1.2")	25.4mm (1.0")

## Dimensions in mm [inches]

