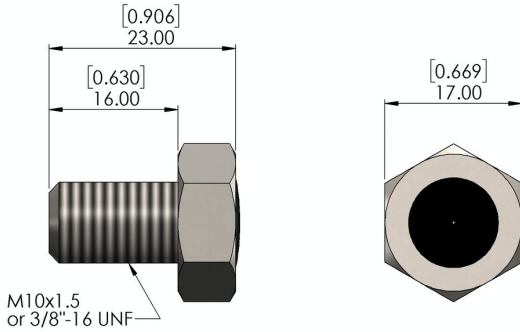
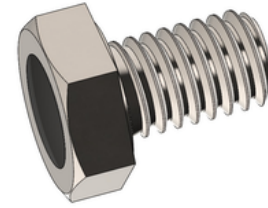


## Magnetic Actuator

## MA-4S / MA-4N

### For extended sensing with ES Series Proximity Switches

The Euroswitch ES Series proximity switches use a “Hermetically Sealed Reed Element”. Reed switches are electromechanical devices that detect the position of a magnetic field; therefore, they require an external magnetic actuator to operate. Detailed below are our standard range of magnets designed to give solutions to a multitude of applications.



### MA-4S Specifications

|                   |                      |                      |
|-------------------|----------------------|----------------------|
| Max Sensing Range | 12mm (0.47")         | 12mm (0.47")         |
| Body Material     | 316L Stainless Steel | 316L Stainless Steel |
| Dimensions        | Ø 17mm x 23mm        | Ø 0.75" x 0.87"      |
| Mounting          | M10x1.5 x 16mm       | 3/8"-16 x 0.63"      |

### Magnetic Actuator Combinations



| Model      | MA-4S Sensing Range | Alternative Magnets | MA-1S Sensing Range | MA-2S Sensing Range | MA-3S Sensing Range | MA-7S / MA-7N Sensing Range | MA-8S / MA-8N Sensing Range | MA-9S Sensing Range |
|------------|---------------------|---------------------|---------------------|---------------------|---------------------|-----------------------------|-----------------------------|---------------------|
| ES-0       | 8.0mm (0.31")       |                     | 6.0mm (0.24")       | 3.0mm (0.12")       | 18.0mm (0.71")      | 10.0mm (0.39")              | 8.0mm (0.31")               | 6.0mm (0.24")       |
| ES-1       | 8.0mm (0.31")       |                     | 6.0mm (0.24")       | 3.0mm (0.12")       | 18.0mm (0.71")      | 10.0mm (0.39")              | 8.0mm (0.31")               | 6.0mm (0.24")       |
| ES-2       | 11.0mm (0.43")      |                     | 10.0mm (0.39")      | 6.0mm (0.24")       | 26.0mm (1.02")      | 13.0mm (0.51")              | 11.0mm (0.43")              | 9.0mm (0.35")       |
| ES-3       | 8.0mm (0.31")       |                     | 8.0mm (0.31")       | N/A                 | N/A                 | 16.0mm (0.63")              | 8.0mm (0.31")               | 8.0mm (0.31")       |
| ES-4       | 12.0mm (0.47")      |                     | 12.0mm (0.47")      | N/A                 | N/A                 | 20.0mm (0.79")              | 12.0mm (0.47")              | 12.0mm (0.47")      |
| ES-5 & 6   | 8.0mm (0.31")       |                     | 8.0mm (0.31")       | N/A                 | N/A                 | 16.0mm (0.63")              | 8.0mm (0.31")               | 8.0mm (0.31")       |
| ES-7 & 8   | 8.0mm (0.31")       |                     | 8.0mm (0.31")       | N/A                 | N/A                 | 16.0mm (0.63")              | 8.0mm (0.31")               | 8.0mm (0.31")       |
| ES-9 & 10  | 8.0mm (0.31")       |                     | 8.0mm (0.31")       | N/A                 | N/A                 | 16.0mm (0.63")              | 8.0mm (0.31")               | 8.0mm (0.31")       |
| ES-11 & 12 | 8.0mm (0.31")       |                     | 8.0mm (0.31")       | N/A                 | N/A                 | 16.0mm (0.63")              | 8.0mm (0.31")               | 8.0mm (0.31")       |
| ES-13 & 14 | 12.0mm (0.47")      |                     | 12.0mm (0.47")      | N/A                 | N/A                 | 20.0mm (0.79")              | 12.0mm (0.47")              | 12.0mm (0.47")      |
| ES-15 & 16 | 12.0mm (0.47")      |                     | 12.0mm (0.47")      | N/A                 | N/A                 | 20.0mm (0.79")              | 12.0mm (0.47")              | 12.0mm (0.47")      |

For detailed information please visit, [www.euroswitch.com](http://www.euroswitch.com).

### Operating Principles

To obtain the best results possible in your application, certain consideration should be observed.

Here are the two most typical examples of how the target would approach the ES Series Sensor.

