

The System at a Glance

-176 210→250 -

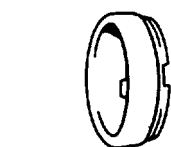
The development of our operating and signalling devices has always been based on the requirements of the engineer and end user. The new design can be adapted to meet on-site requirements. The front elements can be either round or round-on-square.

The exchangeable front rings are offered as either matt chromed, matt black or matt grey. Button plates resistant to wear and to environmental influences ensure a good overall appearance, even after a long period of use.

We have conscientiously developed upon the already tried and tested modular system: The units comprise individual multi-function modules, providing the maximum number of combination and application facilities; subsequent conversion and adaptation to special applications is easy and straightforward.

Snap-on connections, captive fixing screws and raised clamping washers simplify assembly. A sealing ring with integrated lug facilitates fitting on the front elements.

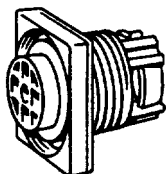
Separate contact elements for each current path ensure safety. Because the individual contact elements can be combined, there are no redundant contacts.



1 Visual compatibility with existing equipment ensured by means of matt chromed, black and grey front rings.

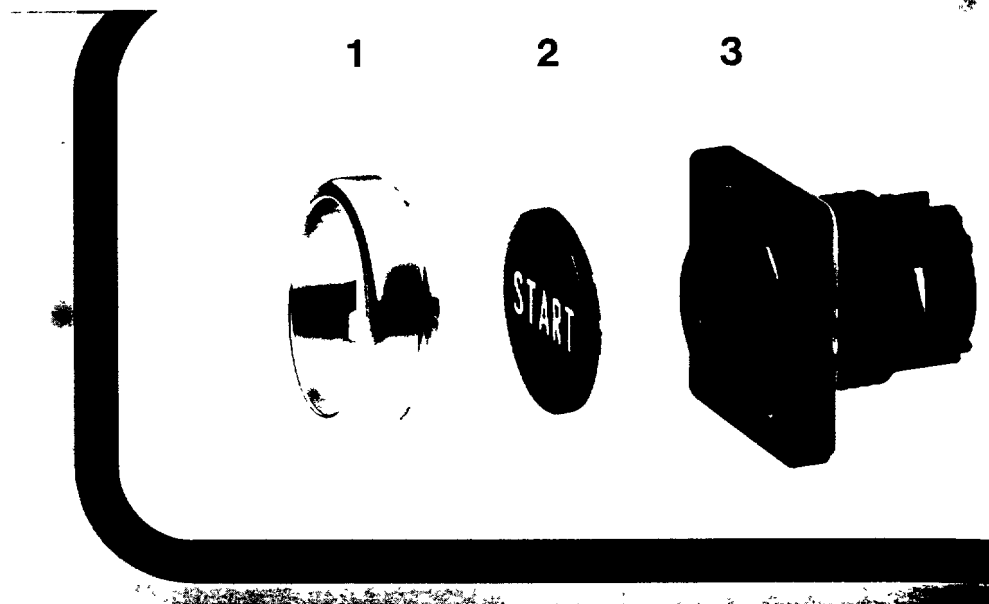


2 Identification of the front elements by means of snap-on button plates with various colours, symbols or inscriptions.



3 High protective standard IP 65 by means of internal gasket. Easy alignment of the actuators by means of locating lugs. If the mounting holes have no slot, the locating lug can be cut off if required.

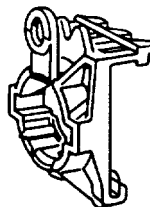
Sealing ring with integral lug simplifies assembly of the front elements.



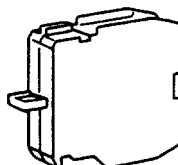
4 Identification of related equipment by means of legend plates with standard or non-standard inscription.



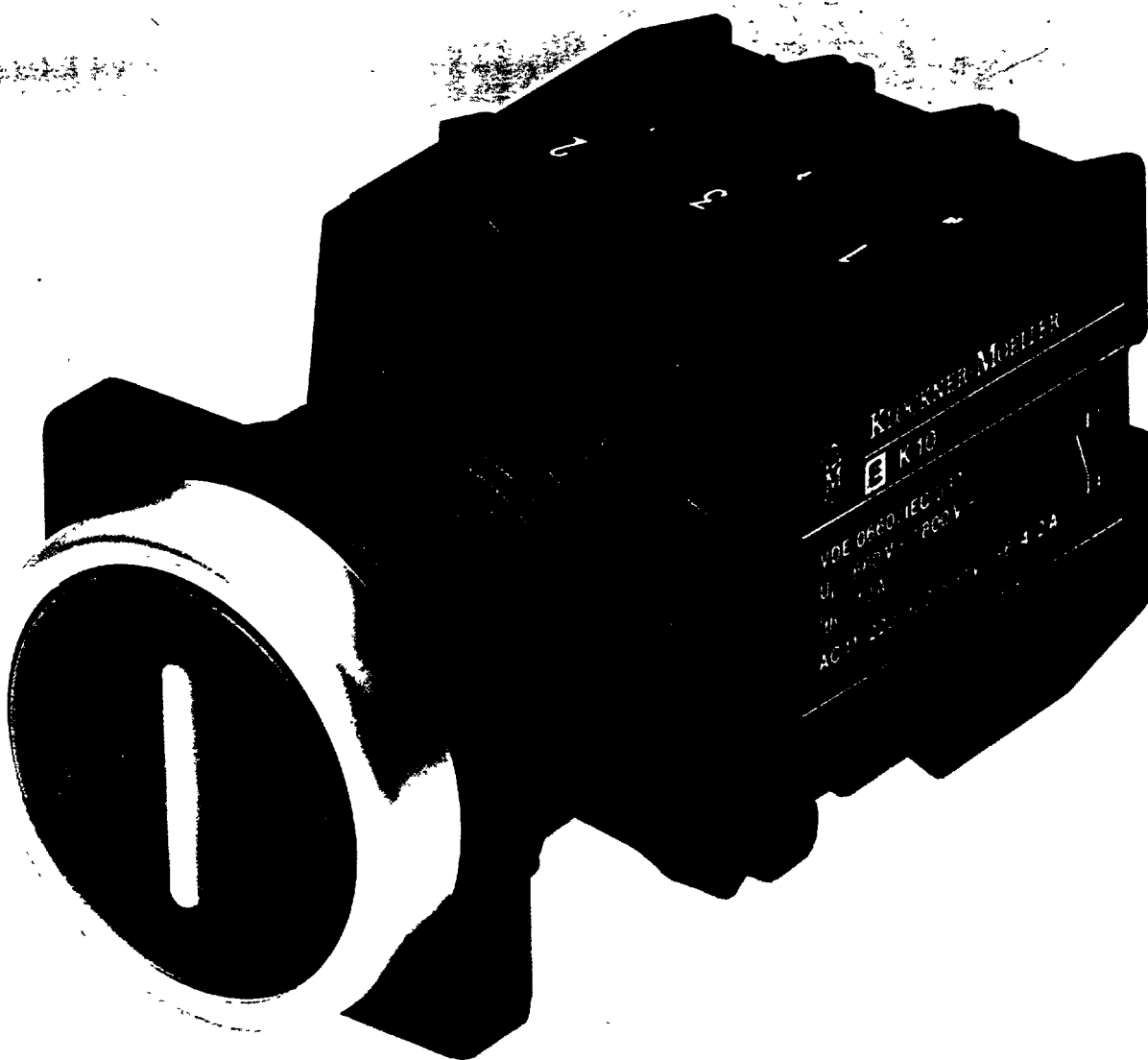
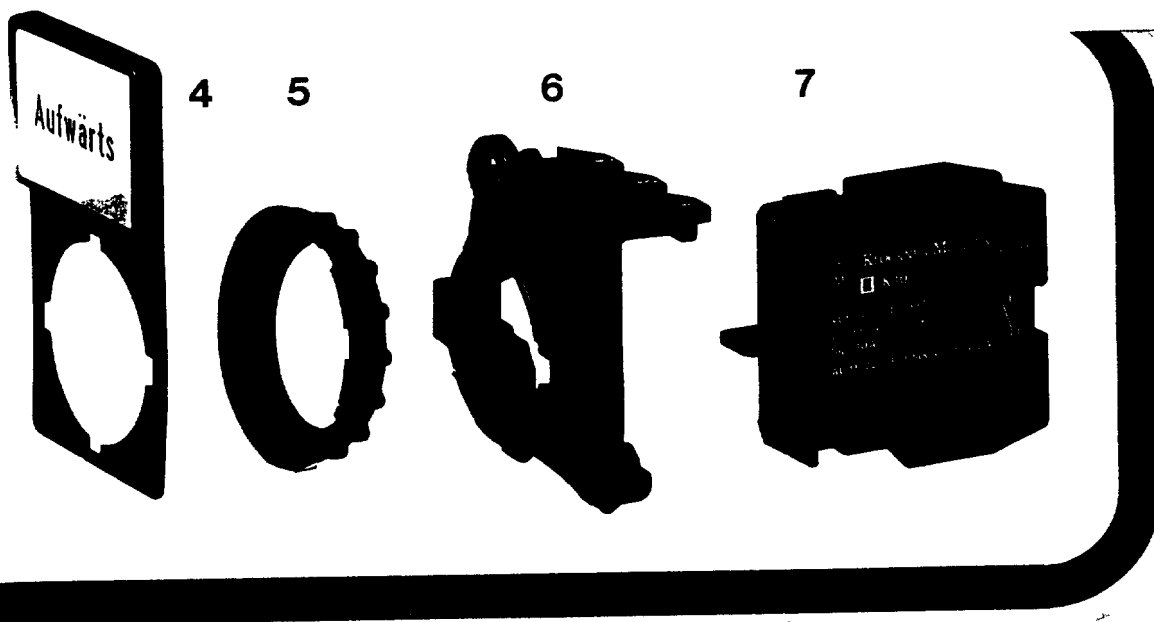
5 Simple fixing of the front elements by means of lock nuts.



6 Fast assembly through adapter with snap-on fittings for front or base fixing.



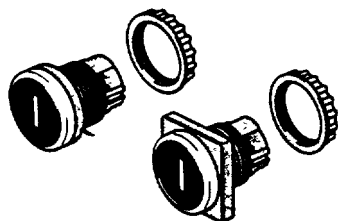
7 The contact elements are fitted with an H-type contact and are thus suitable for use in electronics systems. Each element contains one contact, which may be either standard make, standard break, early make or late break. Three elements can be fitted abreast, in any required combination. Protective standard IP 20.



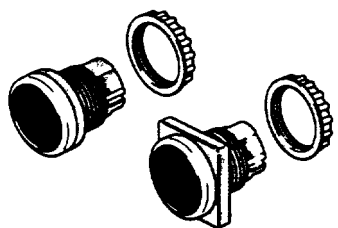
The Modular System

The proven modular system has been logically developed in the case of the RMQ system, by breaking it down into individual modules. All the modules are interchangeable, thereby creating a maximum of combination facilities. Subsequent conversion and adaptation to special requirements can be carried out with ease.

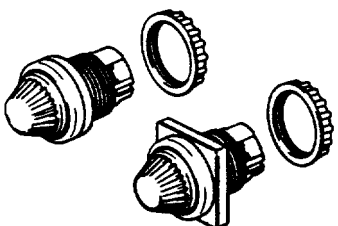
Actuators



Illuminated push-buttons

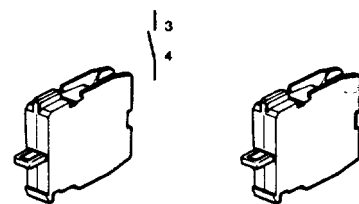


Indicator lamps

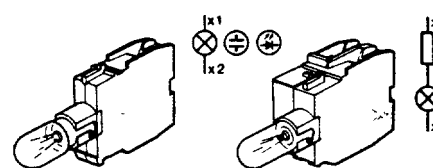


**Adapter
for front
fixing**

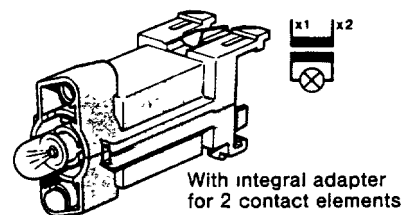
Contact elements



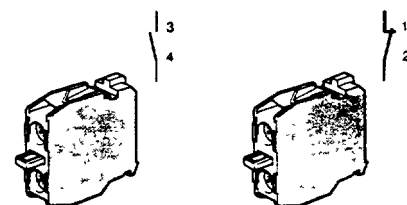
Lamp socket elements



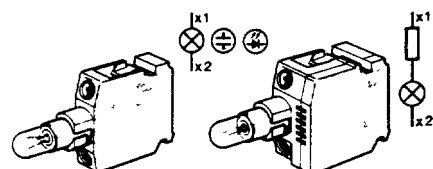
Lamp transformer block

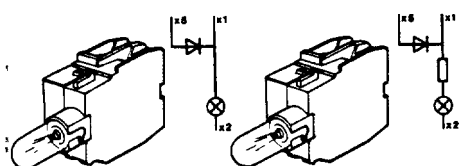
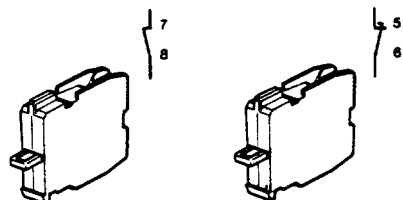


Contact elements



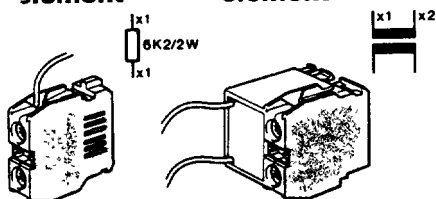
Lamp socket elements



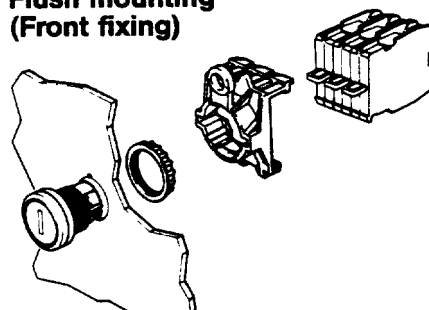


Resistor element

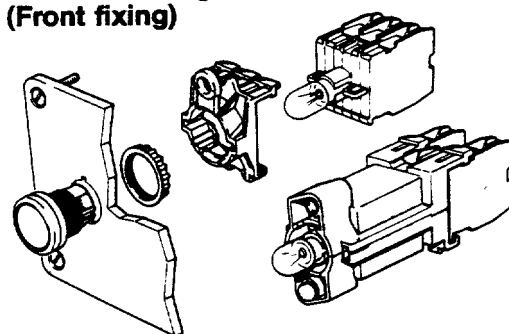
Lamp transformer element



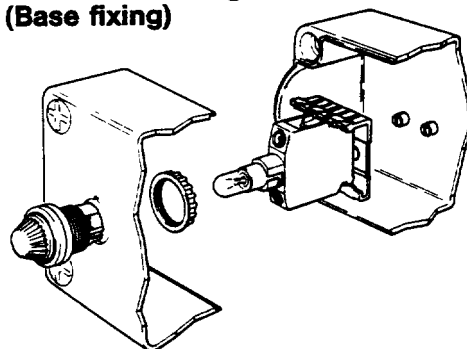
**Flush mounting
(Front fixing)**



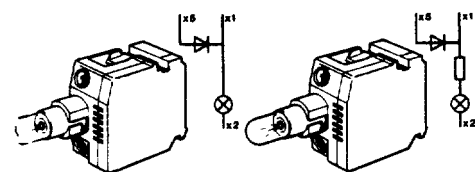
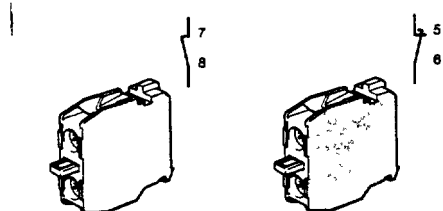
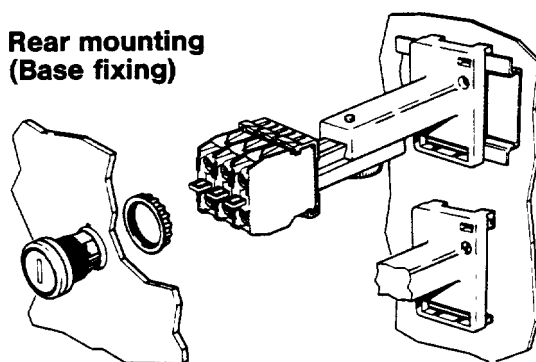
**Flush mounting with mounting plate
(Front fixing)**



**Surface mounting
(Base fixing)**

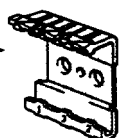
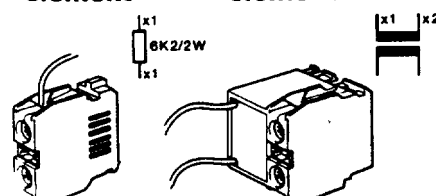


**Rear mounting
(Base fixing)**



Resistor element

Lamp transformer element



**Adapter
for base
fixing**

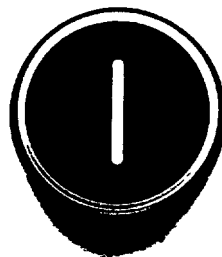
The Design

Our operating and signalling devices are easy on the eye, and add to the aesthetic appeal of an electrical installation.

The round and round-on-square front elements of the RMQ system complement each other, to form an attractive and uniform overall picture.

The visible black of the actuator sleeve neatly sets off the matt chromed, matt black or matt grey threaded front rings.

Front ring options



Matt chromed



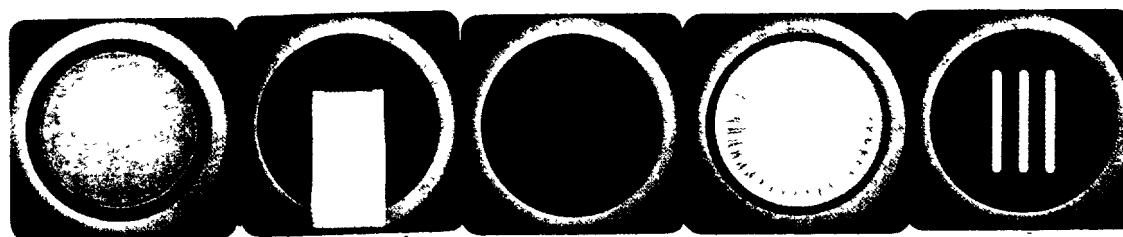
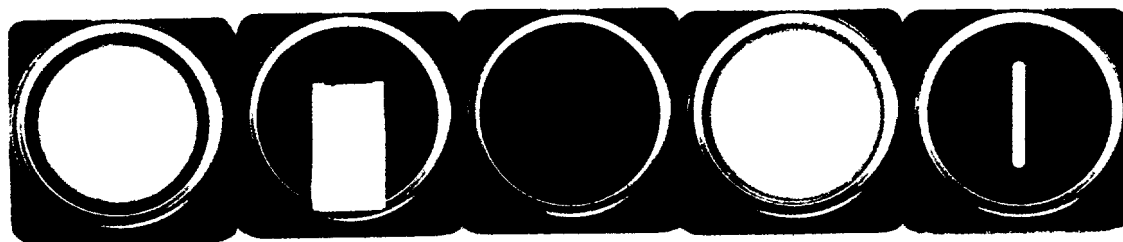
Matt black



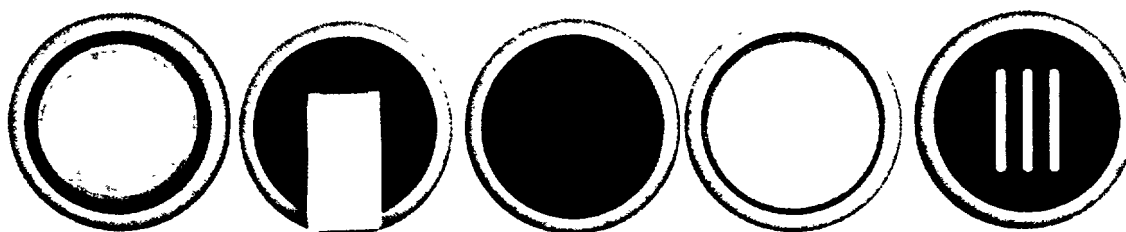
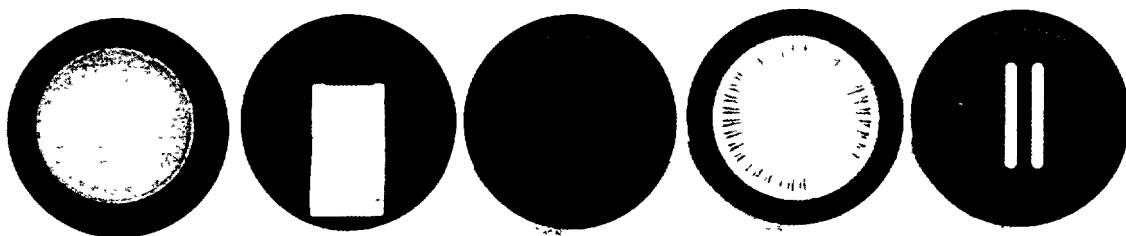
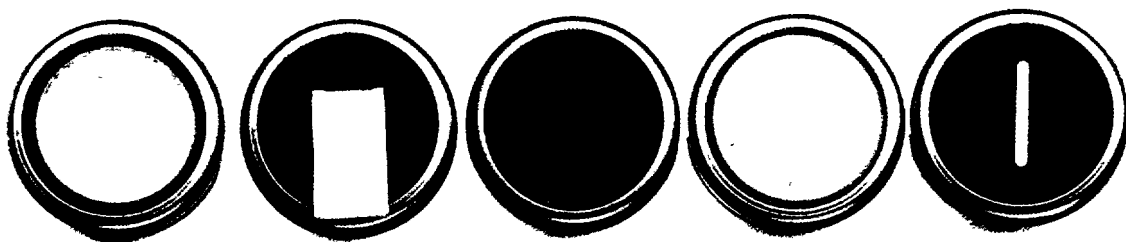
Matt grey



Round-on-square design



Round design



Button Plates

Wide range of markings available

It is vital that the function of a control device be recognized quickly and accurately. The marking should be visually consistent with the overall scheme. Klockner-Moeller devices meet these requirements.

Clear markings mean safety

The risk of operator error is greatly reduced by the immediate identification of the push-button by its button plate. The basic range of more than 100 different button plates, with symbols or inscriptions in English, French or German offers a wide range of markings, to cover any application. Non-standard inscriptions and symbols are also available. Button plates are of thermoplastic. Symbols and inscriptions are resistant to wear and environmental influences. The user can change the button plates without difficulty.

Legend plates

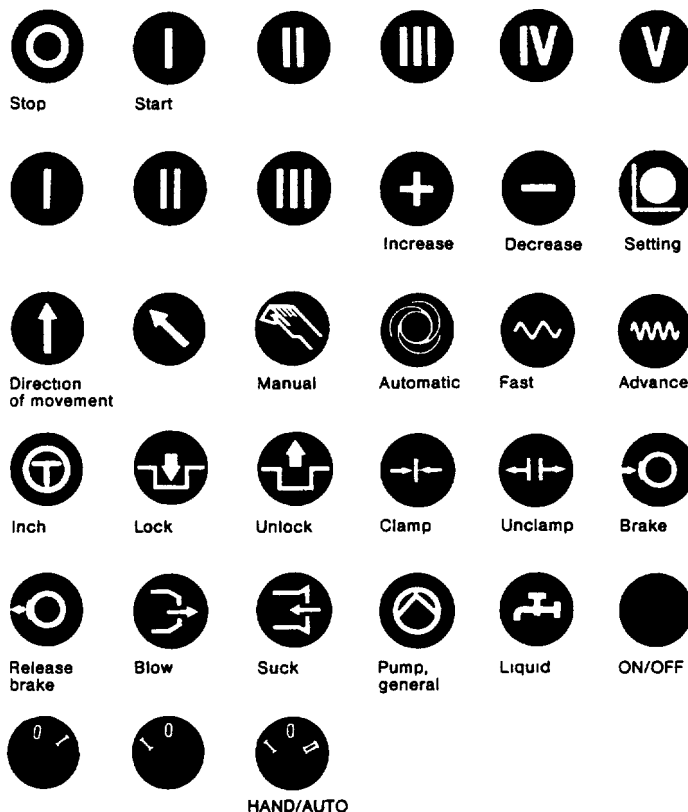
Legend plates permit the identification of the motor or appliance controlled by the operating device. There are two different types, each offering two differing inscription areas.

40 and 50 mm label mounts of black and grey plastic, with snap-in aluminium-coated plastic labels, which can be engraved or hot-stamped.

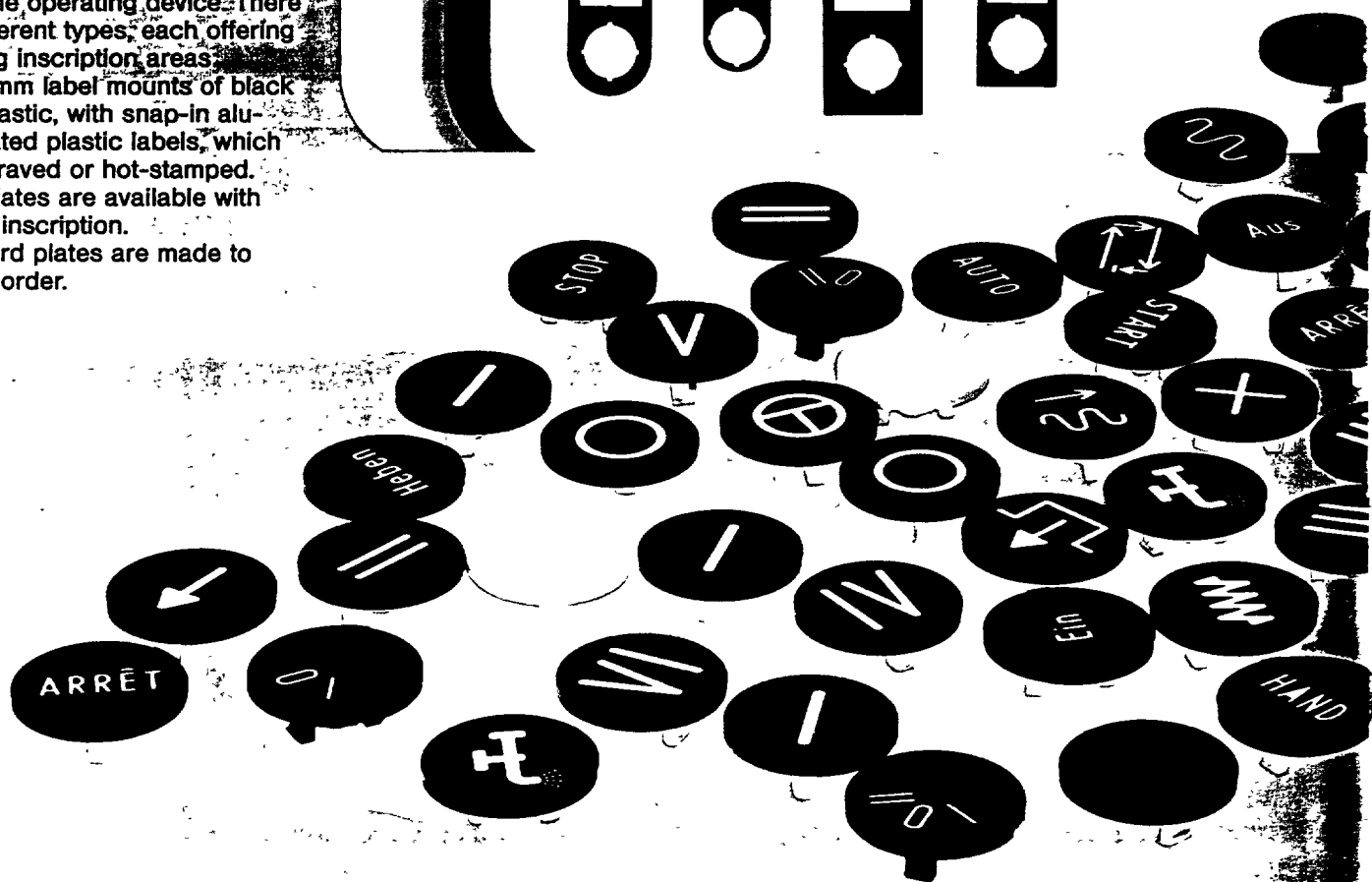
Standard plates are available with symbols or inscription.

Non-standard plates are made to customers' order.

Symbols to DIN 30 600



Legend plates

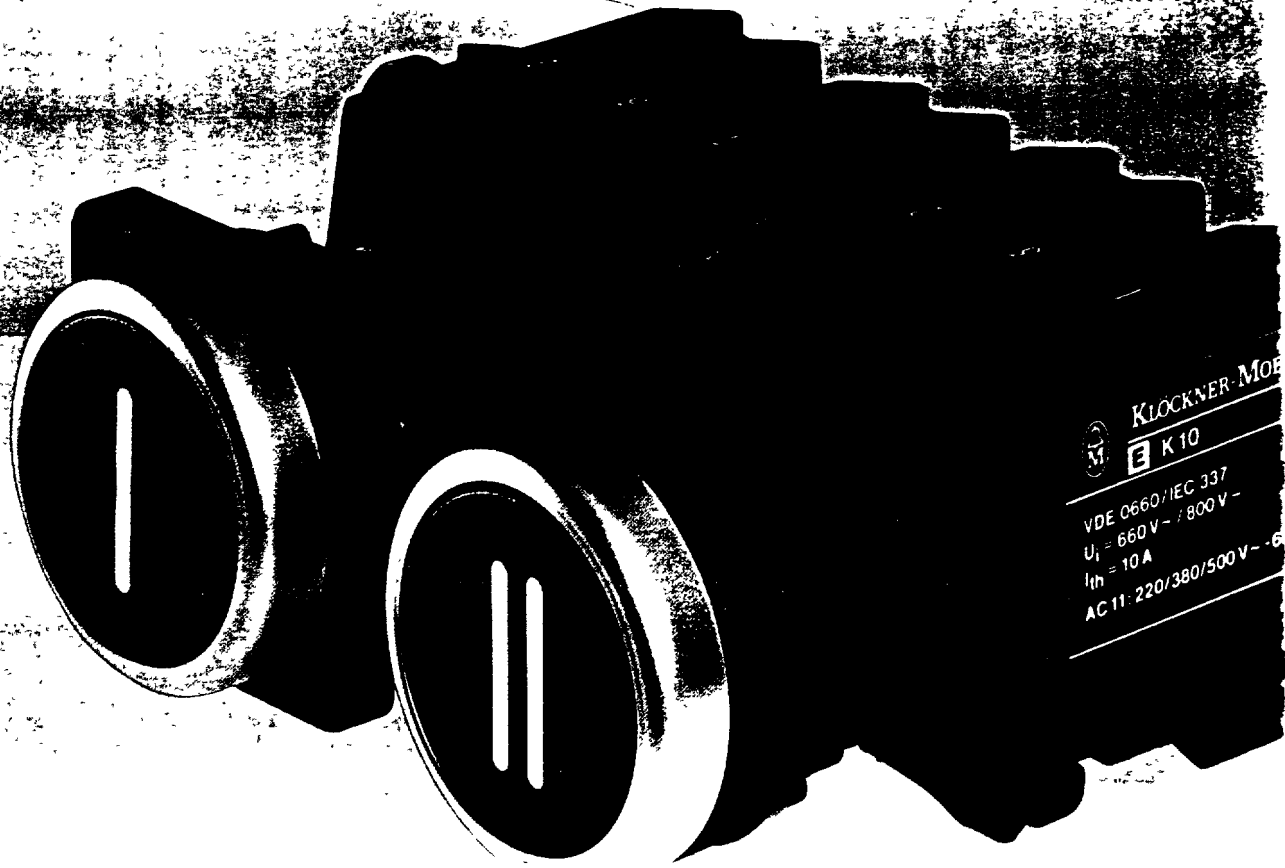


Inscription to DIN 30 640 E

| German | | English | | French | |
|----------|------------|---------|----------------------|------------|------------|
| STOP * | Einrichten | STOP | Setting Operation | ARRET | REGLAGE |
| START ** | Vorwärts | START | FORWARD | MARCHE | AVANT |
| Aus | Rückwärts | OFF | REVERSE | ARRET | ARRIERE |
| Ein | Auf | ON | UP | EN SERVICE | MONTEE |
| Heben | Ab | RAISE | DOWN | MONTEE | DESCENTE |
| Senken | Schnell | LOWER | FAST | DESCENTE | RAPIDE |
| Links | Langsam | LEFT | SLOW | GAUCHE | LENT |
| Rechts | Betrieb | RIGHT | RUN | DROITE | EN SERVICE |
| HAND | | HAND | | MANUEL | |
| AUTO | | AUTO | | AUTO | |

* Red button

** Green button



KLOCKNER-MOELLER
K 10
VDE 0660/IEC 337
U_i = 660 V ~ / 800 V ~
I_{th} = 10 A
AC 11-220/380/500 V ~ - 6

Actuators

The most frequently used actuating element is the push-button actuator. It is adequately proportioned for operation with the gloved hand.

Selector switches and key-operated actuators are provided with stay-put and spring-return functions. One basic type can produce numerous alternative combinations. The function can easily be converted on-site.

The extremely versatile key-operated actuator series is identified by a wide range of locks as well as by the facility for conversion to stay-put or spring-return function.

The emergency-stop actuator, which can be used in combination with either the round or round-on-square front, has been built in accordance with the proven design principle, using permanent magnets.

In addition, it offers the following advantages:

- Good all-round visibility
- Clear identification of the emergency-stop function
- Reliable positive opening of the break contacts immediately the initial pressure is exceeded.

- 1 Push-button actuators
- 2 Selector switches
- 3 Mushroom-head actuators
- 4 Toggle switches
- 5 Key-operated actuators
- 6 Mushroom-head key-operated actuators
- 7 Illuminated push-buttons
- 8 Indicator lamp lens assemblies
- 9 Emergency-stop actuator
- 10 Blanking plugs

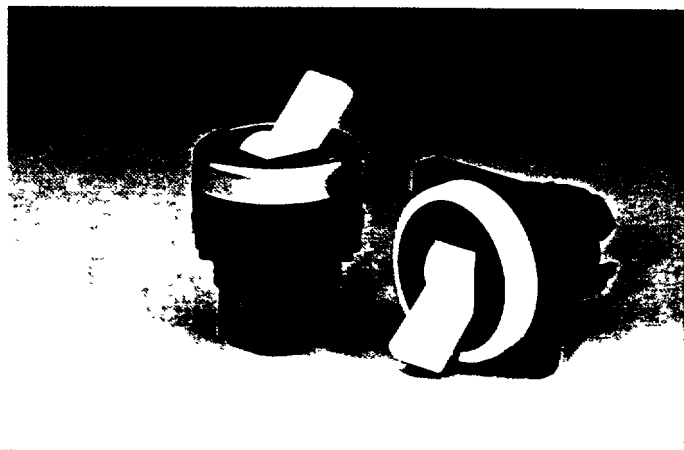
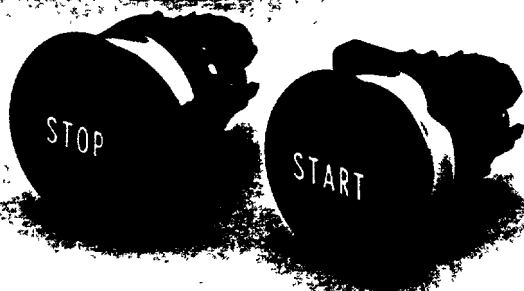
1



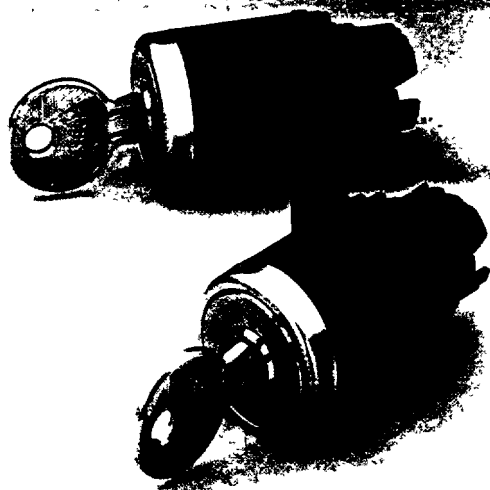
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3



5



7



8



9



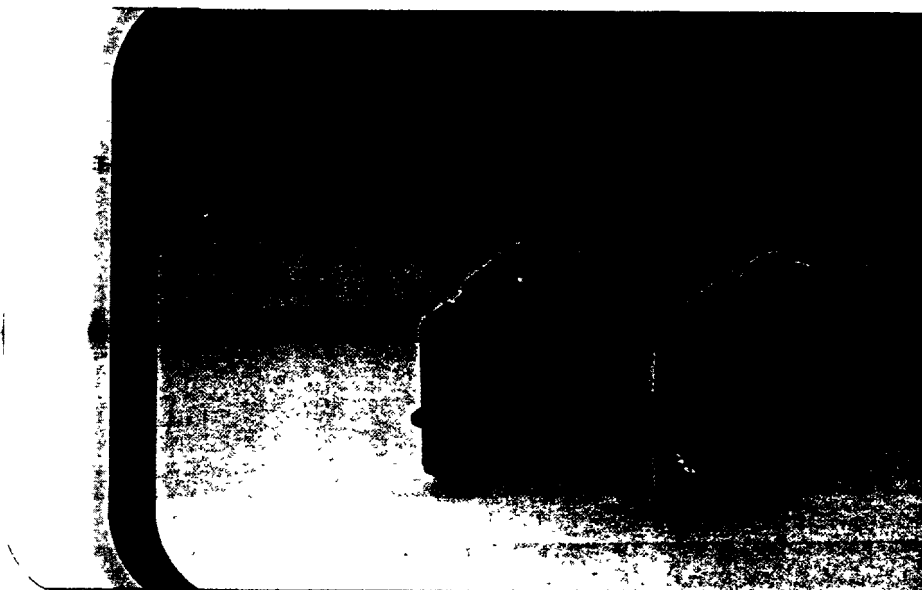
10



Switching/Indicating

Contact elements

Fitted with an H-type contact, they are suitable for use in electronics systems. The contact elements each contain one of the following: standard make contact, standard break contact, early make contact, late break contact. A maximum of three elements abreast can be combined as required. All contact elements are available for front fixing or base fixing.



Lamp socket elements

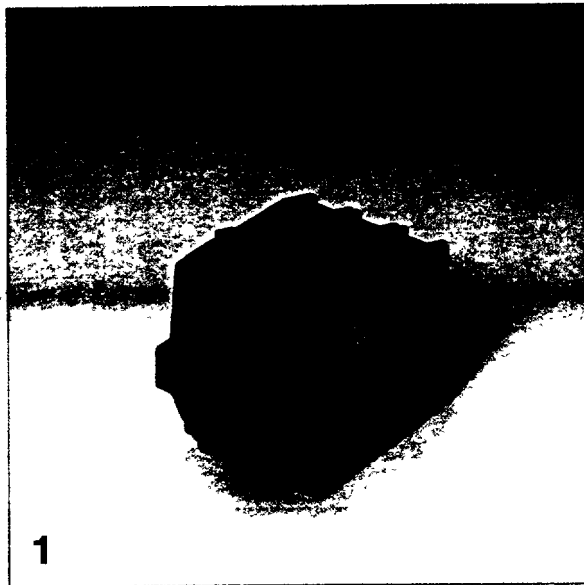
The lamp socket elements are common modules for indicator lamps and illuminated push-buttons. They have a BA 9 s socket as standard. There is a total of seven types available, covering the most varied applications (with/without series resistor and lamp test). The elements occupy one or two locations on the fixing adapter, depending on the version.



Lamp transformers

Two types of lamp transformer are available for indicator lamps and illuminated push-buttons. For front fixing: the BFT lamp transformer with integral fixing facilities, BA 9 s socket and actuator plunger for one or two contact elements. The ET lamp transformer element **without** BA 9 s socket is intended for separate mounting and is suitable for front and base fixing.





1



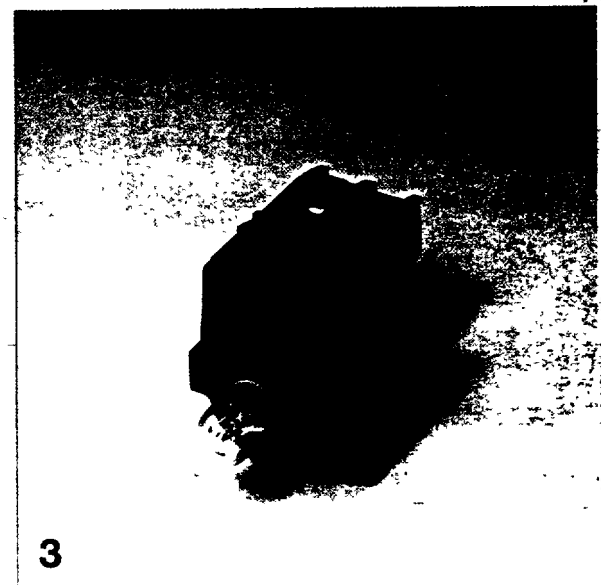
2

1 Contact block for push-buttons
Style: Front fixing
Combination of:
Fixing adapter
Three contact elements

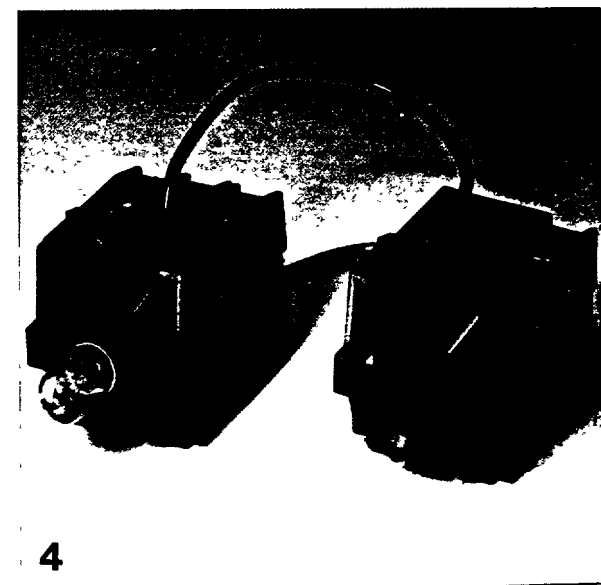
2 Contact block for push-buttons
Style: Base fixing
Combination of:
Fixing adapter
One contact element

3 Lamp socket block for indicator lamps
Style: Front fixing
Combination of:
Fixing adapter
Lamp socket element
with lamp test

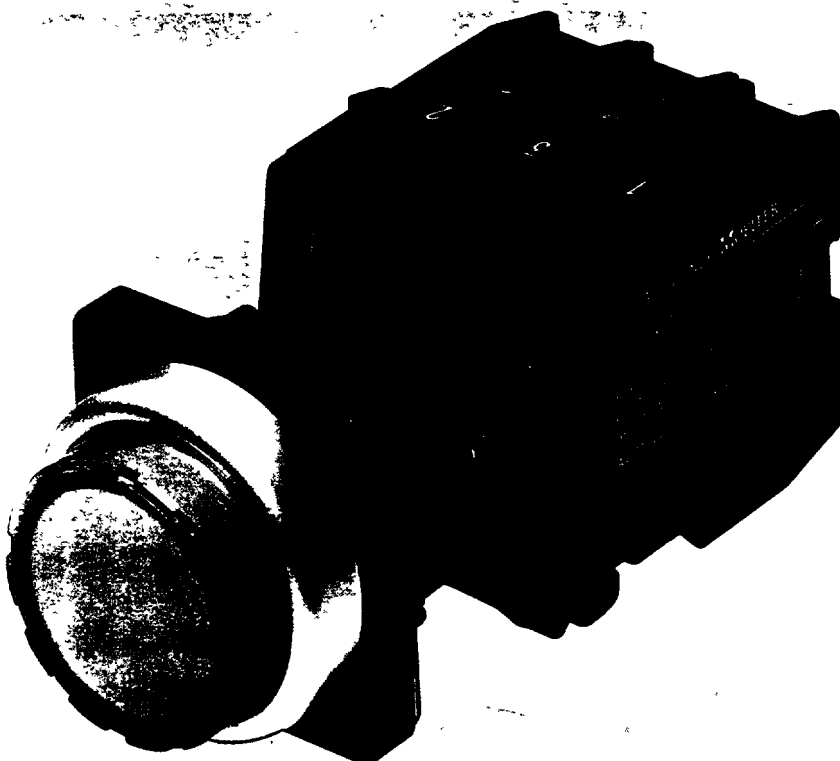
4 Lamp socket block for illuminated push-buttons
Style: Front fixing
Combination of:
Fixing adapter
Lamp socket element
Two contact elements
One lamp transformer
element plus fixing element



3



4



Fitting

Front elements

The front elements can be fitted in plates 1.5 mm to 6 mm thick.

Simple fitting

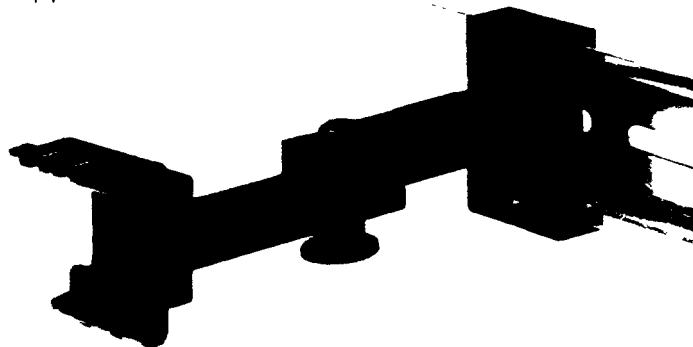
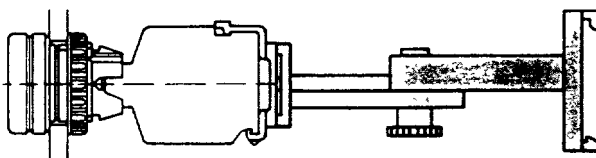
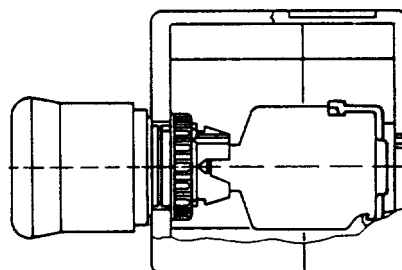
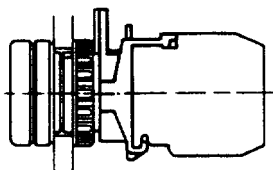
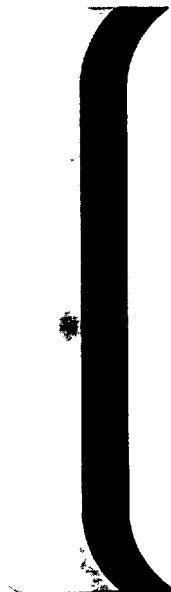
A self-retaining sealing ring with integral lug facilitates assembly of the front elements.

The removable locating lug permits fitting in apertures with or without slot.

Contact and lamp socket elements, lamp transformers

These elements can be clipped on to a fixing adapter in a matter of seconds without the need for tools. They are then clipped on to the actuator guide en bloc, again, without the need for tools.

The unique fitting technique makes conversion and fitting child's play.



Fitting in front plates

- Simple fixing through self-retaining front elements
- Snap-on fittings permit fast assembly
- Terminal markings to EN 50 013:
 - Sequence numbers on the top and bottom of the fixing adapter
 - Function numbers on the contact elements (give the terminal marking)



Fitting in surface mounting enclosures

- Separate fitting of front element and contact/lamp socket block
- Simple snap-fitting of rear mounting contact/lamp socket blocks on the support bosses in the enclosure base



Rear mounting

- Separate fitting of front elements and contact/lamp socket blocks
- Steplessly adjustable telescopic bracket for depth adjustment when fitting control devices in enclosures and panels
- Integral telescopic bracket with snap-on fastening for EN 50 022 (35) top-hat rail and screw fixing
- Simple snap-fitting of contact/lamp socket blocks on the support bosses of the telescopic bracket



Enclosures and Flush Mounting Plates

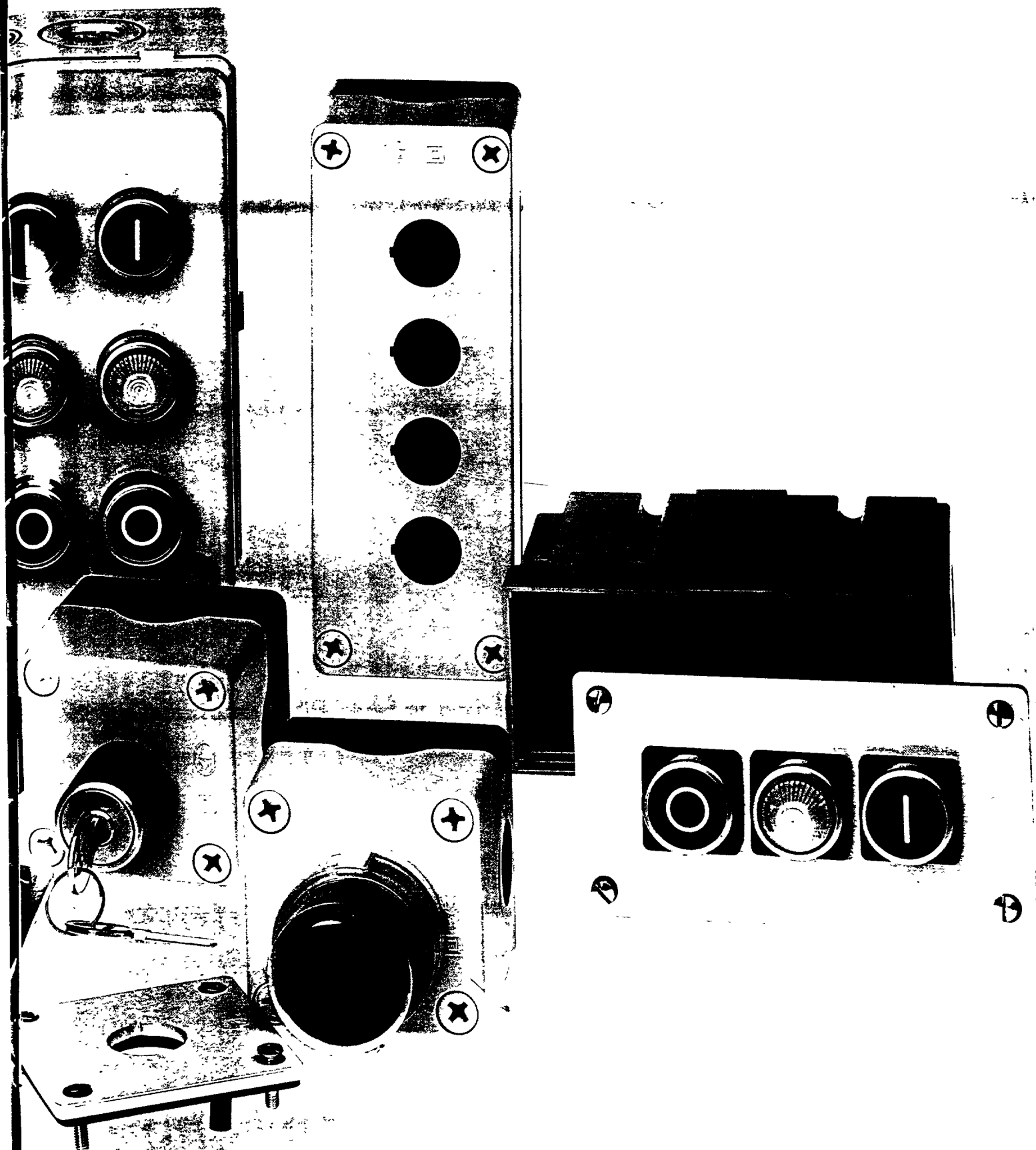
Basic enclosures

Enclosures for one to five ways.
Contact elements and sockets can be latched on to the enclosure base with a fixing adapter. Pg 16 moulded cable entries. Mounting apertures with locating lug.
Integral support bosses for rear mounting adapter in the enclosure base.
Front and base fixing possible. For emergency-stop actuators use yellow enclosure top.

Flush mounting plates

Light coloured anodized aluminium flush mounting plates for one to eight ways.
Insulating plates with diagonal support bosses for the flush mounting plates.
Components for wall boxes are also available.





Accessories

Front ring



Threaded, for standard and illuminated push-button actuators and conical indicator lamps

Matt chromed, black, grey
RAL 7032

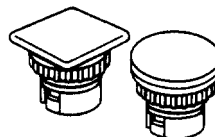
Collar



Threaded, for standard and illuminated push-button actuators of round and round-on-square design

Matt chromed, black, grey

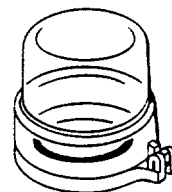
Blanking plug



For blanking off spare positions, round and round-on-square design

Black and grey

Sealable shroud



For RPV emergency-stop actuator
Transparent, sealable shroud prevents unauthorized resetting, re-usable

Fast-on connectors



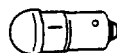
Blade terminals for 1 x 6.3/2 x 2.8 mm connectors to DIN 46 247 for contact elements and lamp socket elements

Push-button diaphragm



Black rubber diaphragm
Screws on to low-profile push-button actuators of round and round-on-square design

Multiple LEDs



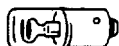
BA 9 s socket, length with diffusion lens 26 mm, 10 mm ϕ
Yellow/24 V d.c.
Green/24 V d.c.
Red/24 V d.c.

Filament bulbs



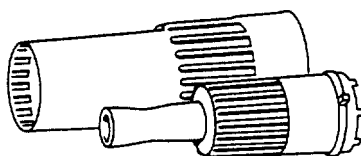
BA 9 s socket, max. length 28 mm, 10 mm ϕ
2,6 W/110–130 V 2,0 W/24 V
2,0 W/ 6 V 2,0 W/48 V
2,0 W/12 V 2,0 W/60 V

Neon bulbs



BA 9 s socket, length 28 mm, 10 mm ϕ
110–130 V a.c.
220–240 V a.c.

Tools



Combination box spanner for front rings and lock nuts, for illuminated push-button lens assemblies and BA 9 s bulb extractor

Component labelling system



Label mounts, 6.5 x 18 mm, snap-in
64 per block



Adhesive label, for use with label mounts
Colour: orange (RAL 2003)



Clip, for securing KG 1 label mounts on to wiring



Label mounts, 8 x 10 mm, snap-in

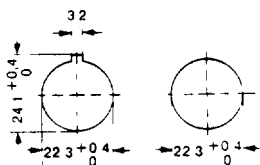


Technical Data

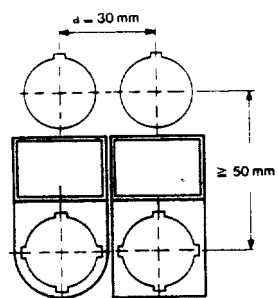
| | | | Contact blocks | Lamp socket blocks | Lamp trans-former block | Push-button actuators, stop mushroom-actuator head push-button actuators | Emergency selector switches | Toggle switches | Mushroom-head key-operated actuator | Key-operated actuators | Illuminated push-buttons | Indicator lamps | |
|--|-----------------------|-------------|---|--------------------|-------------------------|---|-----------------------------|-------------------|-------------------------------------|------------------------|--------------------------|-------------------|---|
| General | | | IEC 337, VDE 0660, UL 508, CSA C 22.2 No. 14, NFC 63-0-70, BS 4794, CEE 24 | | | | | | | | | | |
| Specifications | | | | | | | | | | | | | |
| Mechanical life span | Operations | | 1x10 ⁷ | - | 3x10 ⁶ | 3x10 ⁶ | 0,1x10 ⁶ | 3x10 ⁵ | 3x10 ⁵ | 1x10 ⁵ | 1x10 ⁵ | 3x10 ⁵ | - |
| Max. operating frequency | Ops/h | | 6000 | - | - | 6000 | 10 | 2500 | 2500 | 100 | 100 | 6000 | - |
| Protective standard IEC 529/DIN 40 050 | | | IP 20 | ... | ... | IP 65 | ... | ... | ... | ... | ... | ... | |
| Climatic tests | | | Damp heat, constant, to IEC 68 part 2-3 Damp heat, cyclic, to IEC 68 part 2-30 | | | | | | | | | | |
| Ambient temperature | max./min. | °C open | +60/-40... | | | | ... | ... | ... | ... | ... | ... | |
| | | °C enclosed | +60/-40... | | | | ... | ... | ... | ... | ... | ... | |
| Impact resistance (Duration of impact 20 ms) | | g | > 5 | | | | > 50 | > 5 | > 50 | > 5 | | | |
| Terminal capacity, 1 or 2 conductors Solid min./max. | mm ² (AWG) | | 0,75/2,5 (14) | | | | ... | ... | ... | ... | | | |
| Stranded + flexible with ferrules to DIN 46 228 | mm ² (AWG) | | 0,5/1,5 (14) | | | | ... | ... | ... | ... | | | |
| Dimensions | | | Page 20... | | | | ... | ... | ... | ... | | | |
| | | | Contact blocks | Lamp socket blocks | Lamp trans-former block | | | | | | | Contact blocks | |
| Contacts | | | | | | Switching capacity | | | | | | | |
| Rated insulation voltage U _i Insulation group C to VDE 0110 | V | | 660/ 800 | 250 | 660/ 800 | AC voltage (AC-11) Rated making capacity (cos φ = 0,7) Rated breaking capacity (cos φ = 0,4) 220(240)/380(415)/500 V | | | | | | 60 | |
| Rated thermal current I _{th} | A | | 10 | - | - | | | | | | | 66/44/22 | |
| Rated operating current I _e AC-11: 220 (240)/380 (415)/500 V | A | | 6/4/2 | - | - | DC voltage (DC-11) Rated making/breaking capacity (L/R ≤ 15/50/200 ms) | | | | | | | |
| Contact life span | 50 VA | Operations | 8x10 ⁶ | - | - | | | | | | | | |
| | 100 VA | | 3x10 ⁶ | - | - | | | | | | | | |
| | 250 VA | | 1,2x10 ⁶ | - | - | | | | | | | | |
| | 750 VA | | 0,3x10 ⁶ | - | - | | | | | | | | |
| Rated operating current I _e DC-11 (L/R = 20 ms) | 24 V d. c. | A | 2 | | | | | | | | | | |
| | 60 V d. c. | A | 1 | | | | | | | | | | |
| | 110 V | A | 0,4 | | | | | | | | | | |
| | 220 V | A | 0,2 | | | | | | | | | | |
| Contact life span | 50 W | Operations | 1x10 ⁵ | | | | | | | | | | |
| | 100 W | | 0,75x10 ⁵ | | | | | | | | | | |
| | 300 W | | 0,25x10 ⁵ | | | | | | | | | | |
| | 600 W | | 0,05x10 ⁵ | | | | | | | | | | |
| Through-fault protection without welding in energized state. Max. protective device or max. fuse size, slow, gL | | | PKZM 3-6,3/FAZL 10 | | | | | | | | | | |
| UL/CSA data | | | 10 | | | | | | | | | | |
| Max. rated voltage | V a. c. | | 600 | 300 | 600 | | | | | | | | |
| Switching capacity A 300 Heavy Pilot Duty A 600 Same polarity | A | | 10 | - | - | | | | | | | | |

Dimensions

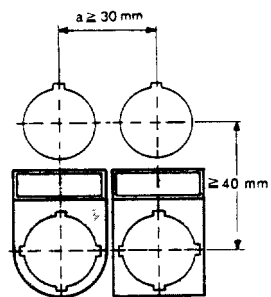
Mounting hole with/without cut-out



Grid dimensions to EN 50 007



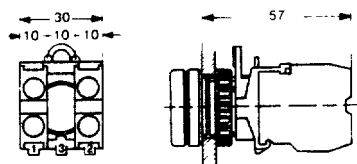
Minimum grid dimension



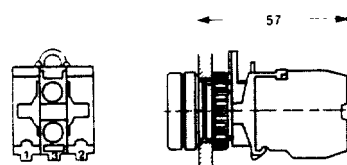
Minimum distance

| | |
|------------|-------|
| RPV | 33 mm |
| RP, MP | 35 mm |
| RPSR, MPSR | 35 mm |
| PL-RPV | 48 mm |

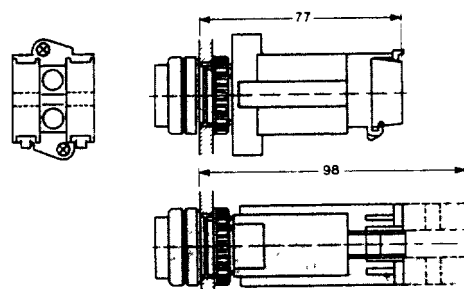
Front fixing Push buttons



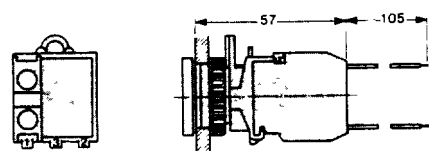
Indicator lamps/illuminated push-buttons



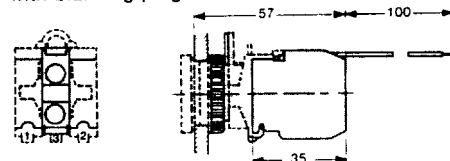
Indicator lamps/illuminated push-buttons with BFT. lamp transformer



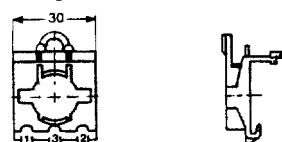
ET. lamp transformer for separate mounting, with blanking plug



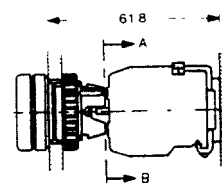
ER 6 resistor element for separate mounting, with blanking plug



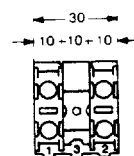
Fixing adapter



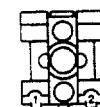
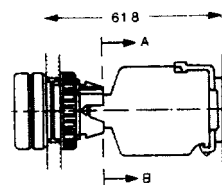
Base fixing Push-buttons



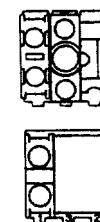
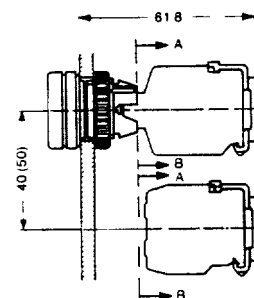
View A-B



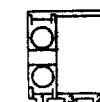
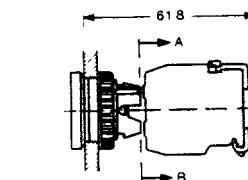
Indicator lamps/illuminated push-buttons



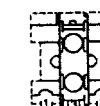
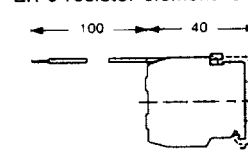
Indicator lamps/illuminated push-buttons with separate ET lamp transformer



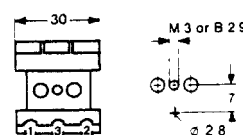
ET. lamp transformer for separate mounting, with blanking plug



ER 6 resistor element for separate mounting



Fixing adapter



Push-buttons, illuminated push-buttons, indicator lamps with telescopic bracket for indirect rear mounting

