

"ORANGE LINE" INDUSTRIAL RELAY

Features and Ratings

FEATURES

NEW SH SERIES EXPANDABLE INDUSTRIAL RELAY APPLICATIONS (U.S. Catalog No. 4SH and 4GH Series)

High contact reliability that accommodates electronic devices.

- All contacts are bifurcated, providing high contact reliability (minimum operational voltage and current: 5V and 3mA DC) and enabling direct input to an electronic control circuit.

A wide variety of optional units.

- In addition to an auxiliary contact block (two or four poles), many function units such as a coil surge suppression unit and terminal covers can be installed on standard industrial relays. This allows for flexibility and easy modification in the field.

Snap-on mounting on an IEC or DIN rail.

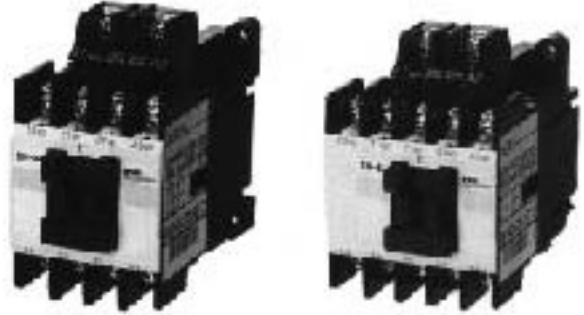
- All models can be mounted on an IEC or DIN Standard 35mm rail.

Meets International Standards.

- The SH Series industrial relays conform to the following International Standards: IEC, NEMA, BS and VDE. They are also UL, CSA, BV and Lloyd approved.

Compatible with conventional models.

- SH Series industrial relays are compatible with the discontinued Fuji SRCa50-3/X, SRCa50-3F/X, and SRC50-05/X



industrial relays. In addition to the mounting holes needed for the compatibility, mounting holes based on the IEC Standard are also provided.

Terminal numbers conforming to IEC Standards.

- Terminal numbers are based on IEC Standards.

New design.

- The arc extinguishing cover is ivory colored with orange accents, providing a new look to the conventional industrial relay.

AC OPERATED INDUSTRIAL RELAYS

U.S. Catalog No.	Aux. Contact	Fuji Type
4SH440#%	4NO	SH-4 4 POLE
4SH431#%	3NO+1NC	
4SH422#%	2NO+2NC	
4SH550#%	5NO	SH-5 5 POLE
4SH541#%	4NO+1NC	
4SH532#%	3NO+2NC	
4SH523#%	2NO+3NC	
4SH514#%	1NO+4NC	
4SH505#%	5NC	
4SH880#%	8NO	SH-4 8 POLE
4SH871#%	7NO+1NC	
4SH862#%	6NO+2NC	
4SH853#%	5NO+3NC	
4SH844#%	4NO+4NC	

DC OPERATED INDUSTRIAL RELAYS

U.S. Catalog No.	Aux. Contact	Fuji Type
4GH440#%	4NO	SH-4/G 4 POLE
4GH431#%	3NO+1NC	
4GH422#%	2NO+2NC	
4GH550#%	5NO	SH-5/G 5 POLE
4GH541#%	4NO+1NC	
4GH532#%	3NO+2NC	
4GH523#%	2NO+3NC	
4GH514#%	1NO+4NC	
4GH505#%	5NC	
4GH880#%	8NO	SH-4/G 8 POLE
4GH871#%	7NO+1NC	
4GH862#%	6NO+2NC	
4GH853#%	5NO+3NC	
4GH844#%	4NO+4NC	

EXPLANATION OF PART NUMBER SYSTEM

4 S H \$ @ @ # %

- APPROVAL**
4=UL Listed
JIS Approved

- OPERATION**
S=AC Coil
G=DC Coil

- DESCRIPTION**
H=Industrial Relay

- TOTAL NUMBER OF CONTACTS (Poles)**
4, 5 or 8

- TERMINAL OPTION**
Blank: Standard
Y: Optional, non removable terminal cover accessory.

- COIL VOLTAGE**
Select code from chart on next page
For AC: use Table 1
For DC: use Table 2

QUANTITY OF AUX. CONTACTS

4 pole	5 pole	8 pole
40 : 4NO	50 : 5NO	80 : 8NO
31 : 3NO+1NC	41 : 4NO+1NC	71 : 7NO+1NC
22 : 2NO+2NC	32 : 3NO+2NC	62 : 6NO+2NC
	23 : 2NO+3NC	53 : 5NO+3NC
	14 : 1NO+4NC	44 : 4NO+4NC
	05 : 5NC	

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Coil and Operating Characteristics, and Performance Data

AVAILABLE COILS

■ TABLE 1: AC Coils

Code Letter	AC coil 60Hz	AC coil 50Hz
E	24-26V	24V
F	48-52V	48V
A	100-110V	100V
1	110-120V	100-110V
G	127-140V	120-127V
B	200-220V	200V
2	220-240V	200-220V
4	440-480V	415-440V
5	550-600V	500-550V

■ TABLE 2: DC Coils

Code Letter	DC coil
T	12V
M	24V
N	48V
1	100V
R	110V
2	200V
S	220V

■ COIL CHARACTERISTICS

Power Consumption		Pick-Up Voltage (V)		Drop-Out Voltage (V)		Watt Loss (W)	
Inrush (VA)	Sealed (VA)	200V, 50Hz.	220V, 60Hz.	200V, 50Hz.	220V, 60Hz.	200V, 50Hz.	220V, 60Hz.
95	9	108-128	120-144	62-90	74-100	2.7	2.8

■ OPERATING CHARACTERISTICS

Coil Type	Voltage	Frequency (Hz)	Pick-Up Time (m sec.)		Drop-Out Time (m sec.)	
			No Contact ON	NC Contact OFF	NO Contact OFF	NC Contact ON
AC	200V AC	50	9-20	5-15	5-15	9-20
DC	200V DC	-	45-50	35-40	20-25	20-30

■ RATINGS UL File No. E44592, CSA File No. LR20479

Continuous Current (A)	Rated Operational Current (A)						Code	
	AC Volts	Make	Break	DC Volts	Make	Break	AC	DC
10	120	60	6	125	0.55	0.55	A600	Q300
	240	30	3	250	0.27	0.27		
	480	15	1.5					
	600	12	1.2					

■ PERFORMANCE DATA (AC11) Life Expectancy (Conforming to JIS C4531, JEM1230)

Operating Cycles Per Hour	Mechanical Life (Operations)	Electrical Life (Operations)				
		AC11		AC13		DC11, 14
		220V	440V	220V	440V	24V~220V
1,800	10 Million	500,000	500,000	250,000	250,000	500,000

"ORANGE LINE" INDUSTRIAL RELAY

Combinations and Contact Arrangements

COMBINATION OF INDUSTRIAL RELAY AND AUXILIARY CONTACT BLOCK

The standard type industrial relays can be used with a combination of the auxiliary contact blocks shown below.

Industrial Relay		Auxiliary Contact Block									
		Front Mounting					Side Mounting				
Type (U.S. Cat. No.)	Contact Arrangement	SZ-A40 4NO	SZ-A31 3NO + 1NC	SZ-A22 2NO + 2NC	SZ-A20 2NO	SZ-A11 1NO + 1NC	SZ-A02 2NC	SZ-AS1 2NO + 2NC	SZ-AS1 1NO + 1NC	SZ-AS1 1NO + 1NC	
SH-4 (4SH4) • SH-4/G (4GH4)	4NO 3NO + 1NC 2NO + 2NC	8NO	7NO + 1NC	6NO + 2NC	6NO	5NO + 1NC	4NO + 2NC	6NO + 2NC	5NO + 1NC	5NO + 1NC	
		7NO + 1NC	6NO + 2NC	5NO + 3NC	5NO + 1NC	4NO + 2NC	3NO + 3NC	5NO + 3NC	4NO + 2NC	4NO + 2NC	
		6NO + 2NC	5NO + 3NC	4NO + 4NC	4NO + 2NC	3NO + 3NC	2NO + 4NC	4NO + 4NC	3NO + 3NC	3NO + 3NC	
SH-5 (4SH5) • SH-5/G (4GH5)	5NO 4NO + 1NC 3NO + 2NC 2NO + 3NC 1NO + 4NC 5NC	9NO	8NO + 1NC	7NO + 2NC	7NO	6NO + 1NC	5NO + 2NC	7NO + 2NC	6NO + 1NC	6NO + 1NC	
		8NO + 1NC	7NO + 2NC	6NO + 3NC	6NO + 1NC	5NO + 2NC	4NO + 3NC	6NO + 3NC	5NO + 2NC	5NO + 2NC	
		7NO + 2NC	6NO + 3NC	5NO + 4NC	5NO + 2NC	4NO + 3NC	3NO + 4NC	3NO + 4NC	5NO + 4NC	4NO + 3NC	4NO + 3NC
		6NO + 3NC	5NO + 4NC	—	4NO + 3NC	3NO + 4NC	—	—	—	3NO + 4NC	3NO + 4NC
		5NO + 4NC	—	—	3NO + 4NC	—	—	—	—	—	—
		4NO + 5NC	—	—	2NO + 5NC	—	—	—	—	—	

Note: Auxiliary contact blocks cannot be mounted both front mounting and side mounting at the same time.

CONTACT ARRANGEMENT

U.S. Catalog No.	Fuji Type	Contact Arrangement	
		NO	NC
4SH440# 4GH440#	SH-4 4-Pole • SH-4/G 4-Pole	4NO	
4SH431# 4GH431#	SH-4 4-Pole • SH-4/G 4-Pole	3NO + 1NC	
4SH422# 4GH422#		2NO + 2NC	
4SH880# 4GH880#		* SH-4 8-Pole • SH-4/G 8-Pole	8NO
4SH871# 4GH871#	* SH-4 8-Pole • SH-4/G 8-Pole	7NO + 1NC	
4SH862# 4GH862#		6NO + 2NC	
4SH853# 4GH853#		5NO + 3NC	
4SH844# 4GH844#		4NO + 4NC	

U.S. Catalog No.	Fuji Type	Contact Arrangement	
		NO	NC
4SH550# 4GH550#	SH-5 5-Pole • SH-5/G 5-Pole	5NO	
4SH541# 4GH541#	SH-5 5-Pole • SH-5/G 5-Pole	4NO + 1NC	
4SH532# 4GH532#		3NO + 2NC	
4SH523# 4GH523#		2NO + 3NC	
4SH514# 4GH514#		1NO + 4NC	
4SH505# 4GH505#		5NC	

*Note: 8 pole units are made from standard 4 pole frames with 4 pole Aux. contacts added. The 5 available configurations are made as follows:

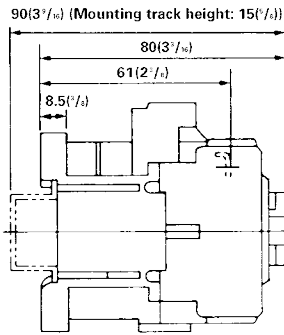
- 4_H880# (8NO, no NC) = 4_H440# Base + SZ-A40 Aux.
- 4_H871# (7NO + 1 NC) = 4_H440# Base + SZ-A31 Aux.
- 4_H862# (6NO + 2 NC) = 4_H440# Base + SZ-A22 Aux.
- 4_H853# (5NO + 3 NC) = 4_H422# Base + SZ-A31 Aux.
- 4_H844# (4NO + 4 NC) = 4_H422# Base + SZ-A22 Aux.

"ORANGE LINE" INDUSTRIAL RELAY

Dimensions

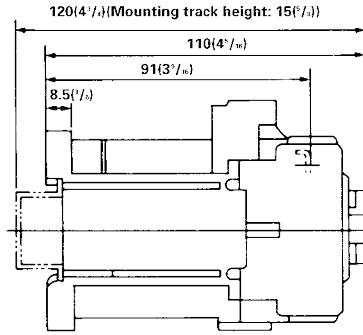
■ **DIMENSIONS:** mm (inches)

SH-4/4-Pole (U. S. Catalog No. 4SH4)

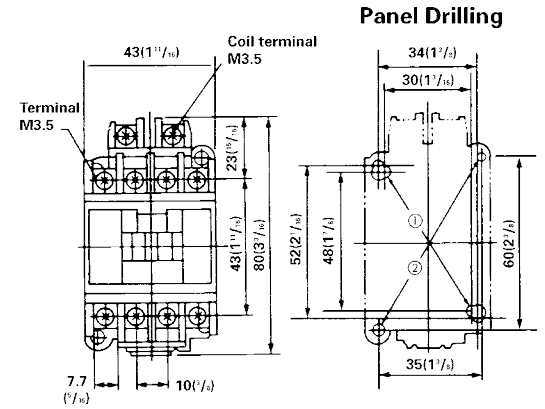


Net weight: 0.32kg (.71 lbs.)

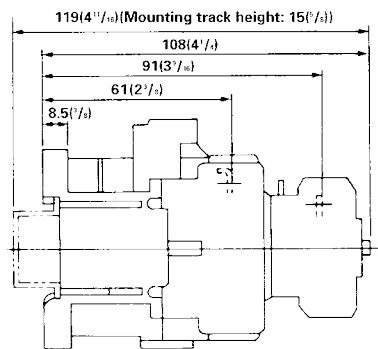
SH-4/G, 4-Pole (U. S. Catalog No. 4GH4)



Net weight: 0.55kg (1.2 lbs.)

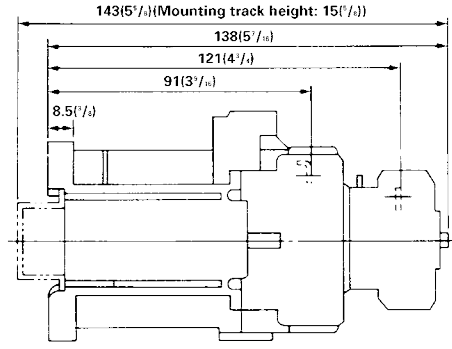


SH-4/8-Pole (U. S. Catalog No. 4SH8)

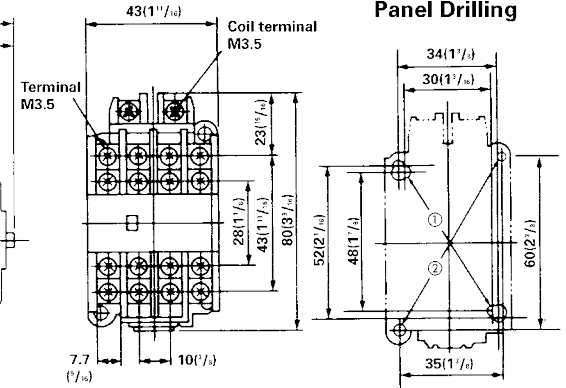


Net weight: 0.36kg (.8 lbs.)

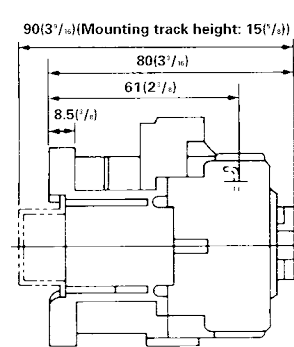
SH-4/G, 8-Pole (U. S. Catalog No. 4GH8)



Net weight: 0.59kg (1.3 lbs.)

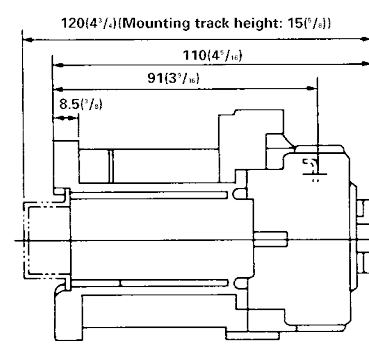


SH-5/5-Pole (U. S. Catalog No. 4SH5)

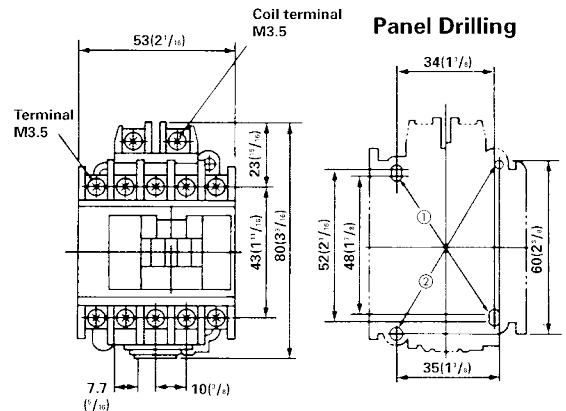


Net weight: 0.34kg (.75 lbs.)

SH-5/G, 5-Pole (U. S. Catalog No. 4GH5)



Net weight: 0.58kg (1.3 lbs.)



Notes: Panel Drilling -

- Use the two mounting holes on a diagonal line to mount a relay.
- Mounting holes indicated by ① are compatible with those of SRC type.
- Mounting holes indicated by ② conform to IEC Standards.