

Industrial Relays

SH series

DC-operated type

DC-operated industrial relays

■ Description

The operating coil is a DC type instead of AC and is energized by a DC power source.

The coil ratings from 24V DC to 220V DC. The maximum contact ratings are 550V AC or 220V DC.

These relays are typically used where DC is used as a power source on switchboards. Where AC is used as a power source, sequence control is frequently lost due to the troubles such as power failure or momentary voltage drop.

In the case of DC-control, a battery power supply is frequently used because it is not susceptible to external influences. DC-operated relays are highly suitable for important control applications.

■ Features

- Employing of bifurcated contact to increase high contact reliability in low-level circuit use (5V, 3mA)
- Variety of optional function units available



- Auxiliary contact block (2 or 4-pole)
- Coil surge suppression unit
- Operation counter
- Snap-on 35mm IEC and DIN rail mountings available
- Meets JIS, IEC, BS, NEMA and VDE Standards
- UL, CSA, TÜV, CCC and BV approved
- Terminal numbers meet IEC

■ Performance data

- Mechanical durability: 10 million operations
- Electrical durability: 500,000 operations (at AC-15 rated operational current)
- Operating cycles per hour: 1800
- Allowable ambient temp.: -5° to +50°C

■ Contact ratings

Type	Ordering code *2	Pole	Rated thermal current (A)	Make and break capacity AC (A)	Rated operational current (A)			DC Voltage (V)	Ind. *1 DC-13	Res. DC-14
					AC Voltage (V)	Ind. AC-15	Res. AC-12			
SH-4/G	SH04AG-■□	4	10	60	110	6	10	24	3	5
				30	220	3	8	48	1.5	3
				15	440	1.5	5	110	0.55	2.5
				12	550	1.2	5	220	0.27	1
		8	10	60	110	6	10	24	3	5
				30	220	3	8	48	1.5	3
				15	440	1.5	5	110	0.55	2.5
				12	550	1.2	5	220	0.27	1
SH-5/G	SH05AG-■□	5	10	60	110	6	10	24	3	5
				30	220	3	8	48	1.5	3
				15	440	1.5	5	110	0.55	2.5
				12	550	1.2	5	220	0.27	1

Notes: *1 Time constant is less than 70ms.

*2 Enter the coil voltage code in the ■ mark.

Enter the contact arrangement code in the □ mark.

■ Coil ratings

Type	Pole	Contact arrangement	Operating coil voltage (V DC)	Code	Power consumption(W)
SH-4/G	4	4NO, 3NO+1NC, 2NO+2NC	24	E	7
			48	F	
	8	8NO, 7NO+1NC, 6NO+2NC 5NO+3NC, 4NO+4NC	100	1	
			110	H	
SH-5/G	5	5NO, 4NO+1NC, 3NO+2NC 2NO+3NC, 1NO+4NC, 5NC	200	2	
			220	M	

■ Ordering information

- Specify the following:
1. Ordering code

■ Combination with auxiliary contact blocks

- Same as standard type.
See page 03/4.

■ Operating characteristics

Type	Pole	Contact arrangement	Voltage	Pick-up time (ms.)		Drop-out time (ms.)	
				NO contact ON	NC contact OFF	NO contact OFF	NC contact ON
SH-4/G	4	2NO+2NC	100V DC	45-50	35-40	20-25	25-30
	8	4NO+4NC	100V DC	45-50	35-40	20-25	25-30
SH-5/G	5	3NO+2NC	100V DC	45-50	35-40	20-25	25-30

Note: Coil rating 100V DC