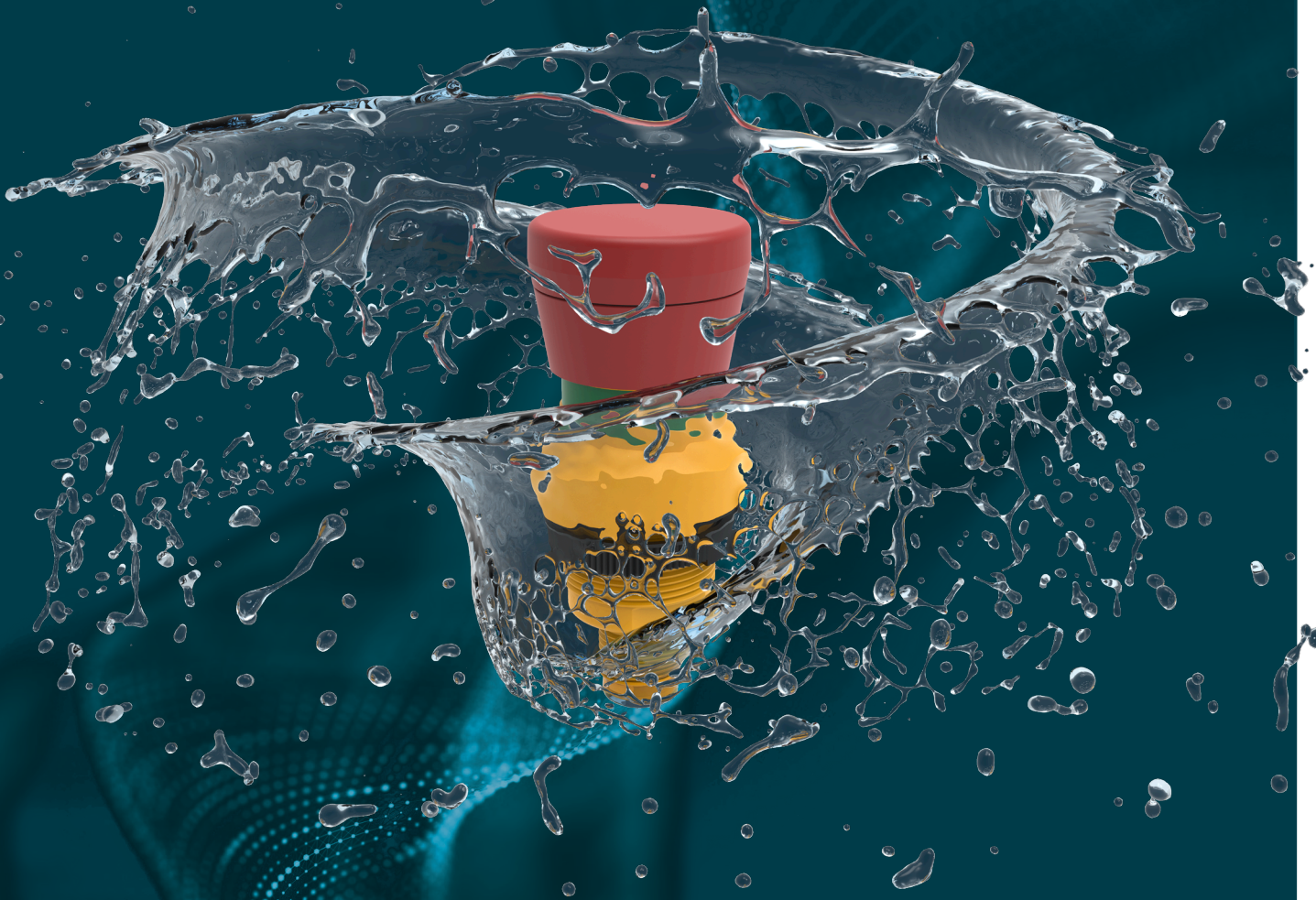


# RAMO<sup>®</sup> E

EMERGENCY STOP WITH PLUG&PLAY M12 TERMINAL



# RAMO®

## THE ORIGINAL

The RAMO E emergency stop with mounting hole diameter of 22 and 30 mm is perfect for easy integration into your application. This is ensured even where space is tight thanks to the low overall height and mounting depth, as well as the RAMO EDGE mounting bracket, which you can use to assemble the operating elements and indicators directly on profiles without an additional housing.

The Plug & Play M12 terminal enables secure and flexible assembly with an efficient use of both cabling and working time. The focus is on fast assembly, optimal use of space, and safe switching, always with the goal of making integration into your application as easy as possible.

**We bring together industry standards with innovative technology – so that you can save time and reduce costs.**

## ADVANTAGES

### Plug & Play



The M12 plug can be connected quickly, and the cable can be configured and preassembled flexibly, enabling schedule-independent wiring.



### Single-part closed housing

Degrees of protection of at least IP 65. Stand-alone capability without additional seal.



### Low space requirements

Thanks to the flat design in front of and behind the front panel and the plug angled at 135° for tight row mounting – horizontally and vertically.



### Designed in Germany – Made in Europe

German design and engineering.



### RAMO EDGE

Flexible, decentralized assembly with RAMO EDGE – on aluminum profile rails, walls, tables, or workbenches.



During the typical working day of a floor cleaner, the control technology must be able to withstand a good deal of wear and tear and, in addition to mechanical stress, must also withstand many a rustic actuation. That's why Dr. Gansow Gmatic AG uses robust, easy-to-install switches from the RAFI RAMO 22 series as the control units in its high-quality scrubber dryers. The actuators, sized for a mounting hole with a diameter of 22.3 mm, are very easy to install and connect. As standalone solutions in the completely enclosed mono-housing, they achieve a high degree of protection up to max. IP69 without the need for further seals.

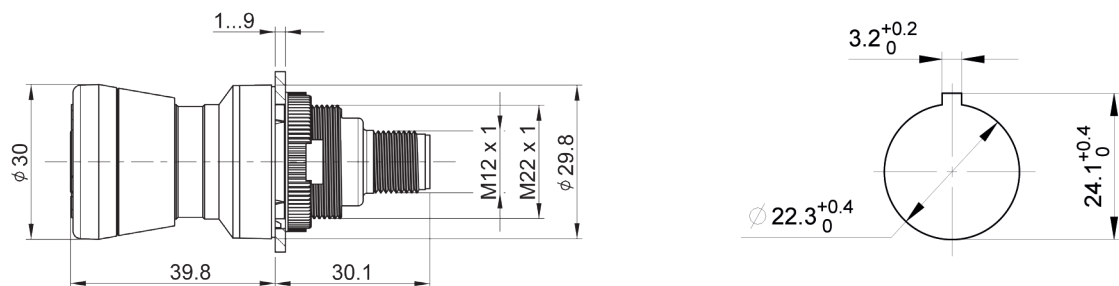
Thanks to direct wiring via M12 terminals, no time-consuming individual wiring is required. Correct connection is possible without specialist knowledge of electrical engineering. Service and maintenance work is also reduced, because the connections can be easily disconnected and reconnected as required. Switching states and settings are indicated clearly by signal lamps, illuminated switches and twist grip labels. The energy-efficient LED technology is robust and lasts for the lifetime of the machine.

# RAMO<sup>®</sup> E

The RAMO E emergency stop buttons with M12 terminal are equipped with two normally-closed contacts (NC) as standard and are designed for a rated voltage of 35 V. The RAMO E portfolio is also being expanded to include a RAMO E Plus 1 with two normally-closed contacts (NC) and one normally-open contact (NO). They comply with all applicable ISO and IEC standards.

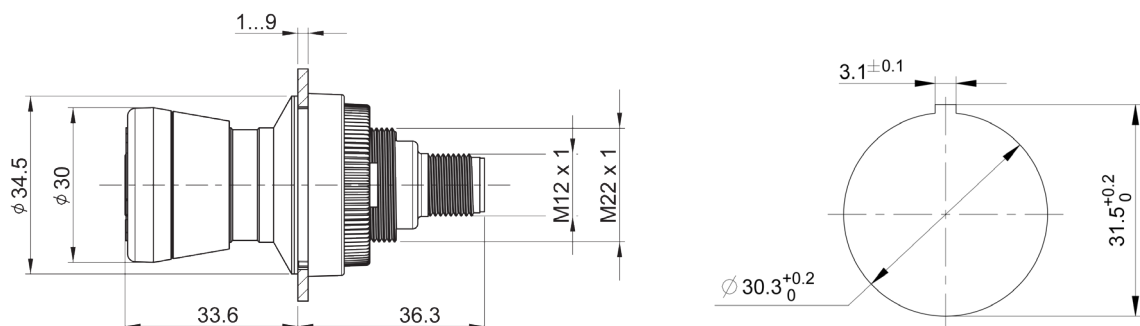
## RAMO 22 E DIMENSIONS

(22.3 mm mounting hole)



## RAMO 30 E DIMENSIONS

(30.3 mm mounting hole)



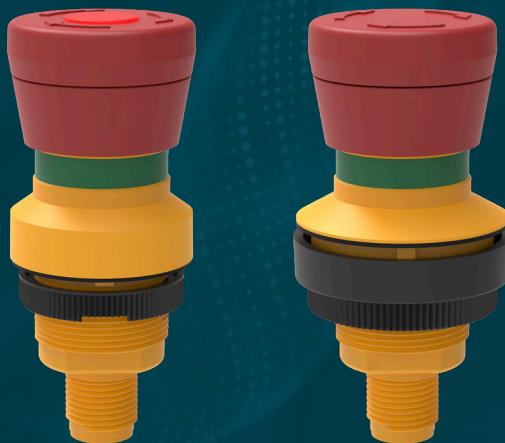
# RAMO<sup>®</sup> E

## ROTARY RELEASE

The RAMO 22 E and RAMO 30 E with rotary release are now also available as an illuminated version in M12 8-pin A-coded in addition to the proven 4- and 5-pin versions.

### TECHNICAL DATA

Mounting hole	20.3 mm/30.3 mm
Contact function	2 NC
Illumination	Yes
Operating life	50,000 cycles
Rated voltage, max.	35 V
Rated current, max.	100 mA
Resetting	by pulling
Degree of protection, front side, according to DIN EN 60529	IP65; IP66
Degree of protection, rear side, according to DIN EN 60529	IP65; IP67
Terminal on the rear	M12 4-pin/5-pin/8-pin A-coded



### RAMO 22 E

Order no.	Contact configuration	Terminal	Resetting	Illumination
1.10.031.001/0000	Emergency stop, 2 NC	M12 4-pin, A-coded	Rotate	No
1.10.031.011/0000	Emergency stop, 2 NC	M12 5-pin, A-coded	Rotate	No
1.10.031.021/0330	Emergency stop, 2 NC	M12 8-pin, A-coded	Rotate	Yes

### RAMO 30 E

Order no.	Contact configuration	Terminal	Resetting	Illumination
1.11.031.001/0000	Emergency stop, 2 NC	M12 4-pin, A-coded	Rotate	No
1.11.031.011/0000	Emergency stop, 2 NC	M12 5-pin, A-coded	Rotate	No
1.11.031.021/0330	Emergency stop, 2 NC	M12 8-pin, A-coded	Rotate	Yes

# RAMO® E

## PULL RELEASE

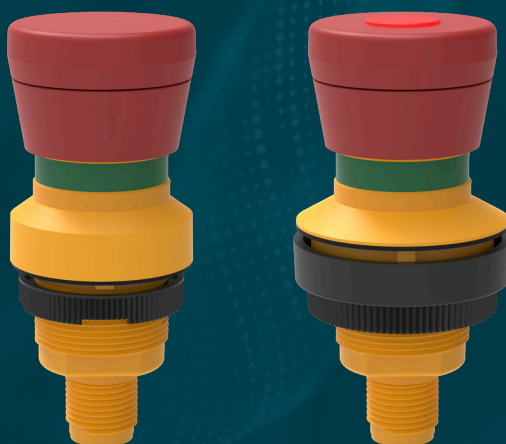
Thanks to IP 69 (in accordance with DIN EN 60529) and IPx9k (in accordance with ISO 20653), the RAMO 22 E and RAMO 30 E with pull release are particularly suitable for applications that can also be exposed to intensive high-pressure and steam jet cleaning at any time.

### TECHNICAL DATA

<b>Mounting hole</b>	20.3 mm/30.3 mm
<b>Contact function</b>	2 NC
<b>Illumination</b>	Yes
<b>Operating life</b>	50,000 cycles
<b>Rated voltage, max.</b>	35 V
<b>Rated current, max.</b>	100 mA
<b>Resetting</b>	by pulling
<b>Degree of protection, front side, according to DIN EN 60529</b>	IP65; IP69
<b>Degree of protection, front side, according to ISO 20653</b>	IPx9k
<b>Degree of protection, rear side, according to DIN EN 60529</b>	IP65; IP67
<b>Terminal on the rear</b>	M12 4-pin/5-pin/8-pin A-coded



\*TÜV and VDE approval in progress



### RAMO 22 E

Order no.	Contact configuration	Terminal	Resetting	Illumination
1.10.031.201/0000	Emergency stop, 2 NC	M12 4-pin, A-coded	Pull	No
1.10.031.211/0000	Emergency stop, 2 NC	M12 5-pin, A-coded	Pull	No
1.10.031.221/0330	Emergency stop, 2 NC	M12 8-pin, A-coded	Pull	Yes

### RAMO 30 E

Order no.	Contact configuration	Terminal	Resetting	Illumination
1.11.031.201/0000	Emergency stop, 2 NC	M12 4-pin, A-coded	Pull	No
1.11.031.211/0000	Emergency stop, 2 NC	M12 5-pin, A-coded	Pull	No
1.11.031.221/0330	Emergency stop, 2 NC	M12 8-pin, A-coded	Pull	Yes

# RAMO<sup>®</sup> E PLUS 1

The RAMO E Emergency Stop Plus 1 is equipped with 3 contacts. This means that, for example, two redundant contacts can be earmarked for safety applications, while a signaling contact triggers the position sensing.

## TECHNICAL DATA

Mounting hole	20.3 mm/30.3 mm
Contact function	2 NC + 1 NO
Illumination	Yes
Operating life	50,000 cycles
Rated voltage, max.	35 V
Rated current, max.	100 mA
Resetting	by rotating/pulling
Degree of protection, front side, according to DIN EN 60529	IP65, IP66 (rotate), IP69 (pull)
Degree of protection, front side, according to ISO 20653	IPx9k (pull)
Degree of protection, rear side, according to DIN EN 60529	IP65; IP67
Terminal on the rear	M12 8-pin A-coded



## RAMO 22 E

Order no.	Contact configuration	Terminal	Resetting	Illumination
1.10.031.022/0000	Emergency stop, 2 NC + 1 NO	M12 8-pin, A-coded	Rotate	No
1.10.031.022/0330	Emergency stop, 2 NC + 1 NO	M12 8-pin, A-coded	Rotate	Yes
1.10.031.222/0000	Emergency stop, 2 NC + 1 NO	M12 8-pin, A-coded	Pull	No
1.10.031.222/0330	Emergency stop, 2 NC + 1 NO	M12 8-pin, A-coded	Pull	Yes

## RAMO 30 E

Order no.	Contact configuration	Terminal	Resetting	Illumination
1.11.031.022/0000	Emergency stop, 2 NC + 1 NO	M12 8-pin, A-coded	Rotate	No
1.11.031.022/0330	Emergency stop, 2 NC + 1 NO	M12 8-pin, A-coded	Rotate	Yes
1.11.031.222/0000	Emergency stop, 2 NC + 1 NO	M12 8-pin, A-coded	Pull	No
1.11.031.222/0330	Emergency stop, 2 NC + 1 NO	M12 8-pin, A-coded	Pull	Yes



eCatalog RAMO 22 E



eCatalog RAMO 30 E

The information in this brochure contains general descriptions and performance characteristics which may not apply exactly in the concrete application and/or which can change due to further development of the products. The technical data, images, and other details of our products are merely the results of individual technical tests. These and other performance characteristics are only binding if they are expressly agreed upon during conclusion of the contract. Otherwise: We

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