

## RAMO 22 S, M12, round collar, 2 NO, Gold, M12 8-pin A-coded, frontring black, 1 x 90°, shape L, latching



### fields of application

- > Measurement-control-regulation
- > Electrical engineering
- > Mechanical and system engineering
- > Signalling systems
- > Vehicle construction
- > Chemical industry
- > Industrial robots

### special features

- > Precise haptics
- > Safe gold contacts
- > Simple M12 plug&play connection
- > Protected contacts due to sealed housing



### description

The RAMO S selector switches offer a solution for every application thanks to a wide variety of contact functions, rotation angles, actuation functions and illuminated panels.

Just like all RAMO actuators, connection is simple using Plug&Play and without any manual wiring - with M12 sensor cables.

Additional information according to UL certificate:

For Class 2 Power Source or Limited Voltage / Limited Current only

Installation only by trained specialist personnel.

Type 4x Indoor only with cable "Cat. No. 7000-08061-0210100 PUR 4x0.25mm<sup>2</sup> with M8 connector, rated max. 30VAC/DC 4A, manufactured by Murrelektronik GmbH" and "Cat. No. 7000-12221-0340100 PUR 4x0.34mm<sup>2</sup> with M12 connector, rated max. 30VAC/DC 4A, manufactured by Murrelektronik GmbH"

For Use on a Flat Surface of a Type 1 or 4x indoor only Enclosure.

### technical data

#### > general

|                              |             |
|------------------------------|-------------|
| Potential free               | no          |
| Color                        | black       |
| Bezel color                  | white       |
| Property of bezel / mushroom | transparent |
| Collar color                 | black       |
| Front ring color             | black       |
| Luminous element color       | white       |
| Collar shape                 | round       |
| Operating temperature, min.  | -40 °C      |
| Operating temperature, max.  | 85 °C       |

#### direct links

- > RAFI eCatalog

|  |  |
|--|--|
| Storage temperature, min.                                      | -40 °C   |
| Storage temperature, max.                                      | 90 °C  |
| illuminated  | Yes  |
| Luminous elements  | LED  |
| Packaging  | Box  |
| Packaging unit   | 2 pcs.   |
| net weight   | 16.9 g   |
| Operating life   | 200,000 cycles                                     |
| B10  | 250,000 cycles                                     |
| Degree of protection, front side,<br>according to DIN EN 60529 | IP65   |
| Degree of protection, rear side,<br>according to DIN EN 60529  | IP65   |
| UL Enclosure Type Rating front<br>side                         | type 4X indoor                                     |
| Environment resistance   | IEC 60068-2-14<br>IEC 60068-2-30<br>IEC 60068-2-78 |
| Shock resistance according to<br>standard IEC 60068-2-27       | 30 g at 11 ms amplitude semi-sinusoidal            |
| Salt-spray resistance according to<br>standard                 | IEC 60068-2-11                                     |
| shock resistance   | 02 side<br>08 frontal                              |
| oscillation resistance according<br>to standard IEC 60068-2-6  | 5 g at 10...500 Hz                                 |
| MOQ order  | 2 pcs.   |
| Pollution degree acc. to DIN EN<br>61010-1                     | Pollution degree 2                                 |
| RoHS compliant   | Yes  |
| REACH compliant  | Yes  |
| <b>&gt; mounting diameters</b>                                 |  |
| Outside dimension, length                                      | 29.8 mm  |
| Outside dimension, width                                       | 29.8 mm  |
| Outside dimension, height                                      | 53.9 mm  |
| Mounting hole  | 22.3 mm  |
| Mounting depth   | 30.1 mm  |
| Installation height  | 23.8 mm  |
| Grid, min.   | 30 mm  |
| <b>&gt; mechanical data</b>                                    |  |
| Actuation function   | latching   |
| Resistance to force on the side                                | 300 N  |
| Contact function   | 2 NO   |
| Contact material   | Gold   |
| Rotating angle   | 1 x 90°, shape L                                   |
| Fixing   | Threaded ring                                      |
| Threaded ring torque, max.                                     | 1.2 Nm   |
| Terminal on the rear   | M12 8-pin A-coded                                  |

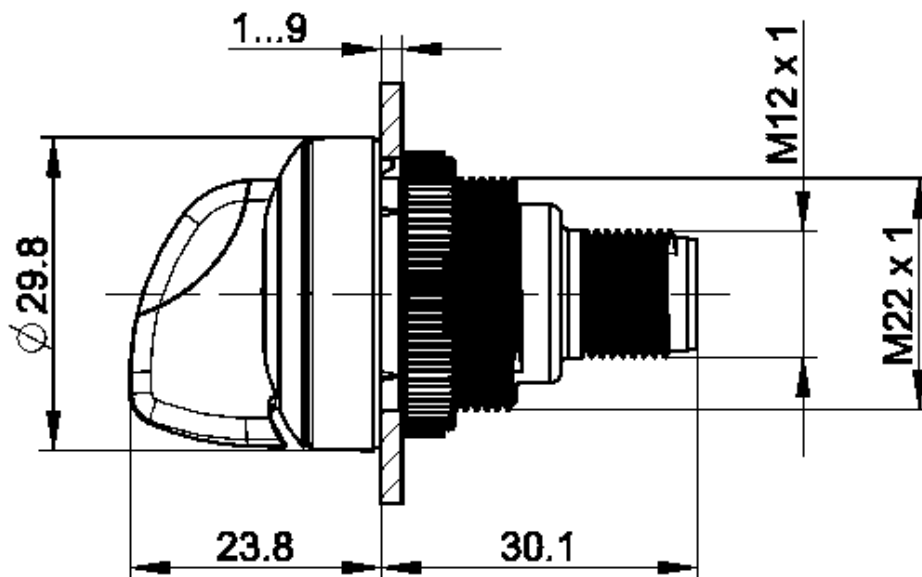
|       |  |
|-------|--|
| PIN 1 | Normally open contact 1<br>Normally open contact 2 |
| PIN 2 | Normally open contact 2                            |
| PIN 3 | GND  |
| PIN 4 | Normally open contact 1                            |
| PIN 5 | LED +  |

> **electrical data**

|   |                                      |
|---|--------------------------------------|
| Rated insulation voltage                        | 250 V                                |
| Rated surge voltage                             | 2,500 V                              |
| Rated operating voltage                         | 35 V (AC-15)<br>35 V (DC-13)         |
| Operating voltage of the luminous element, min. | 22 V                                 |
| Operating voltage of the luminous element, max. | 26 V                                 |
| Rated voltage, min.                             | 1 V                                  |
| Rated voltage, max.                             | 32 V                                 |
| Voltage type                                    | DC                                   |
| Rated operating voltage                         | 1-32 V                               |
| Operating current of the luminous element, max. | 25 mA                                |
| Rated current, max.                             | 0.1 A                                |
| Power loss                                      | 0.70080 W                            |
| Overvoltage category                            | 2                                    |
| Kind of short circuit protective device         | fuse 250 V / 0,1 A / 1,5 kA gG quick |
| Conditional short circuit current               | 1,000 A                              |

**drawings**

**Dimensioned drawing**



**Mounting hole drawing**



acc. to IEC 60947-5-1

**Schematic diagram**

