

**LW8****Universal Change-over Switch****1. General**

Universal change-over switch of LW8 series is mainly applicable to transmit electrical control circuit and meter measuring circuit with alternating current of 50Hz~60Hz, voltage not more than 380V and DC voltage not more than 220V, it can also directly control three-phase AC cage induction motor with small capacity (2.2kW and 5.5kW).

Standard: GB 14048.5 IEC 60947-5-1.

**2. Type designation****2.1 Type of master control**

LW 8-□-□ □/□ □

Panel type: square (no expression)

Pitch number of contact system: 10 kinds of 1-10 pitch for positioning switch, and 3 kinds of 1-3 pitch for automatic recovery switch.

No. of wiring diagram

Characteristics code

Agreed thermal current value

Design sequence No.

Universal change-over switch

**2.2 Type of direct control motor**

LW 8-□·□/□

Maximum capacity of controlled alternating-current motor

Application code: Q1: Direct starting; N: Reversible change-over; S: Speed changes of two-speed motor

Agreed thermal current value

Design sequence No.

Universal change-over switch

# Change-over Switch

## 3. Technical data

Items	LW8-10			LW8-20		
	AC-15	DC-13	AC-3	AC-15	DC-13	AC-3
Working voltage (V)	380	220	380	380	220	380
Working current (A)	2.6	0.27	5	2.6	0.23	12
Isolation voltage (V)	550V					
Thermal current (A)	10A			20A		
Electrical durability (time)	$10 \times 10^4$	$5 \times 10^4$		$10 \times 10^4$	$5 \times 10^4$	
Mechanical life (time)	$30 \times 10^4$					
Operation frequency time/hour	120					

## 4. Classification

Make assembly and classification as per operating mode and position of actuator

Table 2

Use category	Code of operating mode	Position of operating handle
Automatic recovery type	A	0° ← 30°
	B	30° → 0° ← 30°
	C	0° 60°
	D	60° 0° 60°
	E	90° 30° 0° 30° 90°
	F	120° 60° 0° 60° 120°
	G	120° 60° 0° 60° 120° 180°
	H	30° 0° 30° 60°
	I	60° 30° 0° 30° 60°
	J	60° 30° 0° 30° 60° 90°
Positioning type	K	90° 60° 30° 0° 30° 60° 90°
	L	90° 60° 30° 0° 30° 60° 90° 120°
	M	120° 90° 60° 30° 0° 30° 60° 90° 120°
	N	30° 30°
	P	90° 0° 90°
	R	0° 90° 180° 270°

## 5. Wiring diagram

Wiring diagram of change-over switch and common control switch of LW8 series for voltage and current measurement.

Phase-change switch for phase voltage

LW8-10-T.YH1/2	0	U <sub>A</sub>	U <sub>B</sub>	U <sub>C</sub>
LW32-20-T.YH1/2	0°	90°	180°	270°
	1-2	x		
	3-4		x	
	5-6			x
	7-8	x	x	x

Wiring diagram for LW8-10-T.YH1/2 and LW32-20-T.YH1/2. The diagram shows four terminals (1-2, 3-4, 5-6, 7-8) connected to a common control switch. The switch has two positions: 0° (top) and 90° (bottom). The connections are as follows: 1-2 is connected to A at 0° and to C at 90°; 3-4 is connected to B at 0° and to A at 90°; 5-6 is connected to C at 0° and to B at 90°; 7-8 is connected to N at 0° and to C at 90°. A voltmeter (V) is connected between terminals 3-4 and 5-6.

LW8-10-T.YH3/2	U <sub>A</sub>	U <sub>B</sub>	U <sub>C</sub>
LW32-20-T.YH3/2	90°	0°	90°
	1-2	x	
	3-4		x
	5-6		x
	7-8	x	x

Wiring diagram for LW8-10-T.YH3/2 and LW32-20-T.YH3/2. The diagram shows four terminals (1-2, 3-4, 5-6, 7-8) connected to a common control switch. The switch has three positions: 90° (top), 0° (middle), and 90° (bottom). The connections are as follows: 1-2 is connected to A at 90° and to C at 0°; 3-4 is connected to B at 90° and to A at 0°; 5-6 is connected to C at 90° and to B at 0°; 7-8 is connected to N at 90° and to C at 0°. A voltmeter (V) is connected between terminals 3-4 and 5-6.

Phase-change switch for circuit voltage

LW8-10-T.YH4/2	U <sub>AB</sub>	U <sub>BC</sub>	U <sub>CA</sub>
LW32-20-T.YH4/2	90°	0°	90°
B → 1-2	x	x	
C → 3-4		x	x
A [ ] 5-6			x
A [ ] 7-8	x		

LW8-10-YH2/3	0	U <sub>AB</sub>	U <sub>BC</sub>	U <sub>CA</sub>
LW32-20-YH2/3	0°	90°	180°	270°
1-2	x	x		
3-4				
5-6		x		
7-8	x			
9-10				
11-12	x	x		

LW8-10-YH3/3	0	U <sub>AB</sub>	U <sub>BC</sub>	U <sub>CA</sub>
LW32-20-YH3/3	0°	90°	180°	270°
1-2	x			
3-4				x
5-6			x	
7-8	x			
9-10				x
11-12			x	

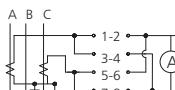
Phase-change switch for three-phase circuit voltage and three-phase phase voltage

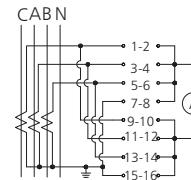
LW8-10-YH5/4	U <sub>CA</sub>	U <sub>BC</sub>	U <sub>AB</sub>	0	U <sub>AN</sub>	U <sub>BN</sub>	U <sub>CN</sub>
LW32-20-YH5/4	135°	90°	45°	0°	45°	90°	135°
1-2	x						x
3-4		x				x	
5-6	x						
7-8				x			
9-10				x			
11-12	x		x				x
13-14				x			
15-16	x				x		

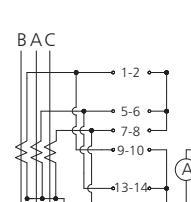
LW8-10-YH5/3	U <sub>CA</sub>	U <sub>BC</sub>	U <sub>AB</sub>	0	U <sub>AN</sub>	U <sub>BN</sub>	U <sub>CN</sub>
LW32-20-YH5/3	-135°	-90°	-45°	0°	45°	90°	135°
C [ ] 1-2	x						x
B [ ] 3-4	x						
A [ ] 5-6				x			
A [ ] 7-8		x	x				
A [ ] 9-10	x		x		x		
N [ ] 11-12				x	x	x	x
11-12					x	x	x

## Change-over Switch

Change-over switch of current measurement

LW8-10LH1/2	0	I <sub>A</sub>	I <sub>B</sub>	I <sub>C</sub>
LW32-20LH1/2	0°	90°	180°	270°
	1-2	x		x
	3-4		x	x
	5-6	x	x	
	7-8		x	x

LW8-10LH2/4	0	I <sub>A</sub>	I <sub>B</sub>	I <sub>C</sub>
LW32-20LH2/4	0°	90°	180°	270°
	1-2	x		x
	3-4	x		x
	5-6	x	x	
	7-8		x	x
	9-10			x
	11-12		x	
	13-14			x
	15-16	x		

LW8-10LH3/4	0	I <sub>A</sub>	I <sub>B</sub>	I <sub>C</sub>
LW32-20LH3/4	0°	90°	180°	270°
	1-2	x	x	x
	3-4			
	5-6	x		x
	7-8	x	x	x
	9-10			x
	11-12			
	13-14			
	15-16	x		x

direct starting and breaking in operation

LW8-10/Q1/2.2	0	1
LW8-20/Q1/5.5		
LW32-20/Q1	0°	60°
Panel		
/ \		
↑		
A —— 1-2 ——	x	
B —— 3-4 ——	x	
C —— 5-6 ——	x	
◦ 7-8 ◦		
1-2	x	
3-4	x	
5-6	x	
7-8		

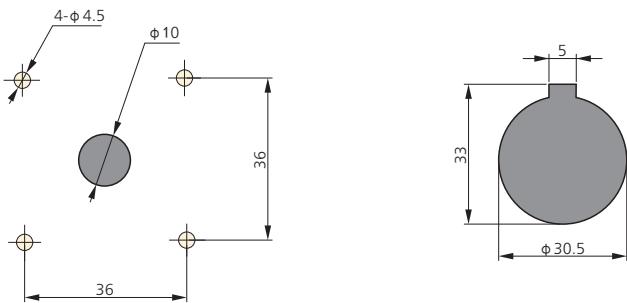
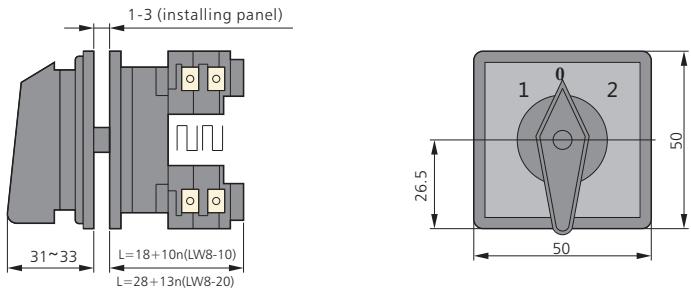
Forward and reverse direct starting and breaking in operation

LW8-10/N1/2.2	1	0	2
LW8-20/N1/5.5			
LW32-20/N1	60°	0°	60°
Panel			
/ \			
↑			
C —— 1-2 ——	x		
3-4 ——	x		
5-6 ——	x		
B —— 7-8 ——			x
A —— 9-10 ——		x	x
◦ 11-12 ◦		x	
1-2	x		
3-4	x		
5-6	x		
7-8			x
9-10	x	x	
11-12	x	x	

Speed changing switch of double speed motor

LW8-10/S1/2.2	1	0	2
LW8-20/S1/5.5			
LW32-20/S1	60°	0°	60°
Panel			
/ \			
↑			
A —— 1-2 ——	x		
3-4 ——	x		
5-6 ——			x
B —— 7-8 ——	x		
9-10 ——			x
11-12 ——		x	x
A —— 13-14 ——		x	
15-16 ——			x
1-2	x		
3-4			x
5-6			x
7-8	x		
9-10			x
11-12		x	x
13-14	x		
15-16			x

## 6. Overall and mounting dimensions



Note: n = Pitch number of contact system

## 7. Ordering information

Full type of products shall be provided when users ordering. For example: Ordering of universal change-over switch: LW8 and 100 sets switches with wiring diagram.

Ordering No. is LW8-10 D303/2 and 100 sets.

No.of wiring diagram	D303		
Change-over angle	60°	0°	60°
1-2	×		×
3-4		×	
5-6			×
7-8	×		×