



**GET IN
TOUCH**

WITH OUR COMPONENTS

Electromechanical Components

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WHO WE ARE


RAFI is one of the world's leading suppliers of efficient solutions for human-machine communication – for over 100 years now. With about 2,000 employees, the RAFI Group is characterised by independence, healthy growth and profitability. Our long-standing customer relationships are based on our internationally superior performance, quality and cross-industry experience. When developing complex solutions, we place great emphasis on involving the customer in the process – from the very start. This helps to build customer satisfaction as well as very stable relationships.

RAFI products are also very impressive in terms of their quality and sustainability. Their quality is dictated by the customers' needs and requirements. Legal regulations can also play a role, along with the

current state of the art. Economical use of natural resources is an important aspect of the RAFI corporate philosophy. The company's environmental management system is certified according to ISO 14001.

Subsidiaries and locations

The company originally founded in 1900 by Ernst Bucher in Ravensburg, Germany as "Optisches, mechanisches und elektrotechnisches Institut" has evolved to become today's RAFI Group with subsidiaries in China, France, Italy, Hungary and the USA. Thanks to its own in-house sales staff and field service as well as a dense worldwide network of dealers and distributors, RAFI is extremely flexible and can always be reached by its customers.



RAFI Electronics

WHAT WE DO

As a business, we hold a solid position in the market for electromechanical components, complete control systems as well as electronic assemblies and devices.

From buttons, switches, signal lamps, PCB keyswitches and short-travel keyswitches to control and signalling units, all of our products stand out for their reliability and long operating life. We deliver solutions that meet your needs, and if you cannot use a standard product, we will custom-manufacture a product to fulfil your specific requirements.

Moreover, we are known as pioneers in the world of industrial touch data entry systems, providing clever solutions with just the right effect – RAFI is always one step ahead. Let us help you to obtain efficient and cost-effective production of your goods.



RAFI Berg/Ravensburg

Certifications:

DIN EN ISO 9001: 2008
DIN EN ISO 9001: 2008 with Road Traffic Regulations,
EN ISO 13485: 2003
ISO /TS 16949: 2009,
DIN EN ISO: 2004 + Cor 1: 2009



CONTROL SYSTEMS: This is the classic application for our components: short-travel keyswitches below an overlay or RAFIX control components and emergency stop buttons for control and safety functions. Also available as an additional input element for touchscreen units.



CONSUMER GOODS: Our components turn up in countless everyday consumer goods – and not just in washing machines. In most cases, they are customer-specific developments or standard components that have been transformed in some way.



AUTOMOTIVE INDUSTRY: Controls for inside of vehicles are our speciality, involving steering wheels, consoles, door handles as well as remote control systems. Example: A typical overhead control panel contains up to 20 MICON short-travel keyswitches, working together to give the vehicle a highly exclusive brand feeling.

While the contact that is made might only last for seconds and be barely perceptible, its effect is usually far greater.

Whenever someone presses a key, flips a switch or operates a joystick, a reaction is triggered, causing something to happen. Since people usually do not give these fleeting moments a second thought, many of our products go unnoticed in everyday life.

Upon closer examination, however, it is clear that RAFI products are used day after day in all sorts of modern consumer goods in a wide range of situations. From pushbuttons, signal lamps, keylock switches, signalling units and PCB keyswitches to short- and full-travel keyswitches, we have prepared an overview of the various core industries where our products are commonly used.

INDUSTRIES

ELEVATOR AND TRANSPORT SYSTEMS: We supply elevator, cabin and display panels to elevator manufacturers for all types of buildings, including optional digital printing with custom designs for any location. Vandal-proof buttons are used, just in case ...



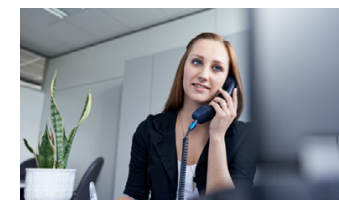
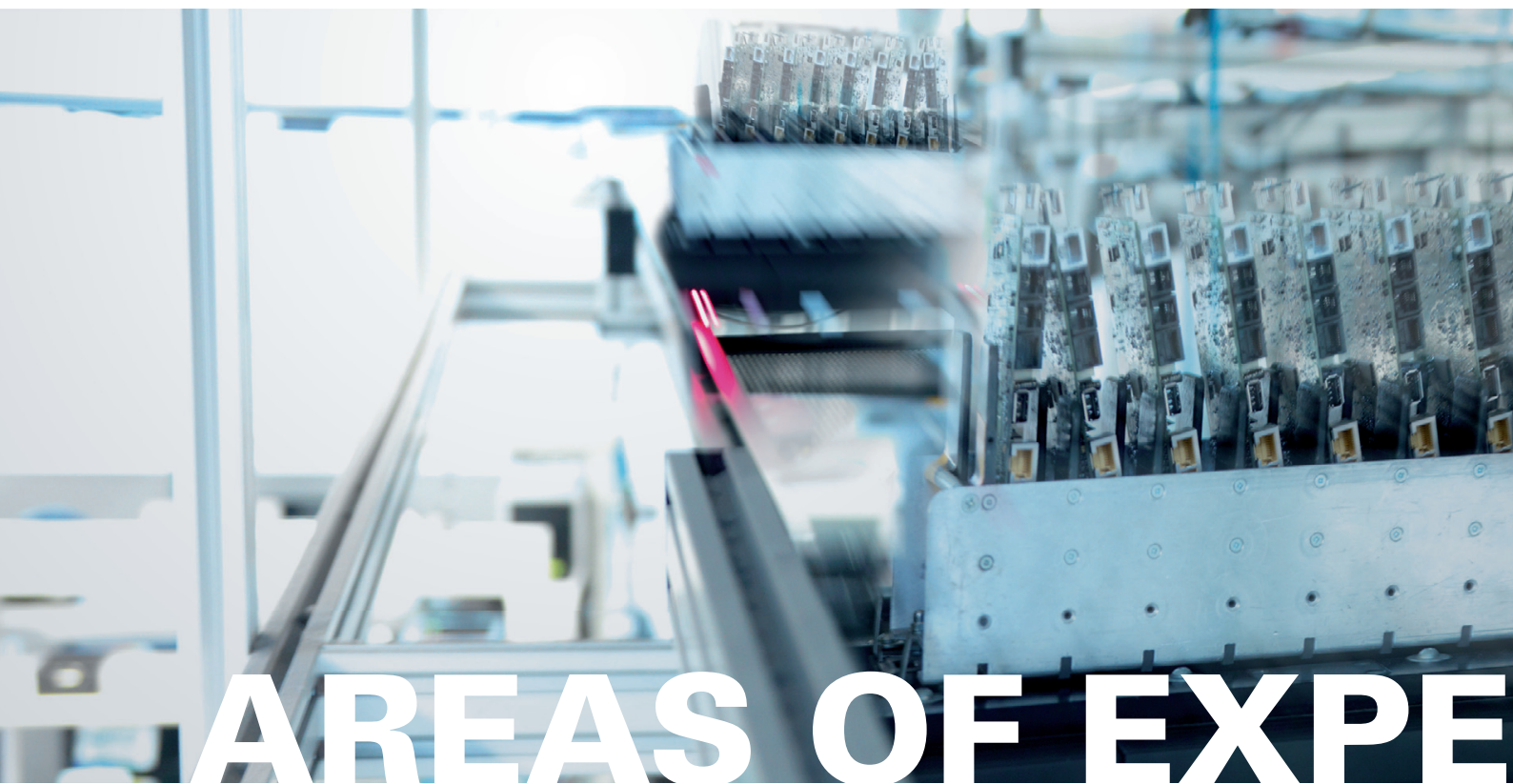
SPECIAL MECHANICAL ENGINEERING: The RG 85 button system was originally developed for vending machines and elevators. Nowadays, coffee machines are controlled using capacitive switches and systems, with intuitive operation and guaranteed hygiene being critical features. Of course, it is all made by RAFI.



TELECOMMUNICATIONS: We rank among the ten largest providers of electronic manufacturing services in Germany. Our customers include the market leader for broadband terminal equipment and smart home products. Any RAFI customer who relies on electronic circuitry will benefit from our advanced expertise.



CLEARLY THE RIGHT SOLUTION FOR YOUR APPLICATION



SALES: We like to keep the focus on our customers. We will work together with you from the start to develop the best solution to meet your needs. Our industry-oriented sales structure reflects our consistent customer focus around the globe.

Within our sales divisions, different industries are handled by independent teams under the leadership of key account managers. This highly targeted approach ensures that our customers receive optimum care and support. We speak your language.



PRODUCTION: From contact technology, plastic injection moulding, sheet metal machining, printing technology and mechanics all the way to electronics, we have a broad spectrum of production capabilities – subject to clearly defined quality standards and optimum cost-effectiveness.



DEVELOPMENT: Ranging from development to product realization and series production, we possess development expertise covering the entire production process. This includes development of mechanics, electronics, and software.

All of this is based on state-of-the-art technologies and simulation tools as well as highly efficient processes. Our development teams accompany products from the initial idea to series-production readiness, ensuring top quality along with comprehensive after-sales service.

MATERIALS MANAGEMENT: Our materials management covers everything from purchasing and order processing to logistics. Purchasing is divided into strategic and operational areas to ensure we remain competitive in the international marketplace. Order processing aims to achieve the optimum balance between cost-effectiveness and availability.



AN INTEGRATED SUPPLY CHAIN WITH CAREFULLY TAILORED CONCEPTS.

PRODUCT OVERVIEW

ELECTROMECHANICAL COMPONENTS

PUSHBUTTONS



**LUMOTAST
FK**



**LUMOTAST
25**



**LUMOTAST
75**



**Keylock
switches**









**Other
pushbuttons**



**RAFIX 16/
RAFIX 16 F**

	LUMOTAST FK	LUMOTAST 25	LUMOTAST 75	Keylock switches	Other pushbuttons	RAFIX 16/ RAFIX 16 F
Panel cut-out	Ø 16.2 mm	Ø 16.2 mm	Ø 16.2 mm	Ø 16.2 mm	Ø 9.1/20.3 mm	Ø 16.2 mm □ 23.1 mm Ø 22.3 mm
Contacts	1 NO	1 NO	1 NC + 1 NO 2 NC + 2 NO	1 to 4 NO	1 NC, 1 NO, 1 NC + 1 NO, 2 NO	1 NC, 1 NO, 1 NC + 1 NO, 2 NC, 2 NO
Contact material	Au	Au	Ag	Au	Ag	Ag / Au
Voltage max./min.	35 V / 0.02 V	35 V / 0.02 V	250 V	35 V	250 V / 0.02 V	250 V / 0.02 V
Current max./min.	100 mA / 0.1 mA	100 mA / 0.1 mA	4 A	100 mA	16 A / 0.1 mA	6 A / 1 mA
Current max./min.	Ribbon cable with connector, PCB plug-in socket	Ribbon cable with connector, PCB plug-in socket	Solder	PCB	Solder, screw, quick connect	Quick-connect, screw, PCB, plug-in socket
Degree of protection	IP 65	IP 65	IP 40 / 65	IP 65	IP 40	IP 65
Terminals	Bi-Pin T1 / T1 1¼	Bi-Pin T1 / T1 1¼	T 4.5	–	BA 9s	W 2 x 4.6d
Lamp socket	Filament lamp, LED	Filament lamp, LED	Filament lamp, LED	–	Filament lamp, LED	Filament lamp, LED
Collar shape	□□□	□	○□□	○□	○	○□
Variants	Illuminated pushbutton, signal lamp	Illuminated pushbutton, EMERGENCY STOP button, keylock switch, selector switch, signal lamp	Illuminated pushbutton, signal lamp, keylock switch	Keylock switch, priority keylock switch	Pushbutton, illuminated pushbutton	Pushbutton, stop button, EMERGENCY STOP button, keylock switch, selector switch, toggle switch, potentiometer drive, signal-lamp unit, signal indicator

CONTROL COMPONENTS				SIGNAL LAMPS	
					
RAFIX 22 FS+	RAFIX 22 FSR	RAFIX 30 FS+	RAFIX 22 QR	Integrated LED	Integrated neon lamp
Ø 22.3 mm	Ø 22.3 mm	Ø 30.5 mm	Ø 22.3 mm	Ø 5–30 mm	Ø 7–14 mm
1 NC, 1 NO, 1 NC + 1 NO, 2 NC, 2 NO	1 NC, 1 NO, 1 NC + 1 NO, 2 NC, 2 NO	1 NC, 1 NO, 1 NC + 1 NO, 2 NC, 2 NO	1 NC, 1 NO, up to 6 NC, 6 NO	–	–
Ag / Au	Ag / Au	Ag / Au	Ag / Au	–	–
250 V / 0.02 V	250 V / 0.02 V	250 V / 0.02 V	500 V / 0.02 V	28 V	230 V
4 A / 1 mA	4 A / 1 mA	4 A / 1 mA	10 A / 1 mA	0.25 – 1 W	–
PCB, quick-connect (QC)	PCB, quick-connect (QC)	PCB, quick-connect (QC)	Screw, cage clamp, quick-connect	Solder, quick-connect	Solder, quick-connect
IP 65	IP 65 / 69 K	IP 65	IP 65	IP 40	IP 40
–	–	–	BA 9s	None	None
LED, clip	LED, clip	LED, clip	Filament lamp, neon lamp, LED	LED	Neon lamp
□	○	○	□	△	□ ↑
Pushbutton, EMERGENCY STOP button, signal indicator, keylock switch, selector switch, potentiometer drive, USB feed- through	Pushbutton, EMERGENCY STOP button, signal indicator, keylock switch, selector switch, USB feedthrough	Pushbutton, signal indicator, keylock switch, selector switch, USB feed- through	Pushbutton, mushroom actuator, EMERGENCY STOP button, twin push- button, signal indica- tor, keylock switch, selector switch, potentiometer drive, signalling unit		








PRODUCT OVERVIEW

ELECTROMECHANICAL COMPONENTS

SHORT-TRAVEL KEYSWITCHES

**MICON 5****RACON 8****RACON 12****RF 15/15 H****RF 15 R****RF 15 N**

Grid min.	6 x 8 mm	12 mm	15,24 mm	19,05 mm	15,24 mm	15,24 mm
Overall height, min.	3.85 mm, variable	5 mm, variable	5 mm, variable	9.7 / 12.5 mm	9.7 / 12.5 mm	6.2 mm, variable
Contacts	1 NO	1 NO	1 NO	1 NO	1 NO	1 NO
Contact material	Au	Au	Au	Ag / Au	Ag / Au	Ag / Au
Rated voltage	0.02...35 V	0.02...35 V	0.02...35 V	0.02...50 V	0.02...50 V	0.02...50 V
Rated current	0,01...100 mA	0,01...100 mA	0,01...100 mA	0,01...250 mA	0,01...250 mA	0,01...250 mA
Operating travel	0.7 ... 1.1 mm	0.34 mm	0.61 mm	0.5 mm	0.5 mm	0.5 mm
Operating force	3.0 ... 8.0 N	3.3 ... 6.3 N	3.6 ... 9.7 N	2 - 3 N	2 - 3 N	2 - 3 N
Terminals	PCB SMT & THT	PCB SMT & THT	PCB SMT & THT	PCB THT	PCB THT	PCB THT
Illumination	Separate LED	separate LED	separate LED	Full / spot	Full / spot	Full / spot
Operating life min.	250,000 / 1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Special features	Variable height by use of plungers, different operating forces	Variable height by use of plungers, different operating forces	Variable height by use of plungers, 90° vertical adapter, different operating forces	Variable height by use of plungers, 1-module indicator field		Variable height by use of plungers

				FULL-TRAVEL KEYSWITCHES		KEYLOCK SWITCHES
						
RF 19/19 H	KN 19	RK 90/II	RG 85 III	RS 76 M	RS 76 C	Keylock switches
23 mm	19,05 x 38,1 mm	12,5 / 19,05 mm	35 mm	19.05 mm	19.05 mm	19.05 mm
9.7 / 12.5 mm	9.7 mm		12.08 mm	15.5 mm	15.5 mm	40 mm
1 NO	1 NC + 1 NO/ 2 NC / 2 NO		1 NO	1 NO	1 NO	1 NO – 4 NO
Ag / Au	Ag		Ag	Au	Contactless	Au
0.02...50 V	12...250 V		3...50 V	2...35 V	4.75...5.25 V	2...35 V
0,01...250 mA	6 A		0,1...250 mA	0.01...100 mA	–	0.01...100 mA
0.5 mm	0.5 mm		1 mm	4 mm	4 mm	1...4 x 90° rotating angle
2 - 3 N	9 ± 3 N		3.5 - 4.5 N	0.9...1.4 N	0.7...1 N	–
PCB THT	PCB THT		8-pin Micro Match connector	PCB THT	PCB THT	PCB THT
Full / spot	Spot	Full	Edge and symbol	Full / spot	Spot	–
1,000,000	50,000 – 200,000		1,000,000	10,000,000	100,000,000	10,000
Indicator fields 1/2-, 1- and 2-module	Mains switch under overlay or keycaps	Plastic or alumi- nium surface, compatible with MICON, RACON, RF and KN 19	Vandal-proof	Fully illumina- ble keycaps (RS 76 MX)	Very soft stroke, ext- remely long operating life	Degree of protection IP 54, priority keylock switch

NEW PRODUCTS IN THE CATALOGUE

ELECTROMECHANICAL COMPONENTS



GET IN TOUCH NEW PRODUCTS

NEW PRODUCTS IN THE CATALOGUE

ELECTROMECHANICAL COMPONENTS



LUMOTAST 22

E-Stop pushbuttons, 22.3 mm

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RAFIX 22 FS+

Pushbuttons FLEXLAB

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RAFIX 22 FS+

Keylock switches compact

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RAFIX 22 FS+

Emergency stop pushbuttons compact

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RAFIX 22 FSR

Pushbuttons

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RAFIX 22 FSR

Selector switches

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RAFIX 22 FSR

Keylock switches

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RAFIX 22 FSR

Emergency stop pushbuttons

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RAFIX 22 FSR

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RAFIX 30 FS+

Pushbuttons

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RAFIX 30 FS+

Pushbuttons FLEXLAB

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RAFIX 30 FS+

Selector switches

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RAFIX 30 FS+

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RAFIX 30 FS+

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RAFIX FS

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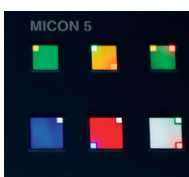
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MICON 5

Plungers round, ring illumination

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MICON 5

Plungers square, spot-illumination

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HOW TO USE THE CATALOGUE

ELECTROMECHANICAL COMPONENTS

Latest online version as the basis for your order

Since this catalogue is published in paper format only at certain intervals, it is not as up-to-date as our website. For this reason, we recommend using the datasheets on our website when ordering standard products.

You can always find the latest information on our products here: <http://www.shop.rafi.de>

Creation of individual datasheets in PDF format

You can create PDF datasheets in our online catalogue at <http://www.shop.rafi.de>. Find the product you want using the search tool or by entering the order number and then click on the "Create datasheet" link.

3D data and 2D drawings

For many of our products, we can provide 3D models in the *.stp file format. For older products, we usually still have dimensional drawings in dxf format. This data can be found in our online catalogue where the individual products are specified: <http://www.shop.rafi.de>

Correction sheets for the printed catalogue

We provide correction sheets on our home page if we discover errors after the catalogue has been printed. Alternatively, you can download the individual (corrected) chapters of this catalogue in PDF format at [x/Downloads](#).

Availability

We always strive to satisfy the needs of our customers. However, it is necessary to mention that our production is contingent on the availability and delivery of the appropriate base materials. Such issues, in addition to changing legislation, can result in modification or discontinuation of our products.

Specifications

The specifications, depictions and other information about our products are merely the results of individual technical inspections. The conditions are derived from the pertinent standards. These inspections should be considered to be independent of one another and they cannot be used to infer possible interactions, especially also in terms of the applicable usage category, installation situation and/or environmental conditions. If you need an evaluation of your application, we will be happy to prepare an offer on request.

Subject to change

We, the RAFI Group, reserve the right to deviate from the specifications in this catalogue, especially in terms of the technical and exterior designs, colours and materials from which the products are manufactured. Excluded from this provision are the basic core functions of our products, on which our customers rely.

Information about our products (e.g. weights, dimensions, practical values, capacity, tolerances and specifications) as well as the depictions (e.g. drawings, CAD data and figures), both in printed and in electronic format, is authoritative only as an approximation unless usability for the express and contractually stipulated purpose requires precise conformity. Such information and depictions do not represent guaranteed quality features but are non-binding descriptions or indicators of the product characteristics. Deviations which are customary in the trade and deviations which are required by law or represent technical improvements, as well as the substitution of components with equivalent parts (form/fit/function), are permissible insofar as they do not impair the usability for the express and contractually stipulated purpose. This applies in particular to spare parts and subsequent orders.

RoHS conformity

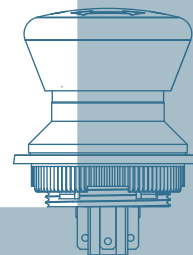


The products in this catalogue are RoHS-compliant (RoHS = Restriction of Hazardous Substances).

The components are qualified for lead-free soldering processes. See the glossary for more details.

Terms and conditions

Our current terms and conditions (sales) can be found at [x/AGBs](#).



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PUSHBUTTONS

GENERAL INFORMATION

1

Concepts

1. Momentary pushbuttons are switching elements which are used for making or breaking contact while they are being pressed.
2. Latching pushbutton are used for making or breaking contact until they are returned to their initial position by being pressed again.
3. Illuminated pushbuttons have the same functions as described for (1) and (2) and feature an additional lamp socket for accomodating a filament, neon lamp or LED.
4. Legending can ce effected using kabel holders, legend inserts, by engraving or hot stamping. Grooved transparent lenses are not suitable for legending.

CE-Conformity

The products of the Chapter "Pushbuttons" can – relating to the CE-conformity according to the Low-Voltage Directive 73/23/EWG – be divided into the following groups:

Emergency-stop components with an operating voltage < 50 V

F. ex. LUMOTAST 25 emergency-stop. For this pushbutton the Machine Directive 89/392/EWG applies.

All products with an operating voltage > 50 V

For these elements the Low-Voltage Directive 72/23/EWG applies.

All products with an operating voltage < 50 V

For these products no directive applies.

Single parts, accessories and illumination

For these products no directive applies.

EMC-Law

The components of this catalogue are within the meaning of the law concerning the Elettromagnetic Conformity (= EMC-Law) "basic components as, f. ex., switches, signal lamps or like" and, therefore, do not fall within the scope of the EMC-Law.

Marking

The marking will be corresponding to the Low-Voltage Directive 73/23/EWG resp. the Directive "CE-Marking 93/68/EWG" either on the packing or on the product itself.



RAFIX 16

RAFIX 16 control component range

- Panel cut-out acc. to IEC 60947: \varnothing 16,2 mm / \varnothing 22,3 mm / \square 23,1 mm
- 250 V / 6 A max.
- Degree of protection: IP65 acc. to DIN EN 60529
- Contact blocks: Gold and silver contacts with quick-connect terminals 2.8 x 0.8 mm or screw terminals; Option: PCB plug-in socket
- 3 collar shapes RAFX 16, 2 collar shapes RAFX 16F
- The contact blocks snap directly onto the actuators without a coupling element and can be easily removed by turning = cost reducing assembly.
- All products are RoHS compliant.

The specified data apply only if actuators are combined with contact blocks and signal indicators with lamp sockets within the same product range.

CONTROL COMPONENTS

RAFIX 16

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RAFIX
16

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CONTROL COMPONENTS

RAFIX 16 - GENERAL INFORMATION

Control Components RAFIX 16

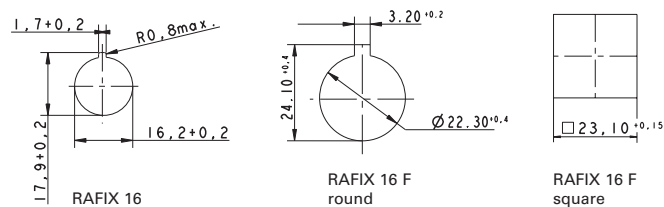
RAFIX 16 is a complete control component series and enables you to design attractive control panels with a minimum of space requirements and at the same time sufficiently large actuating areas.



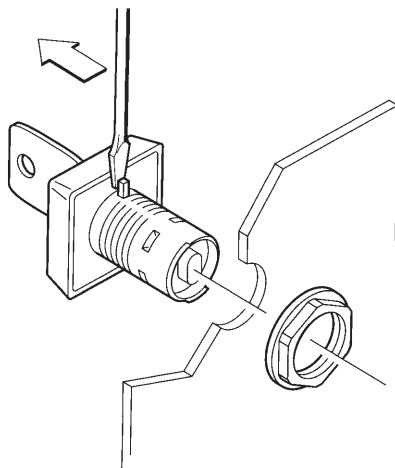
RAFIX 16 F,
round

Actuators

Mounting hole according to IEC 60947



- Locating lug (easily removable).
The locating lug can be easily removed using a screwdriver.



- Degree of protection IP65 on frontside of the panel.
This is achieved by a reliable, tried and tested special seal.

RAFIX 16 actuators

- Grid spacing 25 x 25 mm (RAFIX 16 F 30 x 30 mm)
- 7 mm height from front panel (RAFIX 16 F 1.9 mm)
- Three collar shapes, in black
 - Square
 - Round
 - Square, alignable in flush fitting rows, which avoids accumulation of dirt between the collars.

Contact blocks

- Contact blocks standard: for actuators with one-way operation
 - latching function
 - momentary function
- Contact blocks universal: for E-stop pushbuttons and for actuators with two-way operation, e. g. selector or keylock switches
 - momentary function

Contact material

- Silver contacts for mains voltage
- Gold contacts for electronic circuits

Illumination

- LED or wedge base lamp, socket W 2 x 4.6 d

Assembly

- Single-handed cost-effective assembly method
- Panel thickness 0.5 ... 5 mm for RAFIX 16 (RAFIX 16 F 0.5 ... 3.5 mm)
- Fixing with hexagon nut
- Starting torque 1.2 Nm max.

Shock-resistance according to IEC 600 68-2-27

- Shock amplitude: ≤ 50 g
- Shock time: 11 ms
- Shock type: half sinusoidal

Environment conditions

- acc. to IEC 600 68-2, -14, -30, -33 and -78

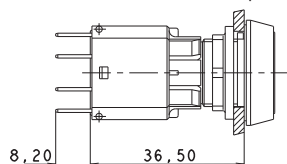
Temperature range

- Operating temperature:
 - non-illuminated: - 25 ... + 70 °C
 - illuminated: - 25 ... + 55 °C (with LED)
- Storage temperature: - 40 ... + 85 °C

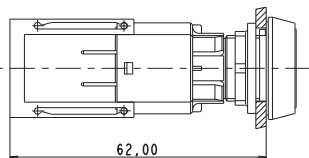
Dimensional Drawings

Actuator with contact block resp. signal indicator with lamp socket

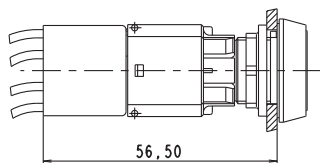
Contact block with quick-connect terminals and RAFIX 16 pushbutton



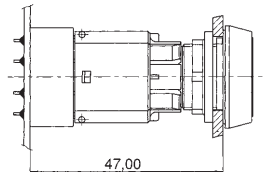
... with protection cage



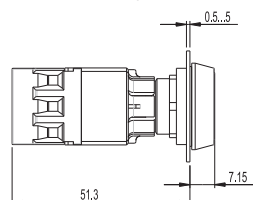
... with multipole connector



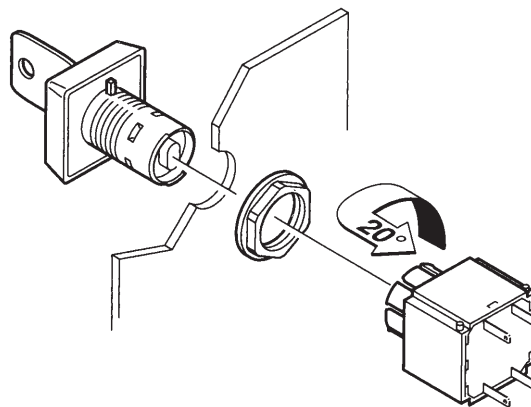
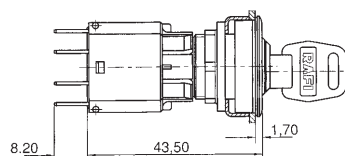
... with PCB plug-in socket



Contact block with screw terminals and RAFIX 16 pushbutton



Contact block with quick-connect terminals and RAFIX 16 F keylock switch



Assembly/Disassembly

Assembly

- Insert the actuator through the panel cut-out from the front.
- If there is no locating indent provided in the cut-out, first remove the locating lug using a screwdriver.
- Screw the hexagon nut onto the actuator or signal indicator from the rear and tighten it using a fixing spanner.
- Click the contact block onto the actuator from the rear.
- Install protection against accidental contact, if applicable.
- Install PCB if applicable.

With quick-connect terminals

Contact cables with quick connector

With screw terminals

Push in cables and fix by screwing

Disassembly

- Turn the contact block by approx. 20° to the left or right – the latches open.
- Pull the contact block off towards the rear.
- To dismount a PCB, pull the PCB with the soldered plug-in sockets off the mounted contact blocks.

2

RAFIX
16

CONTROL COMPONENTS

RAFIX 16 - GENERAL INFORMATION

Legending

- **Label holders**
All elements can be labelled using a **separate label holder**. The label holder is mounted together with the actuator/signal indicator.
- **Non-illuminated pushbuttons and mushroom-headed pushbuttons**
Can be **printed** or laser engraved.
- **Legend inserts**
All illuminated pushbuttons and the majority of the signal indicators can be **labelled by means of legend inserts**. The legend inserts are fitted between actuator body and lens and can be easily changed.

Alternatively, the plungers can be printed directly. The mounted lens protects the printing against abrasion.

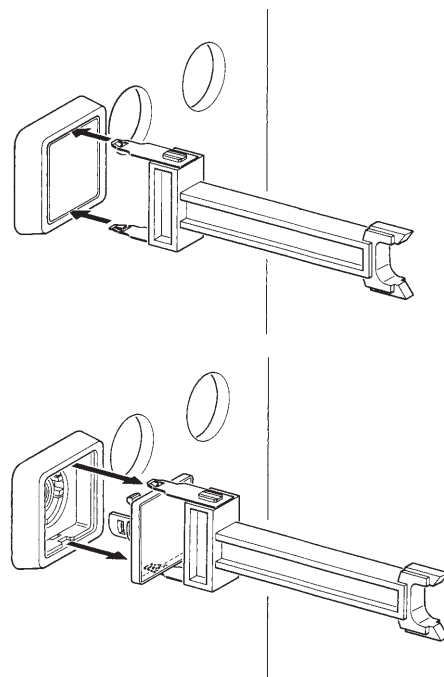
RAFI also provides custom legending. Price and delivery on request.

Lamp replacement from front

Use the disassembly tool to grasp the actuator body and pull it towards the front with the lens.

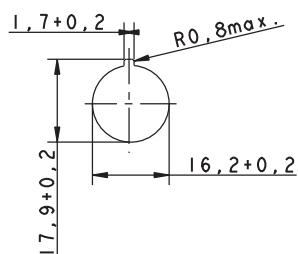
Alternatively, you can use a screwdriver in place of the disassembly tool. In this case, insert the screwdriver between actuator body and collar and carefully raise the actuator body.

Replace the lamp using a lamp extractor or a suitable insulation sleeve.

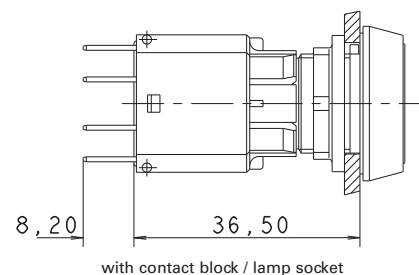


Lamp replacement from front

RAFIX 16 Pushbuttons



Panel cut-out



with contact block / lamp socket

Technical Data

→ General information

Actuator	see order block
Color of lens	see order block
Form of collar	see order block

→ Dimensions

Collar dimensions	see order block
Overall height	see order block
Mounting depth	44.7 mm
Mounting hole	16.2 mm
Key grid	25 x 25 mm

→ Mechanical design

Mounting	ring nut, max. 1.2 Nm
Contact function	according to contact block
Contact arrangement	according to contact block
Illumination	see order block

→ Mechanical characteristics

Operating travel	3 mm
Robustness max.	100 N

→ Other specifications

Operating life (operations)	2,000,000
Degree of protection from front side	IP65 (DIN EN 60529)
Operation temperature min.	-25 °C
Ambient temp. operating max. without lamp /LED	+70 °C
Ambient temp. operating max. with lamp /LED	+55 °C
Storage temperature min.	-40 °C
Storage temperature max.	+85 °C
Environmental resistance	acc. to IEC 60068-2-14, -30, -33 and -78
ROHS compliant	yes
REACH compliant	yes

Approvals



IEC 61058, 25T70
without lamp,
25T55 with lamp

C22.2 No.
14-M91

Accessories RAFIX 16 - Pushbutton



→ Description

Description	Photo	Order no.	Additional accessories see page
RAFIX 16 - Contact blocks with gold contacts		-	2 - 62
RAFIX 16 - Contact blocks with silver contacts		-	2 - 67

CONTROL COMPONENTS

RAFIX 16 - ACTUATORS AND SIGNAL INDICATORS

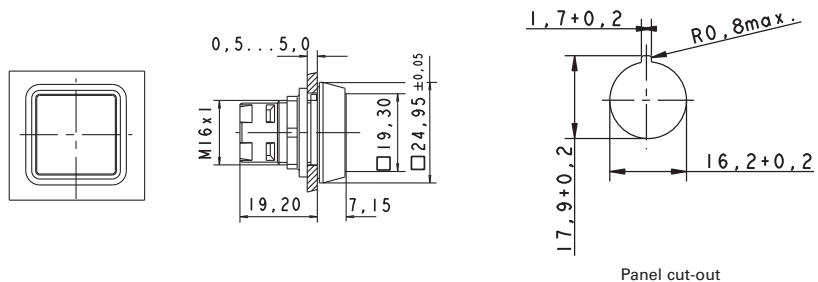
- Table (continued) - Accessories RAFIX 16 - Pushbutton

→ Description	Photo	Order no.	Additional accessories see page
Socket W 2 x 4.6d, LED superbright		-	5 - 5
Disassembly tool for LUMOTAST 25, RAFIX 16		5.05.800.042/0000	5 - 27
Fixing spanner for hexagon nut		5.58.002.034/0000	2 - 78, 5 - 26



RAFIX 16 Pushbutton, flush lens, square collar

Technical data see page 2 - 9



Panel cut-out

→ Illumination	Color of lens	Order no. complete	Order no. single parts	
			Housing	Lens
yes	transparent red	1.30.070.001/1306	1.30.070.501/0000	5.49.077.011/1306
yes	transparent yellow	1.30.070.001/1403	1.30.070.501/0000	5.49.077.011/1403
yes	transparent green	1.30.070.001/1505	1.30.070.501/0000	5.49.077.011/1505
yes	transparent blue	1.30.070.001/1607	1.30.070.501/0000	5.49.077.011/1607
yes	transparent colorless	1.30.070.001/1002	1.30.070.501/0000	5.49.077.011/1002
no	opaque red	1.30.070.251/0300	1.30.070.501/0000	5.49.077.011/0313
no	opaque yellow	1.30.070.251/0400	1.30.070.501/0000	5.49.077.011/0410
no	opaque green	1.30.070.251/0500	1.30.070.501/0000	5.49.077.011/0518
no	opaque blue	1.30.070.251/0600	1.30.070.501/0000	5.49.077.011/0612
no	opaque white	1.30.070.251/0200	1.30.070.501/0000	5.49.077.011/0200
no	opaque black	1.30.070.251/0100	1.30.070.501/0000	5.49.077.011/0104

For the „latching“ function, please use the standard contact block with „latching“ function.

Accessoires:

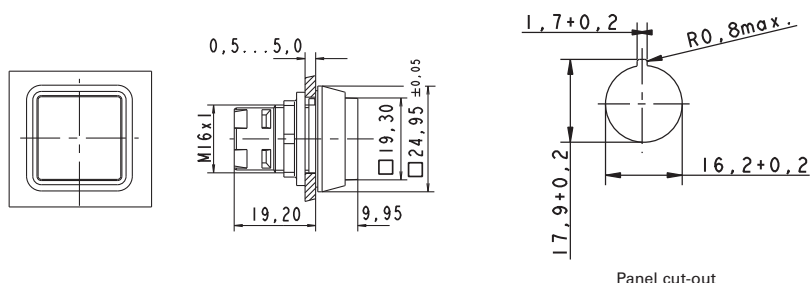
Legend insert, blank, use only for transparent lenses: 5.70.635.000/2000

RAFIX 16 - Label holder, flush, for square collar: see page 2 - 80

RAFIX 16

Pushbutton, protruding lens, square collar

Technical data see page 2 - 9



2

RAFIX
16

→ Illumination	Color of lens	Order no. complete	Order no. single parts	
			Housing	Lens
yes	transparent red	1.30.070.051/1306	1.30.070.551/0000	5.49.077.012/1306
yes	transparent yellow	1.30.070.051/1403	1.30.070.551/0000	5.49.077.012/1403
yes	transparent green	1.30.070.051/1505	1.30.070.551/0000	5.49.077.012/1505
yes	transparent blue	1.30.070.051/1607	1.30.070.551/0000	5.49.077.012/1607
yes	transparent colorless	1.30.070.051/1002	1.30.070.551/0000	5.49.077.012/1002
no	opaque red	1.30.070.301/0300	1.30.070.801/0000	5.46.657.442/0300
no	opaque black	1.30.070.301/0100	1.30.070.801/0000	5.46.657.442/0100

For the „latching“ function, please use the standard contact block with „latching“ function.

Accessoires:

Legend insert, blank, use only for transparent lenses: 5.70.635.000/2000

RAFIX 16 - Label holder, flush, for square collar: see page 2 - 80

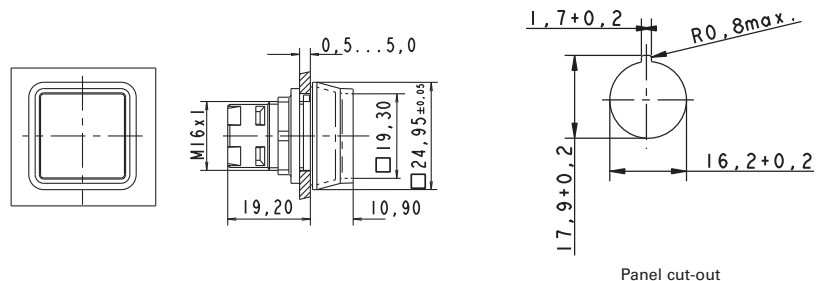
CONTROL COMPONENTS

RAFIX 16 - ACTUATORS AND SIGNAL INDICATORS



RAFIX 16 Pushbutton, protruding collar, square collar

Technical data see page 2 - 9



Panel cut-out

→ Illumination	Color of lens	Order no. complete	Order no. single parts	
			Housing	Lens
yes	transparent red	1.30.070.101/1306	1.30.070.601/0000	5.49.077.011/1306
yes	transparent yellow	1.30.070.101/1403	1.30.070.601/0000	5.49.077.011/1403
yes	transparent green	1.30.070.101/1505	1.30.070.601/0000	5.49.077.011/1505
yes	transparent blue	1.30.070.101/1607	1.30.070.601/0000	5.49.077.011/1607
yes	transparent colorless	1.30.070.101/1002	1.30.070.601/0000	5.49.077.011/1002

The protruding collar offers protection against inadvertent operation and thereby fulfils the safety requirements of various machinery manufacturers.

For the „latching“ function, please use the standard contact block with „latching“ function.

Accessoires:

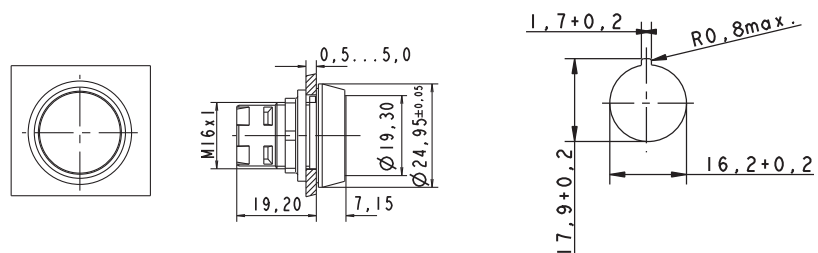
Legend insert, blank, use only for transparent lenses: 5.70.635.000/2000

RAFIX 16 - Label holder, flush, for square collar: see page 2 - 80



RAFIX 16 Pushbutton, flush lens, round collar

Technical data see page 2 - 9



Panel cut-out

– Table (continued) –
RAFIX 16 - Pushbutton, flush lens, round collar

→ Illumination	Color of lens	Order no. complete	Order no. single parts	
			Housing	Lens
yes	transparent red	1.30.070.021/1306	1.30.070.521/0000	5.49.259.017/1306
yes	transparent yellow	1.30.070.021/1403	1.30.070.521/0000	5.49.259.017/1403
yes	transparent green	1.30.070.021/1505	1.30.070.521/0000	5.49.259.017/1505
yes	transparent blue	1.30.070.021/1607	1.30.070.521/0000	5.49.259.017/1607
yes	transparent colorless	1.30.070.021/1002	1.30.070.521/0000	5.49.259.017/1002
no	opaque red	1.30.070.271/0300	1.30.070.521/0000	5.49.259.017/0313
no	opaque yellow	1.30.070.271/0400	1.30.070.521/0000	5.49.259.017/0410
no	opaque green	1.30.070.271/0500	1.30.070.521/0000	5.49.259.017/0500
no	opaque blue	1.30.070.271/0600	1.30.070.521/0000	5.49.259.017/0612
no	opaque white	1.30.070.271/0200	1.30.070.521/0000	5.49.259.017/0200
no	opaque black	1.30.070.271/0100	1.30.070.521/0000	5.49.259.017/0104

For the „latching“ function, please use the standard contact block with „latching“ function.

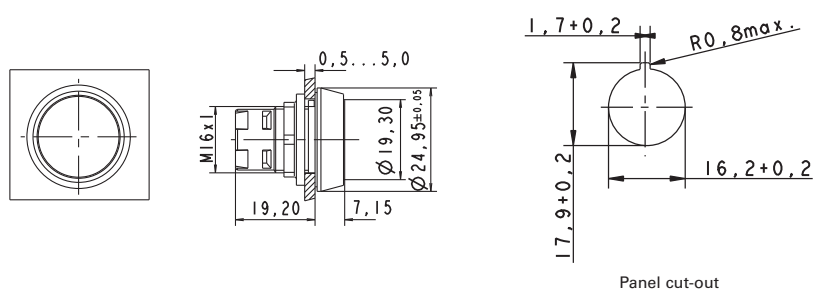
Accessoires:

Legend insert, blank, use only for transparent lenses: 5.70.637.000/2000

RAFIX 16 - Label holder, flush, for round collar: see page 2 - 80

RAFIX 16 Pushbutton IP66 with protective cap

Technical data see page 2 - 9



→ Illumination	Color of lens	Order no. complete	Order no. single parts	
			Housing	Lens
yes	transparent red	1.30.070.026/1306	-	-
yes	transparent yellow	1.30.070.026/1403	-	-
yes	transparent green	1.30.070.026/1505	-	-
yes	transparent blue	1.30.070.026/1607	-	-
yes	transparent colorless	1.30.070.026/1002	-	-

CONTROL COMPONENTS

RAFIX 16 - ACTUATORS AND SIGNAL INDICATORS

– Table (continued) –

RAFIX 16 - Pushbutton IP66 with protective cap

Pushbutton for use in hostile environments. A transparent protective cap ensures a degree of protection of IP 66 to DIN EN 60529. Operating life: 500,000 operations.

For the „latching“ function, please use the standard contact block with „latching“ function.

Accessoires:

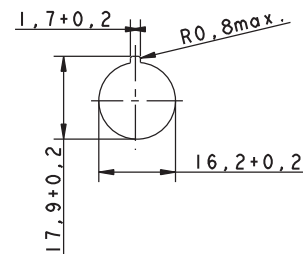
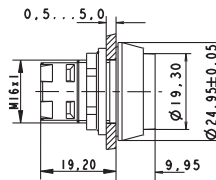
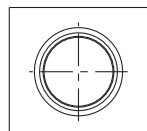
Legend insert, blank, use only for transparent lenses: 5.70.637.000/2000

RAFIX 16 - Label holder, flush, for round collar: see page 2 - 80



RAFIX 16 Pushbutton, protruding lens, round collar

Technical data see page 2 - 9



Panel cut-out

→ Illumination	Color of lens	Order no. complete	Order no. single parts	
			Housing	Lens
yes	transparent red	1.30.070.071/1306	1.30.070.571/0000	5.49.259.018/1306
yes	transparent yellow	1.30.070.071/1403	1.30.070.571/0000	5.49.259.018/1403
yes	transparent green	1.30.070.071/1505	1.30.070.571/0000	5.49.259.018/1505
yes	transparent blue	1.30.070.071/1607	1.30.070.571/0000	5.49.259.018/1607
yes	transparent colorless	1.30.070.071/1002	1.30.070.571/0000	5.49.259.018/1002
no	opaque red	1.30.070.321/0300	-	-
no	opaque black	1.30.070.321/0100	-	-

For the „latching“ function, please use the standard contact block with „latching“ function.

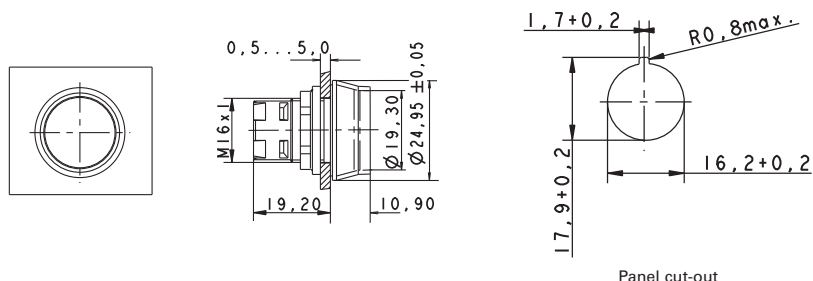
Accessoires:

Legend insert, blank, use only for transparent lenses: 5.70.637.000/2000

RAFIX 16 - Label holder, flush, for round collar: see page 2 - 80

RAFIX 16 Pushbutton, protruding collar, round collar

Technical data see page 2 - 9



Panel cut-out

→ Illumination	Color of lens	Order no. complete	Order no. single parts	
			Housing	Lens
yes	transparent red	1.30.070.121/1306	1.30.070.621/0000	5.49.259.017/1306
yes	transparent yellow	1.30.070.121/1403	1.30.070.621/0000	5.49.259.017/1403
yes	transparent green	1.30.070.121/1505	1.30.070.621/0000	5.49.259.017/1505
yes	transparent blue	1.30.070.121/1607	1.30.070.621/0000	5.49.259.017/1607
yes	transparent colorless	1.30.070.121/1002	1.30.070.621/0000	5.49.259.017/1002

The protruding collar offers protection against inadvertent operation and thereby fulfils the safety requirements of various machinery manufacturers.

For the „latching“ function, please use the standard contact block with „latching“ function.

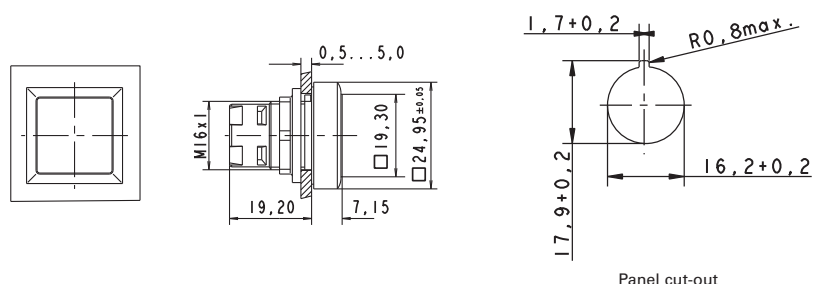
Accessoires:

Legend insert, blank, use only for transparent lenses: 5.70.637.000/2000

RAFIX 16 - Label holder, flush, for round collar: see page 2 - 80

RAFIX 16 Pushbutton, flush lens, square collar, alignable without gaps

Technical data see page 2 - 9



Panel cut-out

CONTROL COMPONENTS

RAFIX 16 - ACTUATORS AND SIGNAL INDICATORS

– Table (continued) –

RAFIX 16 - Pushbutton, flush lens, square collar, alignable without gaps

→ Illumination	Color of lens	Order no. complete	Order no. single parts	
			Housing	Lens
yes	transparent red	1.30.070.201/1306	1.30.070.701/0000	5.49.077.011/1306
yes	transparent yellow	1.30.070.201/1403	1.30.070.701/0000	5.49.077.011/1403
yes	transparent green	1.30.070.201/1505	1.30.070.701/0000	5.49.077.011/1505
yes	transparent blue	1.30.070.201/1607	1.30.070.701/0000	5.49.077.011/1607
yes	transparent colorless	1.30.070.201/1002	1.30.070.701/0000	5.49.077.011/1002
no	opaque red	1.30.070.451/0300	1.30.070.701/0000	5.49.077.011/0313
no	opaque yellow	1.30.070.451/0400	1.30.070.701/0000	5.49.077.011/0410
no	opaque green	1.30.070.451/0500	1.30.070.701/0000	5.49.077.011/0518
no	opaque blue	1.30.070.451/0600	1.30.070.701/0000	5.49.077.011/0612
no	opaque white	1.30.070.451/0200	1.30.070.701/0000	5.49.077.011/0200
no	opaque black	1.30.070.451/0100	1.30.070.701/0000	5.49.077.011/0104

For the „latching“ function, please use the standard contact block with „latching“ function.

Accessoires:

Legend insert, blank, use only for transparent lenses: 5.70.635.000/2000

Protective cover, suitable for lead seal: 5.05.800.055/0000

RAFIX 16 - Label holder, protruding, for square flush fitting collar: see page 2 - 81

RAFIX 16 Selector switches

→ The illuminated selector switches are provided with translucent handle markings. These are opaque on the non-illuminated versions.

Technical Data

→ General information

Actuator	handle
Marking of handle	see order block
Form of collar	see order block

→ Dimensions

Collar dimensions	see order block
Overall height	17.1 mm
Mounting depth	44.7 mm
Mounting hole	16.2 mm
Key grid	25 x 25 mm

→ Mechanical design

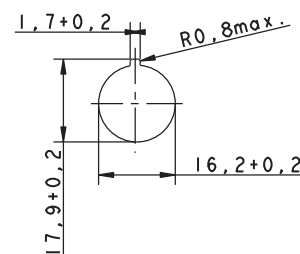
Mounting	ring nut
Contact function	see order block
Contact arrangement	according to contact block
Illumination	see order block
Rotating angle	see order block

→ Mechanical characteristics

Torque max.	1.3 Nm
-------------	--------

→ Other specifications

Operating life (operations)	30,000
Degree of protection from front side	IP65 (DIN EN 60529)
Operation temperature min.	-25 °C
Ambient temp. operating max. without lamp /LED	+70 °C
Ambient temp. operating max. with lamp /LED	+55 °C
Storage temperature min.	-40 °C
Storage temperature max.	+85 °C
Environmental resistance	acc. to IEC 60068-2-14, -30, -33 and -78
ROHS compliant	yes
REACH compliant	yes



Panel cut-out

Approvals



IEC 61058, 25T70
without lamp,
25T55 with lamp

C22.2 No.
14-M91

Accessories RAFIX 16 - Selector switch

→ Description

Description	Photo	Order no.	Additional accessories see page
RAFIX - Insulating housing, Ø 16.2 mm		-	2 - 78, 5 - 19
RAFIX 16 - Contact blocks with gold contacts		-	2 - 62
RAFIX 16 - Contact blocks with silver contacts		-	2 - 67
Socket W 2 x 4.6d, LED superbright		-	5 - 5
Fixing spanner for hexagon nut		5.58.002.034/0000	2 - 78, 5 - 26

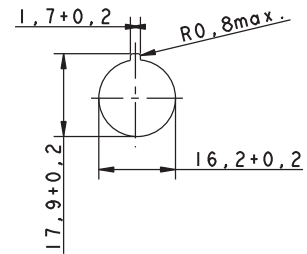
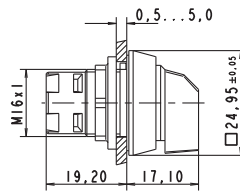
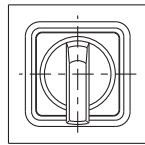
CONTROL COMPONENTS

RAFIX 16 - ACTUATORS AND SIGNAL INDICATORS



RAFIX 16 Selector switch, square collar

Technical data see page 2 - 17



Panel cut-out

→ Illumination	Contact function	Rotating angle	Marking of handle	Order no.
yes	momentary	1 x 40°		translucent white 1.30.073.551/2000
yes	momentary	2 x 40°		translucent white 1.30.073.651/2000
yes	latching	1 x 90°, form L		translucent white 1.30.073.501/2000
yes	latching	1 x 90°, form V		translucent white 1.30.073.601/2000
yes	latching	2 x 60°		translucent white 1.30.073.701/2000
no	momentary	1 x 40°		opaque white 1.30.073.550/0200
no	momentary	2 x 40°		opaque white 1.30.073.650/0200
no	latching	1 x 90°, form L		opaque white 1.30.073.500/0200
no	latching	1 x 90°, form V		opaque white 1.30.073.600/0200
no	latching	2 x 60°		opaque white 1.30.073.700/0200

Only use contact blocks with „momentary“ contact function.

For versions with clockwise and counterclockwise rotation, use universal contact blocks only!

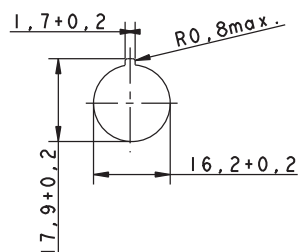
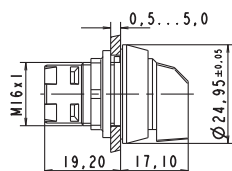
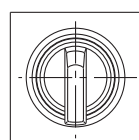
For colored illumination of the handle marking please use contact block with lamp socket and colored LED W 2 x 4,6d (see chapter 5 accessories).

Accessoires:

RAFIX 16 - Label holder, flush, for square collar: see page 2 - 80

RAFIX 16 Selector switch, round collar

Technical data see page 2 - 17



Panel cut-out

→ Illumination	Contact function	Rotating angle	Marking of handle	Order no.
yes	momentary	1 x 40°		translucent white 1.30.073.571/2000
yes	momentary	2 x 40°		translucent white 1.30.073.671/2000
yes	latching	1 x 90°, form L		translucent white 1.30.073.521/2000
yes	latching	1 x 90°, form V		translucent white 1.30.073.621/2000
yes	latching	2 x 60°		translucent white 1.30.073.721/2000
no	momentary	1 x 40°		opaque white 1.30.073.570/0200
no	momentary	2 x 40°		opaque white 1.30.073.670/0200
no	latching	1 x 90°, form L		opaque white 1.30.073.520/0200
no	latching	1 x 90°, form V		opaque white 1.30.073.620/0200
no	latching	2 x 60°		opaque white 1.30.073.720/0200

Only use contact blocks with „momentary“ contact function.

For versions with clockwise and counterclockwise rotation, use universal contact blocks only!

For colored illumination of the handle marking please use contact block with lamp socket and colored LED W 2 x 4,6d (see chapter 5 accessories).

Accessoires:

RAFIX 16 - Label holder, flush, for round collar: see page 2 - 80

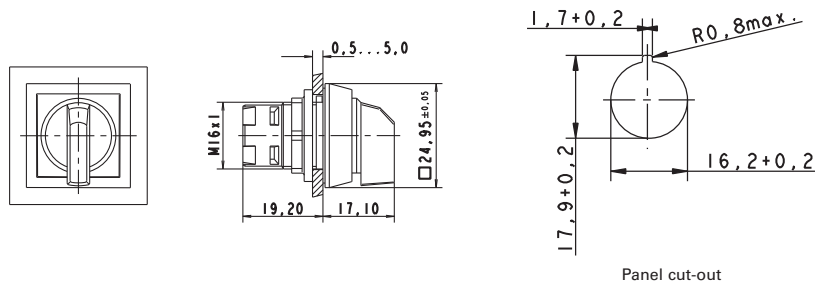
CONTROL COMPONENTS

RAFIX 16 - ACTUATORS AND SIGNAL INDICATORS



RAFIX 16 Selector switch, square collar, alignable without gaps

Technical data see page 2 - 17



Panel cut-out

→ Illumination	Contact function	Rotating angle	Marking of handle	Order no.
yes	momentary	1 x 40°		translucent white 1.30.073.591/2000
yes	momentary	2 x 40°		translucent white 1.30.073.691/2000
yes	latching	1 x 90°, form L		translucent white 1.30.073.541/2000
yes	latching	1 x 90°, form V		translucent white 1.30.073.641/2000
yes	latching	2 x 60°		translucent white 1.30.073.741/2000
no	momentary	1 x 40°		opaque white 1.30.073.590/0200
no	momentary	2 x 40°		opaque white 1.30.073.690/0200
no	latching	1 x 90°, form L		opaque white 1.30.073.540/0200
no	latching	1 x 90°, form V		opaque white 1.30.073.640/0200
no	latching	2 x 60°		opaque white 1.30.073.740/0200

Only use contact blocks with „momentary“ contact function.

For versions with clockwise and counterclockwise rotation, use universal contact blocks only!

For colored illumination of the handle marking please use contact block with lamp socket and colored LED W 2 x 4,6d (see chapter 5 accessories).

Accessoires:

RAFIX 16 - Label holder, protruding, for square flush fitting collar: see page 2 - 81

RAFIX 16 Keylock switches

→ The locking systems we use are created according to DIN EN 1303 by leading lock manufacturers. They are open, mechanical systems that require occasional maintenance of the machinery or plant operator depending on environmental conditions.

Technical Data

→ General information

Form of collar see order block

→ Dimensions

Collar dimensions see order block

Overall height 27.95 mm

Mounting depth 44.7 mm

Mounting hole 16.2 mm

Key grid 25 x 25 mm

→ Mechanical design

Mounting ring nut

Contact function see order block

Contact arrangement according to contact block

Illumination no

Lock Micromec

Wafers 5

Lock type 001

Number of locking positions 500

Main key on request

Rotating angle see order block

Key removal position see order block

→ Mechanical characteristics

Torque max. 1.3 Nm

→ Electrical characteristics

Protection class II

→ Other specifications

ESD-strength lock / contact 15 kV

ESD strength key/ front panel 8 kV

Operating life (operations) 65,000

Degree of protection from front side IP65 (DIN EN 60529)

Operation temperature min. -25 °C

Ambient temp. operating max. without lamp /LED +70 °C

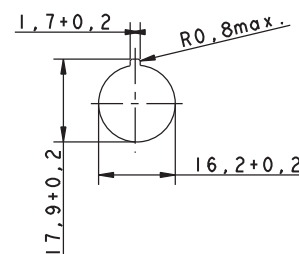
Storage temperature min. -40 °C

Storage temperature max. +85 °C

Environmental resistance acc. to IEC 60068-2-14, -30, -33 and -78

ROHS compliant yes

REACH compliant yes



Panel cut-out

Approvals



IEC 61058, 25T70





C US

C22.2 No. 14-M91








Accessories RAFIX 16 - Keylock switch

→ Description	Photo	Order no.	Additional accessories see page
RAFIX - Insulating housing, Ø 16.2 mm		-	2 - 78, 5 - 19
RAFIX 16 - Universal contact block, gold contacts, with quick-connect terminals		-	2 - 65

CONTROL COMPONENTS

RAFIX 16 - ACTUATORS AND SIGNAL INDICATORS

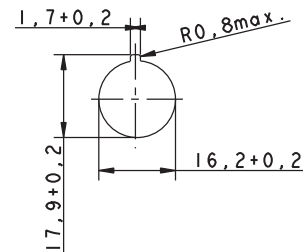
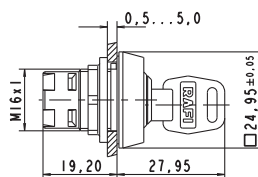
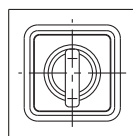
- Table (continued) - Accessories RAFIX 16 - Keylock switch

→ Description	Photo	Order no.	Additional accessories see page
RAFIX 16 - Universal contact block, gold contacts, with screw terminals		-	2 - 66
RAFIX 16 - Universal contact block, silver contacts, with quick-connect terminals		-	2 - 70
RAFIX 16 - Universal contact block, silver contacts, with screw terminals		-	2 - 71
Spare key, (delivery content 1 key)		5.58.007.001/0000	-
Spare key, for double action, e.g. 2 x 90° (delivery content 1 key)		5.58.008.001/0000	-











RAFIX 16 Keylock switch, square collar

Technical data see page 2 - 21



Panel cut-out

→ Contact function	Rotating angle	Key removal position	Order no.
momentary	1 x 40°		1.30.076.501/0000
momentary	2 x 40°		1.30.076.701/0000
latching	1 x 90°, form L		1.30.076.001/0000
latching	1 x 90°, form L		1.30.076.051/0000
latching	1 x 90°, form V		1.30.076.101/0000
latching	1 x 90°, form V		1.30.076.151/0000
latching	2 x 90°		1.30.076.301/0000
latching	2 x 90°		1.30.076.401/0000

– Table (continued) –

RAFIX 16 - Keylock switch, square collar

Only use contact blocks with „momentary“ contact function. For versions with clockwise and counterclockwise rotation, use universal contact block only.

Other contact functions on request.

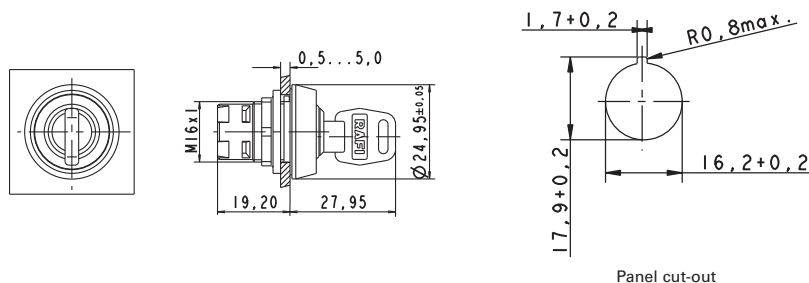
Included: 2 keys

Accessoires:

RAFIX 16 - Label holder, flush, for square collar: see page 2 - 80

RAFIX 16 Keylock switch, round collar

Technical data see page 2 - 21



Panel cut-out



2

RAFIX
16

→ Contact function	Rotating angle		Key removal position	Order no.
momentary	1 x 40°		0	1.30.076.521/0000
momentary	2 x 40°		0	1.30.076.721/0000
latching	1 x 90°, form L		0	1.30.076.021/0000
latching	1 x 90°, form L		0+1	1.30.076.071/0000
latching	1 x 90°, form V		0	1.30.076.121/0000
latching	1 x 90°, form V		0+1	1.30.076.171/0000
latching	2 x 90°		0	1.30.076.321/0000
latching	2 x 90°		0+1+2	1.30.076.421/0000

Only use contact blocks with „momentary“ contact function. For versions with clockwise and counterclockwise rotation, use universal contact block only.

Other contact functions on request.

Included: 2 keys

Accessoires:

RAFIX 16 - Label holder, flush, for round collar: see page 2 - 80

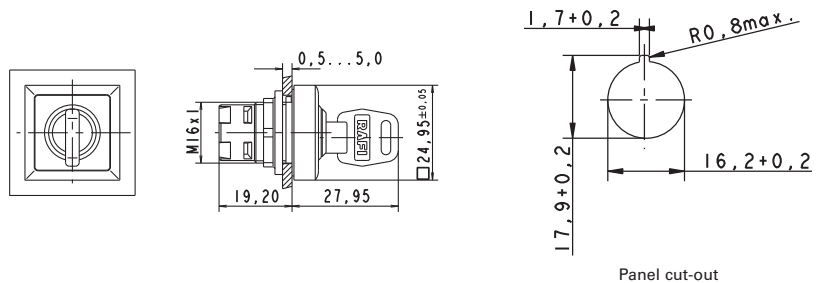
CONTROL COMPONENTS

RAFIX 16 - ACTUATORS AND SIGNAL INDICATORS











RAFIX 16 Keylock switch, square collar, alignable without gaps

Technical data see page 2 - 21



Panel cut-out

→ Contact function	Rotating angle	Key removal position	Order no.	
momentary	1 x 40°		0	1.30.076.541/0000
momentary	2 x 40°		0	1.30.076.741/0000
latching	1 x 90°, form L		0	1.30.076.041/0000
latching	1 x 90°, form L		0+1	1.30.076.091/0000
latching	1 x 90°, form V		0	1.30.076.141/0000
latching	1 x 90°, form V		0+1	1.30.076.191/0000
latching	2 x 90°		0	1.30.076.341/0000
latching	2 x 90°		0+1+2	1.30.076.441/0000

Only use contact blocks with „momentary“ contact function. For versions with clockwise and counterclockwise rotation, use universal contact block only.

Other contact functions on request.

Included: 2 keys

Accessoires:

RAFIX 16 - Label holder, protruding, for square flush fitting collar: see page 2 - 81

RAFIX 16

Mushroom-headed pushbuttons

Technical Data

→ General information

Actuator	mushroom
Color of mushroom	see order block
Form of collar	see order block

→ Dimensions

Collar dimensions	see order block
Overall height	12.1 mm
Mounting depth	44.7 mm
Mounting hole	16.2 mm
Key grid	25 x 25 mm

→ Mechanical design

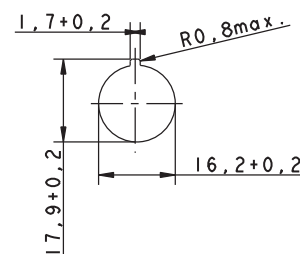
Mounting	ring nut
Contact function	according to contact block
Contact arrangement	according to contact block
Illumination	no

→ Mechanical characteristics

Operating travel	3 mm
Robustness max.	100 Nm

→ Other specifications

Operating life (operations)	2,000,000
Degree of protection from front side	IP65 (DIN EN 60529)
Operation temperature min.	-25 °C
Ambient temp. operating max. without lamp /LED	+70 °C
Storage temperature min.	-40 °C
Storage temperature max.	+85 °C
Environmental resistance	acc. to IEC 60068-2-14, -30, -33 and -78
ROHS compliant	yes
REACH compliant	yes



Panel cut-out

Approvals



IEC 61058, 25T70



C22.2 No. 14-M91



Accessories RAFIX 16 - Mushroom-headed pushbutton

→ Description	Photo	Order no.	Additional accessories see page
RAFIX - Insulating housing, Ø 16.2 mm		-	2 - 78, 5 - 19
RAFIX 16 - Contact blocks with gold contacts		-	2 - 62
RAFIX 16 - Contact blocks with silver contacts		-	2 - 67
RAFIX 16 - Label holder, flush, for round collar		-	2 - 80
Fixing spanner for hexagon nut		5.58.002.034/0000	2 - 78, 5 - 26

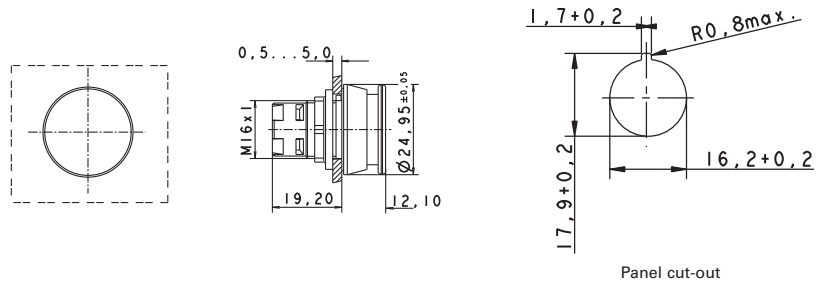
CONTROL COMPONENTS

RAFIX 16 - ACTUATORS AND SIGNAL INDICATORS



RAFIX 16 Mushroom-headed pushbutton, round collar

Technical data see page 2 - 25



→ Illumination	Color of mushroom	Order no.
no	opaque red	1.30.071.021/0300
no	opaque black	1.30.071.021/0100

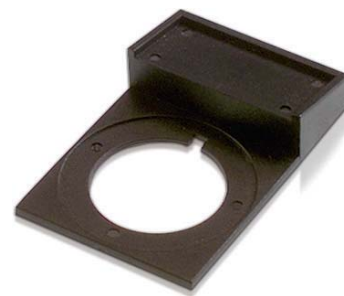
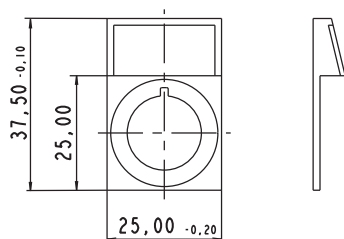
For the „latching“ function, please use the standard contact block with „latching“ function.

2

RAFIX
16

RAFIX 16

Label holder, protruding, for square flush fitting collar



→ Description	Order no.
Label holder, protruding, for square flush fitting collar	5.07.620.007/0000

Legending available on request.

Accessoires:

Legend label 22.1 x 11.0 mm, without legend: 5.73.112.000/0000

Emergency stop label, PVC adhesive, Ø 16.3 mm



→ Dimensions	inside Ø	Label	Order no.
Ø 40 mm	16.3 mm	„NOT-HALT, EMERGENCY STOP, ARRET D'URGENCE, EMERGENZA“	5.76.204.114/0400
Ø 40 mm	16.3 mm	4 x „NOT-HALT“	5.76.204.116/0400
Ø 40 mm	16.3 mm	4 x „NOT-AUS“	5.76.204.118/0400
Ø 40 mm	16.3 mm	4 x „EMERGENCY STOP“	5.76.204.120/0400
Ø 60 mm	16.3 mm	-	5.76.204.400/0400
Ø 60 mm	16.3 mm	1 x „NOT-AUS“	5.76.204.401/0400
Ø 60 mm	16.3 mm	1 x „EMERGENCY STOP“	5.76.204.403/0400
Ø 60 mm	16.3 mm	„NOT-HALT, EMERGENCY STOP, ARRET D'URGENCE, EMERGENZA“	5.76.204.106/0400
Ø 60 mm	16.3 mm	4 x „NOT-HALT“	5.76.204.108/0400

CONTROL COMPONENTS

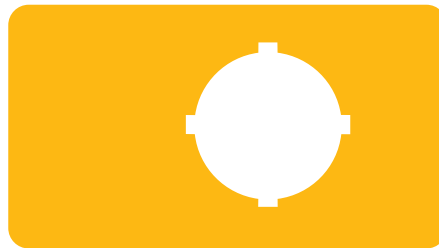
RAFIX 16 - SPECIAL ACCESSORIES

– Table (continued) –

Emergency stop label, PVC adhesive, Ø 16.3 mm

→ Dimensions	inside Ø	Label	Order no.
Ø 60 mm	16.3 mm	4 x „NOT-AUS“	5.76.204.110/0400
Ø 60 mm	16.3 mm	4 x „EMERGENCY STOP“	5.76.204.112/0400

Emergency stop label, Ø 22.3 mm



→ Dimensions	inside Ø	Label	Order no.
36 x 64 mm	22.3 mm	-	5.76.205.011/0400
Ø 40 mm	22.3 mm	„NOT-HALT, EMERGENCY STOP, ARRET D'URGENCE, EMERGENZA“	5.76.204.115/0400
Ø 40 mm	22.3 mm	4 x „NOT-HALT“	5.76.204.117/0400
Ø 40 mm	22.3 mm	4 x „NOT-AUS“	5.76.204.119/0400
Ø 40 mm	22.3 mm	4 x „EMERGENCY STOP“	5.76.204.121/0400
Ø 60 mm	22.3 mm	1 x „NOT-AUS“	5.76.207.001/0400
Ø 60 mm	22.3 mm	„EMERGENCY-STOP / ARRET D'URGENCE“	5.76.207.002/0400
Ø 60 mm	22.3 mm	1 x „NOT-AUS“	5.76.204.101/0400
Ø 60 mm	22.3 mm	1 x „ARRET D'URGENCE“	5.76.204.102/0400
Ø 60 mm	22.3 mm	1 x „EMERGENCY STOP“	5.76.204.103/0400
Ø 60 mm	22.3 mm	„NOT-HALT, EMERGENCY STOP, ARRET D'URGENCE, EMERGENZA“	5.76.204.107/0400
Ø 60 mm	22.3 mm	4 x „NOT-HALT“	5.76.204.109/0400
Ø 60 mm	22.3 mm	4 x „NOT-AUS“	5.76.204.111/0400
Ø 60 mm	22.3 mm	4 x „EMERGENCY STOP“	5.76.204.113/0400

2

RAFIX
16

RAFIX 16

Blanking cap with sealing and threaded ring, Ø 16.2 mm



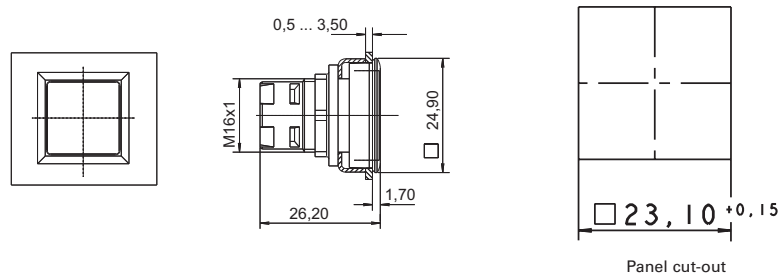
→ Description

Order no.

Blanking cap complete with sealing disc and ring nut, square	5.05.800.049/0100
Blanking cap complete with sealing disc and ring nut, round	5.05.800.050/0100
Blanking cap complete with sealing disc and ring nut, square, alignable without gaps	5.05.800.051/0100

RAFIX 16 F

Blanking cap



Panel cut-out

→ Installation dimensions

Dimensions

Color

Order no.

23,1 x 23,1 mm	24,9 x 24,9	black	5.05.800.063/0000
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RAFIX 22 QR

RAFIX 22 QR control component range

- Mounting hole diameter of 22.3 mm to IEC 60947-5-1
- 250 V / 10 A max.
- Degree of protection: IP65 acc. to DIN EN 60529
- 2 collar shapes
- The contact blocks snap onto the actuators with a coupling
- Screw, cage clamp or quick connect terminals
- 3 NC + 3 NO for E-Stop on request
- Contact blocks with gold or silver plated contacts
- All products are RoHS compliant.

The specified data apply only if actuators are combined with contact blocks and signal indicators with lamp sockets within the same product range.

CONTROL COMPONENTS

RAFIX 22 QR

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RAFIX 22 QR Mushroom-headed pushbutton 40 mm, square collar	2 - 116
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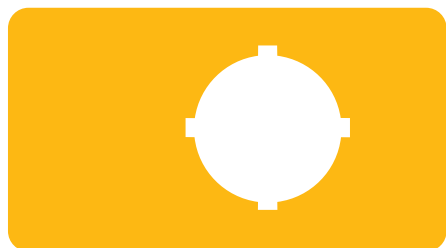
2

RAFIX
22 QR

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Emergency stop label, Ø 22.3 mm



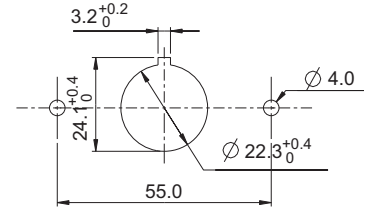
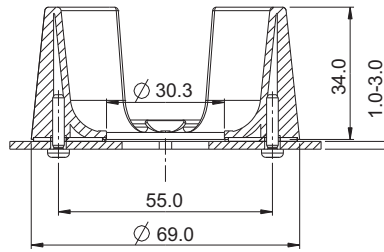
→ Dimensions	inside Ø	Label	Order no.
36 x 64 mm	22.3 mm	-	5.76.205.011/0400
Ø 40 mm	22.3 mm	„NOT-HALT, EMERGENCY STOP, ARRET D'URGENCE, EMERGENZA“	5.76.204.115/0400
Ø 40 mm	22.3 mm	4 x „NOT-HALT“	5.76.204.117/0400
Ø 40 mm	22.3 mm	4 x „NOT-AUS“	5.76.204.119/0400
Ø 40 mm	22.3 mm	4 x „EMERGENCY STOP“	5.76.204.121/0400
Ø 60 mm	22.3 mm	1 x „NOT-AUS“	5.76.207.001/0400
Ø 60 mm	22.3 mm	„EMERGENCY-STOP / ARRET D'URGENCE“	5.76.207.002/0400
Ø 60 mm	22.3 mm	1 x „NOT-AUS“	5.76.204.101/0400
Ø 60 mm	22.3 mm	1 x „ARRET D'URGENCE“	5.76.204.102/0400
Ø 60 mm	22.3 mm	1 x „EMERGENCY STOP“	5.76.204.103/0400
Ø 60 mm	22.3 mm	„NOT-HALT, EMERGENCY STOP, ARRET D'URGENCE, EMERGENZA“	5.76.204.107/0400
Ø 60 mm	22.3 mm	4 x „NOT-HALT“	5.76.204.109/0400
Ø 60 mm	22.3 mm	4 x „NOT-AUS“	5.76.204.111/0400
Ø 60 mm	22.3 mm	4 x „EMERGENCY STOP“	5.76.204.113/0400

CONTROL COMPONENTS

RAFIX 22 QR - SPECIAL ACCESSORIES



RAFIX 22 QR / RAFIX 22 FSR Protective collar



2

→ Description

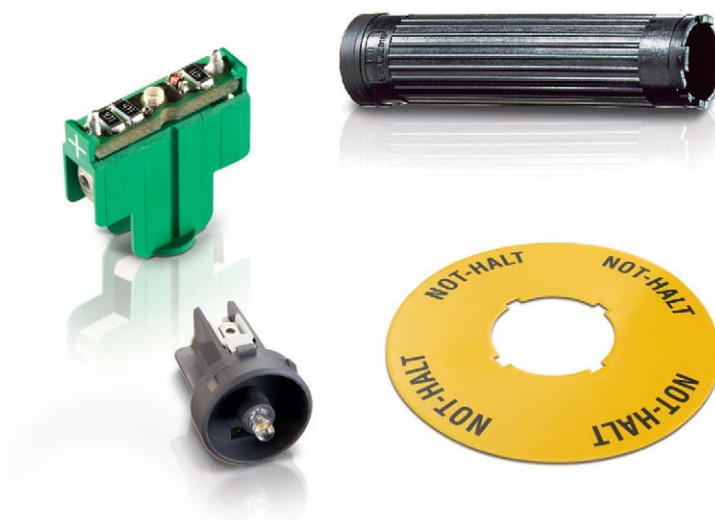
Order no.

Protective Collar for emergency stop RAFIX 22 QR

5.00.456.002/0000

RAFI protective collars protect the pushbuttons from unintentional operation and damage. Another great advantage is that they can be mounted directly on the front panel using two screws and without mechanical attachment to the actuator and/or emergency stop pushbutton. This provides for additional safety because lateral forces are not transferred to the actuator housing.

RAFIX
22 QR



RAFIX FS Technology - Special accessories

CONTROL COMPONENTS

RAFIX FS TECHNOLOGY - SPECIAL ACCESSORIES

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2

Spec.
accessories

RAFIX FS TECHNOLOGY Special accessories

2

Fixing spanner for ring nut and front ring



→ Description	Fitting for	Order no.
Fixing spanner for ring nut	RAFIX 22 QR/FS	5.05.800.062/0000

QC LED base for signal indicators



→ Description	Order no.
RAFIX 22 FS ⁺ - Socket for LED-Clip, quick-connect terminals	5.05.511.855/9000

Spec.
accessories



Female quick-connect terminal DIN 46340-B 2.8-1-MS

→ Description

Order no.

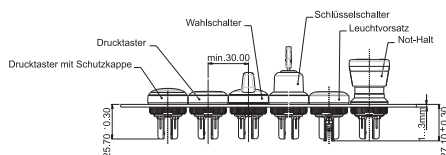
Female quick-connect terminal DIN 46340-B 2.8-1-MS

5.37540.024/8622

With latching detent for mating with a multipole connector.



LED base for contact blocks QC



→ Voltage DC

Color

Order no.

12 V	red	5.05.511.747/0300
12 V	yellow	5.05.511.747/0400
12 V	green	5.05.511.747/0500
12 V	blue	5.05.511.747/0600
12 V	white	5.05.511.747/0200
24 V	red	5.05.511.747/1300
24 V	yellow	5.05.511.747/1400
24 V	green	5.05.511.747/1500
24 V	blue	5.05.511.747/1600
24 V	white	5.05.511.747/1200

Accessoires:

LED base for signal indicators: see page

2

Spec.
accessories

SMT LED



→ Description

Order no.

For the best illumination of actuators and signal indicators we suggest to use the following SMT LED type: OSRAM LT P4SG

LED base for 3 mm THT LED, used in signal indicators, for RAFIX FS PCB



→ Description

Order no.

LED base for signal indicators, height 5 mm

5.30.109.020/0756

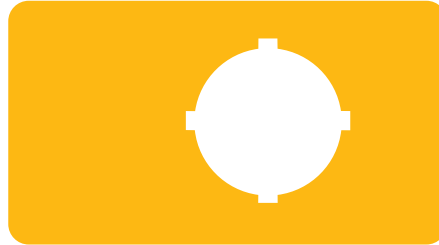
THT LED 3 mm, without base



→ Color	Forward voltage typ. U_F at I_F	Max. current, I_F	Order no.
red	1.6 V / 1 mA	30 mA	1.90.690.228/0000
red	1.9 V / 20 mA	50 mA	1.90.690.269/0000
yellow	1.9 V / 20 mA	50 mA	1.90.690.267/0000
green	3.2 V / 20 mA	35 mA	1.90.690.684/0000
blue	3.6 V / 20 mA	30 mA	1.90.690.282/0000
white	3.6 V / 20 mA	30 mA	1.90.690.295/0000

Spec.
accessories

Emergency stop label, Ø 22.3 mm

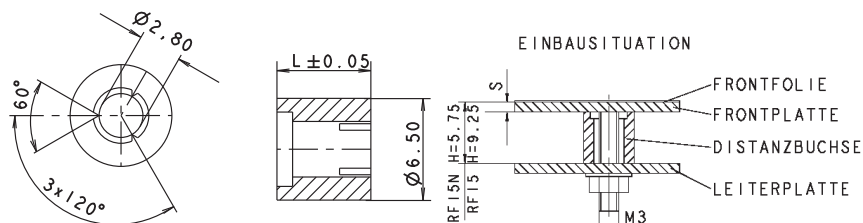


2

→ Dimensions	inside Ø	Label	Order no.
36 x 64 mm	22.3 mm	-	5.76.205.011/0400
Ø 40 mm	22.3 mm	„NOT-HALT, EMERGENCY STOP, ARRET D'URGENCE, EMERGENZA“	5.76.204.115/0400
Ø 40 mm	22.3 mm	4 x „NOT-AUS“	5.76.204.119/0400
Ø 40 mm	22.3 mm	4 x „NOT-HALT“	5.76.204.117/0400
Ø 40 mm	22.3 mm	4 x „EMERGENCY STOP“	5.76.204.121/0400
Ø 60 mm	22.3 mm	1 x „NOT-AUS“	5.76.204.101/0400
Ø 60 mm	22.3 mm	1 x „ARRET D'URGENCE“	5.76.204.102/0400
Ø 60 mm	22.3 mm	1 x „EMERGENCY STOP“	5.76.204.103/0400
Ø 60 mm	22.3 mm	„EMERGENCY-STOP / ARRET D'URGENCE“	5.76.207.002/0400
Ø 60 mm	22.3 mm	„NOT-HALT, EMERGENCY STOP, ARRET D'URGENCE, EMERGENZA“	5.76.204.107/0400
Ø 60 mm	22.3 mm	4 x „NOT-HALT“	5.76.204.109/0400
Ø 60 mm	22.3 mm	4 x „NOT-AUS“	5.76.204.111/0400
Ø 60 mm	22.3 mm	4 x „EMERGENCY STOP“	5.76.204.113/0400
Ø 60 mm	22.3 mm	1 x „NOT-AUS“	5.76.207.001/0400

Spec.
accessories

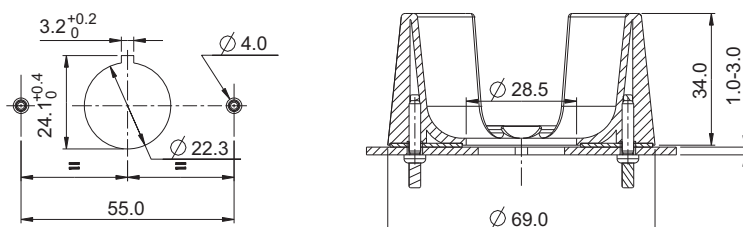
Spacers, round



→ Length L	Color	Order no.
6.25 mm	red	5.30.759.034/0000
6.50 mm	blue transparent	5.30.759.035/0000
6.75 mm	black	5.30.759.036/0000
7 mm	yellow orange transparent	5.30.759.037/0000
7.25 mm	yellow	5.30.759.038/0000
7.50 mm	green	5.30.759.039/0000
7.75 mm	blue	5.30.759.040/0000
8 mm	red	5.30.759.041/0000
8.25 mm	blue transparent	5.30.759.042/0000

Required spacer length
 For keyboards: Overall height of key - front panel thickness - 0.5 mm (area embossing).
 For RAFIX 22 FS: 9.25 mm - front panel thickness - thickness of overlay, if existing

RAFIX 22 FS⁺ Protective Collar



Spec.
accessories

→ Description	Order no.
Protective Collar for emergency stop RAFIX 22 FS ⁺	5.00.456.001/0000

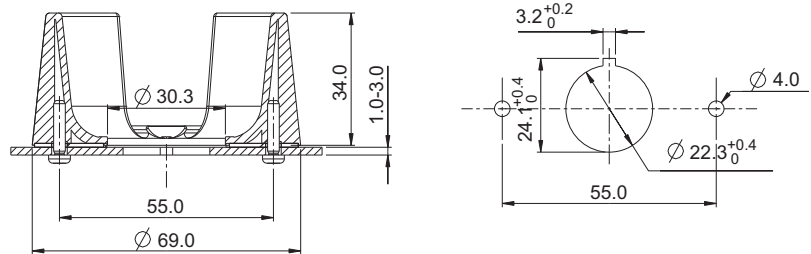
**– Table (continued) –
RAFIX 22 FS+ Protective Collar**

RAFI protective collars protect the pushbuttons from unintentional operation and damage. Another great advantage is that they can be mounted directly on the front panel using two screws and without mechanical attachment to the actuator and/or emergency stop pushbutton. This provides for additional safety because lateral forces are not transferred to the actuator housing.

When using the protective collar, the preliminary contents of EN ISO 13850, chapter 4.3.9 and 4.5.1 have to be respected.

The protective collar is not allowed with RAFIX FSR Emergency stop pushbutton 1.30.283.xxx. The protective collar 5.00.456.002/0000 from RAFIX 22 QR should be used instead, see catalog page 2-150.

The protective collar must not be used with RAFIX 22 FS+ Emergency stop pushbutton compact 1.30.273.301/2200

**RAFIX 22 QR Protective Collar****→ Description****Order no.**

Protective Collar for emergency stop RAFIX 22 QR

5.00.456.002/0000

RAFI protective collars protect the pushbuttons from unintentional operation and damage. Another great advantage is that they can be mounted directly on the front panel using two screws and without mechanical attachment to the actuator and/or emergency stop pushbutton. This provides for additional safety because lateral forces are not transferred to the actuator housing.

When using the protective collar, the preliminary contents of EN ISO 13850, chapter 4.3.9 and 4.5.1 have to be respected.

RAFIX 22 FS

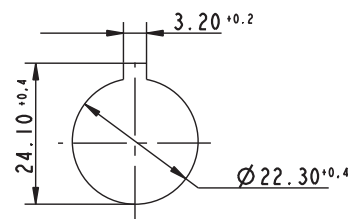
Blanking cap, Ø 22.3 mm



round, high version



square blanking cap



Panel cut-out to IEC 60947-5-1

→ Description	Form	Overall height	Order no.
Blanking cap IP65, ring nut, round, slate gery, flat	round	flush	5.05.800.067/0000
Blanking cap IP65, ring nut, round, high version, can be used for covering mounted PCB contact blocks.	round	high	5.05.200.025/0000
Blanking cap IP65, ring nut, square, slate grey, flat	square	flush	5.05.800.068/0000
Blanking cap IP65, ring nut, square, high version, can be used for covering mounted PCB contact blocks.	square	high	5.05.200.026/0000

Retaining ring for front panel thickness 2.5 ... 4 mm



→ Description	Order no.
Retaining ring for front panel thickness 2.5 ... 4 mm	5.45.201.556/0700

RAFIX FS

Protective cap for keylock switch



→ Description	Order no.
RAFIX FS - Protective cap for keylock switch	5.55.105.454/0111