GET IN
TOUCH

RAFIX
30 FS+

Perfect design.

RAFI

RAFIX 30 FS+

DESIGNED TO PERFECTION

RAFIX 30 FS+ stands out for all the benefits of the control component series RAFIX 22 FS+ plus extra flat lenses and a low overall height. On request, the pushbuttons in this series can be individually equipped with SMD LEDs or a MICON 5 tactile switch for improved haptic perception. In short: The flat alternative for users with extremely high design standards.

SLIM

- Designs with PCB contact blocks feature a distance between the front panel and printed circuit board of only 15.8 mm.
- With QC contact blocks, only 33 mm of space is needed behind the front panel.

Combinable with all contact blocks and accessories with RAFIX FS technology

- PCB or QC contact blocks
- Gold contacts from 5 V or silver contacts up to 250 V
- Short-travel adapter enables short-travel actuation (1 mm switching travel) with perceptible key click
- Variable illumination, compatible with 3 mm THT LEDs / SMT LEDs or LED clip

The RAFIX 30 FS+ series has a variety of actuators and signal indicators

Pushbuttons

- Illuminable
- Optional FLEXLAB with exchangeable legend insert

Selector switches

- Rotating angle 40°, 60° or 90°
- Latching or momentary
- Illuminable

Keylock switches

- Rotating angle 40° or 90°
- Latching or momentary

Signal indicators

- Green, yellow, red, blue or white

USB grommet

- USB type A to USB type B
- With protective cap

Approvals

- IEC 60947-5-1/5
- UL
- CCC

Mounting hole

The actuators in the RAFIX 30 FS+ series are designed for 30.3 mm mounting holes.

All actuators are equipped with a locating pip. This locating pip ensures a perfect fit for actuators and contact blocks with PCB-mounted components and is therefore essential for designs including these contact blocks.
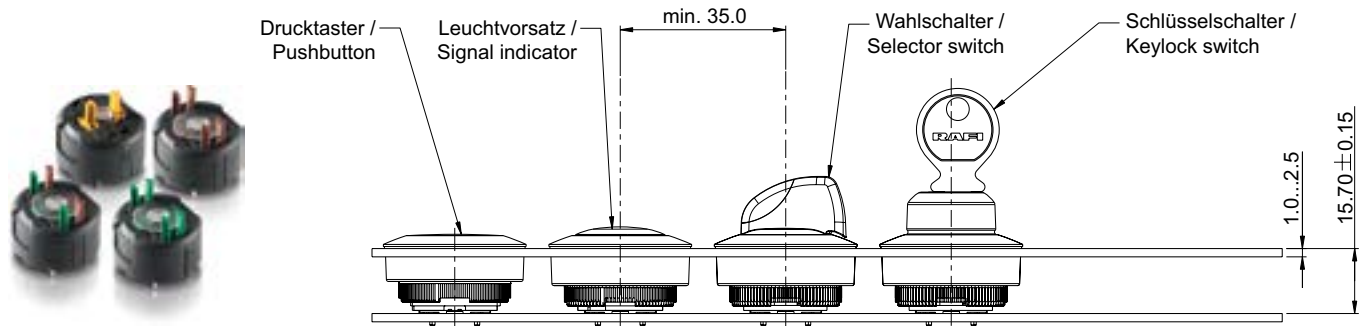

$3.1^{+0.20}_{0}$

$\varnothing \ 30.3^{+0.20}_{0}$

$31.5^{+0.4}_{0}$
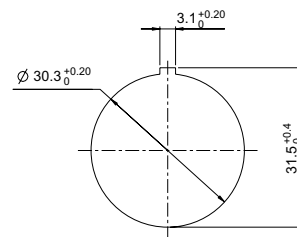
Grid spacing

The design principle makes it possible to use a minimum grid spacing of 35 mm x 35 mm. When choosing the grid spacing, it is recommended to consider any external legending required (for example, using label strips inserted into the front panel).

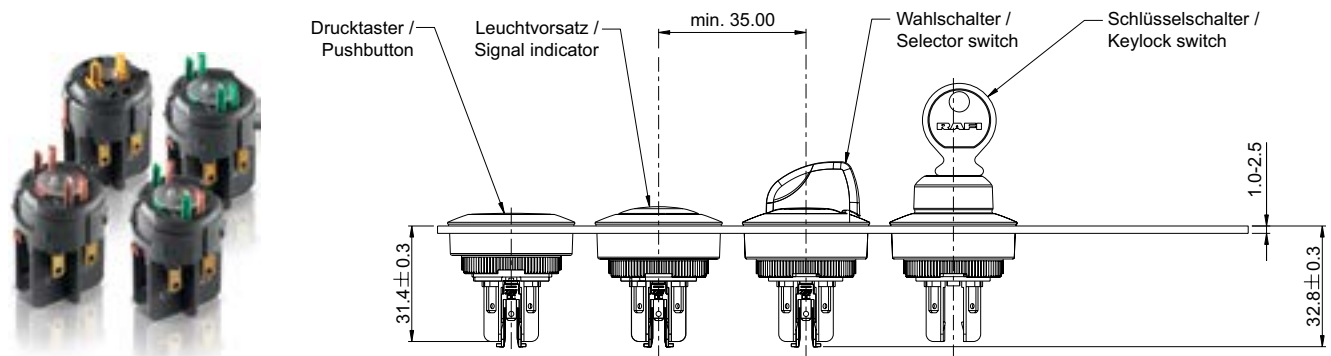# RAFIX 30 FS+

RAFIX 30 FS+ with PCB contact block

Drucktaster / Pushbutton · Leuchtvorsatz / Signal indicator · min. 35.0 · Wahlschalter / Selector switch · Schlüsselschalter / Keylock switch

15.70 ± 0.15 · 1.0...2.5

For printed circuit board hole patterns, see RAFIX 22 FS-Technology contact blocks

Formula for spacer length

15.8 mm
- Front panel thickness
—————————————
Length of spacer

RAFIX 30 FS+ with QC contact block

Drucktaster / Pushbutton · Leuchtvorsatz / Signal indicator · min. 35.00 · Wahlschalter / Selector switch · Schlüsselschalter / Keylock switch

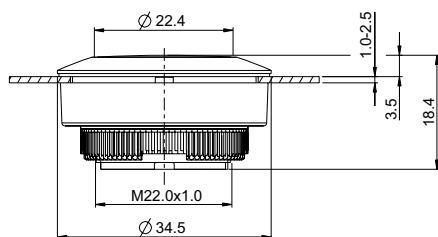31.4 ± 0.3 · 1.0-2.5 · 32.8 ± 0.3

For matching contact blocks and accessories, see chapter „RAFIX FS Technology" in the RAFI catalog „Electromechanical components" or www.rafi.de/downloads.
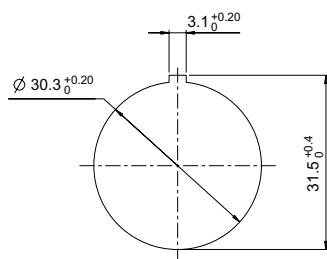
RAFIX 30 FS⁺ Pushbuttons

→ The RAFIX 30 FS⁺ pushbuttons offer large actuating areas with a low overall height. They are available in different lens colors and with full area illumination.
Labeling on request.

Technical Data

→ **General information**

Form of lens	flush
Color of lens	see order block
Front ring	stainless steel
Form of collar	round

→ **Dimensions**

Dimensions of collar	ø 34.5 mm
Overall height	3.45 mm
Mounting hole	30.3 mm
Key grid	min. 35 x 35 mm

→ **Mechanical design**

Mounting	threaded rings + adapters
Contact function	see order block
Illuminability	see order block
Torque for nut ring	1.2 Nm

→ **Mechanical characteristics**

Operating travel	4 mm
Robustness max.	100 N

→ **Other specifications**

Ambient temp. operating min.	-25 °C
Ambient temp. operating max.	+70 °C
Storage temperature min.	-40 °C
Storage temperature max.	+80 °C
Operating life	1,000,000 momentary / 500,000 latching
B10	1,300,000 momentary / 650,000 latching
Degree of protection from front side	IP65 (DIN EN 60529)
Environmental restistance	acc. to IEC 60068-2-14, -30, -33 and -78
Salt spray	IEC 600 68-2-11
ROHS compliant	yes
REACH compliant	yes

Ø 22.4
1.0-2.5
3.5
18.4
M22.0x1.0
Ø 34.5

$3.1^{+0.20}_{0}$
$Ø 30.3^{+0.20}_{0}$
$31.5^{+0.4}_{0}$

Approvals

UL 508 in preparation

CCC in preparation

Accessories RAFIX 30 FS⁺ - Pushbuttons

→ Description	Photo	Order no.	Additional accessories see page
RAFIX FS - Contact block PCB gold, Universal		-	-
RAFIX FS - Contact block PCB gold, Universal, with light conductor		-	-
RAFIX FS - Contact block PCB silver, Universal		-	-
RAFIX FS - Contact block PCB silver, Universal, with light conductor		-	-

– Table (continued) –
Accessories RAFIX 30 FS⁺ - Pushbuttons

➜	Description	Photo	Order no.	Additional accessories see page
	RAFIX FS - Contact block QC gold, Universal, with light conductor		-	-
	RAFIX FS - Contact block QC silver, Universal, with light conductor		-	-
	Fixing spanner for ring nut		5.05.800.062/0000	-
	Retaining ring for front panel thickness 2.5 ... 4 mm		5.45.201.556/0700	-

RAFIX 30 FS⁺
Pushbutton

Technical data see page 4

·NEW·
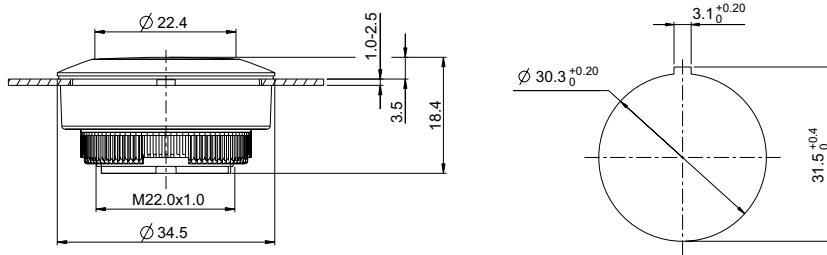
Color of lens	Illuminability	Order no.	
		Contact function momentary	Contact function latching
translucent red	yes	1.30.290.021/2300	1.30.290.031/2300
translucent yellow	yes	1.30.290.021/2400	1.30.290.031/2400
translucent green	yes	1.30.290.021/2500	1.30.290.031/2500
translucent blue	yes	1.30.290.021/2600	1.30.290.031/2600
translucent white	yes	1.30.290.021/2200	1.30.290.031/2200
opaque black	no	1.30.290.021/0100	1.30.290.031/0100

Legending on request.
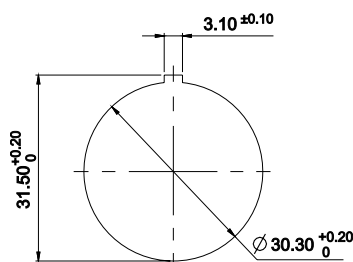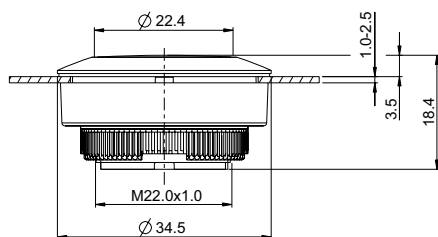
RAFIX 30 FS+ Pushbuttons FLEXLAB

→ The RAFIX 30 FS+ FLEXLAB pushbutton allows individual control component labeling. A DIN A4 label sheet with pre-cut labels which fits in customary office laser printers is available for this option. After the legend inserts are printed, the labels can be detached from the sheet and inserted into the colored lens using the fine stop tabs.

Technical Data

→ **General information**

Form of lens	flush
Color of lens	see order block
Front ring	stainless steel
Form of collar	round

→ **Dimensions**

Dimensions of collar	ø 34.5 mm
Overall height	3.45 mm
Mounting hole	30.3 mm
Key grid	min. 35 x 35 mm

→ **Mechanical design**

Mounting	threaded rings + adapters
Contact function	see order block
Illuminability	yes
Torque for nut ring	1.2 Nm

→ **Mechanical characteristics**

Operating travel	4 mm
Robustness max.	100 N

→ **Other specifications**

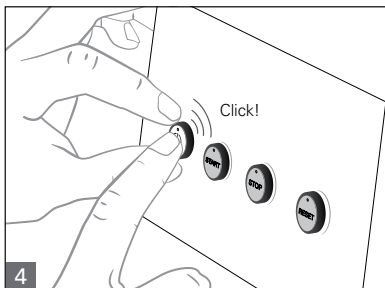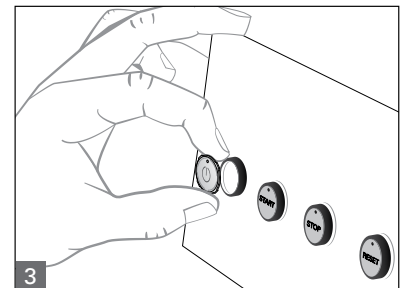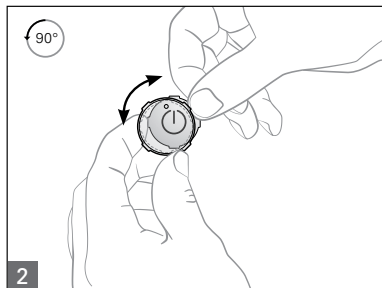|	
Ambient temp. operating min.	-25 °C
Ambient temp. operating max.	+70 °C
Storage temperature min.	-40 °C
Storage temperature max.	+80 °C
Operating life	1,000,000 momentary / 500,000 latching
B10	1,300,000 momentary / 650,000 latching
Degree of protection from front side	IP65 (DIN EN 60529)
Environmental restistance	acc. to IEC 60068-2-14, -30, -33 and -78
Salt spray	IEC 600 68-2-11
ROHS compliant	yes
REACH compliant	yes

-NEW-

Ø 22.4

1.0-2.5

3.5

18.4

M22.0x1.0

Ø 34.5

3.10 ±0.10

31.50 +0.20 0

Ø 30.30 +0.20 0

Approvals

UL 508 in preparation

CCC in preparation

Accessories RAFIX 30 FS⁺ - Pushbuttons FLEXLAB

➔	Description	Photo	Order no.	Additional accessories see page
	RAFIX FS - Contact block PCB gold, Universal, with light conductor		-	-
	RAFIX FS - Contact block PCB silver, Universal, with light conductor		-	-
	RAFIX FS - Contact block QC gold, Universal, with light conductor		-	-
	RAFIX FS - Contact block QC silver, Universal, with light conductor		-	-
	Fixing spanner for ring nut		5.05.800.062/0000	-
	Retaining ring for front panel thickness 2.5 ... 4 mm		5.45.201.556/0700	-

RAFI FLEXLAB
MONTAGEANLEITUNG | ASSEMBLY INSTRUCTIONS | 安装说明

Beschriftungsbogen
Labeling sheet
标签板

Schrifteinlage
Legend Insert
符号插片

Farbblende
Color lens
灯罩

MONTAGE   ASSEMBLY   安装
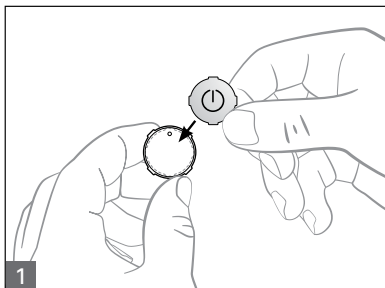
DEMONTAGE   DISASSEMBLY   拆除

CONTROL COMPONENTS

RAFIX 30 FS+
Pushbutton FLEXLAB

Technical data see page 6
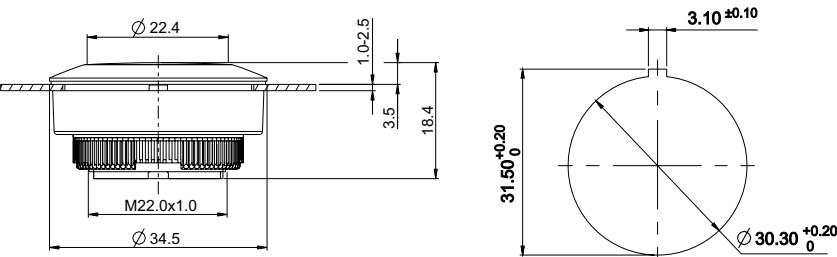
Form of collar		Order no.	
		Contact function momentary	Contact function latching
round		1.30.290.921/0000	1.30.290.931/0000

Accessoires:
Colored lens for RAFIX FS+ Pushbuttons FLEXLAB, colorless: 5.49.263.062/1000
Colored lens for RAFIX FS+ Pushbuttons FLEXLAB, red: 5.49.263.062/1300
Colored lens for RAFIX FS+ Pushbuttons FLEXLAB, yellow: 5.49.263.062/1400
Colored lens for RAFIX FS+ Pushbuttons FLEXLAB, green: 5.49.263.062/1500
Colored lens for RAFIX FS+ Pushbuttons FLEXLAB, blue: 5.49.263.062/1600
DIN A4 label sheet with 6x9 lenses in total utility: 5.70.800.200/0000

RAFIX 30 FS+
Selector switches

→ The marks on the selector switch turning handle are translucent and can be illuminated if required. Colored LEDS or LED clips can be used for colored illuminations.

Technical Data

→ **General information**

Actuator	handle
Marking of handle	translucent white
Front ring	stainless steel
Form of collar	round

→ **Dimensions**

Dimensions of collar	ø 34.5 mm
Overall height	17.43 mm
Mounting hole	30.3 mm
Key grid	min. 35 x 35 mm

→ **Mechanical design**

Mounting	threaded rings + adapters
Contact function	see order block
Illuminability	yes
Rotating angle	see order block
Torque for nut ring	1.2 Nm

→ **Mechanical characteristics**

Torque max.	1.5 Nm

→ **Other specifications**

Ambient temp. operating min.	-25 °C
Ambient temp. operating max.	+70 °C
Operating life (operations)	500,000 momentary / 300,000 latching
Operating life (operations)	650,000 momentary / 400,000 latching
Degree of protection from front side	IP65 (DIN EN 60529)
Storage temperature min.	-40 °C
Storage temperature max.	+80 °C
Environmental restistance	acc. to IEC 60068-2-14, -30, -33 and -78
Salt spray	IEC 600 68-2-11
ROHS compliant	yes
REACH compliant	yes
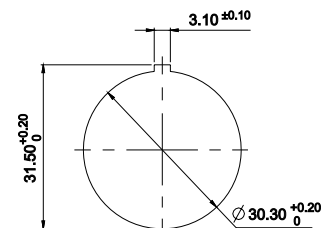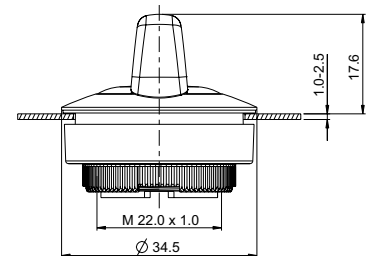
Approvals

UL 508 in preparation	in preparation

Accessories RAFIX 30 FS+ - Selector switches

→ Description	Photo	Order no.	Additional accessories see page
RAFIX FS - Contact block PCB gold, Universal		-	-
RAFIX FS - Contact block PCB gold, Universal, with light conductor		-	-
RAFIX FS - Contact block PCB silver, Universal		-	-
RAFIX FS - Contact block PCB silver, Universal, with light conductor		-	-

– Table (continued) –
Accessories RAFIX 30 FS⁺ - Selector switches

→ Description	Photo	Order no.	Additional acces-sories see page
RAFIX FS - Contact block QC gold, Universal, with light conductor		-	-
RAFIX FS - Contact block QC silver, Universal, with light conductor		-	-
Fixing spanner for ring nut		5.05.800.062/0000	-
Retaining ring for front panel thickness 2.5 ... 4 mm		5.45.201.556/0700	-

RAFIX 30 FS⁺
Selector switch

Technical data see page 9
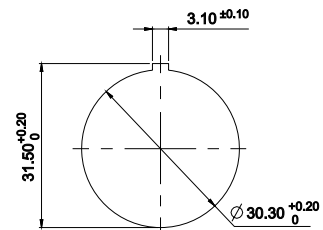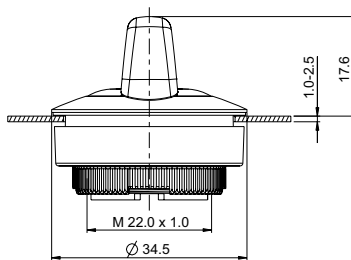
→ Illuminability	Contact function	Rotating angle		Order no.
yes	momentary	1 x 40°		1.30.292.002/2200
yes	momentary	2 x 40°		1.30.292.027/2200
yes	latching	1 x 90°, L shape		1.30.292.102/2200
yes	latching	1 x 90°, V shape		1.30.292.202/2200
yes	latching	2 x 60°		1.30.292.302/2200
yes	90° latching, 40° momentary	1 x 90° / 1 x 40°		1.30.292.427/2200

RAFIX 30 FS+
Keylock switches

→ The RAFIX 30 FS+ keylock switches feature an extremely compact design which is consistent with the overall concept of RAFIX 30 FS+. Two keys respectively are included in the delivery. Customer-specific closings are possible on request.

The locking systems we use were 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**

Front ring	stainless steel
Form of collar	round

→ **Dimensions**

Dimensions of collar	ø 34.5 mm
Overall height	38.70 mm
Mounting hole	30.3 mm
Key grid	min. 35 x 35 mm

→ **Mechanical design**

Mounting	threaded rings + adapters
Contact function	see order block
Illuminability	no
Wafers	5
Lock type	001
Main key	on request
Rotating angle	see order block
Key removal position	see order block
Torque for nut ring	1.2 Nm

→ **Mechanical characteristics**

Torque max.	1.3 Nm

→ **Other specifications**

Ambient temp. operating min.	-25 °C
Ambient temp. operating max.	+70 °C
Operating life	300,000 momentary / 50,000 latching / 30,000 with key removal
B10	400,000 momentary / 65,000 latching / 40,000 with key removal
Degree of protection from front side	IP65 (DIN EN 60529)
Storage temperature min.	-40 °C
Storage temperature max.	+80 °C
Environmental restistance	acc. to IEC 60068-2-14, -30, -33 and -78
ESD-strength lock / contact	15 kV
ESD-strength key / front panel	15 kV
Salt spray	IEC 600 68-2-11
ROHS compliant	yes
REACH compliant	yes
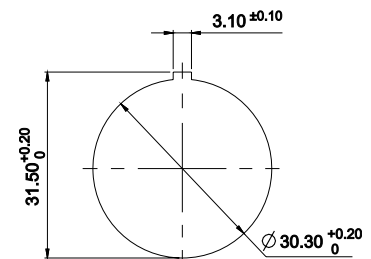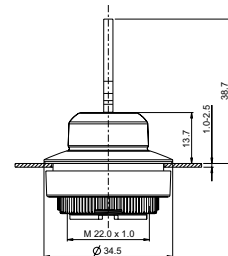
Approvals
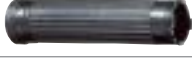
UL 508 in preparation

CCC in preparation

Accessories RAFIX 30 FS⁺ - Keylock switches

→	Description	Photo	Order no.	Additional accessories see page
	RAFIX FS - Contact block PCB gold, Universal		-	-
	RAFIX FS - Contact block PCB silver, Universal		-	-
	RAFIX FS - Contact block QC gold, Universal, with light conductor		-	-
	RAFIX FS - Contact block QC silver, Universal, with light conductor		-	-
	Fixing spanner for ring nut		5.05.800.062/0000	-
	Retaining ring for front panel thickness 2.5 ... 4 mm		5.45.201.556/0700	-
	RAFIX FS - Protective cap for keylock switch		5.55.105.454/0111	-

RAFIX 30 FS⁺
Keylock switch

Technical data see page 11
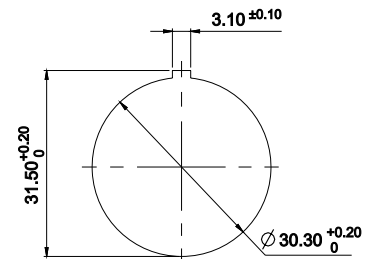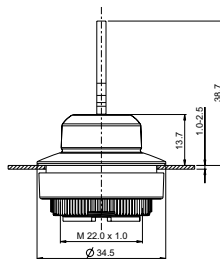
→	Contact function	Rotating angle		Key removal position	Order no.
	momentary	1 x 40°		0	1.30.295.002/0000
	momentary	2 x 40°		0	1.30.295.102/0000
	latching	1 x 90°, L shape		0+1	1.30.295.222/0000
	latching	1 x 90°, V shape		0+1	1.30.295.322/0000

RAFIX 30 FS+
Signal indicators

Technical Data

➜ **General information**

Form of lens	flush
Color of lens	see order block
Front ring	stainless steel
Form of collar	round

➜ **Dimensions**

Dimensions of collar	ø 34.5 mm
Overall height	5.25 mm
Mounting hole	30.3 mm
Key grid	min. 35 x 35 mm

➜ **Mechanical design**

Mounting	threaded rings + adapters
Illuminability	yes
Torque for nut ring	1.2 Nm

➜ **Other specifications**

Degree of protection from front side	IP65 (DIN EN 60529)
Ambient temp. operating min.	-25 °C
Ambient temp. operating max.	+70 °C
Storage temperature min.	-40 °C
Storage temperature max.	+80 °C
Environmental resistance	acc. to IEC 60068-2-14, -30, -33 and -78
Salt spray	IEC 600 68-2-11
ROHS compliant	yes
REACH compliant	yes

-NEW-

∅ 34.5
∅ 21.8
5.2
1.0...2.5
M 22.0 x 1.0

3.10 ±0.10
31.50 +0.20 / 0
∅ 30.30 +0.20 / 0
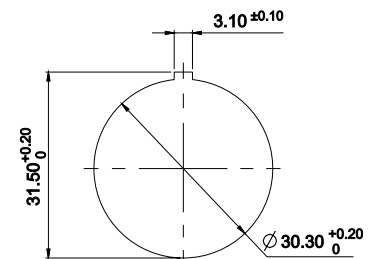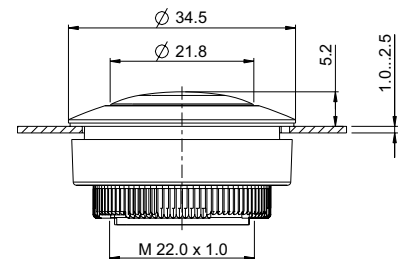
Approvals

UL 508 in preparation
CCC in preparation

Accessories RAFIX 30 FS+ - Signal indicators

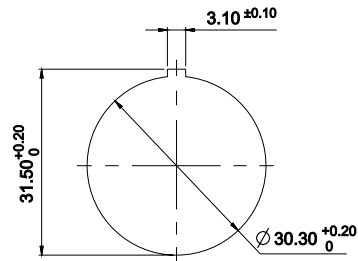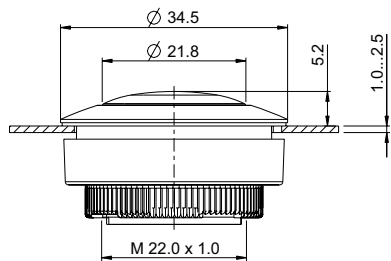| ➜ Description	Photo	Order no.	Additional accessories see page
LED 3 mm		-	-
LED base for 3 mm THT LED, used in signal indicators, for RAFIX FS PCB		-	-
QC LED base for signal indicators		-	-
Fixing spanner for ring nut		5.05.800.062/0000	-
Retaining ring for front panel thickness 2.5 ... 4 mm		5.45.201.556/0700	-

RAFIX 30 FS+
Signal indicator

Technical data see page 13

→ Illuminability	Color of lens	Order no.
yes	translucent red	1.74.510.011/2300
yes	translucent yellow	1.74.510.011/2400
yes	translucent green	1.74.510.011/2500
yes	translucent blue	1.74.510.011/2600
yes	translucent white	1.74.510.011/2200

RAFIX 30 FS+
USB feedthroughs

➔ The USB feedthrough ensures sturdy installation of an easily accessible USB slot in the front panels of controllers and IPCs. The port on the rear accommodates commercially available USB cables with B-type connectors. A sealing cap protects the slot and ensures a degree of protection to IP65. For assembly, simply insert the feedthrough from the front side into the mounting hole and fasten it by means of a ring nut from the rear.

·NEW·

Technical Data

➔ **General information**

Front ring color	stainless steel
Form of collar	round

➔ **Dimensions**

Dimensions of collar	ø 34.5 mm
Overall height	5.17 mm
Mounting depth	35.5
Mounting hole	30.3 mm
Key grid	min. 35 x 35 mm

➔ **Mechanical design**

Mounting	threaded rings + adapters
Front connection	USB Type A
Rear connection	USB Type B
Torque for nut ring	1.2 Nm

➔ **Other specifications**

Ambient temp. operating min.	-25 °C
Ambient temp. operating max.	+70 °C
Storage temperature min.	-40 °C
Storage temperature max.	+80 °C
Operating life	1500 operations
Degree of protection from front side	IP65 (DIN EN 60529) with closed sealing cap
Relative humidity	5 bis 95% (non condensed)
Shock resistance to IEC 60068-2-27 (EN 61131-2)	50 g at 11 ms half sine amplitude
Vibration resistance according to IEC 600 68-2-6 (EN 61131-2)	5 g at 10...500 Hz
ROHS compliant	yes
REACH compliant	yes
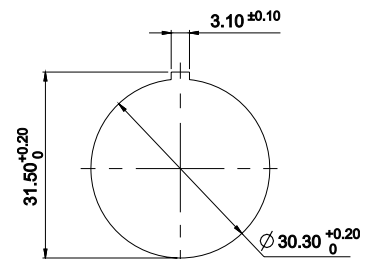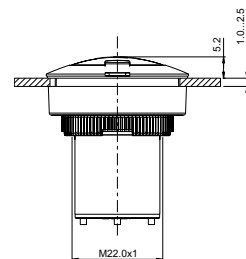
Approvals

UL 508 in preparation

CCC in preparation

Accessories RAFIX 30 FS+ - USB feedthroughs

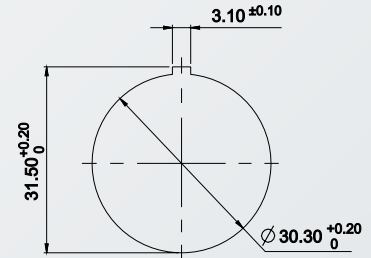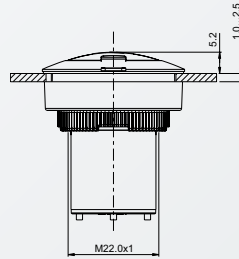| ➔ Description	Photo	Order no.	Additional accessories see page
Fixing spanner for ring nut		5.05.800.062/0000	-
Retaining ring for front panel thickness 2.5 ... 4 mm		5.45.201.556/0700	-

CONTROL COMPONENTS

RAFIX 30 FS+ - ACCESSORIES

RAFIX 30 FS+
USB feedthrough

Technical data see page 15

	Description	Order no.
→	RAFIX 30 FS+ - USB feedthrough	1.30.299.021/0700

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RAFI