

### Outline

The COB 60 series is a push button switch for indirect operation via electro-magnetic switches. It is small, light, and economical.

Button packing is included inside the case, built-in structure.

It is possible to manufacture types other than the standard of cable bushing and character boards, etc. The attached cable bushing of COB64 and COB66 is supposed to be used for vinyl cable.






The standard case is made with high impact ABS, and is light and safe with no risk of electrification.

The mechanical interlock is included for safety, so Up/Down and East/West cannot be pressed at the same time.

COB61, COB 62, COB 63 have type attached with power on/off unit which is convenient for opening/closing of the main circuit and switch on/off of the light (COB61UNB, COB62UNB, COB63UNB). The installing position of power on/off unit is at the uppermost.


Using twin contact, we also have available a type built in with a switch unit that can correspond to a minute load (COB61W, COB 62W, COB 63W, COB 64W, COB 65W). The on/off switch is not twin contact. The contact reliability of twin contact is confirmed and proven usable without problems through the test using the circuit condition of DC 12V 10mA.

### Basic type list

| Type name                         | COB 61<br>COB 61W<br>COB 61UNB  | COB 62<br>COB 62W<br>COB 62UNB  | COB 63<br>COB 63W<br>COB 63UNB   |
|-----------------------------------|---|---|--|
| Appearance                        |    |  |   |
| No. of buttons                    | 2 (1 pair)  | 4 (2 pairs)   | 6 (3 pairs)  |
| Button packing                    | Built-in structure  |   |  |
| Prevention of erroneous operation | With mechanical interlock   |   |  |
| Type name                         | COB 64<br>COB 64W   |   | COB 66<br>COB 66W  |
| Appearance                        |  |   |  |
| No. of buttons                    | 8 (4 pairs)   |   | 12 (6 pairs)   |
| Button packing                    | Built-in structure  |   |  |
| Prevention of erroneous operation | With mechanical interlock   |   |  |

### General specifications

#### Specifications


| Item                  | Rating  |                                |
|-----------------------|---|--------------------------------|
| Degree of protection  | IP65 (JIS C 0920)<br>Electrical Appliance and Material Safety Law  : Rainproof type        |                                |
| Material/ Color       | Case: Shockproof ABS Resin <sup>Note</sup> / Orange (Munsell 7.5YR7/13 equivalent)<br>Case-tightening screws: Stainless (± screws)<br>Cable bushing: Synthetic rubber / Black |                                |
| Vibration proof       | Operational Tolerance   | 10 to 55Hz Displacement: 1.0mm |
| Shockproof            | Durability  | 500m/s <sup>2</sup>            |
|                       | Operational Tolerance   | 100m/s <sup>2</sup>            |
| Connected terminal    | M4 screws (Pressure terminal type)  |                                |
| Ambient temperature   | -15°C to +40°C<br>(must be free of ice or condensation)   |                                |
| Relative humidity     | 45 to 85% RH  |                                |
| Installation position | Must be installed with the cable slot uppermost using appropriate cable cabling.  |                                |

#### Rating



| Item                                     | Specifications                   |
|--|----------------------------------|
| Voltage used/<br>Rated operating current | 220V AC 2A                       |
| (Inductive load AC15)                    | 440V AC 1A                       |
| Rated insulation voltage                 | 500V AC                          |
| Rated thermal current                    | 5A                               |
| Insulation resistance                    | 100 MΩ or more (500 V DC Megger) |
| Withstand voltage                        | 2500 V AC / minute               |

**Remark** : Rating in accordance with the Electrical Appliance and Material Safety Law (250 V AC / 5 A) only is shown on the nameplate.

#### Compliance standards

| Name of standards   |
|---|
| JIS C 8201-5-1  |
| NECA C4520  |
| JIS C 0920  |
| Electrical Appliance and Material Safety Law  (compliant products) |

#### Overseas standards (Production on demand)

| Name of standards   | File name                                  |
|---|--|
| TÜV  | R9750209 (not applicable to COB66)         |
| CCC  | 2005010305168698 (not applicable to COB66) |

For Indirect Operation of Electrical Machinery

COB 60 series

Product List

| No. of buttons  | Characteristics                             | Type name        | Included cable bushing<br>(Applicable cable diameter range) | Included markings board   | Contact arrangement  | General mass (g) |
|-----------------|---|------------------|---|---|--|------------------|
| 2<br>(1 pair)   | —   | <b>COB 61</b>    | C125<br>( $\phi$ 11.4 to $\phi$ 12.6)                       | Up, Down  | 1NO-1NO  | 230              |
|                 | For minute current                          | <b>COB 61W</b>   |   | To be specified   | 1NO- Off   |                  |
|                 | With On/Off switch unit <small>Note</small> | <b>COB 61UNB</b> |   |   |  |                  |
| 4<br>(2 pairs)  | —   | <b>COB 62</b>    | C15<br>( $\phi$ 14.3 to $\phi$ 15.5)                        | Up, Down, East, West, South, North  | 1NO-1NO-1NO-1NO  | 340              |
|                 | For minute current                          | <b>COB 62W</b>   |   | To be specified   | 1NO- Off- 1NO- 1NO   |                  |
|                 | With On/Off switch unit <small>Note</small> | <b>COB 62UNB</b> |   |   |  |                  |
| 6<br>(3 pairs)  | —   | <b>COB 63</b>    | C18<br>( $\phi$ 17.2 to $\phi$ 18.4)                        | Up, Down, East, West, South, North  | 1NO-1NO-1NO-1NO-1NO-1NO                                    | 430              |
|                 | For minute current                          | <b>COB 63W</b>   |   | To be specified   | 1NO- Off- 1NO- 1NO- 1NO- 1NO                               |                  |
|                 | With On/Off switch unit <small>Note</small> | <b>COB 63UNB</b> |   |   |  |                  |
| 8<br>(4 pairs)  | With On/Off switch unit <small>Note</small> | <b>COB 64</b>    | C17<br>( $\phi$ 15.7 to $\phi$ 17.1)                        | On, Off, Up, Down, East, West, South, North                                 | 1NO- Off- 1NO- 1NO- 1NO- 1NO- 1NO- 1NO- 1NO                | 550              |
|                 | For minute current                          | <b>COB 64W</b>   |   |   |  |                  |
| 12<br>(6 pairs) | With On/Off switch unit <small>Note</small> | <b>COB 66</b>    | C18<br>( $\phi$ 17.2 to $\phi$ 18.4)                        | On, Off, Up, Down, East, West, South, North, Forward, Backward, Left, Right | 1NO- Off- 1NO- 1NO- 1NO- 1NO- 1NO- 1NO- 1NO- 1NO- 1NO- 1NO | 770              |
|                 | For minute current                          | <b>COB 66W</b>   |   |   |  |                  |

Note : Unit type name : UNB CH10

Option

Cable bushing

It is dangerous to use the standard cable bushing included with this product with inappropriate cabling, as rainwater may easily enter the switch. Please purchase the appropriate cable bushing.

| Cable bushing type name | Applicable cable diameter range |
|-------------------------|---------------------------------|
| C7                      | $\phi$ 6.8 to $\phi$ 7.9        |
| C8                      | $\phi$ 7.7 to $\phi$ 8.8        |
| C9                      | $\phi$ 8.9 to $\phi$ 10.0       |
| C10                     | $\phi$ 10.0 to $\phi$ 11.0      |
| C12                     | $\phi$ 10.6 to $\phi$ 11.8      |
| C125                    | $\phi$ 11.4 to $\phi$ 12.6      |
| C13                     | $\phi$ 12.3 to $\phi$ 13.5      |
| C14                     | $\phi$ 12.7 to $\phi$ 14.1      |
| C15                     | $\phi$ 14.3 to $\phi$ 15.5      |
| C16                     | $\phi$ 15.4 to $\phi$ 16.6      |
| C17                     | $\phi$ 15.7 to $\phi$ 17.1      |
| C18                     | $\phi$ 17.2 to $\phi$ 18.4      |
| C19                     | $\phi$ 18.4 to $\phi$ 19.6      |

| Cable bushing type name | Applicable cable diameter range | Packing (waterproof area) | Bush (protection area) |
|-------------------------|---------------------------------|---------------------------|------------------------|
| <b>COB A1</b>           | $\phi$ 7.5 to $\phi$ 10.5       | CC-A1                     | CB-A                   |
| <b>COB A2</b>           | $\phi$ 10.3 to $\phi$ 13.5      | CC-A2                     |                        |
| <b>COB B1</b>           | $\phi$ 13.3 to $\phi$ 16.5      | CC-B1                     | CB-B                   |
| <b>COB B2</b>           | $\phi$ 16.3 to $\phi$ 19.5      | CC-B2                     |                        |

• Installation method for COB A1, A2, B1, B2 cable bushing

The cable is fed through the bushing holder, bushing, and packing in that order, and the tightening screw used to secure the bushing holder firmly to the case. Two packings are prepared as a set. Check the cable range displayed on the packing, and separate off the applicable one.

In terms of C7 to C19 cable bushing, the bush and packing are integrated.

Reference :

When inserting into the bushing, it is recommended to lubricate the cable and cable slot with wet soap to ease insertion. Do not use lubricating oil, as this may damage the bushing.

