



HM0.460.305

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# **POSITION INDICATOR HMC-3C**

## **OPERATION INSTRUCTIONS**

**SHANGHAI HUAMING POWER EQUIPMENT CO.,LTD.**

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## 1. Features

This position indicator type HMC-3C (hereinafter referred as HMC-3C) is applied with motor drive units of CAM7 and CMA9 (hereinafter referred as MDU) of on-load tap changer, and it can display the actual position of tap changer, there are three buttons "1-N", "stop" and "N-1" on the front panel, beside them is an indication lamp of "Remote Control". The input signal for position indication is decimal code and output BCD code.

HMC-3C adopts LED digital tube to display the positions and it characterizes as high stability and reliability, the plastic housing of HMC-3C make it light-weighted, small-sized, easy and safe to operate.

## 2. Technical data

- (1) Power supply : 220V AC (Note: special power supply upon request)
- (2) Power frequency : 50 Hz or 60 Hz
- (3) Maximum indication position : 35
- (4) Operating temperature : -10~40°C (for in-door use only)
- (5) Weight : 0.85 kg
- (6) Relay contact capacity : 125V AC 0.3A  
110V DC 0.3A  
30V DC 1A

## 3. How to use

- (1) Insert the cable end into socket CX1 on rear panel of HMC-3C, screw tightly.
- (2) Connect terminals 1,2,3,4,5,6 on rear panel of HMC-3C to X1 of MDU according to the following table.

Indicator terminals	X1 Terminal of MDU	Remarks
1	8	1-N
2	12	Stop
3	9	N-1
4	11	Common
5	23	"Remote Control" indication
6	24	

- (3) Connect power supply.
- (4) CX2 on rear panel of HMC-3C shall be connected to the host in case of position signals of BCD output requested.
- (5) Switch on the "Power" button and the actual position of tap changer will be displayed. If the indication lamp of "Remote Control" lights on, say that the "Remote/local" selector in MDU is at "Remote" side, then the tap changer can be operated by pressing any button of "1-N", "stop", and "N-1" on the front panel.

Pressing down "1-N" to operate tap changer from position "N" to "N+1", "1-N" lamp will light on until the tap changing complete.

Similarly, pressing down "N-1" to operate tap changer from position "N" to "N-1", "N-1" lamp will light on until the tap changing complete.

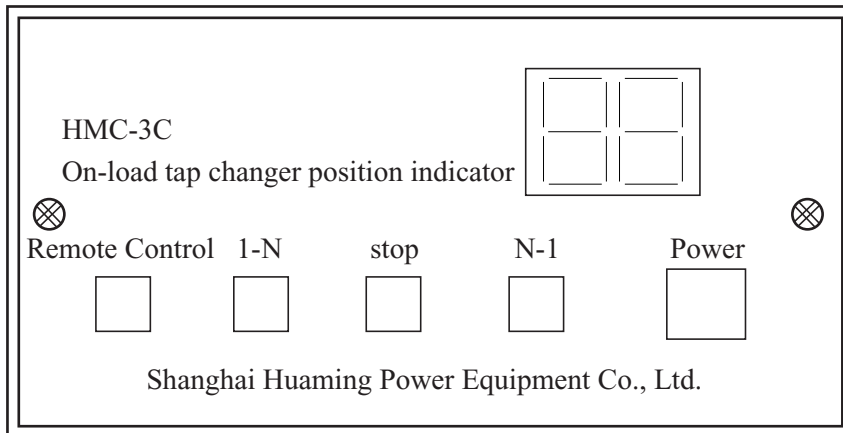
Meanwhile, pressing down "stop" will terminate the switching of tap changer during its operation of "1-N" or "N-1", simultaneously the lamp of "stop" will light on, which indicates that the protective circuit breaker in the MDU switches off.

**Note:**

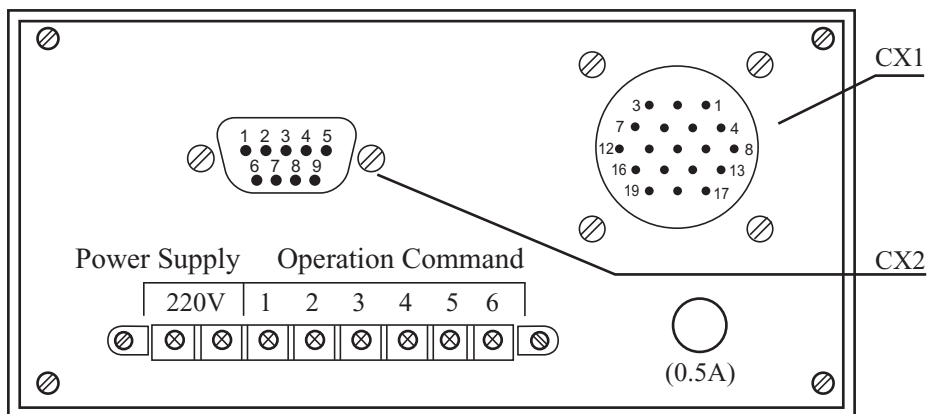
- 1. Once the "stop" lights on, the operation function will be recovered only after the protective circuit breaker in the MDU is switched on.**
- 2. The "Remote Control" on the front panel is only a lamp for indication.**

## 4. Appendix

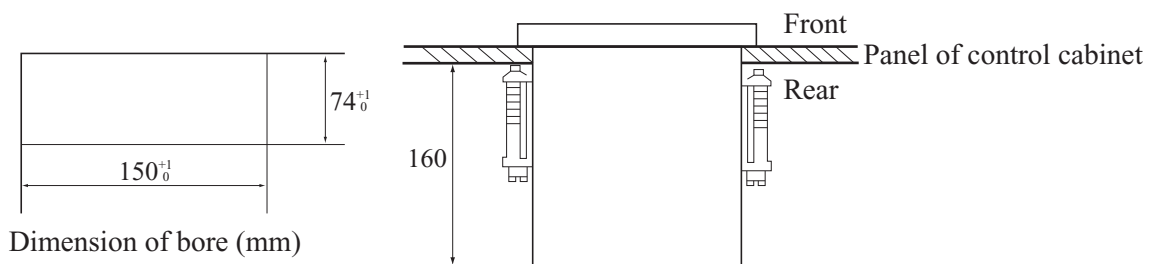
### 4.1 Layout of HMC-3C position indicator



**Front panel**



**Rear panel**



**Installation Diagram**

#### 4.2 Table of connection between terminals of CX1/HMC-3C and CX /MDU

CX1 socket numbers for HMC-3C	Corresponded CX socket numbers for MDU	Description
CX1-1	1	Units digit of position signal " 1 "
CX1-2	2	Units digit of position signal " 2 "
CX1-3	3	Units digit of position signal " 3 "
CX1-4	4	Units digit of position signal " 4 "
CX1-5	5	Units digit of position signal " 5 "
CX1-6	6	Units digit of position signal " 6 "
CX1-7	7	Units digit of position signal " 7 "
CX1-8	8	Units digit of position signal " 8 "
CX1-9	9	Units digit of position signal " 9 "
CX1-10	10	Units digit of position signal " 0 "
CX1-11	11	Tens digit of position signal " 0 "
CX1-12	12	Tens digit of position signal " 1 "
CX1-13	13	Tens digit of position signal " 2 "
CX1-14	14	Tens digit of position signal " 3 "
CX1-15	15	Common terminal of position signal " L "
CX1-16	16	Common terminal of indication lamp
CX1-17	17	"1-N" indication
CX1-18	18	"N-1" indication
CX1-19	19	"stop" indication

**Note:**

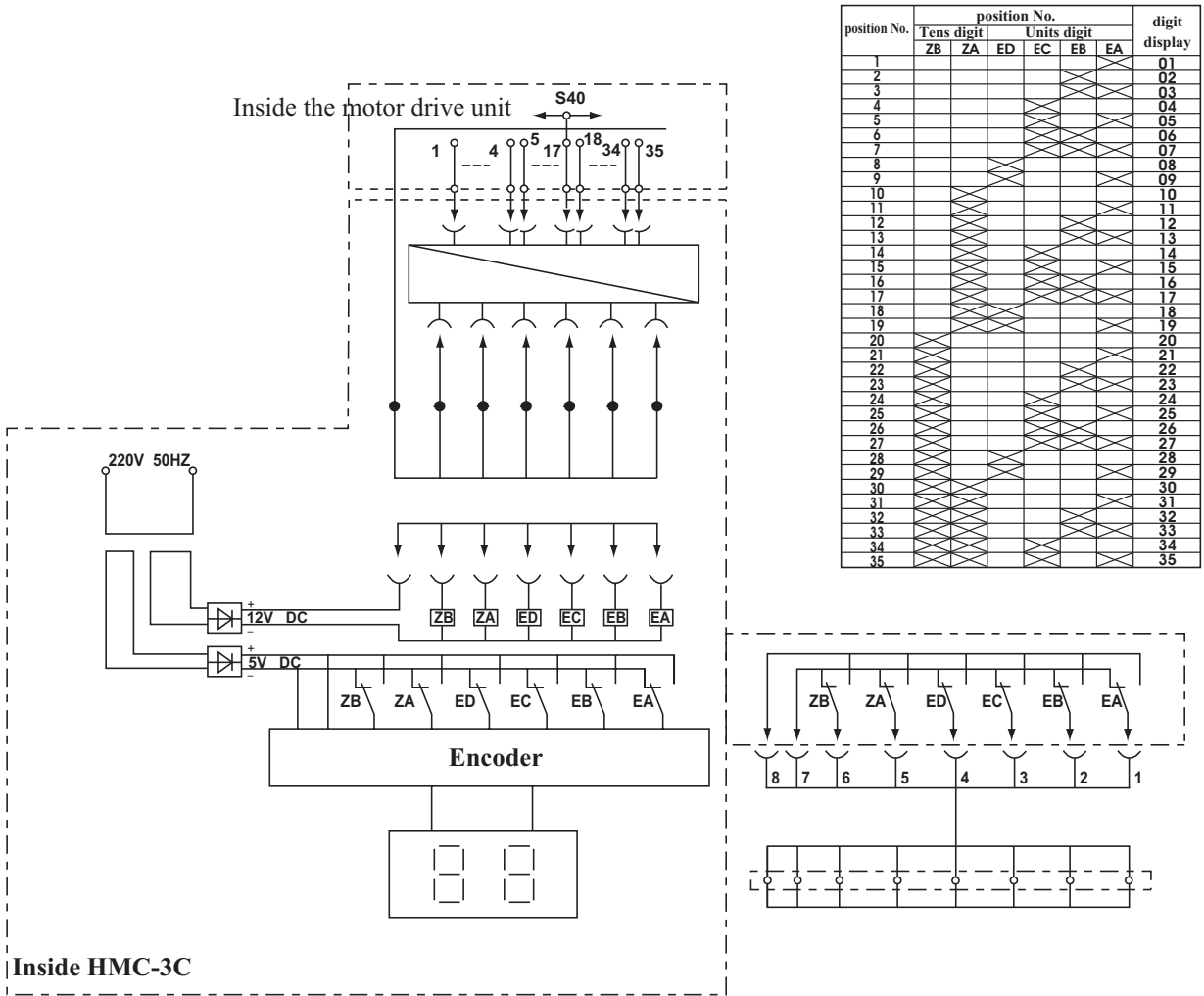
- 1.For the standard product, the CX1 on the HMC-3C should be connected to CX in CMA7/CAM9.
- 2.For HMC-3C position indicator, the input signal of position is decimal code and output signal BCD code.

### 4.3 Table of terminal CX2 position signal output (BCD code).

BCD code Position \ CX2	6	5	4	3	2	1
01	0	0	0	0	0	1
02	0	0	0	0	1	0
03	0	0	0	0	1	1
04	0	0	0	1	0	0
05	0	0	0	1	0	1
06	0	0	0	1	1	0
07	0	0	0	1	1	1
08	0	0	1	0	0	0
09	0	0	1	0	0	1
10	0	1	0	0	0	0
11	0	1	0	0	0	1
12	0	1	0	0	1	0
13	0	1	0	0	1	1
14	0	1	0	1	0	0
15	0	1	0	1	0	1
16	0	1	0	1	1	0
17	0	1	0	1	1	1
18	0	1	1	0	0	0
19	0	1	1	0	0	1
20	1	0	0	0	0	0
21	1	0	0	0	0	1
22	1	0	0	0	1	0
23	1	0	0	0	1	1
24	1	0	0	1	0	0
25	1	0	0	1	0	1
26	1	0	0	1	1	0
27	1	0	0	1	1	1
28	1	0	1	0	0	0
29	1	0	1	0	0	1
30	1	1	0	0	0	0
31	1	1	0	0	0	1
32	1	1	0	0	1	0
33	1	1	0	0	1	1
34	1	1	0	1	0	0
35	1	1	0	1	0	1

**Note: Pin 8 of CX2 is the common terminal, please refer to page 4**

### 4.4 Electric schematic diagram of HMC-3C position indicator



- ☒ Relay energized
- ☐ Relay de-energized





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