

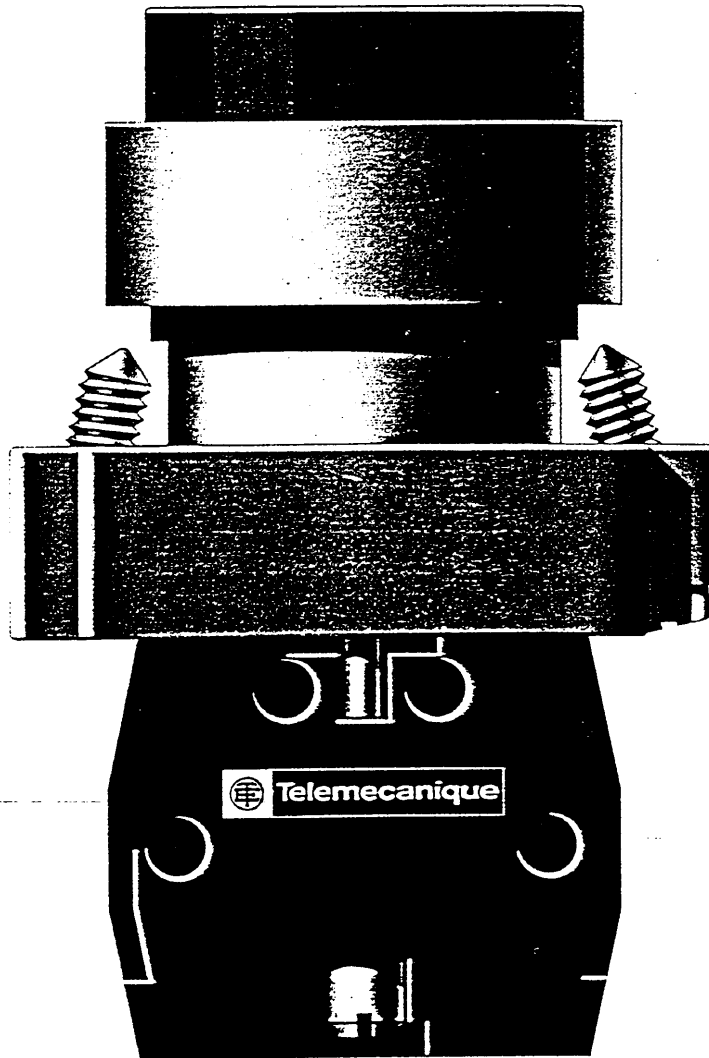
177-619

April 1983

XB2-B

control and
signalling units $\varnothing 22$

175 451 to 475
~~175~~-501 \rightarrow 509



Contents

General characteristics

| | |
|--|---|
| General | 2 |
| Environment, contact block characteristics | 3 |

Control units

| | | |
|---------------------------------|---|---|
| Adaptable sub-assemblies | Operating heads for pushbuttons | 4 |
| | Operating heads for selector switches | 5 |
| | Double-headed pushbutton operators | 6 |
| | Double-headed pushbutton operators with pilot light | 7 |
| | Body/contact assemblies | 8 |
| | Supplementary contact blocks | 8 |
| Complete units | Mechanical overload resets | 9 |

Signalling units

| | | |
|---------------------------------|---|----|
| Adaptable sub-assemblies | Bodies and lenses for pilot lights | 10 |
| | Body/contact assemblies | 11 |
| | Operating heads for pilot lights | 12 |
| | Operating heads for illuminated selector switches | 12 |
| | Operating heads for "push to test" pilot lights | 12 |

Accessories and spare parts

| | |
|------------------------------|----|
| Bulbs, blanking plugs, tools | 13 |
|------------------------------|----|

Legends

| | |
|---|--------|
| Legend plates for mounting between operating head and panel | 13 |
| ISO legends for mounting within operating heads | 14, 15 |

Small joystick controllers

| | | |
|-----------------------|------------------------------|----|
| Complete units | 2 and 4 position controllers | 16 |
| | Legends | 16 |

Dimensions

| | |
|------------------------------------|----|
| Control and signalling units | 17 |
| Double-headed pushbutton operators | 18 |
| Small joystick controllers | 19 |

Telemecanique in Great Britain



*Our company's policy is one of continuous development and improvement and we reserve the right to supply products which may differ from those illustrated in this brochure.
All our products are sold subject to our Standard Conditions of Sale, available on request.*

General characteristics

of control and signalling units XB2-B

Ø22.2(fixing)

General

This range of Ø22.2 pushbuttons, selector switches, pilot lights, illuminated pushbuttons, illuminated selector switches and small joystick controllers is designed to meet the requirements of an international market.

Aesthetic

Shape and colours.
Metal bezel, nickel plated and chromed.
Alternatively, metal bezel, matt black anodised.

Ergonomic design

Circular operating surface area greater than that of a Ø30.5mm control unit.

Robust

All the parts whose mechanical function is of prime importance are made of zinc alloy. Insulating parts are made of polyamide reinforced with glass fibre.

Safe

-Fixing method unaffected by excessive vibration, unit will not rotate.
-Positive contact opening.
-Very good flame resistance (class VO in accordance to UL94).
-Protection against electrical shock (unit earthed).

Speed and simplicity of fixing

A screwdriver is all that is required.

Operating heads

The operating heads are functionally interchangeable on the different types of body/contact assemblies.

Body/contact assemblies

For pushbuttons and selector switches:
1-6 contact blocks (N/O or N/C), except for push-pull mushroom heads which are 4 maximum.

For pilot lights, illuminated pushbuttons and illuminated selector switches:
Bodies for direct supply, direct supply through resistor or via integral transformer.

Supply voltage: 6-600V, according to body type.

Bulb: incandescent with type BA9s base.

1 or 2 contacts (N/O or N/C) for illuminated pushbuttons and illuminated selector switches.

The same contact blocks are used throughout the range. They are slow break and self wiping. Contact tips are made of nickel-silver and the moving bridge of copper. Contact blocks are interchangeable and may be stacked on without additional mounting components. They are protected against the penetration of small objects during assembly and wiring. Gold flashed contacts are also available.

Fixing

XB2-B manual pilot devices can be fixed in any position on panels of thickness 1 to 6mm.

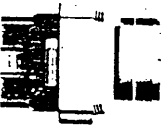
The operating heads lock on to the base unit using a 1/8th turn bayonet fixing which makes for a simple and fast assembly.

Finally, the complete assembly is locked in to position on the mounting plate by two pointed screws Ø4mm, tightened from the rear. These screws also ensure the earthing of the unit.

Small joystick controllers

- Type XD2-P (compact, contacts non interchangeable).
Fixing centres 30 x 85mm (2 position) or 85 x 85mm (4 position).
2 or 4 position, with or without spring return to the zero position.
1 N/O contact per position.

- Type XD2-G
Fixing centres 90 x 90mm (2 and 4 position).
2 or 4 position, with or without spring return.
1 N/O contact per position.
Additional features:
-variable composition to 2, 3 or 4 position.
-controlling 1, 2 or 4 contacts in each position.
-1 or 2 notches per position, stay-put or spring return.
Details on request.







Environment

| | |
|--|---|
| Conformity to standards | IEC 337-1, IEC 337-2, NFC 63-140, ASE 0119, ASE 1003, BS 4794, VDE 0660 part 2, UL 506, UL 508, CSA C22-2 No. 14, CSA C22-2 No. 66. |
| Approvals | Demko, Semko, Nemko, Elektriska Inspektoratet, GL Standard version: CSA 300V (AC) heavy duty, (DC) standard duty; Bureau Veritas; ASE; UL (listed) 300V (AC) heavy duty, (DC) standard duty. |
| Protective treatment | Standard version: "All climates." |
| Ambient temperature | Operating: -25 to +70°C. Storage: -40 to +70°C. |
| Altitude | <3000m |
| Operating position | All positions. |
| Resistance to vibration | Ø60mm mushroom head: 8g. Other pushbuttons: 15g. Small joystick controllers: 5g. (from 40 to 500Hz) in accordance with IEC 68-2-6. |
| Resistance to shock | Pushbuttons: 70g. Mushroom head pushbuttons: 15g. Double headed pushbuttons: 50g. Selector switches: 200g. In accordance with IEC 68-2-6. |
| Protection against electrical shock | Class 1, in accordance with IEC 536 and NF C20-030. |
| Degree of protection in accordance with IEC 529 and NF C20-010 | IP40: basic double-headed pushbutton. IP65: flush and projecting, illuminated and non-illuminated pushbuttons (mounted). IP66: booted and mushroom head pushbuttons, selector switches, pilot lights, and small joystick controllers (mounted). |
| Mechanical life | Spring return pushbuttons, selector switches and small joystick controllers: 1 million operations. Latching mushroom head pushbuttons: 300,000 operations. |

Contact block characteristics

| | |
|--|---|
| Nominal thermal current | 10A in accordance with IEC 337-1, NF C63-140, UL 508, CSA C22-2 No. 14, VDE 0660. |
| Nominal insulation voltage | 500V in accordance with IEC 158-1, NF C20-040, VDE 0110. 300V in accordance with UL 508, CSA C22-2 No. 14. |
| Insulation category | Group C in accordance with NF C20-040 and VDE 0110. |
| Contact operation | Slow break N/O or N/C. |
| Contact resistance (between terminals) | <25mΩ: Standard <14mΩ: Gold flashed |
| Operating force | Flush and projecting pushbuttons -with 1N/O contact: 10N -with 1N/C contact: 8N. Additional contacts -N/O: +5N -N/C: +3N. |
| Terminal referencing | According to CENELEC EN 50013. Numbers indicating the function are marked on the contact block, either: 1-2 for a N/C contact or 3-4 for a N/O contact The contact order number is marked on the diecast base, i.e.: First row of contacts: 1 for left hand contact block, 2 for right hand contact block. Second row of contacts: 3 for left hand contact block, 4 for right hand contact block. |
| Short circuit protection | 10A cartridge fuses, g1 or N in accordance with IEC 337-1B. |

| Making and breaking capacities in accordance with IEC 337-1 and VDE 0660 part 2 | Voltage V | AC ~ 50-60Hz Power broken in kVA For 50 operations | | | | | | DC --- Power broken in W For 20 operations | | | | | | |
|---|-----------|--|-----|-----|-----|------|-----|--|------|-----|-----|-----|-----|-----|
| | | 12 | 24 | 48 | 127 | 220 | 380 | 500 | 12 | 24 | 48 | 110 | 220 | 440 |
| Pushbuttons XB2-B and Small joystick controllers XD2-GA | | 0.8 | 1.5 | 4.4 | 9.6 | 15.6 | 24 | 32 | 1000 | 600 | 870 | 240 | 190 | 130 |
| Small joystick controllers XD2-PA | | 0.8 | 1.5 | 4 | 9 | 15 | 21 | 24 | 650 | 390 | 260 | 165 | 115 | 85 |

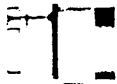
| Rated power in accordance with IEC 337-1 Duty categories AC11 and DC11 | Voltage V | AC ~ 50-60Hz Power broken in VA | | | | | | DC --- Power broken in W | | | | | | | |
|---|---|---|-----|-----|-----|------|------|-----------------------------|------|-----|-----|-----|-----|-----|----|
| | | 12 | 24 | 48 | 127 | 220 | 380 | 500 | 12 | 24 | 48 | 110 | 220 | 440 | |
| For 1 million operations Operating frequency: 3600 ops./hour Load factor: 0.5 | Pushbuttons XB2-B and Small joystick controllers XD2-GA |  | 100 | 200 | 400 | 650 | 700 | 600 | 500 | 95 | 65 | 48 | 40 | 30 | 25 |
| | Small joystick controllers XD2-PA |  | 120 | 240 | 480 | 1000 | 1200 | 1500 | 1500 | 120 | 240 | 300 | 170 | 110 | 70 |
| | |  | 100 | 200 | 400 | 550 | 600 | 500 | 400 | 58 | 40 | 30 | 23 | 20 | 15 |
| | |  | 120 | 240 | 475 | 850 | 1100 | 1200 | 1200 | 120 | 240 | 135 | 110 | 70 | 45 |

Cabling Screw and captive cable clamp terminals. Capacity: minimum 1 x 0.5mm², maximum, with or without cable end, 2 x 1.5mm² or 1 x 2.5mm². Versions are also available for cable clip connections (to NF C20-120).

circular head, chromium plated metal bezel

Bodies : see page 8
 Legends : see pages 13 to 15
 Dimensions: see page 17

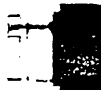
Operating heads for pushbuttons



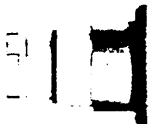
ZB2-BA•



ZB2-BL•



ZB2-BP•



ZB2-BC•



ZB2-BX•



ZB2-BS54



ZB2-BS24

| Description | Colour | Reference | For ISO legends | Weight kg |
|--|--------|-----------|-----------------|-----------|
| Flush | White | ZB2-BA1 | - | 0.030 |
| | Black | ZB2-BA2 | - | 0.030 |
| | Green | ZB2-BA3 | ZB2-BA38 | 0.030 |
| | Red | ZB2-BA4 | ZB2-BA48 | 0.030 |
| | Yellow | ZB2-BA5 | ZB2-BA58 | 0.030 |
| | Blue | ZB2-BA6 | ZB2-BA68 | 0.030 |
| | Clear | ZB2-BA7 | ZB2-BA78 | 0.030 |
| Projecting | White | ZB2-BL1 | - | 0.030 |
| | Black | ZB2-BL2 | - | 0.030 |
| | Green | ZB2-BL3 | ZB2-BW13 | 0.030 |
| | Red | ZB2-BL4 | ZB2-BW14 | 0.030 |
| | Yellow | ZB2-BL5 | ZB2-BW15 | 0.030 |
| | Blue | ZB2-BL6 | ZB2-BW16 | 0.030 |
| | Clear | - | ZB2-BW17 | 0.030 |
| Projecting Push and push to release | Black | ZB2-BH2 | - | 0.032 |
| | Green | - | ZB2-BH3 | 0.032 |
| | Red | - | ZB2-BH4 | 0.032 |
| | Yellow | - | ZB2-BH5 | 0.032 |
| | Blue | - | ZB2-BH6 | 0.032 |
| | Clear | - | ZB2-BH7 | 0.032 |
| | Black | ZB2-BP2 | - | 0.030 |
| Booted | Green | ZB2-BP3 | ZB2-BP38 | 0.030 |
| | Red | ZB2-BP4 | ZB2-BP48 | 0.030 |
| | Yellow | ZB2-BP5 | ZB2-BP58 | 0.030 |
| | Blue | ZB2-BP6 | ZB2-BP68 | 0.030 |
| | Clear | - | ZB2-BP78 | 0.030 |

Mushroom operating heads

| | | | | |
|-----------------------------|--|--------|----------|----------|
| Spring return | Ø40mm | Black | ZB2-BC2 | 0.045 |
| | | Green | ZB2-BC3 | 0.045 |
| | | Red | ZB2-BC4 | 0.045 |
| | | Yellow | ZB2-BC5 | 0.045 |
| | | Blue | ZB2-BC6 | 0.045 |
| | | | Ø60mm | Black |
| Green | ZB2-BR3 | | | 0.055 |
| Red | ZB2-BR4 | | | 0.055 |
| Yellow | ZB2-BR5 | | | 0.055 |
| Push-pull stay put | Ø40mm | | | Black |
| | | Red | ZB2-BT4 | 0.075 |
| | Ø60mm | Black | ZB2-BX2 | 0.080 |
| | | Red | ZB2-BX4 | 0.080 |
| Latching turn to release | Ø30mm | Red | ZB2-BS44 | 0.045 |
| | Ø40mm | Black | ZB2-BS52 | 0.055 |
| | | Red | ZB2-BS54 | 0.055 |
| | | Yellow | ZB2-BS55 | 0.055 |
| | Ø60mm | Red | ZB2-BS64 | 0.065 |
| | Latching key release (Ronis key No. 455) | Ø30mm | Red | ZB2-BS74 |
| Ø40mm | | Red | ZB2-BS14 | 0.090 |
| Ø60mm | | Red | ZB2-BS24 | 0.120 |

+ Other versions

For colours other than those mentioned above...
 For other key numbers...
 Details on request.

When ordering



an operating head.
 Please state the exact reference.
 Example: ZB2-BA2

circular head, chromium plated metal bezel

Bodies : see page 8
 Legends : see page 13
 Dimensions: see page 17

Operating heads for selector switches



ZB2-BD•

| Description | | | Reference | Weight kg |
|---------------------|------------|--|-----------|--------------|
| Standard handle (1) | 2 position | stay put | ZB2-BD2 | 0.040 |
| | | spring return from right to left | ZB2-BD4 | 0.040 |
| | 3 position | stay put | ZB2-BD3 | 0.040 |
| | | spring return to centre | ZB2-BD5 | 0.040 |
| | | stay put on left, spring return from right to centre | ZB2-BD8 | 0.040 |
| | | stay put on right, spring return from left to centre | ZB2-BD7 | 0.040 |
| | | | | |
| Long handle (1) | 2 position | stay put | ZB2-BJ2 | 0.040 |
| | | spring return from right to left | ZB2-BJ4 | 0.040 |
| | 3 position | stay put | ZB2-BJ3 | 0.040 |
| | | spring return to centre | ZB2-BJ5 | 0.040 |
| | | stay put on left, spring return from right to centre | ZB2-BJ8 | 0.040 |
| | | stay put on right, spring return from left to centre | ZB2-BJ7 | 0.040 |
| | | | | |



ZB2-BJ•

(1) Standard handle black

For white handle add 01 to reference. Example: ZB2-BD201

For red handle add 04 to reference. Example: ZB2-BD204

Operating heads for key switches (Ronis key No. 455)



ZB2-BG•

| Description | | Key withdrawal | Reference | Weight |
|--|-------------------------------------|----------------------------------|-----------|--------|
| 2 position | stay put | left hand position | ZB2-BG2 | 0.070 |
| | | left and right hand positions | ZB2-BG4 | 0.070 |
| | spring return from right to left | left hand position | ZB2-BG6 | 0.070 |
| 3 position | stay put | all positions | ZB2-BG0 | 0.070 |
| | | centre position | ZB2-BG3 | 0.070 |
| | | left and right hand positions | ZB2-BG5 | 0.070 |
| | spring return to centre | left hand position | ZB2-BG9 | 0.070 |
| | | right hand position | ZB2-BG09 | 0.070 |
| | | centre position | ZB2-BG7 | 0.070 |
| stay put on right, spring return from left to centre | right hand position | ZB2-BG1 | 0.070 | |

+ Other versions

Operating heads are available with mechanical functions other than those shown above.
 Other key numbers. Details on request.

When ordering



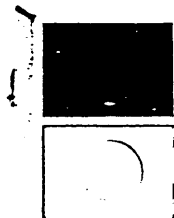
an operating head.
 Please state the exact reference.
 Example: ZB2-BD2

Double-headed, rectangular pushbutton operators with chromium plated metal bezel

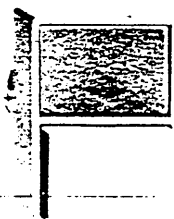
Bodies : see page 8
Dimensions: see page 18

Double-headed pushbutton operators IP40

| Description | Colour of operators | Marking | Reference | Weight kg |
|-------------------------|---------------------|-------------------|------------|-----------|
| 2 Flush | Black Red | Unmarked | ZB2-BA8124 | 0.048 |
| | | Marked "I" "O" | ZB2-BA8224 | 0.048 |
| | Green Red | Unmarked | ZB2-BA8134 | 0.048 |
| | | Marked "I" "O" | ZB2-BA8234 | 0.048 |
| 1 Flush 1 Projecting | Black Red | Unmarked | ZB2-BL8324 | 0.048 |
| | | Marked "I" "O" | ZB2-BL8424 | 0.048 |
| | Green Red | Unmarked | ZB2-BL8334 | 0.048 |
| | | Marked "I" "O" | ZB2-BL8434 | 0.048 |



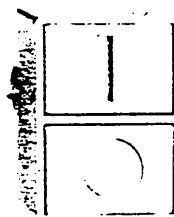
ZB2-BA8224



ZB2-BL8334

Double-headed pushbutton operators IP65

| Description | Colour of operators | Marking | Reference | Weight kg |
|-------------------------|---------------------|-------------------|------------|-----------|
| 2 Flush | Black Red | Unmarked | ZB2-BA9124 | 0.048 |
| | | Marked "I" "O" | ZB2-BA9224 | 0.048 |
| | Green Red | Unmarked | ZB2-BA9134 | 0.048 |
| | | Marked "I" "O" | ZB2-BA9234 | 0.048 |
| 1 Flush 1 Projecting | Black Red | Unmarked | ZB2-BL9324 | 0.048 |
| | | Marked "I" "O" | ZB2-BL9424 | 0.048 |
| | Green Red | Unmarked | ZB2-BL9334 | 0.048 |
| | | Marked "I" "O" | ZB2-BL9434 | 0.048 |



ZB2-BA9234



ZB2-BL9324

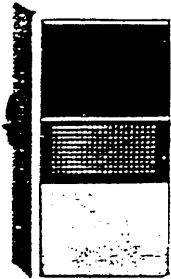
When ordering



a double-headed pushbutton operator.
Please state the exact reference.
Example: ZB2-BA8124

Double-headed, rectangular pushbutton operators
with chromium plated metal bezel

Bodies : see page 11
Dimensions: see page 18



ZB2-BW81254

Operating heads for pushbuttons, with pilot light incorporating yellow lens

| Description | Colour of operators | Marking | Reference | Weight kg |
|---|---------------------|----------------|-------------|-----------|
| 2 Flush 1 Pilot light IP40* | Black | Unmarked | ZB2-BW81254 | 0.043 |
| | Red | Marked "I" "O" | ZB2-BW82254 | 0.043 |
| | Green | Unmarked | ZB2-BW81354 | 0.043 |
| | Red | Marked "I" "O" | ZB2-BW82354 | 0.043 |
| 1 Flush 1 Projecting 1 Pilot light IP40* | Black | Unmarked | ZB2-BW83254 | 0.043 |
| | Red | Marked "I" "O" | ZB2-BW84254 | 0.043 |
| | Green | Unmarked | ZB2-BW83354 | 0.043 |
| | Red | Marked "I" "O" | ZB2-BW84354 | 0.043 |



ZB2-BW84204

Operating heads for pushbuttons, with pilot light without lens

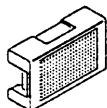
| Description | Colour of operators | Marking | Reference | Weight kg |
|---|---------------------|----------------|-------------|-----------|
| 2 Flush 1 Pilot light IP40* | Black | Unmarked | ZB2-BW81204 | 0.042 |
| | Red | Marked "I" "O" | ZB2-BW82204 | 0.042 |
| | Green | Unmarked | ZB2-BW81304 | 0.042 |
| | Red | Marked "I" "O" | ZB2-BW82304 | 0.042 |
| 1 Flush 1 Projecting 1 Pilot light IP40* | Black | Unmarked | ZB2-BW83204 | 0.042 |
| | Red | Marked "I" "O" | ZB2-BW84204 | 0.042 |
| | Green | Unmarked | ZB2-BW83304 | 0.042 |
| | Red | Marked "I" "O" | ZB2-BW84304 | 0.042 |

Lenses for pilot lights



Sold in lots of 10

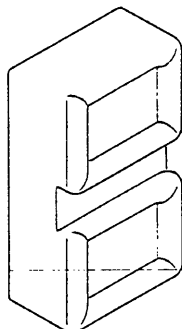
| Colour | Reference | Weight kg |
|--------|-----------|-----------|
| Green | ZB2-BW903 | 0.001 |
| Red | ZB2-BW904 | 0.001 |
| Yellow | ZB2-BW905 | 0.001 |
| Blue | ZB2-BW906 | 0.001 |
| Clear | ZB2-BW907 | 0.001 |



ZB2-BW90.

Sealing boot

| | | |
|----------------|-----------|-------|
| Silicone clear | ZB2-BW008 | 0.004 |
|----------------|-----------|-------|



ZB2-BW008

*Increased to IP66 by addition of boot ZB2-BW008.

When ordering



a double-headed pushbutton operator.
Please state the exact reference. Example: ZB2-BW81354
a lens and/or a sealing boot.
Please state the exact reference. Example: ZB2-BW905

Body/contact assemblies
For use with operating heads shown on pages 4, 5 and 6

Dimensions: see page 17

Complete bodies; screw and captive cable clamp connections



ZB2-BZ10•

| Description | Application | Scheme | Reference | Weight kg |
|-------------------------|--|-------------------|----------------|-----------------|
| With one contact block | Pushbuttons and 2 position selector switches | N/O | 13 14 | ZB2-BZ101 0.040 |
| | | N/C | 21 22 | ZB2-BZ102 0.040 |
| With two contact blocks | 2-way rectangular pushbuttons, pushbuttons and 2 or 3 position selector switches | N/O+N/O | 13 23 14 24 | ZB2-BZ103 0.055 |
| | | N/C+N/C | 11 21 12 22 | ZB2-BZ104 0.055 |
| | | N/O+N/C | 21 13 22 14 | ZB2-BZ105 0.055 |
| | | N/O+N/C | 13 21 14 22 | ZB2-BZ106 0.055 |
| | | N/O+N/O | 13 23 14 24 | ZB2-BZ107 0.055 |
| | | Make before break | 14 22 | |

Supplementary contact blocks



ZB2-BE10•

| Connections | Application | Type | Reference | Weight kg |
|-------------------------------|--|--------------|------------|-----------|
| Screw and captive cable clamp | For converting body/contact assemblies to 3, 4, 5 or 6 contacts maximum or replacing 1st or 2nd contact blocks | N/O Standard | ZB2-BE101 | 0.015 |
| | | Early make | ZB2-BE201 | 0.015 |
| | | N/C Standard | ZB2-BE102 | 0.015 |
| | | Late break | ZB2-BE202 | 0.015 |
| | For low power switching (<20V, <50mA) gold flashed contacts | N/O | ZB2-BE1016 | 0.015 |
| | | N/C | ZB2-BE1026 | 0.015 |

→ Other versions

Body/contact assemblies fitted with "faston" connectors (6.3) (conforming to NF C20-120).
Details on request

When ordering



a complete body/contact assembly.
Please state the exact reference. Example: ZB2-BZ101
a supplementary contact block.
Please state the exact reference. Example: ZB2-BE101

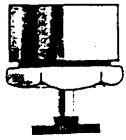
Mechanical overload resets Ø22.2 (fixing)

XB2-B

circular head, chromium plated metal bezel

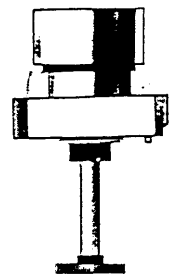
Complete units

Legends: see page 13



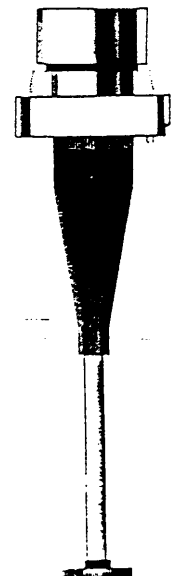
XB2-BA8●●

| Description | Adjustable length | Colour | Reference | Weight kg |
|---|-------------------|--------|-----------|-----------|
| Flush pushbutton 10mm travel For mounting on plate 1 to 3mm thickness Fixing: secured by nut from rear | 6 to 16mm | Black | XB2-BA821 | 0.030 |
| | | Red | XB2-BA841 | 0.030 |
| | | Blue | XB2-BA861 | 0.030 |
| | 16 to 26mm | Black | XB2-BA822 | 0.035 |
| | | Red | XB2-BA842 | 0.035 |
| | | Blue | XB2-BA862 | 0.035 |



XB2-BA9●●
30 to 82mm

| | | | | |
|---|-------------|-------|-----------|-------|
| Flush pushbutton 14mm travel For mounting on plate 1 to 6mm thickness Fixing: secured by pointed screws from rear | 30 to 57mm | Black | XB2-BA921 | 0.077 |
| | | Red | XB2-BA941 | 0.077 |
| | | Blue | XB2-BA961 | 0.077 |
| | 55 to 82mm | Black | XB2-BA922 | 0.080 |
| | | Red | XB2-BA942 | 0.080 |
| | | Blue | XB2-BA962 | 0.080 |
| | 80 to 107mm | Black | XB2-BA923 | 0.085 |
| | | Red | XB2-BA943 | 0.085 |
| | | Blue | XB2-BA963 | 0.085 |



XB2-BA9●●
80 to 257mm

| | | | | |
|--------------|--------------|-----------|-----------|-------|
| | 105 to 132mm | Black | XB2-BA924 | 0.090 |
| | | Red | XB2-BA944 | 0.090 |
| | | Blue | XB2-BA964 | 0.090 |
| | 130 to 157mm | Black | XB2-BA925 | 0.095 |
| | | Red | XB2-BA945 | 0.095 |
| | | Blue | XB2-BA965 | 0.095 |
| | 155 to 182mm | Black | XB2-BA926 | 0.100 |
| | | Red | XB2-BA946 | 0.100 |
| | | Blue | XB2-BA966 | 0.100 |
| 180 to 207mm | Black | XB2-BA927 | 0.105 | |
| | Red | XB2-BA947 | 0.105 | |
| | Blue | XB2-BA967 | 0.105 | |
| 205 to 232mm | Black | XB2-BA928 | 0.110 | |
| | Red | XB2-BA948 | 0.110 | |
| | Blue | XB2-BA968 | 0.110 | |
| 230 to 257mm | Black | XB2-BA929 | 0.115 | |
| | Red | XB2-BA949 | 0.115 | |
| | Blue | XB2-BA969 | 0.115 | |

When ordering



a complete unit.
Please state the exact reference.
Example: XB2-BA822

Legends : see pages 13 to 15
Dimensions: see page 17

Heads (lens + bezel)



ZB2-BV0•



ZB2-BV0.3

| | Colour | Reference | Weight kg |
|--|--------|-----------|-----------|
| Standard lenses suitable for use with ISO legends | Green | ZB2-BV03 | 0.025 |
| | Red | ZB2-BV04 | 0.025 |
| | Yellow | ZB2-BV05 | 0.025 |
| | Blue | ZB2-BV06 | 0.025 |
| | Clear | ZB2-BV07 | 0.025 |
| High contrast lenses | Green | ZB2-BV033 | 0.025 |
| | Red | ZB2-BV043 | 0.025 |
| | Yellow | ZB2-BV053 | 0.025 |
| | Blue | ZB2-BV063 | 0.025 |
| | Clear | ZB2-BV073 | 0.025 |

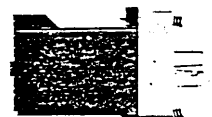
Complete body with screw and captive cable clamp connections



ZB2-BV6



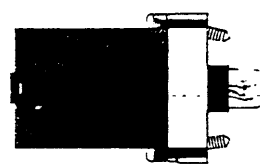
ZB2-BV7



ZB2-BV••

| Supply | Typical scheme | Maximum supply voltage | Reference | Weight kg |
|--|----------------|------------------------|-----------|-----------|
| Direct bulb not supplied to order: see page 13 | | ≤ 130V | ZB2-BV6 | 0.045 |
| Direct through resistor bulb supplied type BA9s, 130V | | 220/240V | ZB2-BV7 | 0.055 |
| Via integral transformer 1.2VA bulb supplied type BA9s, 6V | | 24V:50Hz | ZB2-BV1 | 0.110 |
| | | 48V:50Hz | ZB2-BV2 | 0.110 |
| | | 110V:50Hz | ZB2-BV3 | 0.110 |
| | | 220/240V:50Hz | ZB2-BV4 | 0.110 |
| | | 380V:50Hz | ZB2-BV5 | 0.110 |
| | | 415V:50Hz | ZB2-BV93 | 0.110 |
| | | 440/480:60Hz | ZB2-BV95 | 0.110 |
| | | 500V:50Hz | ZB2-BV8 | 0.110 |
| | | 500/600:60Hz | ZB2-BV98 | 0.110 |

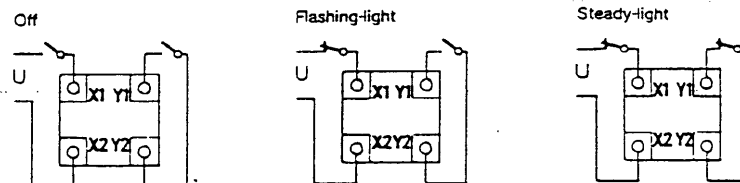
Flashing pilot light body with screw and captive cable clamp connections



ZB2-BV1••

| Description | Supply voltage | Reference | Weight kg |
|--|----------------------------------|------------------------|-----------|
| 4 terminal output 3 states, off, flashing light and steady light | Bulb supplied type BA9s, 24V | 24V:AC → ZB2-BV181 | 0.070 |
| | | 24V:DC → ZB2-BV191 | 0.070 |
| | Bulb supplied type BA9s, 48V | 48V:AC → ZB2-BV183 | 0.070 |
| | | 48V:DC → ZB2-BV193 | 0.070 |
| | Bulb supplied type BA9s, 130V | 110/127:AC → ZB2-BV184 | 0.070 |
| | | 220/240:AC → ZB2-BV185 | 0.070 |

Schemes



DC: U → - X1
+ X2

By the addition of up to 2 ZB2-BE10• contact blocks, these bodies may be used for flashing illuminated pushbutton and illuminated selector switch applications.

When ordering



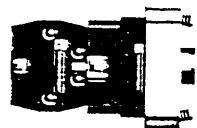
a head, a complete body or a flashing pilot light body.
Please state the exact reference.
Examples: ZB2-BV03, ZB2-BV6, ZB2-BV181.

circular head, chromium plated metal bezel

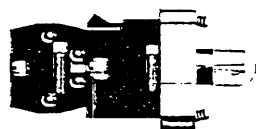
Body/contact assemblies. For use with operator heads shown on pages 4 (ZB2-BH3 to 7 only), 7 and 12

Bulb information: see page 13
Dimensions : see page 17

Complete bodies; screw and captive cable clamp connections



ZB2-BW06•



ZB2-BW07•



ZB2-BW0...•••

| Supply | Typical scheme | Maximum supply voltage | Contact arrangement | Reference | Weight kg |
|--|----------------|------------------------|---------------------|-----------|-----------|
| Direct | | ≤130V | N/O | ZB2-BW061 | 0.060 |
| | | | N/C | ZB2-BW062 | 0.060 |
| | | | N/O+N/O | ZB2-BW063 | 0.070 |
| | | | N/C+N/C | ZB2-BW064 | 0.070 |
| | | | N/O+N/C | ZB2-BW065 | 0.070 |
| Direct through resistor bulb supplied type 8A9s, 130V | | 220/240 | N/O | ZB2-BW071 | 0.065 |
| | | | N/C | ZB2-BW072 | 0.065 |
| | | | N/O+N/O | ZB2-BW073 | 0.080 |
| | | | N/C+N/C | ZB2-BW074 | 0.080 |
| | | | N/O+N/C | ZB2-BW075 | 0.080 |
| Via integral transformer 1.2VA bulb supplied type 8A9s, 6V | | 24V:50Hz | N/O | ZB2-BW011 | 0.120 |
| | | | N/C | ZB2-BW012 | 0.120 |
| | | | N/O+N/O | ZB2-BW013 | 0.135 |
| | | | N/C+N/C | ZB2-BW014 | 0.135 |
| | | | N/O+N/C | ZB2-BW015 | 0.135 |
| | | 48V:50Hz | N/O | ZB2-BW021 | 0.120 |
| | | | N/C | ZB2-BW022 | 0.120 |
| | | | N/O+N/O | ZB2-BW023 | 0.135 |
| | | | N/C+N/C | ZB2-BW024 | 0.135 |
| | | | N/O+N/C | ZB2-BW025 | 0.135 |
| | | 110V:50Hz | N/O | ZB2-BW031 | 0.120 |
| | | | N/C | ZB2-BW032 | 0.120 |
| | | | N/O+N/O | ZB2-BW033 | 0.135 |
| | | | N/C+N/C | ZB2-BW034 | 0.135 |
| | | | N/O+N/C | ZB2-BW035 | 0.135 |
| 220/240V:50Hz | | N/O | ZB2-BW041 | 0.120 | |
| | | N/C | ZB2-BW042 | 0.120 | |
| | | N/O+N/O | ZB2-BW043 | 0.135 | |
| | | N/C+N/C | ZB2-BW044 | 0.135 | |
| | | N/O+N/C | ZB2-BW045 | 0.135 | |
| 380V:50Hz | | N/O | ZB2-BW051 | 0.120 | |
| | | N/C | ZB2-BW052 | 0.120 | |
| | | N/O+N/O | ZB2-BW053 | 0.135 | |
| | | N/C+N/C | ZB2-BW054 | 0.135 | |
| | | N/O+N/C | ZB2-BW055 | 0.135 | |
| 415V:50Hz | | N/O | ZB2-BW0931 | 0.120 | |
| | | N/C | ZB2-BW0932 | 0.120 | |
| | | N/O+N/O | ZB2-BW0933 | 0.135 | |
| | | N/C+N/C | ZB2-BW0934 | 0.135 | |
| | | N/O+N/C | ZB2-BW0935 | 0.135 | |
| 440/480V:50Hz | | N/O | ZB2-BW0951 | 0.120 | |
| | | N/C | ZB2-BW0952 | 0.120 | |
| | | N/O+N/O | ZB2-BW0953 | 0.135 | |
| | | N/C+N/C | ZB2-BW0954 | 0.135 | |
| | | N/O+N/C | ZB2-BW0955 | 0.135 | |
| 500V:50Hz | | N/O | ZB2-BW081 | 0.120 | |
| | | N/C | ZB2-BW082 | 0.120 | |
| | | N/O+N/O | ZB2-BW083 | 0.135 | |
| | | N/C+N/C | ZB2-BW084 | 0.135 | |
| | | N/O+N/C | ZB2-BW085 | 0.135 | |
| 500/600V:60Hz | | N/O | ZB2-BW0981 | 0.120 | |
| | | N/C | ZB2-BW0982 | 0.120 | |
| | | N/O+N/O | ZB2-BW0983 | 0.135 | |
| | | N/C+N/C | ZB2-BW0984 | 0.135 | |
| | | N/O+N/C | ZB2-BW0985 | 0.135 | |

Assemble units of your choice

by using our wide range of adaptable sub-assemblies.
• Bodies and lenses for pilot lights (see previous page).

When ordering



a complete body.
Please state the exact reference. Example: ZB2-BW061
Add the reference of the head, bulb and legend (if required).

circular head, chromium plated metal bezel

Operating heads (bezel + lens), suitable for use with ISO legends or separate legend plates



ZB2-BW3•



ZB2-BW1•

| Type of operator | Colour | Reference | Weight kg | |
|--|--------|-----------|--------------|-------|
| Flush | Green | ZB2-BW33 | 0.025 | |
| | Red | ZB2-BW34 | 0.025 | |
| | Yellow | ZB2-BW35 | 0.025 | |
| | Blue | ZB2-BW36 | 0.025 | |
| | Clear | ZB2-BW37 | 0.025 | |
| Projecting | Green | ZB2-BW13 | 0.030 | |
| | Red | ZB2-BW14 | 0.030 | |
| | Yellow | ZB2-BW15 | 0.030 | |
| | Blue | ZB2-BW16 | 0.030 | |
| | Clear | ZB2-BW17 | 0.030 | |
| Flush booted | Green | ZB2-BW53 | 0.030 | |
| | Red | ZB2-BW54 | 0.030 | |
| Mushroom head Spring return | Ø40mm | Green | ZB2-BW43 | 0.030 |
| | | Red | ZB2-BW44 | 0.030 |
| Mushroom head Push-pull stay put | Ø40mm | Green | ZB2-BW63 | 0.030 |
| | | Red | ZB2-BW64 | 0.030 |

Operating heads for illuminated selector switches



ZB2-BK•••

| Description | Colour | Reference | Weight kg | |
|--|----------|-----------|--------------|-------|
| Standard handle 2 position | stay put | Green | ZB2-BK123 | 0.035 |
| | | Red | ZB2-BK124 | 0.035 |
| | | Yellow | ZB2-BK125 | 0.035 |
| | | Blue | ZB2-BK126 | 0.035 |
| | | Clear | ZB2-BK127 | 0.035 |
| spring return right to left | Green | ZB2-BK143 | 0.035 | |
| | Red | ZB2-BK144 | 0.035 | |
| | Yellow | ZB2-BK145 | 0.035 | |
| | Blue | ZB2-BK146 | 0.035 | |
| | Clear | ZB2-BK147 | 0.035 | |
| Standard handle 3 position | stay put | Green | ZB2-BK133 | 0.035 |
| | | Red | ZB2-BK134 | 0.035 |
| | | Yellow | ZB2-BK135 | 0.035 |
| | | Blue | ZB2-BK136 | 0.035 |
| | | Clear | ZB2-BK137 | 0.035 |
| spring return to centre | Green | ZB2-BK153 | 0.035 | |
| | Red | ZB2-BK154 | 0.035 | |
| | Yellow | ZB2-BK155 | 0.035 | |
| | Blue | ZB2-BK156 | 0.035 | |
| | Clear | ZB2-BK157 | 0.035 | |
| stay put on left, spring return from right to centre | Green | ZB2-BK183 | 0.035 | |
| | Red | ZB2-BK184 | 0.035 | |
| | Yellow | ZB2-BK185 | 0.035 | |
| | Blue | ZB2-BK186 | 0.035 | |
| | Clear | ZB2-BK187 | 0.035 | |
| stay put on right, spring return from left to centre | Green | ZB2-BK173 | 0.035 | |
| | Red | ZB2-BK174 | 0.035 | |
| | Yellow | ZB2-BK175 | 0.035 | |
| | Blue | ZB2-BK176 | 0.035 | |
| | Clear | ZB2-BK177 | 0.035 | |

Operating heads for "push to test" pilot lights



ZB2-BV0•••

| | | |
|--------|-----------|-------|
| Green | ZB2-BV031 | 0.030 |
| Red | ZB2-BV041 | 0.030 |
| Yellow | ZB2-BV051 | 0.030 |
| Blue | ZB2-BV061 | 0.030 |
| Clear | ZB2-BV071 | 0.030 |

When ordering



an operating head.

Please state the exact reference. Example: ZB2-BW63.

Add the reference of the body, bulb and the legend (if required),

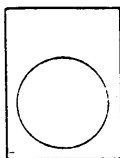
see pages 11 and 13.

for XB2-B control and signalling units

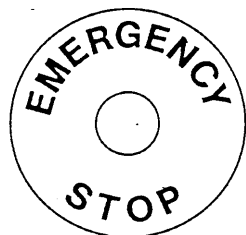
Legend plates 30 x 40mm: Not suitable for use with double-headed pushbuttons

"Start" functions: white characters on black. "Stop" functions: white characters on red.

| Text | Reference | Weight kg | Text | Reference | Weight kg |
|------------------------------|------------|--------------|----------------------------|------------|--------------|
| Without text | | | | | |
| Red or black background | ZB2-BY2101 | 0.001 | White or yellow background | ZB2-BY4101 | 0.001 |
| Standard texts | | | | | |
| For pushbuttons | | | | | |
| Start | ZB2-BY2303 | 0.001 | Stop | ZB2-BY2304 | 0.001 |
| Forward | ZB2-BY2305 | 0.001 | Reverse | ZB2-BY2306 | 0.001 |
| Up | ZB2-BY2307 | 0.001 | Down | ZB2-BY2308 | 0.001 |
| Right | ZB2-BY2309 | 0.001 | Left | ZB2-BY2310 | 0.001 |
| On | ZB2-BY2311 | 0.001 | Off | ZB2-BY2312 | 0.001 |
| Open | ZB2-BY2313 | 0.001 | Close | ZB2-BY2314 | 0.001 |
| Auto | ZB2-BY2115 | 0.001 | Hand | ZB2-BY2116 | 0.001 |
| Reset | ZB2-BY2323 | 0.001 | Emergency stop | ZB2-BY2330 | 0.001 |
| Power | ZB2-BY2326 | 0.001 | Inch | ZB2-BY2321 | 0.001 |
| Slow | ZB2-BY2337 | 0.001 | Fast | ZB2-BY2328 | 0.001 |
| For selector switches | | | | | |
| Auto-Hand | ZB2-BY2364 | 0.001 | Auto-O-Hand | ZB2-BY2385 | 0.001 |



ZB2-BY...



ZB2-BY...330



DL1-C...

Universal symbols

| For pushbuttons | | | For selector switches | | |
|-----------------|------------|-------|-----------------------|------------|-------|
| O | ZB2-BY2146 | 0.001 | O-H | ZB2-BY2178 | 0.001 |
| I | ZB2-BY2147 | 0.001 | I-H | ZB2-BY2179 | 0.001 |
| II | ZB2-BY2148 | 0.001 | I-O-II | ZB2-BY2186 | 0.001 |
| III | ZB2-BY2149 | 0.001 | | | |

Special texts. Please state the exact wording required when ordering (2 lines max. 11 charas./line).


| | | | | | |
|--------------------------|------------|-------|--|------------|-------|
| Black with white charas. | ZB2-BY2002 | 0.001 | Yellow with black charas. | ZB2-BY4005 | 0.001 |
| Red with white charas. | ZB2-BY2004 | 0.001 | For a number of legends with the same text, please consult your regional sales office. | | |
| White with black charas. | ZB2-BY4001 | 0.001 | | | |

Large legend plates for use with mushroom heads

| | | |
|---|------------|-------|
| Round, Ø60mm. Text: - "Emergency stop", yellow with black charas. | ZB2-BY9330 | 0.006 |
| Round, Ø90mm. Text: - "Emergency stop", yellow with black charas. | ZB2-BY8330 | 0.008 |
| Rectangular, 45 x 67.5. Without text, red background. | ZB2-BY5101 | 0.006 |

Bulbs

For use in direct supply units: BA9s base fitting. Incandescent bulbs; V ≤ 130V, maximum power 2.6W. Ø11mm maximum, length 28mm maximum.

 Sold in lots of 10.

Incandescent bulbs

| Voltage | Power | Unit Reference | Weight kg |
|---------|-------|-------------------|--------------|
| 6V | 1.5W | DL1-CB006 | 0.002 |
| 12V | 2.6W | DL1-CE012 | 0.002 |
| 24V | 2.6W | DL1-CE024 | 0.002 |
| 48V | 2.6W | DL1-CE048 | 0.002 |
| 130V | 2.6W | DL1-CE130 | 0.002 |



ZB2-SZ3

Blanking plug for Ø22.2mm hole (sold singly)

| | | |
|---------------------------|---------|-------|
| Black insulating material | ZB2-SZ3 | 0.005 |
| Grey insulating material | ZB2-SZ4 | 0.005 |

TOOLS (sold singly)

| | | |
|--|---------|-------|
| Bulb extractor for use with types BA9s | XBF-X13 | 0.025 |
| Lens tool for ISO legend operators | ZB2-BZ8 | 0.006 |
| Padlockable guard for flush pushbutton operators | ZB2-BZ6 | 0.090 |

Other versions

Legend plates with texts in other languages.
Please consult your regional sales office.

When ordering



a standard legend plate.

Please state the exact reference. Example: ZB2-BY2304

a special legend plate.

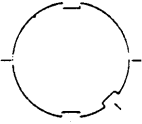
Please state the exact reference of the legend plate and the text required.

Example: ZB2-BY4001 "Pump 1".

For mounting within the operating heads

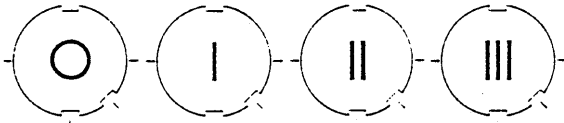
- flush pushbuttons
- projecting pushbuttons
- booted pushbuttons
- illuminated pushbuttons
- push to test pilot lights and pilot lights

Without text



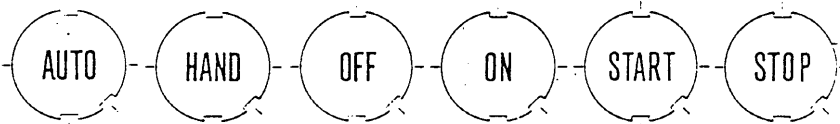
ZB2-BY1101

Universal symbols



ZB2-BY1146 ZB2-BY1147 ZB2-BY1148 ZB2-BY1149

English texts

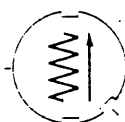
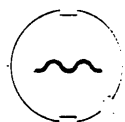
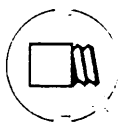
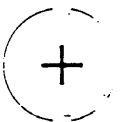

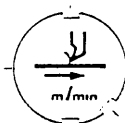
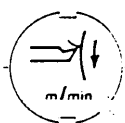

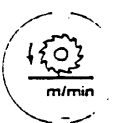

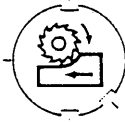


ZB2-BY1115 ZB2-BY1316 ZB2-BY1312 ZB2-BY1311 ZB2-BY1303 ZB2-BY1304

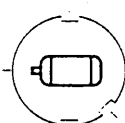
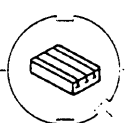
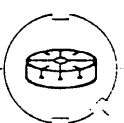
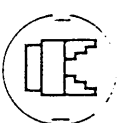
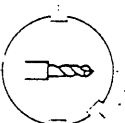
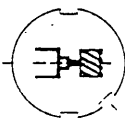
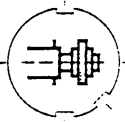
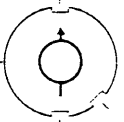
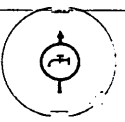
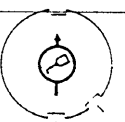
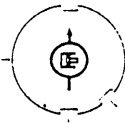
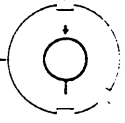

Symbols for motions and speeds

| | | | | | | | | | |
|------------|--|------------|---|------------|--|------------|--|------------|--|
| | Direction of continuous linear motion to the right | | Direction of continuous linear motion to the left | | Direction of continuous upward linear motion | | Direction of continuous downward linear motion | | Linear motion in two directions Left-Right |
| ZB2-BY1912 | | ZB2-BY1914 | | ZB2-BY1913 | | ZB2-BY1915 | | ZB2-BY1932 | |
| | Linear motion in two directions Up-Down | | Interrupted linear motion | | Limited linear motion | | Limited linear movement and return | | Continuous oscillating linear motion |
| ZB2-BY1931 | | ZB2-BY1901 | | ZB2-BY1902 | | ZB2-BY1903 | | ZB2-BY1904 | |
| | Continuous clockwise rotation | | Continuous anti-clockwise rotation | | Rotation in two directions | | Interrupted clockwise rotation | | Interrupted anti-clockwise rotation |
| ZB2-BY1905 | | ZB2-BY1906 | | ZB2-BY1907 | | ZB2-BY1908 | | ZB2-BY1909 | |
| | Limited clockwise rotation | | Limited anti-clockwise rotation | | Limited rotary movement and return | | Continuous oscillating movement | | Direction of spindle rotation |
| ZB2-BY1910 | | ZB2-BY1911 | | ZB2-BY1916 | | ZB2-BY1917 | | ZB2-BY1918 | |
| | One revolution irrespective of direction | | Number of revolutions per minute | | Feed | | Feed, mm/revolution | | Feed, mm/minute |
| ZB2-BY1919 | | ZB2-BY1920 | | ZB2-BY1921 | | ZB2-BY1922 | | ZB2-BY1923 | |
| | Reduced feed | | Rapid feed | | Normal feed | | Longitudinal feed | | Transverse feed |
| ZB2-BY1924 | | ZB2-BY1925 | | ZB2-BY1926 | | ZB2-BY1927 | | ZB2-BY1928 | |


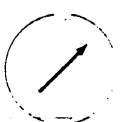
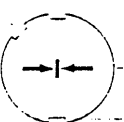
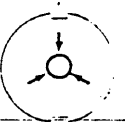
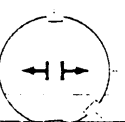
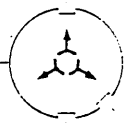
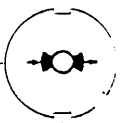
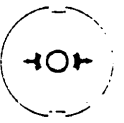
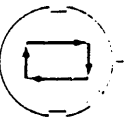
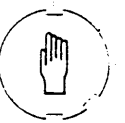
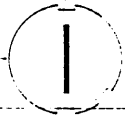

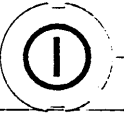
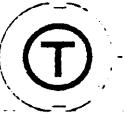
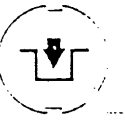
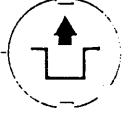
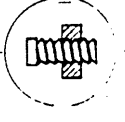
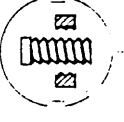
Symbols for motions and speeds (continued)

| | | | | | | | | | |
|--|----------------------|---|----------------------|---|-----------------------|--|----------------------|---|----------------------|
|  | Vertical feed |  | Rapid traverse |  | Threading |  | Increase of a value |  | Decrease of a value |
| ZB2-BY1929 | | ZB2-BY1930 | | ZB2-BY1933 | | ZB2-BY1934 | | ZB2-BY1935 | |
|  | Speed of planing cut |  | Speed of turning cut |  | Speed of drilling cut |  | Speed of milling cut |  | Conventional milling |
| ZB2-BY1936 | | ZB2-BY1937 | | ZB2-BY1938 | | ZB2-BY1939 | | ZB2-BY1940 | |
|  | Climb milling | | | | | | | | |
| ZB2-BY1941 | | | | | | | | | |

Element symbols

| | | | | | | | | | |
|--|-----------------|---|---|---|--------------------------------------|--|-----------------|---|------------------|
|  | Electric motor |  | Rectangular work table or slide element |  | Round work table or rotating element |  | Turning spindle |  | Drilling spindle |
| ZB2-BY1942 | | ZB2-BY1943 | | ZB2-BY1944 | | ZB2-BY1945 | | ZB2-BY1946 | |
|  | Milling spindle |  | Grinding spindle |  | Pump (general symbol) |  | Coolant pump |  | Lubricant pump |
| ZB2-BY1947 | | ZB2-BY1948 | | ZB2-BY1949 | | ZB2-BY1950 | | ZB2-BY1951 | |
|  | Hydraulic pump |  | Hydraulic motor |  | Tracer | | | | |
| ZB2-BY1952 | | ZB2-BY1953 | | ZB2-BY1954 | | | | | |

Operational symbols

| | | | | | | | | | |
|--|-----------------------|---|----------------|---|-----------------|--|-------------------------------------|---|-----------------|
|  | Continuous regulation |  | Adjustable |  | Lock or tighten |  | Lock or tighten |  | Unlock, unclamp |
| ZB2-BY1955 | | ZB2-BY1956 | | ZB2-BY1957 | | ZB2-BY1958 | | ZB2-BY1959 | |
|  | Unlock, unclamp |  | Brake on |  | Brake off |  | Automatic (or semi-automatic) cycle |  | Hand control |
| ZB2-BY1960 | | ZB2-BY1961 | | ZB2-BY1962 | | ZB2-BY1963 | | ZB2-BY1964 | |
|  | ON |  | OFF |  | ON-OFF |  | ON, whilst pushbutton depressed |  | Engaging |
| ZB2-BY1965 | | ZB2-BY1966 | | ZB2-BY1967 | | ZB2-BY1968 | | ZB2-BY1969 | |
|  | Disengaging |  | Locknut closed |  | Locknut open | | | | |
| ZB2-BY1970 | | ZB2-BY1971 | | ZB2-BY1972 | | | | | |

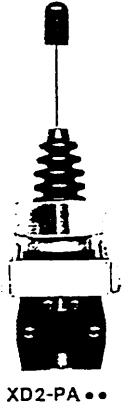
circular head, chromium plated metal bezel

Screw and captive cable clamp connections

(positions A, B, C, D are as viewed from the front of the unit)

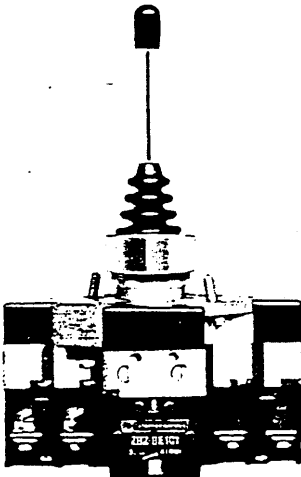
Dimensions: see page 19
Schemes : see page 19

Complete units, type XD2-P (compact, contact blocks are not interchangeable)

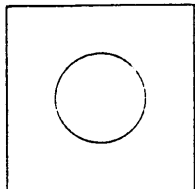
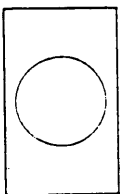


| Description | | Reference | Weight kg |
|--|--|--|----------------|
| 2 direction Fixing centres 30x85mm | A — o — B | Without spring return to the zero position | XD2-PA12 0.115 |
| | | With spring return to the zero position | XD2-PA22 0.115 |
| 4 direction Fixing centres 85x85mm | <pre> D A --- o --- B C </pre> | Without spring return to the zero position | XD2-PA14 0.145 |
| | | With spring return to the zero position | XD2-PA24 0.145 |

Complete units, type XD2-G



| | | | |
|--|--|--|------------------|
| 2 direction Fixing centres 90x90mm | A — o — B | 2 notches with spring return to the zero position | XD2-GA8241 0.500 |
| | | 2 notches: 1st notch stayput 2nd notch spring return to 1st notch | XD2-GA8251 0.500 |
| 4 direction Fixing centres 90x90mm | <pre> D A --- o --- B C </pre> | 2 notches with spring return to the zero position | XD2-GA8441 0.555 |
| | | 2 notches: 1st notch stayput 2nd notch spring return to 1st notch | XD2-GA8451 0.555 |



Accessories and spare parts

| | | | | |
|---|-------------------------|-------|------------|-------|
| 2 direction legend plates For XD2-PA: 30x48mm For XD2-GA: 40x64mm | Without text, black one | 30x48 | ZD2-GY2201 | 0.002 |
| | side - red other | 40x64 | ZD2-GY5201 | 0.002 |
| | With text* | 30x48 | ZD2-GY2002 | 0.002 |
| | black background | 40x64 | ZD2-GY5002 | 0.002 |
| 4 direction legend plates For XD2-PA: 48x48mm For XD2-GA: 64x64mm | With text* | 30x48 | ZD2-GY2004 | 0.002 |
| | red background | 40x64 | ZD2-GY5004 | 0.002 |
| | Without text, black one | 48x48 | ZD2-GY4201 | 0.003 |
| | side - red other | 64x64 | ZD2-GY6201 | 0.003 |
| | With text* | 48x48 | ZD2-GY4002 | 0.003 |
| | black background | 64x64 | ZD2-GY6002 | 0.003 |
| | With text* | 48x48 | ZD2-GY4004 | 0.003 |
| | red background | 64x64 | ZD2-GY6004 | 0.003 |

*State exact text required when ordering: 2 lines of 11 characters per line max.

| | | | |
|--------------------------|----------------------------------|----------------------------------|-------|
| Spare N/O contact blocks | For controllers XD2-PA XD2-GA | Not interchangeable ZB2-BE101 | 0.015 |
|--------------------------|----------------------------------|----------------------------------|-------|

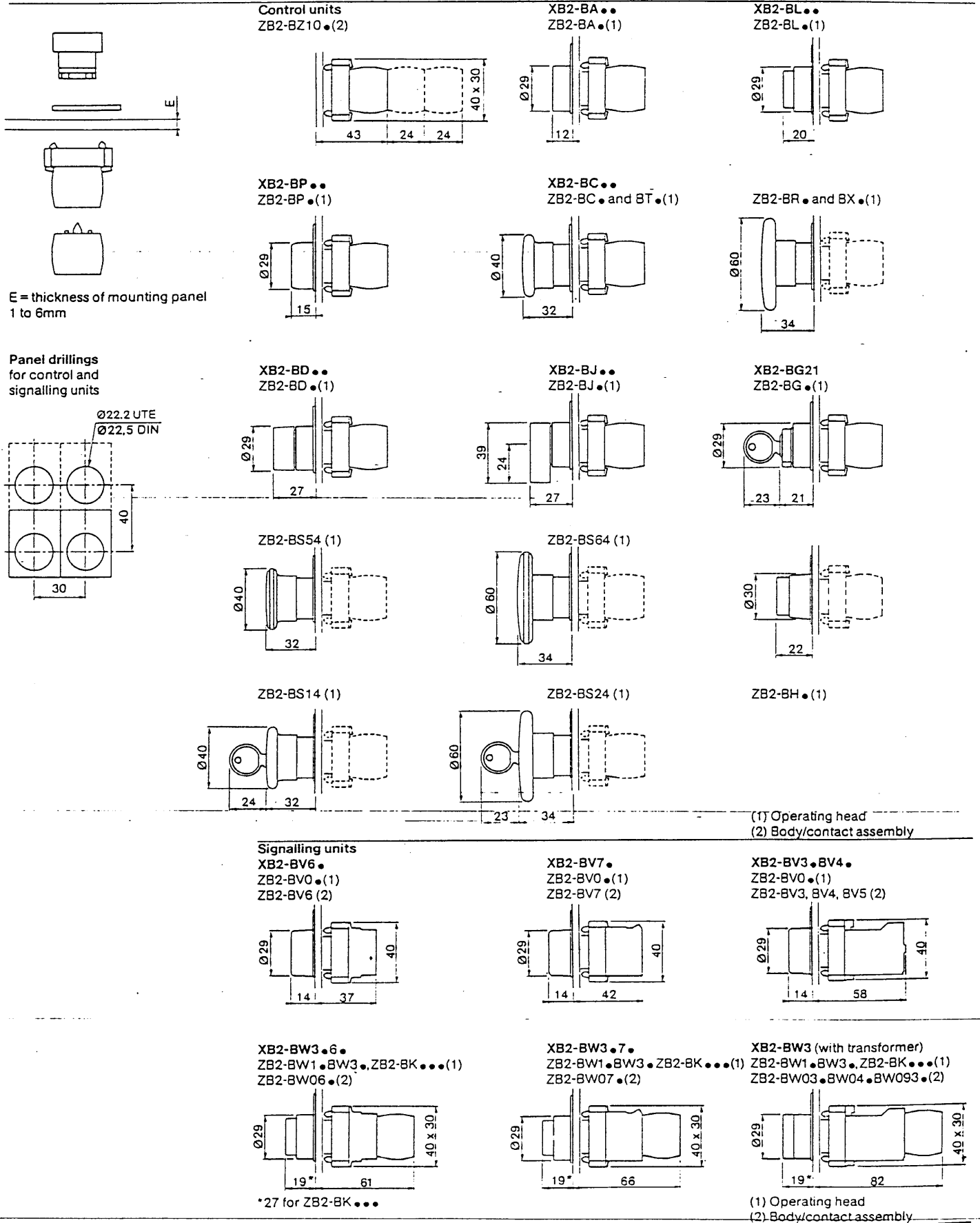
→ Other versions Variable composition XD2-GA controllers (1 or 2 notches per direction: 1 or 2 contacts per direction).
Contacts for low power switching.
Please consult your local sales office.

When ordering



a small joystick controller
Please state the exact reference. Example: XD2-PA24.
Add the reference of the legend plate and the text required.

Dimensions of control and signalling units $\varnothing 22.2$ (fixing)



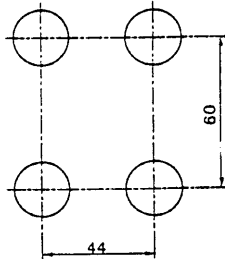
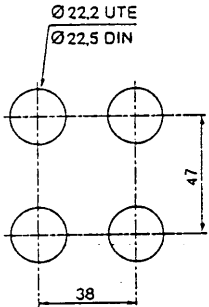
Dimensions

of double-headed pushbutton operators

References: see pages 6,7 and 11

Panel drillings
for double-headed pushbutton
operators, without pilot light

for double-headed pushbutton operators,
with pilot light without boot

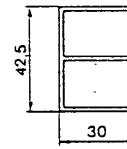
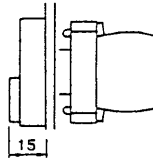
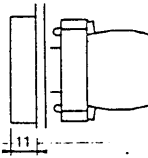
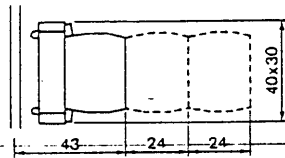


Double-headed pushbutton operators without pilot light

ZB2-BZ10● (2)

ZB2-BA● (1)

XB2-BL●●
ZB2-BL● (1)



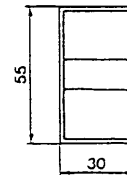
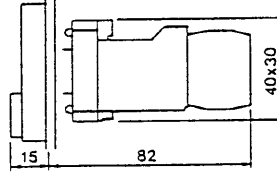
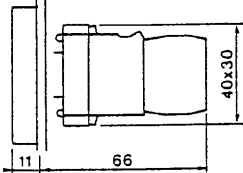
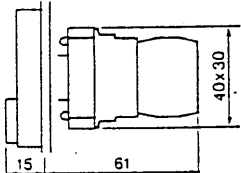
(1) Operating Head (2) Body/contact assembly

Double-headed pushbutton operators with pilot light

XB2-BW9●●● (direct)
ZB2-BW8●●●● (1)
ZB2-BW065 (2)

XB2-BW9●●● (with resistor)
ZB2-BW8●●●● (1)
ZB2-BW075 (2)

XB2-BW9●●● (with transformer)
ZB2-BW8●●●● (1)
ZB2-BW035, BW045, BW055 (2)

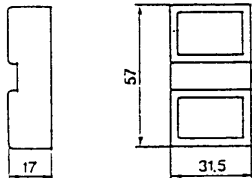


(1) Operating head (2) Body/contact assembly

Sealing boot

for double-headed pushbutton operators with pilot light (supplied fitted)

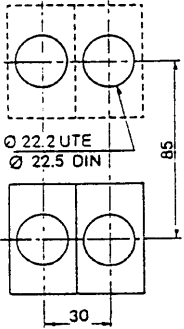
ZB2-BW008



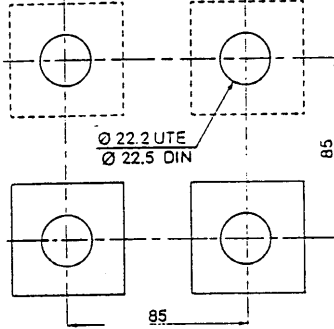
Dimensions and schemes of small joystick controllers Ø22.2 (fixing)

References: see page 16

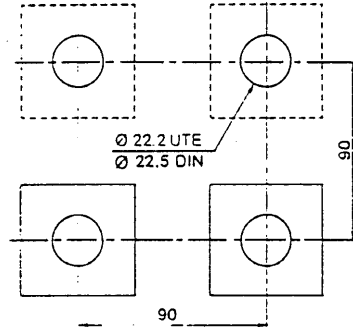
Panel drillings for controllers XD2-PA (2 direction)



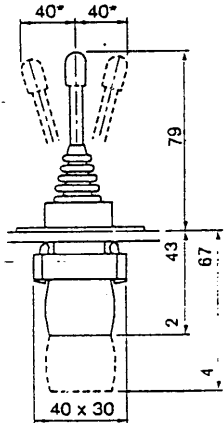
XD2-PA (4 direction)



XD2-GA (2 and 4 direction)

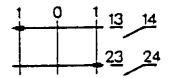
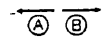
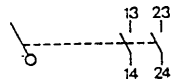
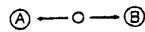


Controllers XD2-PA••

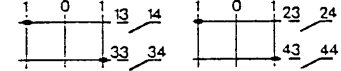
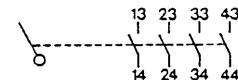
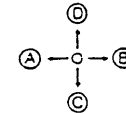


*typical for each of the 4 directions

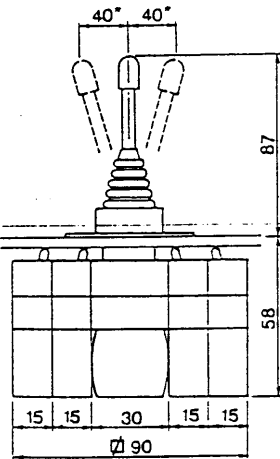
XD2-PA12 XD2-PA22



XD2-PA14 XD2-PA24

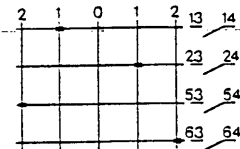
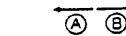
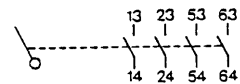
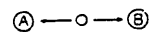


XD2-GA••

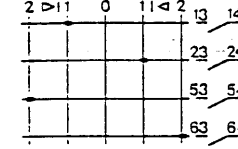
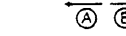
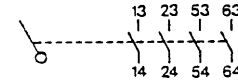
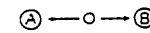


*typical for each of the 4 directions

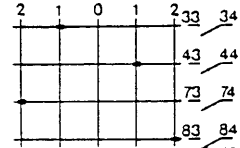
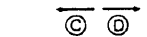
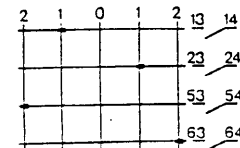
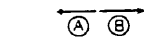
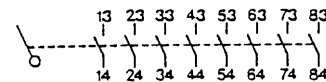
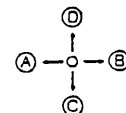
XD2-GA8241



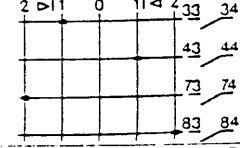
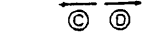
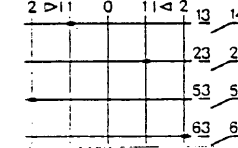
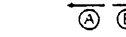
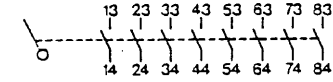
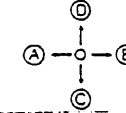
XD2-GA8251



XD2-GA8441



XD2-GA8451



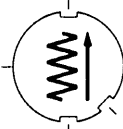
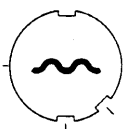
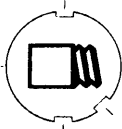
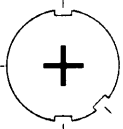
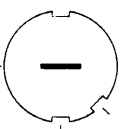
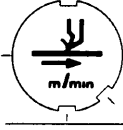
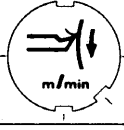

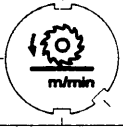


Notes :

X B 2 B L 4 2
FAMILY HEAD CONTACT

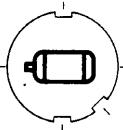
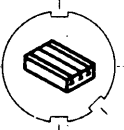
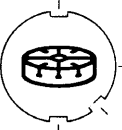
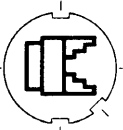
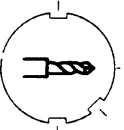
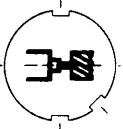
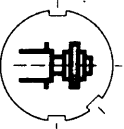
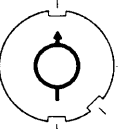
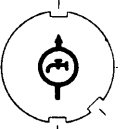
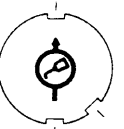
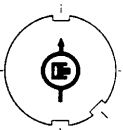
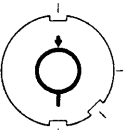

HEAD = ZB2-LB4

BODY } = ZB2-BZ102
+CONTACT }

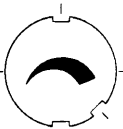
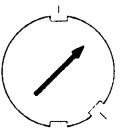
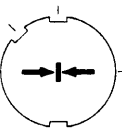
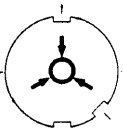
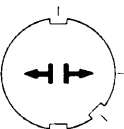
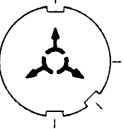
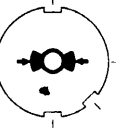
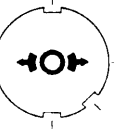
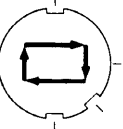
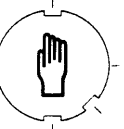
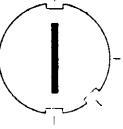
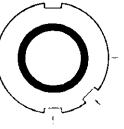
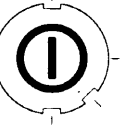
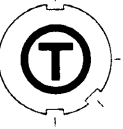
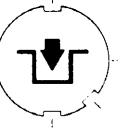
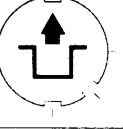
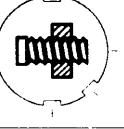
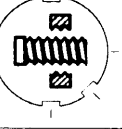
Symbols for motions and speeds (continued)

| | | | | | | | | | |
|---|------------------------------------|---|------------------------------------|---|-------------------------------------|--|------------------------------------|---|------------------------------------|
|  | Vertical feed ZB2-BY1929 |  | Rapid traverse ZB2-BY1930 |  | Threading ZB2-BY1933 |  | Increase of a value ZB2-BY1934 |  | Decrease of a value ZB2-BY1935 |
|  | Speed of planing cut ZB2-BY1936 |  | Speed of turning cut ZB2-BY1937 |  | Speed of drilling cut ZB2-BY1938 |  | Speed of milling cut ZB2-BY1939 |  | Conventional milling ZB2-BY1940 |
|  | Climb milling ZB2-BY1941 | | | | | | | | |

Element symbols

| | | | | | | | | | |
|---|-------------------------------|---|---|---|--|--|-------------------------------|---|--------------------------------|
|  | Electric motor ZB2-BY1942 |  | Rectangular work table or slide element ZB2-BY1943 |  | Round work table or rotating element ZB2-BY1944 |  | Turning spindle ZB2-BY1945 |  | Drilling spindle ZB2-BY1946 |
|  | Milling spindle ZB2-BY1947 |  | Grinding spindle ZB2-BY1948 |  | Pump (general symbol) ZB2-BY1949 |  | Coolant pump ZB2-BY1950 |  | Lubricant pump ZB2-BY1951 |
|  | Hydraulic pump ZB2-BY1952 |  | Hydraulic motor ZB2-BY1953 |  | Tracer ZB2-BY1954 | | | | |

Operational symbols

| | | | | | | | | | |
|---|-------------------------------------|---|------------------------------|---|-------------------------------|--|---|---|-------------------------------|
|  | Continuous regulation ZB2-BY1955 |  | Adjustable ZB2-BY1956 |  | Lock or tighten ZB2-BY1957 |  | Lock or tighten ZB2-BY1958 |  | Unlock, unclamp ZB2-BY1959 |
|  | Unlock, unclamp ZB2-BY1960 |  | Brake on ZB2-BY1961 |  | Brake off ZB2-BY1962 |  | Automatic (or semi-automatic) cycle ZB2-BY1963 |  | Hand control ZB2-BY1964 |
|  | ON ZB2-BY1965 |  | OFF ZB2-BY1966 |  | ON - OFF ZB2-BY1967 |  | ON, whilst pushbutton depressed ZB2-BY1968 |  | Engaging ZB2-BY1969 |
|  | Disengaging ZB2-BY1970 |  | Locknut closed ZB2-BY1971 |  | Locknut open ZB2-BY1972 | | | | |

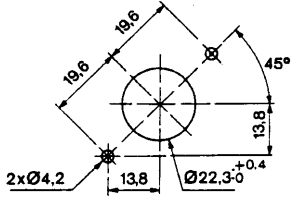
Analogue output joystick controllers Ø 22 mm (fixing)

with circular chromium plated metal bezel

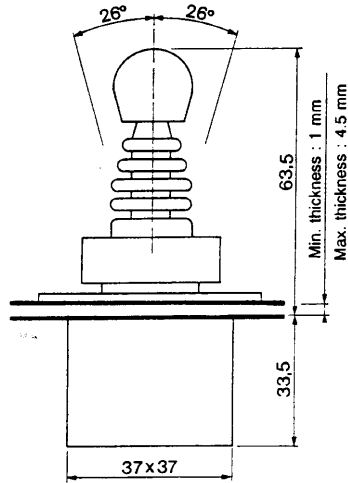
Characteristics :
page 24
Output curves :
page 24
References :
page 25

Dimensions, mounting

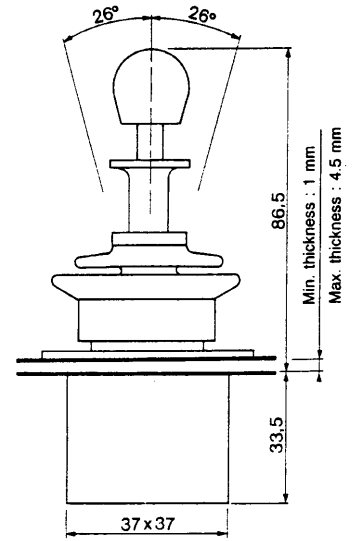
Panel cut-out (thickness 1 to 4.5 mm)
Viewed from top of panel



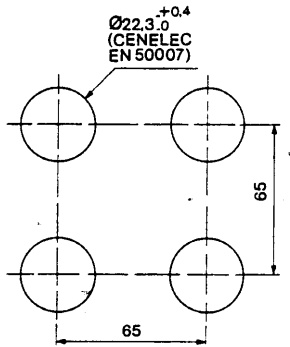
Dimensions
XDA-L11...



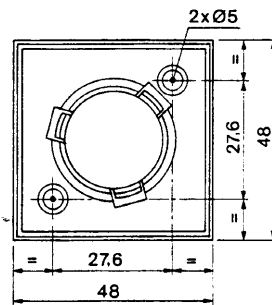
XDA-V11...



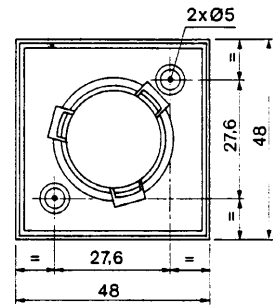
Minimum distance between 2 controllers



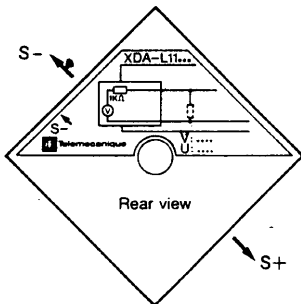
Front plate (48 x 48)



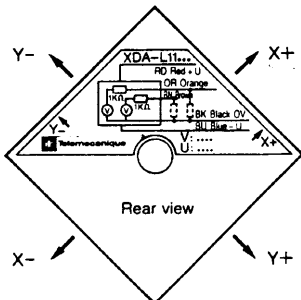
Front plate (48 x 48)



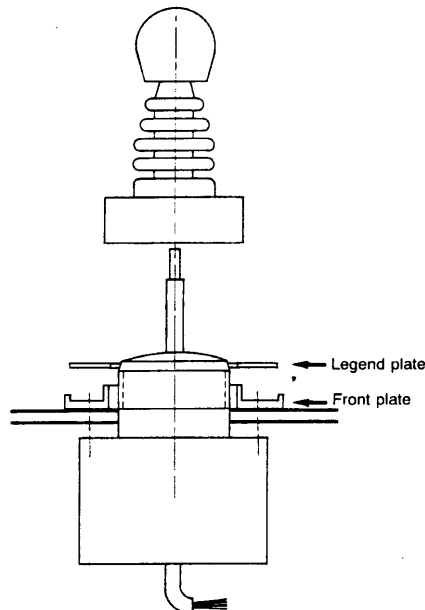
Displacement axes
One 2 direction axis



Two all direction axes



Mounting
XDA-L11...



XDA-V11...

