

**Outline**

The COB 280 series are pushbutton switches for hoist and crane operation with exposed button packing for which button packing is provided outside the case.

Cable protection area (cable bushing) and waterproof area (cable packing) are separate, so cable can easily be inserted and better water resistance can be achieved.




The standard case is formed from shockproof ABS, rendering it lightweight and risk-free in terms of electrical shocks, so it can be used safely.

Features a mechanical interlock. Simultaneous use of, for example, the up/down or east/west buttons is impossible to ensure safety.

There are a number of inching types that support crane hoisting/lowering in small increments. (COB 281A, COB 282A, COB 283A)


With regard to the switch to turn the power for direct operation on/off, there are also types with switch units that perform self maintenance by turning on a 2a contact when the ON button (top) is pressed, and leaves it open when the OFF button (bottom) is pressed. (COB 282KB, COB 283KB)

**Basic type list**

Type name	COB 281 COB 281A	COB 282 COB 282A COB 282KB	COB 283 COB 283A COB 283KB
Appearance			
No. of buttons	2 (1 pair)	4 (2 pairs)	6 (3 pairs)
Button packing	Exposed		
Prevention of erroneous operation	With mechanical interlock		

**General specifications**


**Specifications**

Item	Rating
Degree of protection	IP65 (JIS C 0920) NEMA: 4X-compliant Electrical Appliance and Material Safety Law  : Rainproof type
Material/ Color	Case: Shockproof ABS Resin <sup>Note</sup> / Orange (Munsell 7.5YR7/13 equivalent) Case-tightening screws: Stainless (± screws) Cable bushing: Synthetic rubber / Black
Insulation resistance	100MΩ or more (500 V DC Megger)
Withstand voltage	2500 V AC / minute
Vibration proof	Operational Tolerance 10 to 55Hz Displacement 1.5mm
Shockproof	Durability 500m/s <sup>2</sup>
	Operational Tolerance 100m/s <sup>2</sup>
Ambient temperature	-15°C to +40°C (must be free of ice or condensation)
Relative humidity	45 to 85% RH
Connected terminal	M4 screws (Pressure terminal type)
Installation position	Must be installed with the cable slot uppermost using appropriate cable cabling.

**Rating**

Item	Specifications
Voltage used	3 φ 200/220V 3 φ 400/440V
Rated insulation voltage	500V AC
Rated thermal current	15A
Insulation resistance	100MΩ or more (500 V DC Megger)
Withstand voltage	2500 V AC / minute

**Compliance standards**

Name of standards
JIS C 8201-3
JIS C 0920
Electrical Appliance and Material Safety Law  (compliant products)

Power Switches

Hoist Push-Button Switches

Operating Push Button Switches

Foot Switches

Liquid Level Relays

Product List

No. of buttons	Characteristics	Type	Maximum applicable electrical machinery capacity 3 φ 200/220V 400/440V	Included cable bushing (Applicable cable diameter range)	Included marking board	Contact arrangement	General mass (g)
2 (1 pair)	—	<b>COB 281</b>	2.2 kW	COB A2 (φ 10.3 to φ 13.5)	Up, Down	2NO-2NO	300
	For inching	<b>COB 281A</b>	1.5 kW				
4 (2 pairs)	—	<b>COB 282</b>	2.2 kW×2	COB B1 (φ 13.3 to φ 16.5)	Up, Down, East, West, South, North	2NO-2NO-2NO-2NO	460
	For inching	<b>COB 282A</b>	1.5 kW×2				
	With On/Off switch unit <small>Note</small>	<b>COB 282KB</b>	2.2 kW×1	COB A2 (φ 10.3 to φ 13.5)	On, Off, Up, Down	2NO-Off-2NO-2NO	
6 (3 pairs)	—	<b>COB 283</b>	2.2 kW×3	COB B2 (φ 16.3 to φ 19.5)	Up, Down, East, West, South, North	2NO-2NO-2NO-2NO-2NO-2NO	630
	For inching	<b>COB 283A</b>	1.5 kW×3				
	With On/Off switch unit <small>Note</small>	<b>COB 283KB</b>	2.2 kW×2	COB B1 (φ 13.3 to φ 16.5)	On, Off, Up, Down, East, West, South, North	2NO-Off-2NO-2NO-2NO-2NO	

Remarks :

1. Tightening up method is adopted to secure the cable within the case for standard products. Steel core attachment board is also available.
2. Please refer to “Cable bushing in Option” for installation of cable bushing.

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.

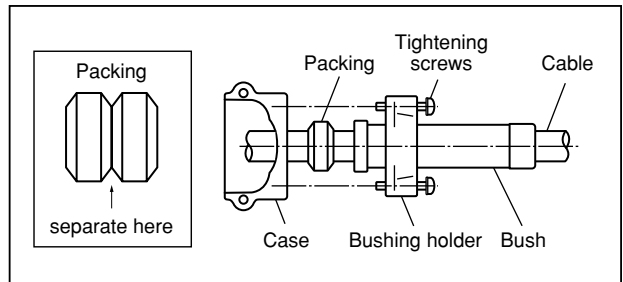
• How to install the cable bushing

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.

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

Remark : C7 to CA20 for COB 70 series can also be used.

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.



Button characters

An extensive range of markings boards is available in addition to the markings board included. Characters other than the following can also be produced. Please contact us for further details.

Standard markings (Black characters)



Special markings (Black characters)

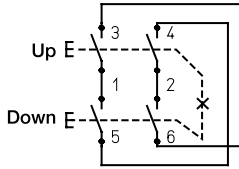
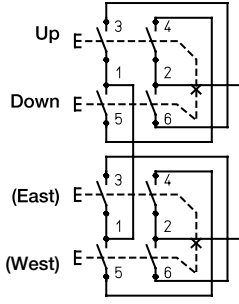
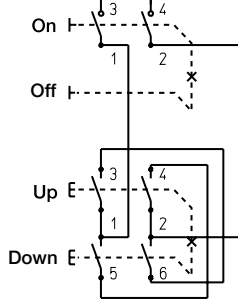
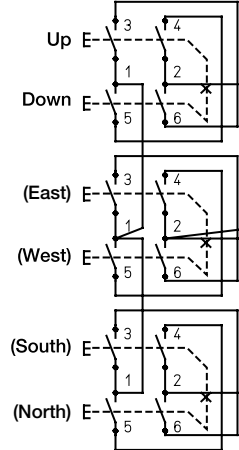
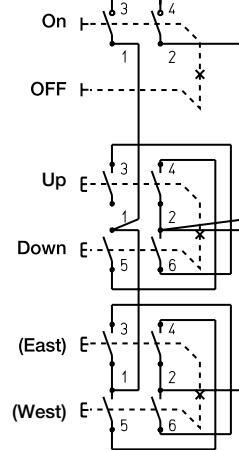
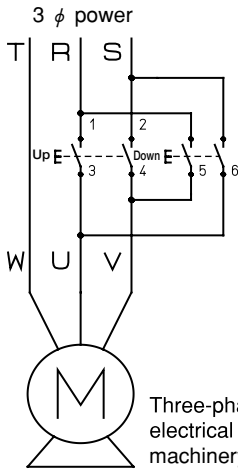


\*1 Plain red \*2 Red characters

Markings sheet (COB80No804)



Diagram of internal connections

COB 281, COB 281A	COB 282, COB 282A	COB 282KB
 <p>1-2 (R-S) : Power 3-4 (U-V) : Electrical machinery Connection cable <small>Note</small> : 2 mm<sup>2</sup>, 4-core</p>	 <p>1-2 (R-S) : Power 3-4 (U-V) : Electrical machinery Connection cable <small>Note</small> : 2 mm<sup>2</sup>, 6-core</p>	 <p>1-2 (R-S) : Power 3-4 (U-V) : Electrical machinery Connection cable <small>Note</small> : 2 mm<sup>2</sup>, 4-core</p>
COB 283, COB 283A	COB 283KB	Usage example (Elementary wiring diagram)
 <p>1-2 (R-S) : Power 3-4 (U-V) : Electrical machinery Connection cable <small>Note</small> : 2 mm<sup>2</sup>, 8-core</p>	 <p>1-2 (R-S) : Power 3-4 (U-V) : Electrical machinery Connection cable <small>Note</small> : 2 mm<sup>2</sup>, 6-core</p>	 <p>3 <math>\phi</math> power T R S W U V M Three-phase electrical machinery</p>

Note : If a different cable diameter is used, please purchase an appropriate cable bushing.

Power Switches

Hoist Push-Button Switches

Operating Push Button Switches

Foot Switches

Liquid Level Relays

Dimensions (Unit: mm)

	COB 281, COB 281A	COB 282, COB 282A, COB 282KB	COB 283, COB 283A, COB 283KB
Power Switches			
Hoist Push-Button Switches			
Operating Push Button Switches			
Foot Switches			
Liquid Level Relays			