

## RAMO 22 S, M12, round collar, 2 NO, Gold, M12 8-pin A-coded, frontring metallic silver, 2 x 40°, momentary contact function



### 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             | metallic silver |
| Luminous element color       | white           |
| Collar shape                 | round           |
| Operating temperature, min.  | -40 °C          |
| Operating temperature, max.  | 85 °C           |

#### direct links

- > RAFI eCatalog

**1.10.021.022/0220**

|  |  |
|--|--|
| 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                                     |
| Impact resistance IK   | 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   | momentary contact function                         |
| Resistance to force on the side                                | 300 N  |
| Contact function   | 2 NO   |
| Contact material   | Gold   |
| Rotating angle   | 2 x 40°  |
| Fixing   | Threaded ring                                      |
| Threaded ring torque, max.                                     | 1.2 Nm   |
| Terminal on the rear   | M12 8-pin A-coded                                  |

The information in this data sheet only contains general descriptions and / or performance features, which may not apply precisely as described to the respective application, and which may change due to further product enhancements. The technical data, illustrations and other information about our products are the mere results of individual technical testing. These descriptions and other product features are only binding if they expressly agreed upon at the time of the conclusion of a binding contract. In all other cases, we reserve the right to make technical changes as well as changes of availability. Pictures and other graphic illustrations are approximations only. All product names may be trademarks or brand names of the RAFI Group or any other sub-supplier of RAFI. The use of such by any third parties for their own purposes may infringe the rights of the respective entity holding those rights.

date: Jan 5, 2025 page: 2/5

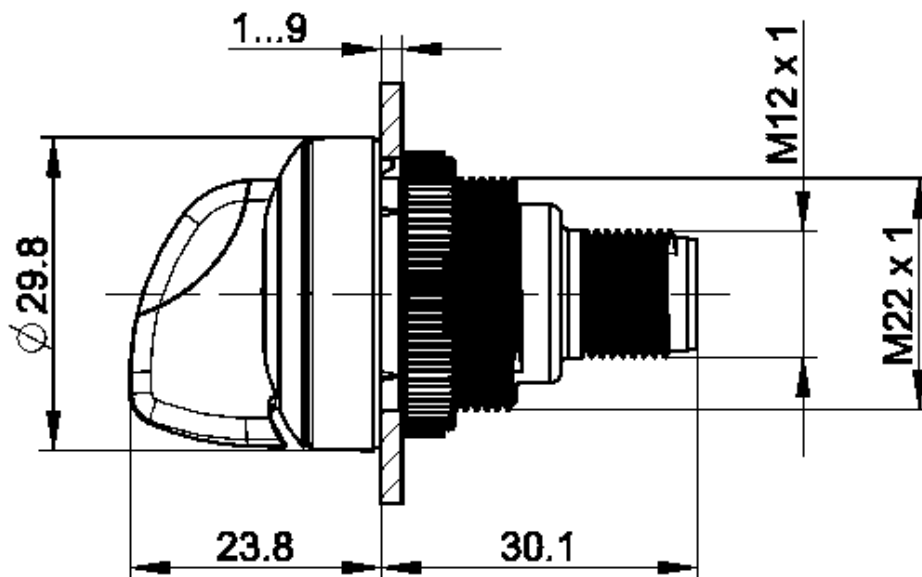
**RAFI GmbH & Co. KG**

Ravensburger Str. 128-134  
88276 Berg / Ravensburg  
Germany  
www.rafi-group.com,  
info.headquarters@rafi-group.com

|   |  |
|---|--|
| 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 +  |
| <b>&gt; electrical data</b>                     |  |
| 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   |
| 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**

