

## T30 | P/N 81401124

### Summary

The Magswitch T30 is compact and powerful, boasting cutting edge technology enhancements and precision mounting interfaces. These tools are great for fixtures, pin locating and material handling. Additional custom pole shoe geometry allows for extreme flexibility in applications. The added prox cap assembly provides a plug and play solution for detection of the magnet ON and OFF states while reducing your installation time.

WARNING! Do Not Operate Unless In Contact With Ferrous Target

# **Specifications**

Maximum Breakaway Force <sup>1,2</sup>	161	lb	73	Kg
Maximum Shear Force <sup>1,2</sup>	38.8	lb	17.6	Kg
Minimum Thickness for De-Stack <sup>3</sup>	0.197	in	5.0	mm
Minimum Actuation Pressure	21.76	psi	1.5	Bar
Maximum Actuation Pressure	89.92	psi	6.2	Bar
Air Port Threads	2x G 1/8			
Net Weight	1.3	lb	0.6	Kg
Individual Magnetic Pole Footprint	8.78"x2.8" 54mm x 31mi		31mm	
Mounting Options	TOP: Ø8-M8-Ø8-M8			
	Side: 2x Ø6-M8-Ø6			



Material Thickness	0.5	1	2	3	4	5	6	50.8
- mm (in)	(0.020)	(0.039)	(0.079)	(0.118)	(0.157)	(0.197)	(0.236)	(2.000)
Maximum Force <sup>1, 2, 5</sup>	6.63	18.23	34.03	54.60	62.87	70.63	73.07	73.03
- kg (lbs)	(14.62)	(40.20)	(75.03)	(120.37)	(138.60)	(155.72)	(161.08)	(161.01)
Actuation Pressure	3.90	2.75	1.80	1.50	1.50	1.50	1.50	1.50
- bar (psi)	(57)	(40)	(26)	(22)	(22)	(22)	(22)	(22)

<sup>1</sup> Determined in laboratory environment on 2" thick SAE1018 Steel with surface roughness 63 micro inches with optimized pole shoes. Many factors contribute to the actual breakaway force and safe working load in each application. Consult a Magswitch Applications Engineer and test the Magswitch in each application before deployment.

<sup>2</sup> All data applies to unit with flat pole shoes installed.

<sup>3</sup> Determined with SAE1018 Steel L=200mm W=200mm.

<sup>4</sup> Values may vary by +/-5%.

<sup>5</sup> Maximum forces listed above are not safe lifting forces. Designer must take into account safety factor when specifying tool. Magswitch recommends SWL = 5:1 for most applications.

$$SWL (Safe Working Load) = \frac{Maximum Force^{5}}{Safety Factor (\geq 5)}$$



### Pole shoes required for operation

### **Standard Kits Available:**

Pin Clamp Pole Shoe Kit	8800747
Standard Pole Shoe Kit	8800696
Thin Target Pole Shoe Kit	8800756
Sensor Cap Kit	8800699
Pin Clamp Pole Shoe Kit	8800747
135Deg V Pole Shoe Kit	8800943
Tooth Pole Shoe Kit 2X2X2	8800756
Armor Kit	88001440
Armor Ready Flat Pole Shoe Kit	88001441
Armor Ready 135Deg V Pole Shoe Kit	88001442
Armor Ready 155Deg V Pole Shoe Kit	88001443
Ball Mount, NAAMS, 28.5mm Kit	8800501





POLE SHOES ATTACHED (SOLD SEPARATELY)





## T30 Proximity Cap Kit | P/N: 8800699

## Summary

This accessory kit bolts to the top of the Magswitch T30 tool (81401124) and provides a rotating flag and threaded bores for M8 inductive proximity sensors. The dowel bores on the top surface mimic those on the top surface of the T30, allowing the tool and Prox Cap assembly to be dowel-located and mounted to flat plates.

# **Specifications**

Proximity Sensor Bore Type	M8x1.0 threaded barrel		
Recommended Proximity Sensor Sensing Distance	1.5mm - 3.0mm		
Top Surface Mounting Pattern	See dowel and fastener pattern below		
Net Weight	0.29 lbs/0.13kg		







### Installation Instructions

- Actuate the T30 tool to the OFF state.
- Remove the T30 tool from preexisting mounting surfaces as required to expose the top surface of the tool. Ensure dowel and fastener holes are clean. Confirm the top surface of the tool is flat and smooth.
- Align dowel pins with the smooth bores on top of the actuator and press fit the dowels until they are firmly seated. The dowels should protrude approximately 10mm above the top surface of the tool. The threaded features of the dowels should be oriented upward and outward for ease of service later.
- Insert the sensor flag into the hexagonal bore with the steel tab pointing to the left or port A when the tool is viewed from the front. This is a transitional fit and the hexagonal features may require light pressure and wiggling to ensure they are mated.
  - There will be a gap of approximately 1.5mm between the circular bottom surface of the flag and the top face of the T30 actuator.



- Orient the aluminum proximity cap with the "OFF" and "ON" engravings and proximity sensor bores on the same face as pneumatic ports "A" and "B." Slide the aluminum proximity cap over the dowels and proximity flag. This is a transitional fit and may require firm pressure and wiggling to fully seat the cap. Ensure there is no gap between the proximity cap and the top surface of the T30 tool.
- Thread the "OFF" state M8 proximity sensor into the "OFF" port until resistance is felt. Unthread the sensor 1/4 turn and test its function, then tighten the locking nut to secure it at the proper depth.
- Actuate the T30 tool ON so the flag is now in front of the "ON" port.
- Thread the "ON" state M8 proximity sensor into the "ON" port until resistance is felt. Unthread the sensor 1/4 turn and test its function, then tighten the locking nut to secure it at the proper depth.
- WARNING: If the sensor is set too deep, it can rub or be impacted by the rotating flag and damage the T30. If the sensor is set too shallow, it may not register the presence of the flag.
- If mounting the T30 using the side NAAMS dowel and fastener pattern(s), apply Loctite 222 to the fastener threads and install the provided 2x M8 Socket Head Cap Screws.
- If mounting the T30 using the top dowel holes, obtain longer M8x1.25, 18-8 stainless steel socket head cap screws. The length of these fasteners should be 25mm + the thickness of the mounting plate. Install your M8 mounting dowels into the top dowel holes and thread the longer fasteners through the mounting plate and proximity cap into the threaded bores of the T30 underneath.
- Torque all screws to 10Nm. There should be no visible gaps between the tool, proximity cap, or mounting surfaces.







## T30 Sensor and Cable Kit | P/N: 8800916





81401124	T30
8800699	T30 Prox Cap Kit
8800750	SENSOR, INDUCTIVE, M8X1 BARREL, M8X1 CONNECTOR
8800755	CABLE, M12 MALE STRAIGHT, M8 FEMALE 90DEG
8800754	COUPLER, T SHAPE, M12 MALE, M12 FEMALE



## Wiring Diagrams

8800750 - SENSOR, INDUCTIVE, M8X1 BARREL, M8X1 CONNECTOR



#### 8800755 - CABLE, M12 MALE STRAIGHT, M8 FEMALE 90DEG







#### 8800754 - COUPLER, T SHAPE, M12 MALE, M12 FEMALE

