



NP2 Series
Pushbutton

User Instruction



Safety Warning

- ① Only professional technicians are allowed for installation and maintenance.
 - ② Installation in any damp, condensed-phase environment with inflammable and explosive gas is forbidden.
 - ③ When the product is being installed or maintained, the power must be switched off.
 - ④ You are prohibited from touching the conductive part when the product is operating.
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This is the general warning sign. It is used to alert the user to potential hazards. All safety messages that follow this sign shall be obeyed to avoid possible harm.

1 Use Purpose

NP2 series pushbutton is used in industrial control circuit with frequency of AC 50Hz or 60Hz, rated operating voltage up to 415V and DC operating voltage up to 250V. It is used to control electromagnetic starter, contactor, relay and other electrical circuits. Pushbutton with indicator is also suitable for applications that need signal light indication.

2 Main Technical Parameters

Table 1 Main technical parameters

Environmental conditions	Ambient temp. (°C)	The normal working temperature is -5 °C ~+40 °C , and the extreme working temperature is -30°C~+70°C, average temperature should not exceed +35°C within 24h
	Hot and humid atmospheric conditions	Relative humidity should not exceed 50% at +40°C; up to 90% at +20°C;
	Altitude	No influence below 2000m
	Pollution class/ installation category	Class 3/II
Technical parameters	Rated operating voltage $U_e(V)$	AC-15: 415/380/240/220; DC-13: 250/220/125/110
	Rated operating current $I_e(A)$	AC-15: 1.9/2.5/3/4.5; DC-13: 0.27/0.3/0.55/0.6
	Rated insulation voltage $U_i(V)$	690
	Conventional thermal current $I_{th}(A)$	10
	Rated impulse withstand voltage $U_{imp}(kV)$	6
	Head protection class	IP40(Φ22、Φ30), IP65 (Φ22)
	Rated operating voltage of button with indicator $U_e(V)$	See product body for details

Table 1 (Continued)

Rated operating current of button with indicator $I_e(\text{mA})$	See product body for details
Model of matching fuse and Rated current of fuse(A)	gG and 16
Conditional short-circuit current(A)	1000

3 Installation

1) See Figure 1 and Table 2 for minimum distance between the center of mounting holes. See Table 3 for installation dimensions of button control box.

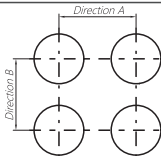


Figure 1 Minimum distance between center of mounting hole

Table 2 Minimum distance between center of mounting hole

Unit:mm

Type		Direction A	Direction B
		$\Phi 22$ installation dimensions	$\Phi 22$ installation dimensions
Flat type, knob type, handle type, key type, with indicator, signal light		30	50
Mushroom type, self- locking type	$\Phi 30 \ \Phi 40$	50	50
	$\Phi 60$	65	65
Dual head button		30	50
Dual head button with indicator		30	60

Table 3 Installation dimensions of button control box

Unit:mm

Model	Cable hole size	Installation dimensions
NP2-B1□□□□	Φ20	2-Φ4.3, center to center distance 54
NP2-B2□□□□	Φ20	2-Φ4.3, center to center distance 54×68
NP2-B3□□□□	Φ20	2-Φ4.3, center to center distance 54×98

2) See Figure 2 and Figure 3 and Table 4 and Table 5 for product overall dimensions.

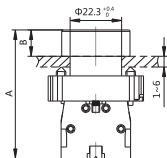


Figure 2 NP2-BA□□

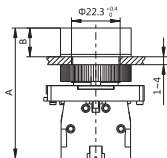


Figure 3 NP2-EA□□

Table 4 Overall dimensions of different types of pushbuttons

Unit:mm

Model	A(max)	B(max)	C(max)	D(max)
NP2-BA(Z)□□ / NP2-EA(Z)□□	55/55	12/12	31/31	41/43
NP2-BC□□ / NP2-EC□□	75/75	32/33	41/41	41/43
NP2-BS5□□ / NP2-ES5□□	75/75	32/33	41/41	41/43

Table 4 Overall dimensions of different types of pushbuttons

Unit:mm

Model	A(max)	B(max)	C(max)	D(max)
NP2-BT □□ / NP2-BX □□	74/74	31/31	41/61	41/61
NP2-BD □□ / NP2-ED □□	70/70	26/27	31/31	41/43
NP2-BJ □□ / NP2-EJ □□	70/70	26/27	34/33	46/48
NP2-BG □□ / NP2-EG □□	86(63)/86(63)	43(20)/43(21)	31/31	41/43
NP2-BL8 □□□ / NP2-EL8 □□□	59/58	15/16	31/31	42/43
NP2-BW3(Z) □□□ / NP2-EW3(Z) □□□	81/81	19/20	31/31	41/43
NP2-BW3 □□□ / NP2-EW3 □□□	86/85	19/20	31/31	41/43
NP2-BW8 □□□ / NP2-EW8 □□□	78/78	16/16	31/31	55/56
NP2-BV6 □□ / NP2-EV6 □□	51/53	14/17	31/31	41/43
NP2-BV8 □□ / NP2-EV8 □□	56/58	14/17	31/31	41/43
Note: For NP2-BG □□ / NP2-EG □□ B, the dimension outside the brackets is height with key, the dimension inside the brackets is height without key.				

Table 5 Overall dimensions of pushbutton control box

Unit:mm

Model	Length	Width	Height	Remarks
NP2-B1 □□□□□	70	70	63	Height for empty case 52
NP2-B2 □□□□□	105	70	63	Height for empty case 52
NP2-B3 □□□□□	135	70	63	Height for empty case 52

3) See Table 6 for wire selection and tightening torque

Table 6 Wire selection and tightening torque

Terminal tightening torque N·m	Wire (Hard) mm ²	Wire (Soft) mm ²	Remarks
			1) Use hard wire or soft wire for a single connection. One terminal can connect up to two conductors with same sectional area and type; 2) Wire strip length: 8mm.
M3.5 0.8~1.2	2× (0.5~2.5)	2× (0.5~2.5)	

4) Installation procedure and method

① When installing metal head type button, insert the operation head into the mounting hole from the front of the panel, then screw it into the base from the back of the panel. Tighten the fixing screws at both ends evenly (as shown in Figure 4). Do not overtighten the screws, the torque should not exceed 0.25N·m. If the button is jammed after installation, adjust the two fixing screws on the base and make sure they have the same tightness.

② Before installing plastic head type button, remove the base first (insert a screwdriver into the hole on the base and pry it up, as shown in Figure 5). Tighten the nuts with a torque of 1.2N·m~1.8N·m.

③ For NP2-B□□□□, NP2-J□□□□ buttons with cases, there are two Φ 21mm cable holes on both sides of their bottom covers. Before installation, user should perforate the cable hole as needed (do not use too much force). If IP40 is required for overall enclosure protection, user should pay attention to the protection of the cable holes and the screw holes on bottom cover. The cable holes can be protected by using cable connectors with matching specifications or other effective measures. The tightening torque for the installation of button box case should not exceed 1.2N·m.

5) Selector Switches operation position table

Table 7 Selector switches operation position

Selector Switches	Contacts	Positions		
		1	2	3
2-Positions			-	x
		x	-	
3-Positions		x		
		x	x	
Note: "x" indicates make-contact, blank indicates break-contact, "-" indicates without position.				

4 Maintenance

Tighten the terminals of the button on a regular basis to make sure the wires are connected securely.

Tighten the fixing screws of the button on a regular basis.

Disconnect the power before regular maintenance to ensure personal safety.

It is recommended to conduct maintenance once a month.

See Table 8 for Analysis and Troubleshooting of Faults.

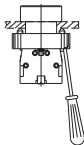


Figure 4 Assembly diagram of metal head type base

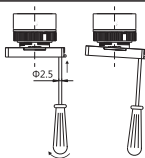


Figure 5 Disassembly diagram of plastic head type base

Table 8 Analysis and Troubleshooting of Faults

Symptoms	Cause analysis	Troubleshooting method and precautions
The button cannot be operated smoothly	There are foreign objects like dust or greasy dirt on the button operation head or pushing rod of contact assembly.	Remove the foreign objects like dust or greasy dirt on the button operation head or pushing rod of contact assembly, make sure the environment is dry and clean after installing the panel. Use proper lubricant at the moving surface of the parts if necessary.
The light bead is not bright enough or is not on at all	The input voltage does not comply with the rated operating voltage, or there is short circuit or disconnection in the circuit.	Check if the input voltage complies with the rated operating voltage; check if there is any short circuit or disconnection in the circuit.

5 Environmental Protection

In order to protect the environment, the product or product parts should be disposed of according to the industrial waste treatment process, or be sent to the recycling station for assortment, dismantling and recycling according to local regulations.

CHINT

QC PASS

NP2 Series
Pushbutton
IEC/EN 60947-5-1

Check 31

Test date: Please see The packing

ZHEJIANG CHINT ELECTRICS CO., LTD.

CHNT

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NP2 Series
Pushbutton
User Instruction

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