RAMO 22 E, M12, round collar, illuminated, 2 NC + 1 NO, Gold, M12 8-pin A-coded, reset by pulling, Mushroom head red, bezel red, illuminable



Description

Emergency stop with M12 connection: RAMO E switches are designed with two NC contacts for a switching voltage of 35 V. They comply with all applicable ISO and IEC standards and are characterized by their simple, time-saving installation. Like the entire RAMO series, the emergency stop switches feature installation-friendly M12 plug-in connections that reduce wiring effort to a minimum.

technical data

general

Potential free	yes
Color of mushroom	red
Bezel color	red
Collar color	yellow
Luminous element color	red
Collar shape	round
Operating temperature, min.	-40 °C
Operating temperature, max.	85 °C
Storage temperature, min.	-40 °C
Storage temperature, max.	90 °C
illuminated	Yes
Luminous elements	LED
Packaging	Box
Packaging unit	2 pcs.
Operating life	50,000 cycles
B10	65,000 cycles
B10d	130,000 cycles
Degree of protection, front side, according to DIN EN 60529	IP65 IP66 IP69
Degree of protection, rear side, according to DIN EN 60529	IP65 IP67
Degree of protection, front side, according to ISO 20653	IPx9K
Environment resistance	IEC 60068-2-14 IEC 60068-2-30

direct links

RAFI eCatalog

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	IEC 60068-2-33 IEC 60068-2-78
Shock resistance according to standard IEC 60068-2-27	50 g at 11 ms amplitude semi-sinusoidal
Corrosive gas testing according to standard	IEC 60068-2-60
Salt-spray resistance according to standard	IEC 60068-2-11
UV resistance according to ISO 4892-2	Method A: Artificial weathering
Impact resistance IK	07 side 08 frontal
Oscillation restistance according to standard IEC 60068-2-6	5 g at 10...500 Hz
Minimum order quantity (MOQ)	2 pcs.
Pollution degree acc. to DIN EN 61010-1	Pollution degree 2
RoHS compliant	Yes
REACH compliant	Yes

mounting diameters

Outside dimension, length	30 mm
Outside dimension, width	30 mm
Outside dimension, height	69.9 mm
Mounting hole	22.3 mm
Mounting depth	30.1 mm
Installation height	39.8 mm
Grid, min.	30 mm

mechanical data

Terminal on the rear	M12 8-pin A-coded
Fixing	Threaded ring
Actuation function	latching
Threaded ring torque, max.	1.2 Nm
Resistance to force on the side M12	300 N
Contact function	2 NC + 1 NO
Contact material	Gold
PIN 1	Normally closed contact 1
PIN 2	Normally closed contact 2
PIN 3	GND
PIN 4	Normally closed contact 1
PIN 5	Normally closed contact 2
PIN 6	LED +
PIN 7	Normally open contact 1
PIN 8	Normally open contact 1
Resetting	by pulling

electrical data

Rated insulation voltage	250 V
Rated surge voltage	2,500 V

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Operating voltage of the luminous element, min.	10 V
Operating voltage of the luminous element, max.	30 V
Rated voltage, min.	5 V
Rated voltage, max.	35 V
Voltage type	DC
Rated operating voltage	24 V
Operating current of the luminous element, min.	12 mA
Operating current of the luminous element, max.	18 mA
Rated current, min.	0.001 A
Rated current, max.	0.1 A
Power loss	0.00080 W
Categories of use	AC-15 (35V) DC-13 (35V)
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
Contact resistance new status	0.04

Specifications according to IEC 60947-5-1

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:

Only approved for Class 2 power sources or limited voltage/current.
Installation only by trained personnel.
Type 4x Indoor only with cable "Cat. No. 7000-12221-0340100 PUR 4x0.34mm² with M12 connector, rated power max. 30VAC/DC 4A, manufactured by Murrelektronik GmbH".
For use on a flat surface of a type 1 or type 4x enclosure (indoor).

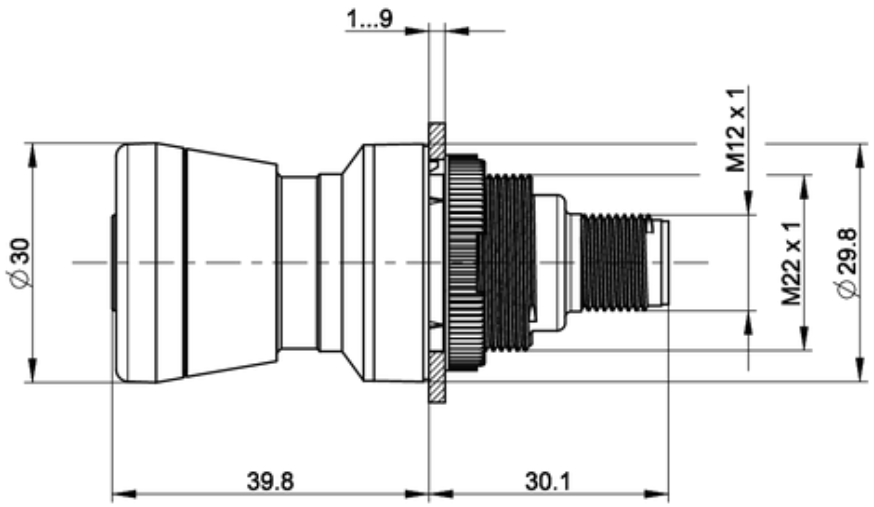
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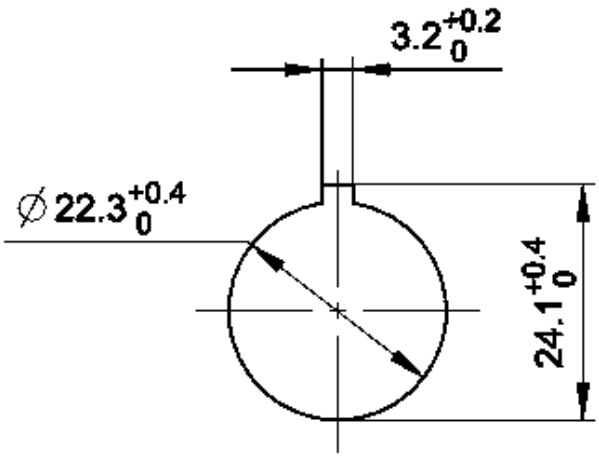
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drawings

Dimensioned drawing



Mounting hole drawing



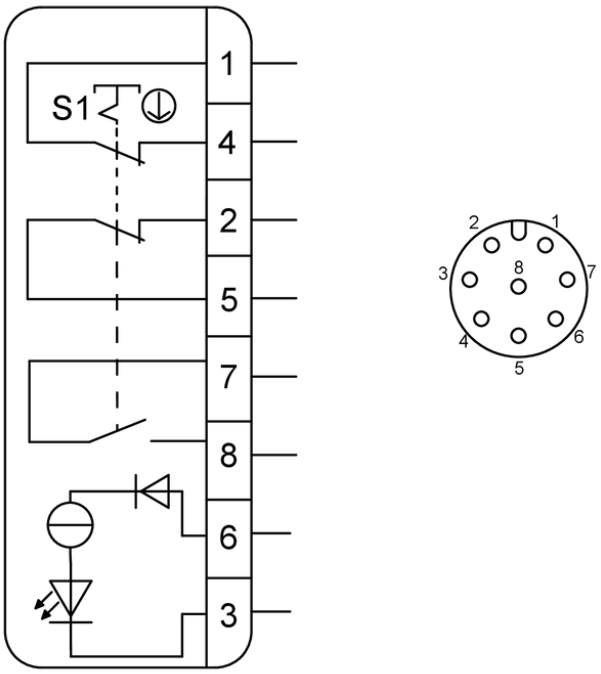
acc. to IEC 60947-5-1

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Schematic diagram



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mounting

RAFI

DEUTSCH (DE)

Betriebsanleitung
NOT-HALT-BEFEHLSGERÄTE

Baureihe
LUMOTAST 16, LUMOTAST 22, LUMOTAST 25, RAMO 22
RAMO 30

1. Sicherheitshinweise
- Vor Inbetriebnahme bitte Betriebsanleitung sorgfältig lesen.
- Not-Halt-Befehlsgeräte erfüllen eine Personenschutz-Funktion. Unsachgemäßer Einbau, sachwidrige Anwendung oder Manipulationen können zu schweren Verletzungen von Personen führen!
- Not-Halt-Befehlsgeräte dürfen nicht umgangen, entfernt oder auf andere Weise unwirksam gemacht werden!
- Vor Beginn der Installation Anlage und Gerät spannungsfrei schalten!
- Vor Erst-Inbetriebnahme der Maschine oder Anlage Not-Halt-Befehlsgerät durchTestbetätigung auf korrekte Montage und Funktion überprüfen.
- Not-Halt-Befehlsgeräte mit sichtbaren Beschädigungen sind unverzüglich auszutauschen.
- Not-Halt-Funktion darf nicht als Ersatz für Schutzmaßnahmen oder andere Sicherheitsfunktionen verwendet werden.
- Not-Halt-Funktion darf die Wirksamkeit von Schutzreinrichtungen oder von Einrichtungen mit anderen Sicherheitsfunktionen nicht beeinträchtigen.

2. Allgemeine Beschreibung und bestimmungsgemäße Verwendung
Not-Halt-Befehlsgeräte sind elektromechanische Schaltgeräte zum Schutz von Personen. Sie dienen der schnellen Abschaltung um Maschinen, Fahrzeuge und Anlagen in einen sicheren Zustand zu bringen, um Gefahren und Schäden für Mensch und Maschine zu vermeiden oder zu verringern.
Für die Inbetriebnahme, den Einsatz und technischen Überprüfungen gelten im speziellen folgende Vorschriften:
- Die Maschinenrichtlinie 2006/42/EG
- Die Sicherheitsvorschriften sowie
- Die Unfallverhütungsvorschriften / Sicherheitsregeln

Hersteller und Benutzer von Maschinen, an denen Not-Halt-Befehlsgeräte eingesetzt werden, tragen die Verantwortung für die Beachtung der Betriebsanleitung, wie auch für die Einhaltung der für sie geltenden Sicherheitsvorschriften und -regeln. Für den Einbau und Betrieb von Not-Halt-Befehlsgeräten müssen zur bestimmungsgemäßen Verwendung folgende Anforderungen beachtet und eine Gefahrenbewertung durchgeführt werden:
- EN ISO 13849-1:2023
- EN ISO 13850:2015
- EN ISO 13849-2:2012
- EN 60204-1:2006/A1:2009
- EN 60947-5-5:1997 + A1:2005 + A11:2013 + A2:2017

3. Produktbeschreibung
Aufbau: Die Not-Halt-Befehlsgeräte bestehen aus einer Kombination von Betätigern mit einem oder mehreren Schaltelementen. Die Not-Halt-Befehlsgeräte gibt es als Einbauversion oder in einem Gehäuse verbaut. Die Betätigung erfolgt durch Drücken, die Entriegelung erfolgt je nach Variante entweder durch:
- Drehbewegung nach rechts oder beide Richtungen (je nach Variante)
- Ziehen entgegen der Betätigungsrichtung

"Aktiv/Inaktiv"-Varianten:
- "Aktiv": beleuchtet, rot, Not-Halt Funktion gegeben
- "Inaktiv": unbeleuchtet, transparent, keine Not-Halt Funktion

Varianten mit Schloss:
- Die Entriegelung erfolgt per Rechtsdrehung des Schlüssels nach Betätigung des Not-Halt-Befehlsgerätes. Der Schlüssel muss in jedem Betätigungszustand abgezogen werden und sollte sich nur während des Entriegelns im Betätiger befinden. Damit lassen sich Verletzungen der Hände vermeiden.

ENGLISH (EN)

Operating Instructions
EMERGENCY STOP Control Units

Series
LUMOTAST 16, LUMOTAST 22, LUMOTAST 25, RAMO 22
RAMO 30

1. Safety information
- Please read the operating manual carefully before commissioning.
- Emergency stop control components are there to protect personnel. Improper installation, improper use or manipulation can lead to serious injuries to persons!
- Emergency stop control components must not be bypassed, removed or otherwise rendered ineffective!
- Disconnect the system and device from the power supply before starting installation!
- Before commissioning the machine or system for the first time, check the emergency stop control component for correct installation and function by test actuation.
- Emergency stop control components with visible damage must be replaced immediately.
- The emergency stop function must not be used as a substitute for protective measures or other safety functions.
- The emergency stop function must not impair the effectiveness of safety features or of devices with other safety functions.

2. General description and intended use
Emergency stop control components are electromechanical switching devices for the protection of personnel. They are used for quick shutdown to bring machines, vehicles and systems into a safe condition to avoid or reduce hazards and damage to people and machines.
The following regulations apply in particular to commissioning, use and technical inspections:
- The Machinery Directive 2006/42/EC
- The safety regulations as well as
- The accident prevention regulations / safety rules

Manufacturers and users of machinery on which emergency stop control components are used assume responsibility for the observance of the operating manual, as well as for the observance of the safety rules and regulations applicable to them. For the installation and operation of emergency stop control components, the following requirements must be observed and a hazard assessment carried out for the intended use:
- EN ISO 13849-1:2023
- EN ISO 13850:2015
- EN ISO 13849-2:2012
- EN 60204-1:2006/A1:2009
- EN 60947-5-5:1997 + A1:2005 + A11:2013 + A2:2017

3. Product description
Structure: The emergency stop control components consist of a combination of actuators with one or more switching elements. The emergency stop control components are available as a built-in version or installed in a housing. Actuation takes place by pressing, unlocking takes place depending on the type either by:
- Rotation to the right or both directions (depending on the variant)
- Pulling against the actuating direction

„Active/Inactive" types:
- „Active": illuminated, red, emergency stop function active
- „Inactive": non-illuminated, transparent, no emergency stop function

Types with a key lock:
- Unlocking is performed by turning the key to the right after actuating the emergency stop control component. The key must be removed in every actuation state and should only be in the actuator during unlocking. This helps to avoid injuries to the hands.

FRANÇAIS (FR)

Mode d'emploi auxiliaires de commande
d'ARRÊT D'URGENCE

Série
LUMOTAST 16, LUMOTAST 22, LUMOTAST 25, RAMO 22
RAMO 30

1. Consignes de sécurité
- Lire la notice d'utilisation attentivement avant la mise en service.
- Les auxiliaires de commande d'arrêt d'urgence ont une fonction de protection des personnes. Un montage incorrect, une application ou des manipulations non conformes peuvent occasionner des graves blessures aux personnes !
- Les auxiliaires de commande d'arrêt d'urgence ne doivent pas être contournés, retirés ou rendus inefficaces de toute autre façon !
- Avant de commencer l'installation, mettre l'installation et l'appareil hors tension !
- Avant la première mise en service de la machine ou de l'installation, vérifier que l'auxiliaire de commande d'arrêt d'urgence est monté et fonctionne correctement.
- Les auxiliaires de commande d'arrêt d'urgence présentant des dommages visibles doivent être remplacés sans délai.
- La fonction d'arrêt d'urgence ne doit pas servir de substitut aux mesures de protection ou autres fonctions de sécurité.
- La fonction d'arrêt d'urgence ne doit pas entraver l'efficacité des dispositifs de protection ou dispositifs assurant d'autres fonctions de sécurité.

2. Description générale et utilisation conforme
Les auxiliaires de commande d'arrêt d'urgence sont des appareils de commutation électromécaniques de protection des personnes. Ils servent à la mise l'arrêt rapide pour mettre les machines, véhicules et installations dans un état sûr, afin d'éviter ou réduire dangers et dommages pour les gens et la machine.
Les prescriptions suivantes s'appliquent tout particulièrement pour la mise en service, l'utilisation et les vérifications techniques :
- La directive machine 2006/42/CE
- Les prescriptions de sécurité et
- Les prescriptions de prévention des accidents / règles de sécurité

Le constructeur et l'utilisateur de machines sur lesquelles des auxiliaires de commande d'arrêt d'urgence sont mis en œuvre assument la responsabilité du respect de la notice d'utilisation ainsi que des prescriptions et règles de sécurité qui s'appliquent à eux. Pour le montage et l'exploitation d'auxiliaires de commande d'arrêt d'urgence, les exigences suivantes doivent être respectées et une évaluation des risques doit être menée pour une utilisation conforme :
- EN ISO 13849-1:2023
- EN ISO 13850:2015
- EN ISO 13849-2:2012
- EN 60204-1:2006/A1:2009
- EN 60947-5-5:1997 + A1:2005 + A11:2013 + A2:2017

3. Description du produit
Structure : les auxiliaires de commande d'arrêt d'urgence sont une combinaison d'actionneurs avec un ou plusieurs éléments de commutation. Les auxiliaires de commande d'arrêt d'urgence existent en version encastrable ou montés dans un boîtier. L'actionnement est réalisé par pression, le déverrouillage selon la variante par :
- Mouvement de rotation vers la droite ou dans les deux sens (selon la variante)
- Tirage dans le sens contraire de l'actionnement

Variantes « actif/inactif » :
- « Actif » : éclairé, rouge, fonction d'arrêt d'urgence présente
- « Inactif » : non éclairé, transparent, aucune fonction d'arrêt d'urgence

Variantes avec serrure :
- Le déverrouillage est réalisé par rotation à droite de la clé après actionnement de l'auxiliaire de commande d'arrêt d'urgence. La clé doit pouvoir être retirée dans n'importe quel état d'actionnement et ne doit se trouver dans l'actionneur que pendant le déverrouillage. Ceci permet d'éviter les blessures aux mains.

Produkt Product Produit	Einbau Ø mm Mounting Ø mm Montage Ø mm	Betätiger Actuator Actionneur	Schaltelement Contact Block Elément de commutation
LUMOTAST 16	Ø 16.2	1.15.213.xxx/xxxx 9.15.213.xxx/xxxx	integriert / integrated / intégré
LUMOTAST 22	Ø 22.3	1.15.105.xxx/xxxx 9.15.105.xxx/xxxx	
LUMOTAST 25	Ø 16.2	1.15.154.xxx/xxxx 9.15.154.xxx/xxxx	
RAMO 22	Ø 22.3	1.10.031.xxx/xxxx 9.10.031.xxx/xxxx	
RAMO 30	Ø 30.3	1.11.031.xxx/xxxx 9.11.031.xxx/xxxx	

Tabelle 3.1 Weitere technische Daten sind dem eCatalog zu entnehmen: ecatalog.rafi-group.com
Table 3.1 Further technical data can be found in the eCatalog: ecatalog.rafi-group.com
Tableau 3.1 Vous trouverez d'autres données techniques dans le eCatalog : ecatalog.rafi-group.com

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