

# RAMO 30 K, M12, round collar, 2 NO, Gold, M12 4-pin A-coded, fronting stainless steel, 2 x 40°, momentary contact function, key removal position 0



## 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 locking systems we use were created according to the DIN EN 1303 standard by well-known lock manufacturers. They are open, mechanical systems which, depending on the environmental conditions, require occasional maintenance (e.g. greasing & oiling) by the machine or system operator.

RAMO K key switches offer a solution for every application thanks to a wide variety of contact functions, rotation angles, actuation functions, trigger positions and closures. 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           |
| Collar color                | black           |
| Front ring color            | stainless steel |
| Collar shape                | round           |
| Operating temperature, min. | -40 °C          |

### direct links

- RAFI eCatalog

|                                                                |                                                    |
|----------------------------------------------------------------|----------------------------------------------------|
| Storage temperature, min.                                      | -40 °C                                             |
| Operating temperature, max.                                    | 85 °C                                              |
| Storage temperature, max.                                      | 90 °C                                              |
| illuminated                                                    | No                                                 |
| Packaging                                                      | Box                                                |
| Packaging unit                                                 | 2 pcs.                                             |
| net weight                                                     | 55.5 g                                             |
| Operating life                                                 | 300,000 cycles                                     |
| B10                                                            | 429,962 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                                            |
| 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                                               | 05 side<br>04 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>                                 |                                                    |
| Mounting hole                                                  | 30.3 mm                                            |
| Mounting depth                                                 | 36.3 mm                                            |
| Installation height                                            | 38.8 mm                                            |
| Grid, min.                                                     | 35 mm                                              |
| Outside dimension, length                                      | 34.5 mm                                            |
| Outside dimension, width                                       | 34.5 mm                                            |
| Outside dimension, height                                      | 75.1 mm                                            |
| <b>&gt; mechanical data</b>                                    |                                                    |
| Actuation function                                             | momentary contact function                         |
| Operating force, max.                                          | 1.3 N                                              |
| Contact function                                               | 2 NO                                               |
| Contact material                                               | Gold                                               |
| Locking position                                               | 001                                                |
| Key removal position                                           | 0                                                  |
| Rotating angle                                                 | 2 x 40°                                            |
| Fixing                                                         | Threaded ring                                      |

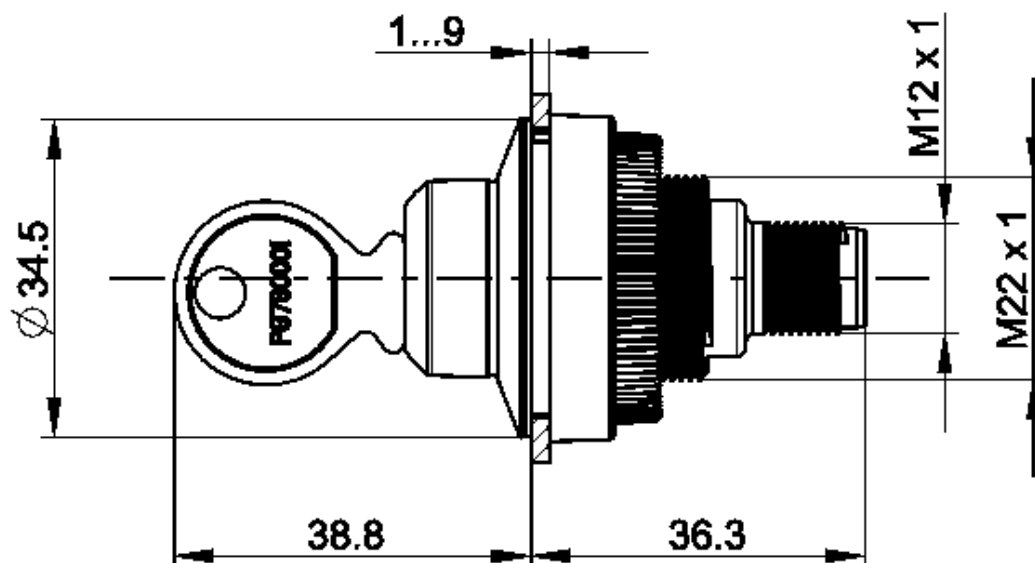
|                            |                         |
|----------------------------|-------------------------|
| Threaded ring torque, max. | 1.2 Nm                  |
| Terminal on the rear       | M12 4-pin A-coded       |
| PIN 1                      | Normally open contact 1 |
|                            | Normally open contact 2 |
| PIN 2                      | Normally open contact 2 |
| PIN 4                      | Normally open contact 1 |

**> electrical data**

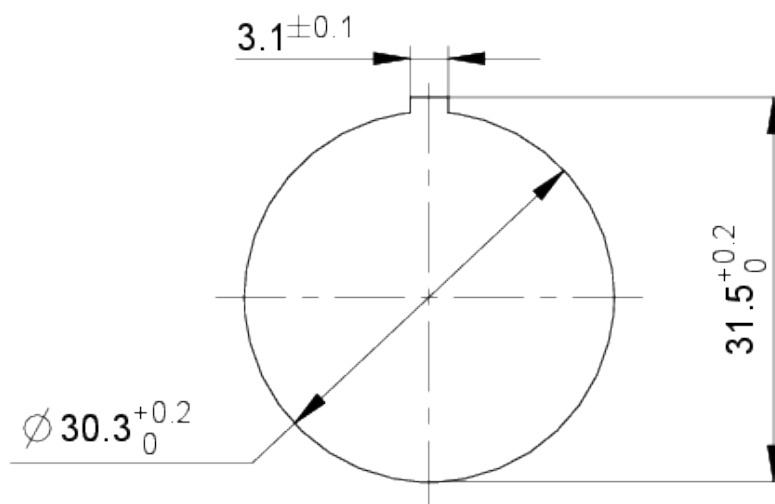
|                                         |                                      |
|-----------------------------------------|--------------------------------------|
| Rated insulation voltage                | 250 V                                |
| Rated surge voltage                     | 2,500 V                              |
| Rated operating voltage                 | 35 V (AC-15)                         |
|                                         | 35 V (DC-13)                         |
| Rated voltage, min.                     | 1 V                                  |
| Rated voltage, max.                     | 32 V                                 |
| Voltage type                            | DC                                   |
| Rated operating current                 | 0.1 A                                |
| Rated operating voltage                 | 1-32 V                               |
| Rated current, max.                     | 0.1 A                                |
| Power loss                              | 0.001 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



**Schematic diagram**