RAFIX FS switching element emergency stop PCB, silver, for SMT LED, 1 NC, with light guide



fields of application

- Measurement-control-regulation
- Electrical engineering
- Mechanical and system engineering
- Signalling systems
- Vehicle construction
- Agricultural and forestry machinery
- Construction machinery
- Handheld terminals
- Industrial robots

description

These switching elements have internal plungers and therefore can only be combined with emergency stop and mushroom pushbuttons.

The PCB switching elements are positioned on a PCB shared with other components. These can subsequently be mounted behind the front panel together with the actuators and signal indicators. The switching elements “float” directly underneath the actuators on the PCB behind the front panel and leave plenty of space for other components.
In the center channel of the switching element, there are either light conductors for the use of SMT-LEDs, or 3 mm THT LEDs can be installed for illumination.

PCB mounting depths
- 9.2 mm for RAFIX 22 FS+ and RAFIX 22 FSR
- 15.7 mm for RAFIX 30 FS+:

The NC contacts of these switching elements are forcibly separated according to IEC 60947-5-1.

- PCB contact block for RAFIX 22 FS+, RAFIX FSR and RAFIX 30 FS
- Only suitable for emergency stop and mushroom pushbutton
- Silver contacts (= black housing)
- Mounting: Soldering on printed circuit board
- Version with light guide for SMT LED, without light guide for THT LED
- marking:
  - normally closed contacts = red plungers
  - normally open contacts = green plungers
  - N/C and N/O contacts = yellow plungers

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technical data

general

Feature	with light guide
Disassembly possible	no
Color	black
Operating temperature, min.	-40 °C
Operating temperature, max.	85 °C
Storage temperature, min.	-40 °C
Storage temperature, max.	85 °C
illuminated	Yes
Luminous elements	LED
Lamp socket	SMT LED
Soldering	Manual / wave
Solder heat resistance according to standard	DIN EN 60068-2-20
Packaging unit	30 pcs.
net weight	2.2 g
Operating life electrical	1,000,000 (1A / 250V AC) cycles 100,000 (2A / 250V AC) cycles 30,000 (4A / 250V AC) cycles
B10 electrical	1.300.000 (1A / 250V AC) cycles 200.000 (2A / 250V AC) cycles 70.000 (4A / 250V AC) cycles
B10d	140,000 cycles
Environment resistance	IEC 60068-2-14 IEC 60068-2-30 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
Vibration resistance according to standard IEC 60068-2-6	5 g at 10 - 500 Hz
MOQ order	30 pcs.
RoHS compliant	Yes
REACH compliant	Yes

mounting diameters

Outside dimension, length	17.3 mm
Outside dimension, width	17.3 mm
Outside dimension, height	16.9 mm
Mounting depth	9.2 mm

mechanical data

Contact function	1 NC
Contact system	Bridge contact
Contact material	Silver
Fixing	Soldering
Solderability	Yes
Terminal on the rear	THT

direct links

RAFI eCatalog

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electrical data

Rated insulation voltage	250 V
Rated surge voltage	2,500 V
Rated voltage, min.	10 V
Rated voltage, max.	250 V
Rated current, min.	0.01 A
Rated current, max.	4 A
Rated power, min.	0.5 W
Category of use AC-15 / B300	120 V / 3 A (IEC 60947) 240 V / 1,5 A (IEC 60947)
Categories of use	AC-15 / B300 DC-13 / Q300
Category of use DC-13 / Q300	120 V / 0,55 A (IEC 60947) 240 V / 0,27 A (IEC 60947)
Conditional short circuit current	1,000 A

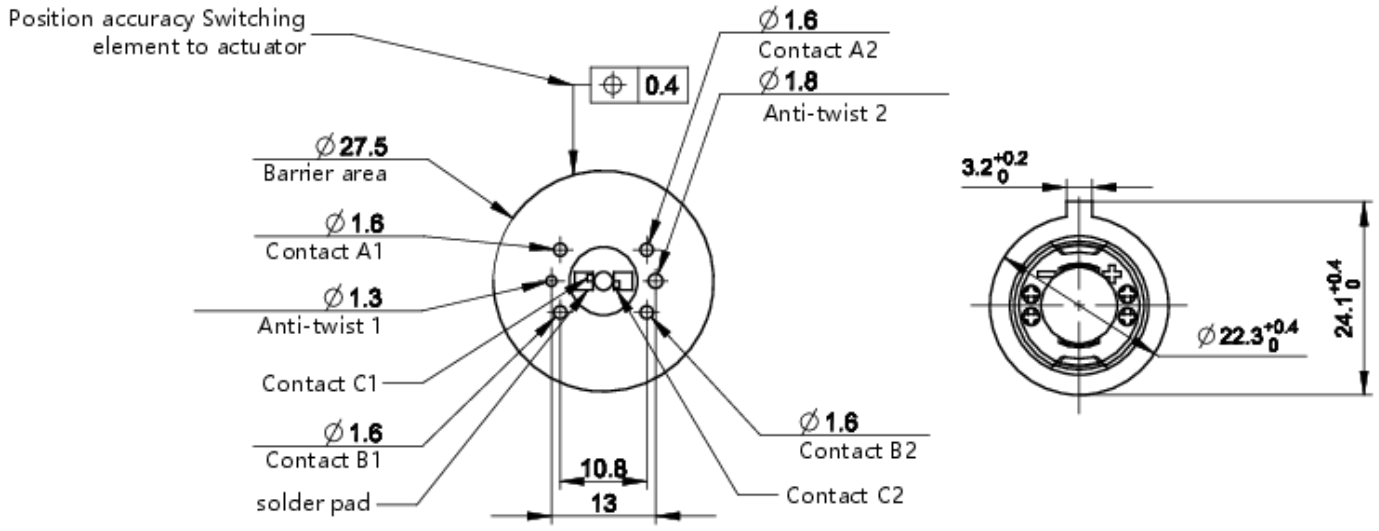
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drawings

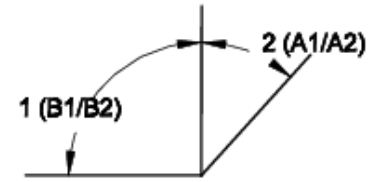
System drawing



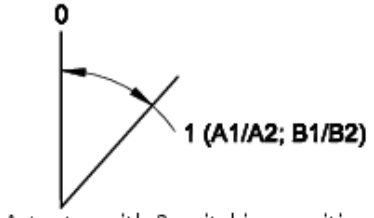
System drawing

Variant	1S / 1NO	1Ö / 1NC	2S / 2NO	2Ö / 2NC	1S + 1Ö / 1NO + 1NC
Contact A1/A2 Connection designation	1S / 1NO 13 - 14	-	1S / 1NO 13 - 14	1Ö / 1NC 11-12	1S / 1NO 13 - 14
Contact B1/B2 Connection designation	-	1Ö / 1NC 21-22	1S / 1NO 23-24	1Ö / 1NC 21-22	1Ö / 1NC 21-22
Contact C1/C2* Connection designation	LED*	LED*	LED*	LED*	LED*

*LED assignment when actuator is illuminated



Actuator with 3 switching positions



Actuator with 2 switching positions

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mounting

DEUTSCH (DE)

Betriebsanleitung
NOT-HALT-BEFEHLSGERÄTE

Baureihe
RAFIX 16, RAFIX 22 FS*, RAFIX 22 FSR, RAFIX 22 QR

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 durch Testbetätigung 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
- EN ISO 13850
- EN ISO 13849-2
- EN 60204-1/A1
- EN 60947-5-5

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
RAFIX 16, RAFIX 22 FS*, RAFIX 22 FSR, RAFIX 22 QR

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
- EN ISO 13850
- EN ISO 13849-2
- EN 60204-1/A1
- EN 60947-5-5

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
RAFIX 16, RAFIX 22 FS*, RAFIX 22 FSR, RAFIX 22 QR

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
- EN ISO 13850
- EN ISO 13849-2
- EN 60204-1/A1
- EN 60947-5-5

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 Élément de commutation
RAFIX 16	Ø 16.2	1.30.074.xxx/xxxx 9.30.074.xxx/xxxx	1.20.123.xxx/xxxx 9.20.123.xxx/xxxx
RAFIX 16 F	□ 22.3 Ø 22.3	1.30.094.xxx/xxxx 9.30.094.xxx/xxxx	
RAFIX 22 QR	Ø 22.3	1.30.243.xxx/xxxx 9.30.243.xxx/xxxx	1.20.124.xxx/xxxx 1.20.125.xxx/xxxx 5.00.100.xxx/xxxx 9.20.124.xxx/xxxx 9.20.125.xxx/xxxx
RAFIX 22 FS	Ø 22.3	1.30.253.xxx/xxxx 9.30.253.xxx/xxxx	1.20.126.xxx/xxxx 1.20.146.xxx/xxxx 9.20.126.xxx/xxxx 9.20.146.xxx/xxxx
RAFIX 22 FS*	Ø 22.3	1.30.273.xxx/xxxx 9.30.273.xxx/xxxx	
RAFIX 22 FSR	Ø 22.3	1.30.283.xxx/xxxx 9.30.283.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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