# Reliable and Precise Command and Signalling

## xCommand

Command and signalling – ergonomic shape, attractive design. Switching control circuit currents reliably and precisely.

**Control circuit devices RMQ**

**Foot and palm switches FAK**

**Signal towers SL**

**Fingerprint system**

Position switches LS-Titan

Rotary switches T/P

Timing relays ETR

Measuring relays EMR

Safety relays ESR

**Selection aid**
**Control circuit devices**
**RMQ-Titan® and RMQ 16**
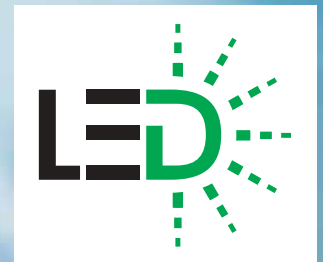**Foot and palm switches FAK**
**Signal towers SL**
**Fingerprint M22-ESA**

## MOELLER

We keep power under control.

# The New Control Circuit Devices RMQ-Titan® are in Great Shape

New for ATEX use
www.moeller.net/atex1

Modern styling has been combined with an optimum range of functions, – ideal for use at machines and on panels. The ergonomically shaped button elements are matched to the shape of a fingertip for even more comfortable operation.

Control circuit devices RMQ-Titan emit light non-stop for over 100 000 hours. The LED elements in RMQ-Titan do not then suddenly fail, however, the strength of their light is simply reduced. Special lenses and coloured LEDs offer enduring reliability at a very attractive price. Emergency-Stop actuators are now illuminated as well. This safety component is thus clearly visible even in dark rooms and a separate indicator light is not required.

**Customised laser inscription**

Whether at the control desk, in suspended operator panels or in the control cabinet, RMQ-Titan is number one when it comes to control circuit devices for machine and panel building. As well as the attractive and ergonomic design, the flexibility and versatility of the range always make it the ideal solution. All button plates, indicator lights and legend plates can be provided with abrasion resistant laser inscriptions of texts and symbols as required.

**Optimum degree of protection for safety**

Apart from the acoustic indicator, all RMQ-Titan front elements come with protection to at least IP67, thus already providing virtually unlimited scope for applications. Pushbutton actuators and indicator lights even offers protection to IP 69K! They can therefore be cleaned safely with high-pressure and steam cleaners – a key benefit in applications where cleanliness and hygiene are important requirements.

**Adapted to the location**

Mushroom actuators with a large actuation area offer more safety thanks to their conspicuous design and their ability to even be actuated with gloved hands. Illuminated Emergency-Stop buttons and buzzers ensure reliable signal indication even in dark rooms. Special diaphragms are also available for protecting buttons against dust, flour or cement.

**Complete units**

Ready-to-use complete units are available for standard solutions such as ON, ON/OFF, Emergency-Stop with and without a keyswitch etc. They can be supplied for front mounting and in surface mounting enclosures. The foot and palm switch FAK offers special features. Created for particularly rugged applications with extremely high protection to IP 69 K, this device stands out with its impressive design, and is often seen in TV quiz shows.

**Always well enclosed**

The surface mounting enclosure for eight control circuit devices RMQ16 with protection to IP65 is specially designed for industrial applications. The surface mounting enclosure in the RMQ-Titan range even provides protection to IP66 with up to 6 mounting locations.
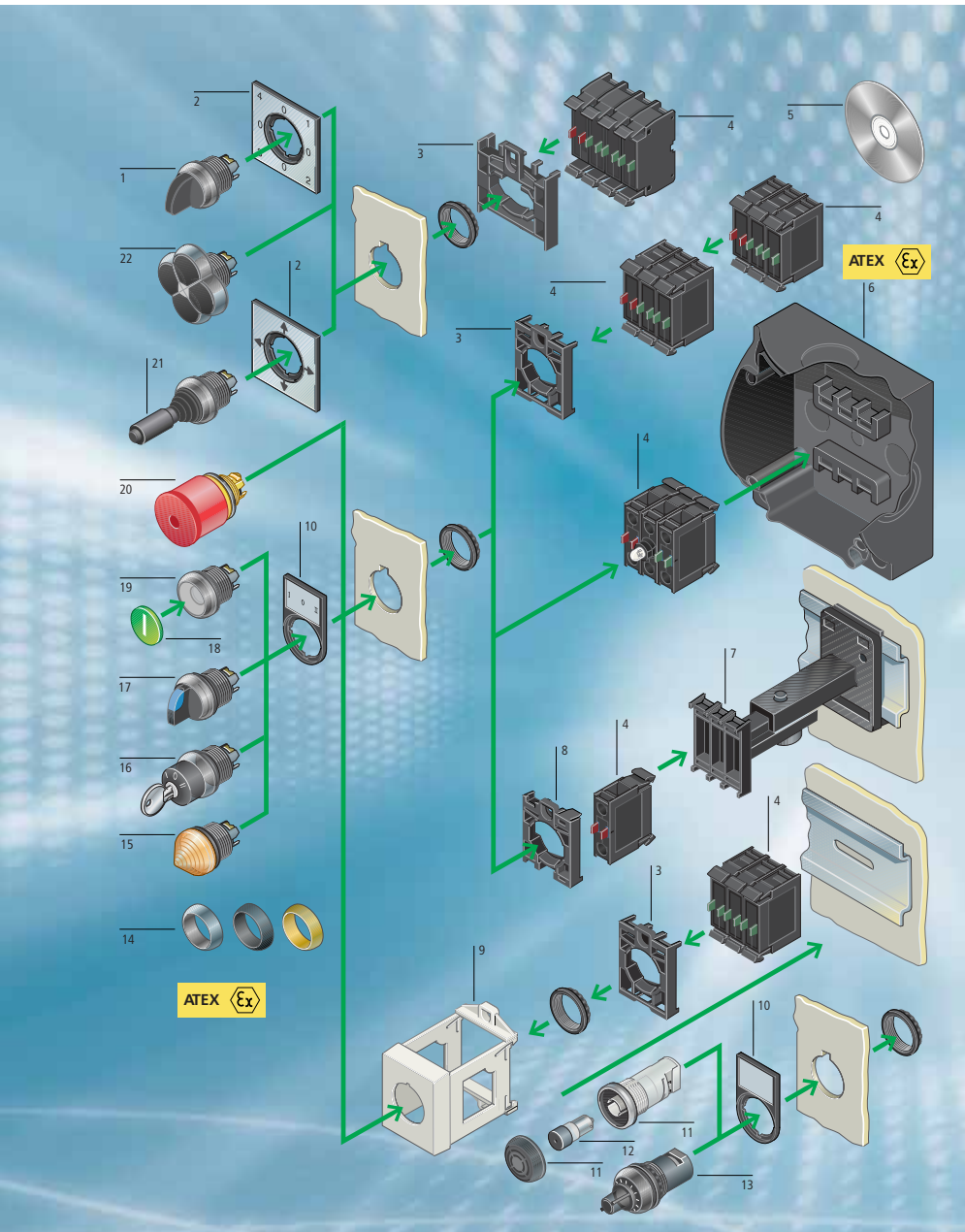
**Finger identification**

Lost your keys, misplaced your ID card or forgotten your PIN code? In addition to the annoyance caused by these everyday problems, the "conventional" access systems cost companies a vast amount in administration costs. Fingerprints on the other hand are unique and cannot be lost. The devices detect the temperature differences between the furrows of the finger, and can thus identify each finger accurately. The M22-ESA meets all the requirements for easy-to-use, reliable and flexible access control.
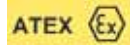
# System Overview
# RMQ-Titan®

**1** 4 position selector switch actuators
**2** Front label for 4-way selector switch/joystick
**3** Fixing adapter
**4** Contact element
**5** Inscription software
**6** Enclosure
**7** Telescopic clip
**8** Centring adapter
**9** Distribution board rail adapter
**10** Label plate
**11** Acoustic indicator
**12** Buzzer
**13** Potentiometer
**14** **Frontring** Titanium M22
Black M22**S**
(add S to types if necessary)
Gold: see page 12
**15** Indicator light
**16** Key switch
**17** Selector switch
**18** Button plate/button lens
**19** Push-button
**20** Emergency-stop button
**21** Joystick
**22** 4 position button

## Push-button actuators, flush

NEMA 4X, 13
IP 67, 69K     **ATEX** ⟨Ex⟩

Front ring black: M22**S**...

| Button plate | Actuator spring-return | Actuator stay-put |
|---|---|---|
| ● (grey) | M22-D-S | M22-DR-S |
| ○ (white) | M22-D-W | M22-DR-W |
| ● (red) | M22-D-R | M22-DR-R |
| ● (green) | M22-D-G | M22-DR-G |
| ● (yellow) | M22-D-Y | M22-DR-Y |
| ● (blue) | M22-D-B | M22-DR-B |
| ◉ (red) | M22-D-R-X0 | M22-DR-R-X0 |
| ❙ (green) | M22-D-G-X1 | M22-DR-G-X1 |
| ◉ (grey) | M22-D-S-X0 | M22-DR-S-X0 |
| ❙ (white) | M22-D-W-X1 | M22-DR-W-X1 |
| Without | M22-D-X | M22-DR-X |
| Without button plate With guard ring | M22-DG-X | |

## Push-button, extended

NEMA 4X, 13
IP 67, 69K     **ATEX** ⟨Ex⟩

Front ring black: M22**S**...

| Button plate | Actuator spring-return | Actuator stay-put |
|---|---|---|
| ● (grey) | M22-DH-S | M22-DRH-S |
| ○ (white) | M22-DH-W | M22-DRH-W |
| ● (red) | M22-DH-R | M22-DRH-R |
| ● (green) | M22-DH-G | M22-DRH-G |
| ● (yellow) | M22-DH-Y | M22-DRH-Y |
| ● (blue) | M22-DH-B | M22-DRH-B |
| ◉ (red) | M22-DH-R-X0 | M22-DRH-R-X0 |
| ❙ (green) | M22-DH-G-X1 | M22-DRH-G-X1 |
| ◉ (grey) | M22-DH-S-X0 | M22-DRH-S-X0 |
| ❙ (white) | M22-DH-W-X1 | M22-DRH-W-X1 |
| Without | M22-D-X | M22-DR-X |

## Mushroom actuators · Selector switch actuators · Key-operated actuators

| Mushroom actuators | | | | Selector switch actuators | | | Key-operated actuators | |
|---|---|---|---|---|---|---|---|---|
| NEMA 4X, 13 IP 67, 69K ATEX ⟨Ex⟩ | | | | NEMA 4X, 13 IP 66 Front ring black: M22**S**... ⎩ = stay-put ⎰ = spring-return ATEX ⟨Ex⟩ | | | NEMA 4X, 13 IP 66 ATEX ⟨Ex⟩ | |
| Front ring black: M22**S**... | | | | | | | Front ring black: M22**S**... | |
| Button plate | Mush-room | spring-return | stay-put | Function | Rotary button 2 positions | Thumb-grip 2 positions | MS1 lock mechanism, 2 positions | MS2-20 lock mechanism, 2 positions |
| ● | ● | M22-DP-S | M22-DRP-S | ⎪▷ | M22-W | M22-WK | M22-WS | M22-WS-MS* |
| ● | ● | M22-DP-R | M22-DRP-R | ⎪↙ | M22-WR | M22-WRK | M22-WRS | M22-WRS-MS* |
| ● | ● | M22-DP-G | M22-DRP-G | ⌄ | | M22-WKV | | |
| ● | ● | M22-DP-Y | M22-DRP-Y | | **3 positions** | **3 positions** | **3 positions** | **3 positions** |
| ◉ | ● | M22-DP-R-X0 | M22-DRP-R-X0 | ◁⎪▷ | M22-W3 | M22-WK3 | M22-WS3 | M22-WS3-MS* |
| Ⅰ | ● | M22-DP-G-X1 | M22-DRP-G-X1 | ↘⎪↙ | M22-WR3 | M22-WRK3 | M22-WRS3 | M22-WRS3-MS* |
| ◎ | ● | M22-DP-S-X0 | M22-DRP-S-X0 | ↘⎪▷ | | M22-WRK3-1 | Also available with lock mechanism suitable for master key systems | |
| Ⓘ | ● | M22-DP-W-X1 | M22-DRP-W-X1 | ◁⎪↙ | | M22-WRK3-2 | | |
| Without | ● | M22-DP-S-X | M22-DRP-S-X | | **4 positions** | **4 positions** | | |
| Without | ● | M22-DP-R-X | M22-DRP-R-X | ✳ | M22-WR4 | M22-WRK4 | | |
| Without | ● | M22-DP-G-X | M22-DRP-G-X | | | | Protective diaphragm for use with | |
| Without | ● | M22-DP-Y-X | M22-DRP-Y-X | | | | M22-WS ... | M22-XWS |

## Illuminated push-button actuators · Indicator light lens assemblies

| Illuminated push-button actuators | | | | | Indicator light lens assemblies | |
|---|---|---|---|---|---|---|
| NEMA 4X, 13 IP 67, 69K ATEX ⟨Ex⟩ | | | | | NEMA 4X, 13 IP 67, 69K | |
| Front ring black: M22**S**... | | | | | | |
| Button lens | Actuators flush, spring-return | Actuators flush, stay-put | Actuators extended, spring-return | Actuators extended, stay-put | Flush | Extended, coni-cal ATEX ⟨Ex⟩ |
| ○ | M22-DL-W | M22-DRL-W | M22-DLH-W | M22-DRLH-W | M22-L-W | M22-LH-W |
| ● | M22-DL-R | M22-DRL-R | M22-DLH-R | M22-DRLH-R | M22-L-R | M22-LH-R |
| ● | M22-DL-G | M22-DRL-G | M22-DLH-G | M22-DRLH-G | M22-L-G | M22-LH-G |
| ● | M22-DL-Y | M22-DRL-Y | M22-DLH-Y | M22-DRLH-Y | M22-L-Y | M22-LH-Y |
| ● | M22-DL-B | M22-DRL-B | M22-DLH-B | M22-DRLH-B | M22-L-B | M22-LH-B |
| Without | M22-DL-X | M22-DRL-X | M22-DL-X | M22-DRL-X | M22-L-X | M22-L-X |
| ◉ | M22-DL-R-X0 | M22-DRL-R-X0 | M22-DLH-R-X0 | M22-DRLH-R-X0 | | |
| Ⅰ | M22-DL-G-X1 | M22-DRL-G-X1 | M22-DLH-G-X1 | M22-DRLH-G-X1 | **Colour Lens, thumb-grip** | **Colour LED** |
| ◎ | M22-DL-W-X0 | M22-DRL-W-X0 | M22-DLH-W-X0 | M22-DRLH-W-X0 | | |
| Ⓘ | M22-DL-W-X1 | M22-DRL-W-X1 | M22-DLH-W-X1 | M22-DRLH-W-X1 | | |

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## Double actuator

NEMA 4X, 13
IP 67, 69K

ATEX ⟨Ex⟩
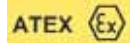
Front ring black: M22**S**...

| Button plates | Actuator and indicator light extended | Actuator and indicator light flush | ON buttons and indicator light flush, OFF button extended |
|---|---|---|---|
| I / O | M22-DDL-GR-X1/X0 | M22-DDLF-GR-X1/X0 | M22-DDLM-GR-X1/X0 |
| I / O | M22-DDL-WS-X1/X0 | M22-DDLF-WS-X1/X0 | M22-DDLM-WS-X1/X0 |
| START / STOP | M22-DDL-GR-GB1/GB0 | | |
| START / STOP | M22-DDL-WS-GB1/GB0 | | |
| ↑ / ↓ | M22-DDL-S-X7/X7 | | |
| + / − | M22-DDL-S-X4/X5 | | |
| (green) | M22-DDL-GR | | |
| (red) | | | |
| (white) | M22-DDL-WS | | |
| (black) | | | |
| Colours and symbols customised | M22-DDL-*-*-* | M22-DDLF-*-*-* | |

## Illuminated selector switch actuators

| | | | | | | Selector switch actuators |

NEMA 4X, 13
IP 66

ATEX ⟨Ex⟩

NEMA 4X, 13
IP 66

ATEX ⟨Ex⟩

Front ring black: M22**S**...

| Thump-Grip | 2 positions spring-return | 2 positions stay-put | 3 positions spring-return | 3 positions stay-put | 2 positions (V position, 60°) spring-return | 2 positions (V position, 60°) stay-put |
|---|---|---|---|---|---|---|
| ○ (white) | M22-WLK-W | M22-WRLK-W | M22-WLK3-W | M22-WRLK3-W | M22-WLKV-W | M22-WKV |
| ● (red) | M22-WLK-R | M22-WRLK-R | M22-WLK3-R | M22-WRLK3-R | M22-WLKV-R | |
| ● (green) | M22-WLK-G | M22-WRLK-G | M22-WLK3-G | M22-WRLK3-G | M22-WLKV-G | |
| ● (yellow) | M22-WLK-Y | M22-WRLK-Y | M22-WLK3-Y | M22-WRLK3-Y | M22-WLKV-Y | |
| ● (blue) | M22-WLK-B | M22-WRLK-B | M22-WLK3-B | M22-WRLK3-B | M22-WLKV-B | |

## Front ring gold

Front ring gold-plated

| Version | Part no. |
|---|---|
| Order only via M22 combination as complete unit | M22 combination - * M22-FR-AU M22..... (basic unit) |

| Joystick | | Selector switch actuators | | |
|---|---|---|---|---|
| 2 and 4 positions<br>IP 66    ATEX (Ex) | | NEMA 4X, 13<br>IP 66    ATEX (Ex) | | |
| Front ring black: M22**S**... | | Front ring black: M22**S**... | | |
| **Function** | **Part no.**<br>**Front ring titanium**<br>**Front ring black** | **Function** | **Rotary button,<br>4 positions** | **Thumb-grip<br>4 positions** |
| **Spring-return** | | | M22-WR4 | M22-WRK4 |
| in 2 positions horizontal | M22-WJ2H | | | |
| in 2 positions vertical | M22-WJ2V | | | |
| in 4 positions | M22-WJ4 | | | |
| **Stay-put** | | | | |
| in 2 positions horizontal | M22-WRJ2H | | | |
| in 2 positions vertical | M22-WRJ2V | | | |
| in 4 positions | M22-WRJ4 | | | |

| Labels | |
|---|---|
| for joystick<br>for 4-way selctor switch | |
| **Version** | **Part no.** |
| Blank | M22-XCK |
| Arrows | M22-XCK-1<br>for joystick 4 positions |
| Arrows | M22-XCK-3<br>for joystick 2 positions |
| 0-1-0-2-0-3-0-4 | M22-XCK-2<br>for 4-way selector switch |
| with individual inscription | M22-XCK-* |

| 4 position push-button | | | |
|---|---|---|---|
| IP 66    ATEX (Ex) | | | |
| Front ring black: M22**S**... | | | |
| **Function** | **Inscription** | **Colour** | **Part no.** |
| **Buttons not mechanically interlocked** | | | |
| All buttons spring-return | Directional arrows | Black | M22-D4-S-X7 |
| All buttons spring-return | None | Black | M22-D4-S |
| All buttons spring-return | Individual | Individual | M22-D4-*-* |
| **Opposing buttons mechanically interlocked** | | | |
| All buttons spring-return | Directional arrows | Black | M22-DI4-S-X7 |
| All buttons spring-return | Individual | Individual | M22-DI4-*-* |

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## Emergency-Stop actuators

NEMA 4X, 13
IP 66, 69K
[1] Pull to release
[2] Turn to release IP 67

ATEX ⟨Ex⟩

| Function | | Tamper proof |
|---|---|---|
| Non-illuminated | 🔴 | M22-PV[1]<br>M22-PVT[2] |
| Non-illuminated | ⚫ | M22S-PV[1] |
| illuminated | 🔴 | M22-PVL[1]<br>M22-PVLT[2] |
| illuminated | ⚫ | M22S-PVL[1] |
| With key-release MS1<br>individual lock mechanism | 🔴 | M22-PVS[1] |
| With key-release MS2-20<br>individual lock mechanism | 🔴 | M22-PVS-MS*[1] |

| | Sealable shroud | Protective collar for Emergency-Stop push-buttons | Emergency-Stop labels |
|---|---|---|---|
| | M22-PL-PV | M22-XG-PV | see current Industrial Switchgear main catalogue |

## Contact elements

IP 20

| Function | | Screw terminal | Cage Clamp[3] |
|---|---|---|---|
| Front fixing | ╲ | M22-K10 | M22-CK10 |
| | ⅂ ⊖ | M22-K01 | M22-CK01 |
| | ⅂ ⊖ | M22-K01D | M22-CK01D |
| Base fixing | ╲ | M22-KC10 | M22-CKC10 |
| | ⅂ ⊖ | M22-KC01 | M22-CKC01 |

⊖ = Positive opening safety function
to IEC / EN 60 947-5-1

### Adapters

| | Screw terminal Cage Clamp[3] | Note |
|---|---|---|
| Front fixing | M22-A<br>M22-A4 | max. 3 contact elements<br>max. 4 contact elements<br>(only for 4-way switch and Joystick) |
| Base fixing | Built into the enclosure | max. 3 contact elements |

## Housing

NEMA 4X, 13
IP 67 [1]

ATEX ⟨Ex⟩

Addition to ATEX: M22 enclosure ATEX also
available as individual unit

| Locations | | Surface mounting enclosures |
|---|---|---|
| 1 | 🟡 | M22-IY1<br>M22-IY1-ATEX [1] |
| 1 | ⚪ | M22-I1<br>M22-I1-ATEX [1] |
| 2 | ⚪ | M22-I2<br>M22-I2-ATEX [1] |
| 3 | ⚪ | M22-I3<br>M22-I3-ATEX [1] |
| 4 | ⚪ | M22-I4<br>M22-I4-ATEX [1] |
| 6 | ⚪ | M22-I6<br>M22-I6-ATEX [1] |
| 12 | ⚪ | M22-I12 |
| Connecting screw for M22-I... | | M22-XI |

NEMA 4X, 13
IP 54

| Locations | | Flush mounting panels |
|---|---|---|
| 1 | 🟡 | M22-EY1 |
| 1 | ⚪ | M22-E1 |
| 2 | ⚪ | M22-E2 |
| 3 | ⚪ | M22-E3 |
| 4 | ⚪ | M22-E4 |
| 5 | ⚪ | M22-E5 |
| 6 | ⚪ | M22-E6 |

NEMA 4X, 13
IP 55, 40*

| Locations | | Shrouds |
|---|---|---|
| 1 | ⚪ | M22-H1 |
| 2 | ⚪ | M22-H2 |
| 3 | ⚪ | M22-H3 |
| 4 | ⚪ | M22-H4* |
| 5 | ⚪ | M22-H5* |
| 6 | ⚪ | M22-H6* |

## Acoustic indicators

IP 40

## LED elements

IP 20

| Compact<br>without<br>buzzer | | Screw terminal | | Cage Clamp[3] | |
|---|---|---|---|---|---|
| | | 12-30 V AC/DC | 85-264 V AC | 12-30 V AC/DC | 85-264 V AC |
| M22-AMC | ⚪ Front fixing | M22-LED-W | M22-LED230-W | M22-CCLED-W | M22-CLED230-W |
| | 🔴 | M22-LED-R | M22-LED230-R | M22-CCLED-R | M22-CLED230-R |
| | 🟢 | M22-LED-G | M22-LED230-G | M22-CLED-G | M22-CLED230-G |
| | 🔵 | M22-LED-B | M22-LED230-B | M22-CLED-B | M22-CLED230-B |
| **Buzzer**<br>24 V AC/DC<br>+10% / -15%<br><br>**Continuous tone**<br>M22-XAM<br><br>**Pulsed tone**<br>M22-XAMP | ⚪ Base fixing | M22-LEDC-W | M22-LEDC230-W | M22-CLEDC-W | M22-CLEDC230-W |
| | 🔴 | M22-LEDC-R | M22-LEDC230-R | M22-CLEDC-R | M22-CLEDC230-R |
| | 🟢 | M22-LEDC-G | M22-LEDC230-G | M22-CLEDC-G | M22-CLEDC230-G |
| | 🔵 | M22-LEDC-B | M22-LEDC230-B | M22-CLEDC-B | M22-CLEDC230-B |

[3] Cage clamp is a registered trademark of Wago Kontakttechnik GmbH, Minden

| Foot and palm switches | | | Emergency-Stop button | | | Indicator lights | |
|---|---|---|---|---|---|---|---|
| NEMA 4X, 13 IP 67, 69K  **ATEX** (Ex) | | | NEMA 4X, 13 IP 67, 69K tamper proof  **ATEX** (Ex) | | | conical, BA9s | |
| Mush-room head | Function | Spring-return | Mush-room head | Function | Spring-return | Lens | for filament lamps, neon lamps and LEDs |
| ⬛ | ↖ ⊖ | FAK-S/KC11/I | 🟥 | ↗ ⊖ | FAK-R/V/KC01/IY | 🔴 | L-R |
| 🟥 | ↖ ⊖ | FAK-R/KC11/I | 🟥 | ↖ ⊖ | FAK-R/V/KC11/IY | ⚪ | L-W |
| | | | 🟥 | ↗↗ ⊖ | FAK-R/V/KC02/IY | 🟢 | L-G |
| | | | | | | 🟡 | L-Y |

| Accessories | | | | | | | |
|---|---|---|---|---|---|---|---|
| For use with | IVS top-hat rail adapter | For use with | Actuators diaphragms | For use with | Telescopic clips | | Legend plates |
| Top-hat rail EN 50 022 | M22-IVS | Push-button actuators indicator lights, flush  Double actuators | M22-T-D  M22-T-DD | Mounting depth compensation 115–155 mm  With top-hat rail | M22-TC  M22-TA | With various languages and symbols | M22S-ST-… |

| LED series elements for front and base fixing | | AS-Interface | | Potentiometer, IP 66 | |
|---|---|---|---|---|---|
| Function | Part no. | For use with | Part no. | **ATEX** (Ex)  Resistance KΩ | Part no. Front ring black: M22**S**… |
| LED resistor element for connection of 12-30 V LED's to 42-60 V AC/DC | M22-XLED60 | M22-I3, -I4, -I6 | RMQ-M1C-ASI | 1 | M22-R1K |
| LED resistor element for connection of 12-30 V LED's to 220 V DC | M22-XLED220 | RMQ Titan contact and bulb socket elements RMQ16:I8, E8 | RMQ-M2C-ASI | 4.7 | M22-R4K7 |
| | | | | 10 | M22-R10K |
| LED test element for decoupled function test (lamp test) on 12-30 V AC/DC | M22-XLED-T | RMQ Titan front fixing | M22-ASI M22-ASI-S | 47 | M22-R47K |
| | | | | 100 | M22-R100K |
| LED test element for decoupled function test (lamp test) on 85-264 V AC | M22-XLED230-T | RMQ Titan base fixing | M22-ASI-C M22-ASI-CD | 470 | M22-R470K |

# The ID Card in Your Fingertip
# The Fingerprint System M22-ESA

**xCommand**

Ø 22.5 mm

Lost your keys, misplaced your ID card or forgotten your PIN code? In addition to the annoyance caused by these everyday problems, the "conventional" access systems cost companies a vast amount in administration costs. The fingerprint system M22-ESA which acts as an electronic master lock system for machines, systems and buildings, fully eliminates these administrative costs. Fingerprints are unique, cannot be lost and can be precisely assigned to a particular person. The M22-ESA fulfils all the demands for a simple, reliable and flexible access control system.

**Easy to fit:**

1. The M22-ESA requires just as the RMQ-Titan series devices, a standard 22.5mm diameter fitting aperture.

2. Fit the operating panel using the patented Moeller tool.

3. Simple fitting of the fingerprint system M22-ESA on the operating panel.

4. The fingerprint system is fitted.

## Simply more secure

The security benefits of the M22-ESA series are based on the uniqueness of biometric features. A person's fingerprint does not change in the course of his lifetime just as the characteristics of his fingerprint cannot be transferred to third parties. Different persons simply don't have the same fingerprint; even the fingerprints of twins are unique. Administrative costs which result from loss or forgetfulness with conventional access control systems are completely eliminated. The thermal line sensor of the M22-ESA recognises authorized persons via the minutiae of the fingerprint. By the limitation of the evaluation area (possibility of savings just a certain section of the fingerprint) the imitation is made even more difficult. The system saves up to 100 different fingerprints.

**Sensor complete**
(including CPU/PS), 24 V DC

**M22-ESA**



**Sensor**

**M22-ESA1**



**CPU/PS**, 24 V DC

**M22-ESA-R**



**Multi-function display**

**MFD-80-B**



**Communication module**, 24 V DC

**MFD-CP4**



115/230 V AC
**MFD-AC-CP4-800**

## Fast commissioning:



1. The user selects the Learn menu option on the MFD-Titan



**3 x**

2. The MFD-Titan recognizes the fingerprint M22-ESA and requests pulling the finger across the sensor in order to learn the fingerprint.



3. The **Successful** message on the display of the MFD-Titan indicates that the device has saved the fingerprint and has registered the authorized person.

4. A green LED on the fingerprint reader indicates access authorization. When all access authorized fingerprints are saved, the installer removes the MFD-Titan. Only a single MFD-Titan is required for commissioning of multiple fingerprint systems, which saves costs and time due to easy data storage.



Commissioning with the simulation software MFD-CP4-Simulation is an alternative.

Download free of charge at:



www.moeller.net/fingerprint

**Power supply unit, Easy-POW** see section Operating and control relays

# High Information Density
# Thanks to Compact Mounting:
# RMQ 16

*xCommand*

The control panels of modern machines and plants must be able to convey increasingly complex information, even though the available space is limited. The RMQ16 range of compact control circuit devices provides the solution.

The various front elements can be mounted flush on all four sides, without any gaps. Compared with conventional 22 mm ranges, using RMQ16 devices with their 18 x 18 mm front dimension, achieves three times the information density.

← **25 mm** →  ← **18 mm** →
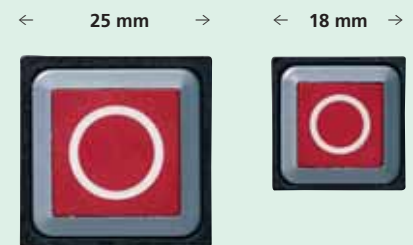
**Two sizes of front element:**
**25 x 25 mm and 18 x 18 mm.**
**Both sizes use the same,**
**standard mounting aperture**
**of 16.2 mm.**

# System Overview
# RMQ16



1  **Emergency-stop button**

2  **Base plate**

3  **Key switch**

4  **Contact element break (red)**

5  **Illuminated push button**

6  **Contact element make (green)**

7  **Selector switch**

8  **Indicator light**

9  **Push-button**

10  **Button plate/insert label**

Label mounts with insert plates offer additional labelling options. Secured via the front elements, both elements are simply bolted on from the rear of the flush mounting plate using a lock nut.

The RMQ 16 control circuit devices range can also be inscribed. The button plates as well as the lenses for the illuminated push buttons and the flat lenses for indicator lights are inscribed by laser (see page 212 for Label Editor information) Thus, even after years of use, the information they provide is still clear and unambiguous. These control circuit devices can be fitted with LEDs instead of filament bulbs. This means no more changing of bulbs, because LED service life equals machine life. The high degree of protection, IP 65, of the front elements ensures safe operation even in harsh environments. This makes RMQ16 ideally suitable for industrial applications.

**"Side by side mounting enables well ordered control panels on the smallest possible space."**
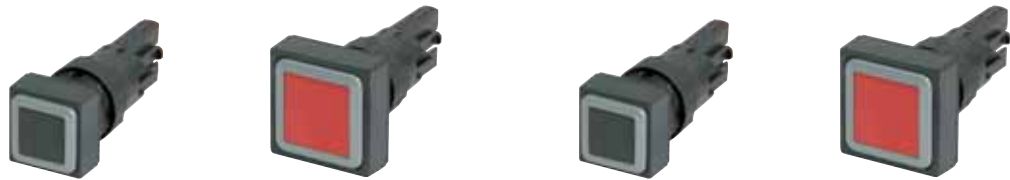
**Push-button actuators**

IP 65, NEMA 13

| Button plates | 18 x 18 mm<br>Spring-return | 25 x 25 mm<br>Spring-return | 18 x 18 mm<br>Stay-put | 25 x 25 mm<br>Stay-put |
|---|---|---|---|---|
| I (green) | Q18D-11 | Q25D-11 | | |
| o (red) | Q18D-10 | Q25D-10 | | |
| I (white) | Q18D-20 | Q25D-20 | | |
| o (white) | Q18D-19 | Q25D-19 | | |
| (grey) | Q18D-SW | Q25D-SW | Q18DR-SW | Q25DR-SW |
| (white) | Q18D-WS | Q25D-WS | Q18DR-WS | Q25DR-WS |
| (green) | Q18D-GN | Q25D-GN | Q18DR-GN | Q25DR-GN |
| (red) | Q18D-RT | Q25D-RT | Q18DR-RT | Q25DR-RT |
| (yellow) | Q18D-GE | Q25D-GE | Q18DR-GE | Q25DR-GE |
| (blue) | Q18D-BL | Q25D-BL | Q18DR-BL | Q25DR-BL |
| Without | Q18D-X | Q25D-X | Q18DR-X | Q25DR-X |

**Illuminated push-button actuators**

IP 65, NEMA 13
with 24 V filament lamp

| Button lens | 18 x 18 mm<br>Spring-return | 25 x 25 mm<br>Spring-return | 18 x 18 mm<br>Stay-put | 25 x 25 mm<br>Stay-put |
|---|---|---|---|---|
| (white) | Q18LT-WS/WB | Q25LT-WS/WB | Q18LTR-WS/WB | Q25LTR-WS/WB |
| (green) | Q18LT-GN/WB | Q25LT-GN/WB | Q18LTR-GN/WB | Q25LTR-GN/WB |
| (red) | Q18LT-RT/WB | Q25LT-RT/WB | Q18LTR-RT/WB | Q25LTR-RT/WB |
| (yellow) | Q18LT-GE/WB | Q25LT-GE/WB | Q18LTR-GE/WB | Q25LTR-GE/WB |
| (blue) | Q18LT-BL/WB | Q25LT-BL/WB | Q18LTR-BL/WB | Q25LTR-BL/WB |

## Key-operated actuators

IP 65, NEMA 13

| 18 x 18 mm 2 positions | | 25 x 25 mm 2 positions | | 18 x 18 mm 3 positions | | 25 x 25 mm 3 positions | |
|---|---|---|---|---|---|---|---|
| $\llcorner\!\!>^0$ | Q18S1 | $\llcorner\!\!>^0$ | Q25S1 | $<\!\!\downarrow^0$ | Q18S3 | $<\!\!\downarrow^0$ | Q25S3 |
| $\llcorner^{0,I}$ | Q18S1R | $\llcorner^{0,I}$ | Q25S1R | $\downarrow^{I,0,II}$ | Q18S3R | $\downarrow^{I,0,II}$ | Q25S3R |
| $\llcorner^0$ | Q18S1R-A1 | $\llcorner^0$ | Q25S1R-A1 | $\downarrow^0$ | Q18S3R-A1 | $\downarrow^0$ | Q25S3R-A1 |
| | | | | $\downarrow^{I,0}$ | Q18S3R-A2 | $\downarrow^{I,0}$ | Q25S3R-A2 |
| | | | | $\downarrow^{0,II}$ | Q18S3R-A3 | $\downarrow^{0,II}$ | Q25S3R-A3 |
| | | | | $\downarrow^{>I,0}$ | Q18S3R-A4 | $\downarrow^{>I,0}$ | Q25S3R-A4 |
| | | | | $\downarrow^0$ | Q18S3R-A5 | $\downarrow^0$ | Q25S3R-A5 |
| | | | | $<\!\!\downarrow^{0,II}$ | Q18S3R-A6 | $<\!\!\downarrow^{0,II}$ | Q25S3R-A6 |
| | | | | $<\!\!\downarrow^0$ | Q18S3R-A7 | $<\!\!\downarrow^0$ | Q25S3R-A7 |

$\llcorner$ = Stay-put 45°  $\llcorner\!\!>$ = Spring-return 45°   For further individuel locking arragements please enquire

I,0,II = Key can be withdrawn in the positions indicated

## Selector switch actuators

IP 65, NEMA 13

| 18 x 18 mm 2 positions | | 25 x 25 mm 2 positions | |
|---|---|---|---|
| $\llcorner\!\!>$ | Q18WK1 | $\llcorner\!\!>$ | Q25WK1 |
| $\llcorner$ | Q18WK1R | $\llcorner$ | Q25WK1R |
| **3 positions** | | **3 positions** | |
| $<\!\!\downarrow$ | Q18WK3 | $<\!\!\downarrow$ | Q25WK3 |
| $\downarrow$ | Q18WK3R | $\downarrow$ | Q25WK3R |
| $<\!\!\downarrow$ | Q18WK3R1 | $<\!\!\downarrow$ | Q25WK3R1 |
| $<\!\!\downarrow$ | Q18WK3R2 | $<\!\!\downarrow$ | Q25WK3R2 |

$\llcorner$ = Stay-put 45°  $\llcorner\!\!>$ = Spring-return 45°
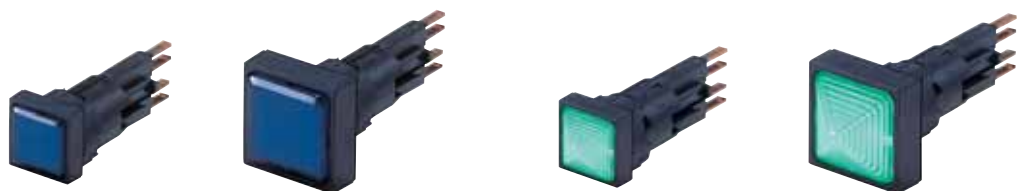


## Indicator lights

IP 65, NEMA 13
with 24 V filament lamp

| Lens | 18 x 18 mm Flush | 25 x 25 mm Flush | 18 x 18 mm Extended | 25 x 25 mm Extended |
|---|---|---|---|---|
| ⬜ | Q18LF-WS/WB | Q25LF-WS/WB | Q18LH-WS/WB | Q25LH-WS/WB |
| 🟩 | Q18LF-GN/WB | Q25LF-GN/WB | Q18LH-GN/WB | Q25LH-GN/WB |
| 🟥 | Q18LF-RT/WB | Q25LF-RT/WB | Q18LH-RT/WB | Q25LH-RT/WB |
| 🟨 | Q18LF-GE/WB | Q25LF-GE/WB | Q18LH-GE/WB | Q25LH-GE/WB |
| 🟦 | Q18LF-BL/WB | Q25LF-BL/WB | Q18LH-BL/WB | Q25LH-BL/WB |

| Emergency-Stop actuators | | Emergency-Stop labels | | Housing | | |
|---|---|---|---|---|---|---|
| IP 65,<br>NEMA 13<br>Tamper proof<br>**25 x 25 mm** | | | | IP 65 | | |
| Non-illuminated | illuminated by means of 24 V multiple LED | in four languages<br>SQT1 | in four languages<br>SRT1 | Locations | Surface mounting enclosures | Flush mounting panels |
| Q25PV | Q25LPV | Blank | Blank | 8 | I 8 | E 8 |
| Q25PV-S | Q25LPV-S | SQ-GE | SR.GE | 8 | | E 8-SW |



| Contact elements | | Screw adapter | | |
|---|---|---|---|---|
| ⊖ = Positive opening safety function to IEC / EN 60 947-5-1 | | 1 x 1.5 mm²<br>2 x 0.75 mm² | | |
| **N/O** .3 .4 | **N/C** .1 .2 ⊖ | **For N/O** | **For N/C** | **For lamp sockets** |
| E10 | E01 | SRA10 | SRA01 | SRAL |



| Illuminated selector switches | | | | | | |
|---|---|---|---|---|---|---|
| IP 65,<br>NEMA 13<br>with 24 V filament lamp     ⌐ = Stay-put 45°     ⌐ = Spring-return 45° | | | | | | |
| | 18 x 18 mm<br>2 positions | 25 x 25 mm<br>2 positions | 18 x 18 mm<br>2 positions | 25 x 25 mm<br>2 positions | 18 x 18 mm<br>2 positions | 25 x 25 mm<br>2 positions |
| ⌐ | Q18LWK1-WS/WB | Q25LWK1-WS/WB | Q18LWK1-GN/WB | Q25LWK1-GN/WB | Q18LWK1-RT/WB | Q25LWK1-RT/WB |
| ⌐ | Q18LWK1R-WS/WB | Q25LWK1R-WS/WB | Q18LWK1R-GN/WB | Q25LWK1R-GN/WB | Q18LWK1R-RT/WB | Q25LWK1R-RT/WB |
| | **3 positions** | **3 positions** | **3 positions** | **3 positions** | **3 positions** | **3 positions** |
| ⇕ | Q18LWK3-WS/WB | Q25LWK3-WS/WB | Q18LWK3-GN/WB | Q25LWK3-GN/WB | Q18LWK3-RT/WB | Q25LWK3-RT/WB |
| ↓ | Q18LWK3R-WS/WB | Q25LWK3R-WS/WB | Q18LWK3R-GN/WB | Q25LWK3R-GN/WB | Q18LWK3R-RT/WB | Q25LWK3R-RT/WB |
| ⇓ | Q18LWK3R1-WS/WB | Q25LWK3R1-WS/WB | Q18LWK3R1-GN/WB | Q25LWK3R1-GN/WB | Q18LWK3R1-RT/WB | Q25LWK3R1-RT/WB |
| ⇓ | Q18LWK3R2-WS/WB | Q25LWK3R2-WS/WB | Q18LWK3R2-GN/WB | Q25LWK3R2-GN/WB | Q18LWK3R2-RT/WB | Q25LWK3R2-RT/WB |

## Interface PCB's

| Bus system | For Titan surface mounting enclosures | |
|---|---|---|
| AS-Interface 4 I + 4 Q | RMQ-M1C-ASI | |
| | | |

## Laser inscription

Labelling plates

See Industrial Switchgear
Main Catalogue

## Additional labelling

| | Insert plates | Label mounts, complete |
|---|---|---|
| | **10 x 22 mm** | **25 x 38 mm** |
| ▬ | 01SQ25 | Q25TS-01 |
| ▭ | 02SQ25 | Q25TS-02 |
| ▭ | 05SQ25 | Q25TGE-05 |
| START | 111SQ25 | Q25TS-111 |
| STOP | 110SQ25 | Q25TS-110 |
| ○ | 10SQ25 | Q25TS-10 |
| I | 11SQ25 | Q25TS-11 |
| ▭ | without | Q25TS-X |
| Additional texts and symbols | See Industrial Switchgear Main Catalogue | |

## Cover plate

IP 65

| For surface mounting enclosures and flush mounting panels | 25 x 38 mm |
|---|---|
| ▬ | Q25AS |
| ▭ | Q25AGR |
| ▭ | Q25AGE |

## Blanking plug, IP 65

| | 18 x 18 mm | 25 x 38 mm |
|---|---|---|
| ▬ | Q18BS | Q25BS |

## Lights

Socket Wedge Base W2x4,6d
Positive pole connected to X1

| Filament lamps | 6 V / 1 W | 12 V / 1 W | 24-28 V / 1 W |
|---|---|---|---|
| ▭ | WBGL6 | WBGL12 | WBGL24 |
| **LEDs (AC / DC)** | **6 V / 45 mA** | **12 V / 24 mA** | **18-30 V / 7-12.5 mA** |
| ▭ (white) | – | – | LEDWB-W |
| ▭ (green) | WBLED-GN6 | WBLED-GN12 | LEDWB-G |
| ▭ (red) | WBLED-RT6 | WBLED-RT12 | LEDWB-R |
| ▭ (yellow) | WBLED-GE6 | WBLED-GE12 | LEDWB-Y |
| ▭ (blue) | – | – | LEDWB-B |

# Clear Signals –
# Quick Reactions

**A clear picture at a glance**

Signal towers SL provide visual and audible signals of machine states, easily identifiable even at a distance. Signals are distinguishable as continuous light, flashing light, strobe light or acoustic indication, enabling their level of importance to be correctly evaluated without delay.

The individual modules can be combined as required, and simply assembled by plugging the bayonet fitting into place and turning slightly.

The individual modules are freely programmable by merely relocating a wire link (jumper) on each module board. This, for example, enables a dangerous machine state to be indicated by a red flashing light backed up at the same time by an audible alarm signal. To achieve this, put the jumpers of both modules in the same position on the module board, irrespective of the module position in the column.

| **1** | **Base module** |
| **2** | **Light modules** |
| **3** | **Fixing base** |

**Signal towers SL indicate the machine operating state clearly and unmistakeably.**

| Base module | |
|---|---|
| IP 54 Black with cover | |
| **Description** | **Part no.** |
| With screw terminals | SL-B |
| With Cage Clamp | SL-CB |
| With connection AS-Interface | SL-B-ASI |

| Acoustic module | | |
|---|---|---|
| IP 20 | | |
| **Operational voltage** | **Part no. Continuous tone** | **Part no. Pulsed tone** |
| 24 V AC/DC | SL-A24 | SL-AP24 |
| 110-230 V AC/DC | SL-A110-230 | SL-AP110-230 |

| Fixing base | | |
|---|---|---|
| With spacer | | |
| **Height mm** | **Part no. Plastic** | **Part no. Metal** |
| 100 | SL-F100 | SL-F100M |
| 250 | SL-F250 | SL-F250M |
| 400 | | SL-F400 |
| 800 | | SL-F800 |

**Signal columns**
Individual programming via jumpers
Max. 5 modules and base module

| | Continuous light module | Flashing light module | Operating voltages | Multiple LED | Filament lamp | Strobe light module |
|---|---|---|---|---|---|---|
| | Without bulb, BA15d socket | Without bulb, approx. 1 Hz, BA15d socket | | BA15d socket | BA15d socket | With flash tube, 1 Hz, 1 Ws |
| | **Part no.** | **Part no.** | | **Part no.** | **Part no.** | **Part no.** |
| | SL-L-W | SL-BL24-W SL-BL130-W SL-BL230-W | **24 V AC/DC 110-130 VAC 230 VAC** | SL-LED-W SL-LED230-W SL-LED230-W | SL-L24 SL-L130 SL-L230 | SL-FL24-W SL-FL130-W SL-FL230-W |
| | SL-L-R | SL-BL24-R SL-BL130-R SL-BL230-R | **24 V AC/DC 110-130 VAC 230 VAC** | SL-LED-R SL-LED230-R SL-LED230-R | SL-L24 SL-L130 SL-L230 | SL-FL24-R SL-FL130-R SL-FL230-R |
| | SL-L-G | SL-BL24-G SL-BL130-G SL-BL230-G | **24 V AC/DC 110-130 VAC 230 VAC** | SL-LED-G SL-LED230-G SL-LED230-G | SL-L24 SL-L130 SL-L230 | |
| | SL-L-Y | SL-BL24-Y SL-BL130-Y SL-BL230-Y | **24 V AC/DC 110-130 VAC 230 VAC** | SL-LED-Y SL-LED230-Y SL-LED230-Y | SL-L24 SL-L130 SL-L230 | SL-FL24-Y SL-FL130-Y SL-FL230-Y |
| | SL-L-B | SL-BL24-B SL-BL130-B SL-BL230-B | **24 V AC/DC 110-130 VAC 230 VAC** | SL-LED-B SL-LED230-B SL-LED230-B | SL-L24 SL-L130 SL-L230 | |

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The products are proven and of such excellent quality that
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prehensive dealer network and our highly motivated service
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on Moeller and our products every time. Challenge us!
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