

# RAMO 22 K, M12, round collar, 1 NC + 1 NO, Gold, M12 4-pin A-coded, frontring black, 1 x 90°, shape L, latching, key removal position 0+1



## Description

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.



## technical data

### > general

Color	black
Collar color	black
Front ring color	black
Collar shape	round
Operating temperature, min.	-40 °C
Operating temperature, max.	85 °C
Storage temperature, min.	-40 °C
Storage temperature, max.	90 °C
illuminated	No
Packaging	Box
Packaging unit	2 pcs.
Net weight	45.9 g
Operating life	50,000 cycles
B10	62,627 cycles
Degree of protection, front side, according to DIN EN 60529	IP65
Degree of protection, rear side, according to DIN EN 60529	IP65
Environment resistance	IEC 60068-2-14 IEC 60068-2-30 IEC 60068-2-78
Shock resistance according to standard IEC 60068-2-27	30 g at 11 ms amplitude semi-sinusoidal
Salt-spray resistance according to standard	IEC 60068-2-11
Impact resistance IK	02 side 05 frontal
Oscillation resistance according to standard IEC 60068-2-6	5 g at 10...500 Hz
Minimum order quantity (MOQ)	2 pcs.

### direct links

> [RAFI eCatalog](#)

Pollution degree acc. to DIN EN 61010-1	Pollution degree 2
RoHS compliant	Yes
REACH compliant	Yes
Country of origin	HU
<b>&gt; mounting diameters</b>	
Outside dimension, length	29.8 mm
Outside dimension, width	29.8 mm
Outside dimension, height	75.1 mm
Mounting hole	22.3 mm
Mounting depth	30.1 mm
Installation height	20 mm
Grid, min.	30 mm
Collar dimension	29.8 mm
<b>&gt; mechanical data</b>	
Key removal position	0+1
Terminal on the rear	M12 4-pin A-coded
Fixing	Threaded ring
Actuation function	latching
Operating force, max.	1.3 N
Threaded ring torque, max.	1.2 Nm
Rotating angle	1 x 90°, shape L
Resistance to force on the side	300 N
Contact function	1 NC + 1 NO
Contact material	Gold
PIN 1	Normally closed contact 1 Normally open contact 1
PIN 2	Normally closed contact 1
PIN 4	Normally open contact 1
Locking position	001
<b>&gt; electrical data</b>	
Rated insulation voltage	250 V
Rated surge voltage	2,500 V
Rated voltage, min.	1 V
Rated voltage, max.	32 V
Voltage type	DC
Rated operating voltage	1-32 V
Rated current, max.	0.1 A
Power loss	0.00080 W
Overtoltage 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
<b>&gt; Specifications according to IEC 60947-5-1</b>	
Rated operating voltage	35 V (AC-15) 35 V (DC-13)
Rated surge voltage	2,500 V

**> Specifications according to UL 60947**

UL Enclosure Type Rating front side	type 4X indoor
Operating temperature, max. to UL/TÜV	85 °C

**Use according to UL:**

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Only approved for Class 2 power sources or limited voltage/current.

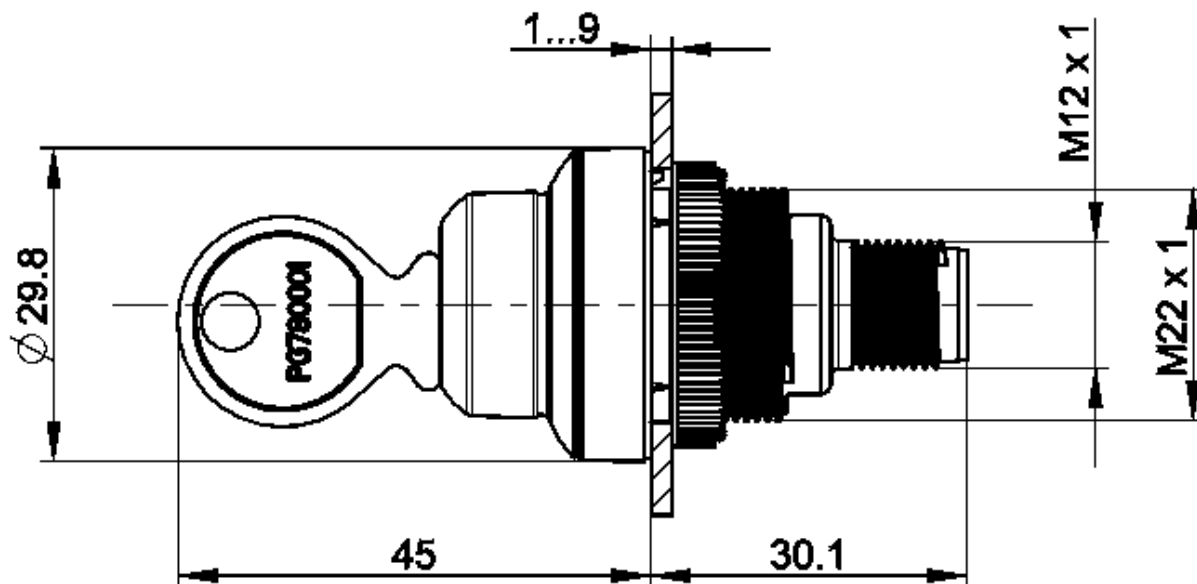
Installation only by trained personnel.

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

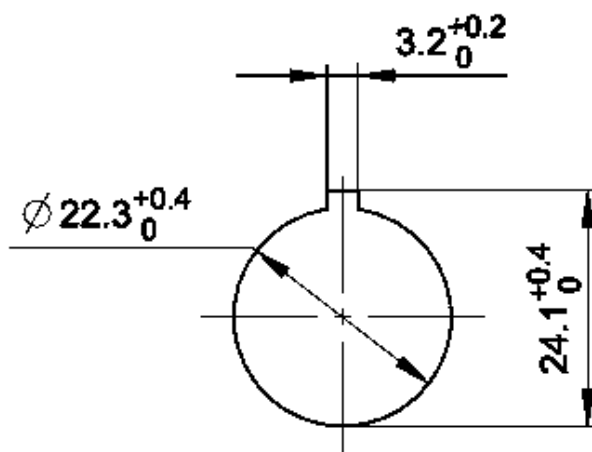
For use on a flat surface of a type 1 or type 4x enclosure (indoor).

**drawings**

**Dimensioned drawing**



**Mounting hole drawing**



acc. to IEC 60947-5-1

**Schematic diagram**

