

953M Series Relay

FEATURES

- UL, CE & TUV safety approval.
- Single contact 953 series relay offers 30A switching capacity for various kinds of applications.
- Up to 30A switching in SPDT-NO and 20A switching in SPDT-NC arrangement.
- Meets UL 508 & UL 873 spacing.
- Nominal power 930mW.
- Operating power 520mW.
- Optional flanged case for panel mounting.



UL FILE NO: E162117
TUV FILE NO: R 3-02158203
CE DECLARATION OF CONFORMITY

ORDERING INFORMATION

$\frac{953}{1} - \frac{1C}{2} - \frac{12}{3} \quad \frac{D}{4} \quad \frac{M}{5} \quad \frac{F}{6}$	
1. Model Number	4. Coil Type D: DC A: AC
2. Contact Arrangement 1A = 1 Form A (SPST-NO) 1B = 1 Form B (SPST-NC) 1C = 1 Form C (SPDT)	5. Enclosure Style M = Outline Connect Type
3. Coil Voltage DC: 5~48V AC: 6~277V	6. Type of Insulation Nil = Class B F = Class F

COIL RATINGS(at 20°C)

COIL TYPE	Coil Nominal Voltage (V)	Coil Resistance ($\Omega \pm 10\%$)	Pick-Up Voltage (V) $\leq$	Drop-Out Voltage (V) $\geq$	Nominal Current (mA)
DC Standard Coils	5	27	3.75	0.5	185
	6	40	4.5	0.6	150
	9	97	6.75	0.9	93
	12	155	9	1.2	77
	18	380	13.5	1.8	47
	24	660	18	2.4	36
	36	1440	27	3.6	25
AC	48	2560	36	4.8	19
	6	10	5.1	0.6	
	12	43	10.2	1.2	
	24	160	20.4	2.4	
	110	3160	93.5	11	
	220	13490	187	22	
	277	19900	235.4	27.7	

* Max Continuous Voltage at 20°C: 130% of Coil Nominal Voltage.

CONTACT RATINGS

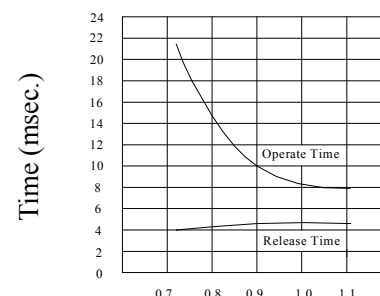
Contact Arrangement	1 Form A (SPST-NO)	1 Form B (SPST-NC)	1 Form C (SPDT)
Max. Switching Power	7500VA 600W	5000VA 300W	7500VA 600W
Max. Switching Voltage	277VAC 30VDC	277VAC 30VDC	277VAC 30VDC
Max. Switching Current	30A	20A	30A
Contact Resistance	$\leq 50\text{m}\Omega$	$\leq 50\text{m}\Omega$	$\leq 50\text{m}\Omega$
Resistive Load	30A/250VAC 20A/277VAC 20A/30VDC	20A/240VAC 15A/277VAC 10A/30VDC	NO: 30A/240VAC 20A/277VAC 20A/30VDC NC: 20A/240VAC 15A/277VAC 10A/30VDC
Contact Material	Ag-CdO	Ag-CdO	Ag-CdO

CHARACTERISTICS

Electrical Life	1×10^5
Mechanical Life	1×10^7
Initial Insulation Resistance	Min. 500M Ω 500VDC
Contact Resistance (Initial)	$\leq 50\text{m}\Omega$
Operate Time	$\leq 15\text{ms}$
Release Time	$\leq 15\text{ms}$
Initial Dielectric Strength	50/60Hz 1500VAC 1 min. (between open contacts) 50/60Hz 2500VAC 1 min. (between contacts and coil)
Vibration Resistance	Malfunction: 10 to 55Hz at Double Amplitude of 1.5mm Destructive: 10 to 55Hz at Double Amplitude of 1.5mm
Shock Resistance	Malfunction: 10G (11ms) / Destructive: 100G (6ms)
Ambient Temperature	$-55^\circ\text{C} \sim +85^\circ\text{C}$
Relative Humidity	85% at 40°C
Unit Weight	Approx. 34g

953M Referential Data

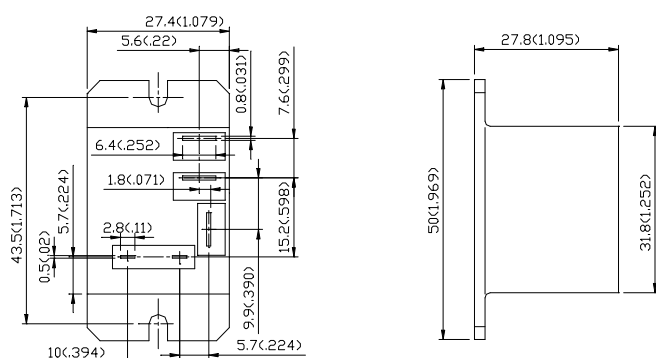
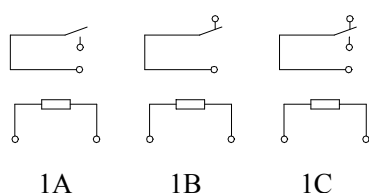
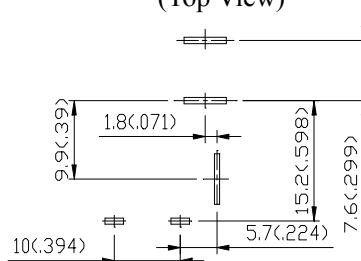
Timing



Coil Power (W)

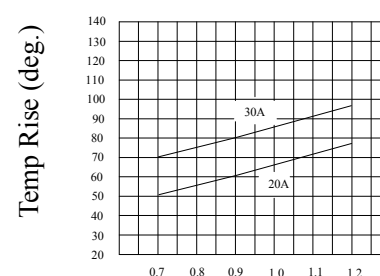
OUTLINE DIMENSIONS

Dimensions

REMARK: Tolerance of outline dimensions: $\pm 0.2(.008)$.Internal Connections
(Bottom View)Drilling Plan
(Top View)

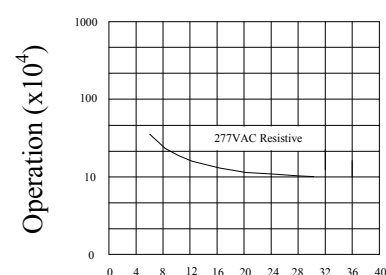
UNIT: mm (inch)

Coil Temperature Rise



Coil Power (W)

Life Curves



Contact Current (A)

SAFETY APPROVAL
● UL APPROVAL

Contact Rating	1 Form A (SPST-NO)	1 Form B (SPST-NC)	1 Form C (SPDT)	
			NO	NC
Resistive Load	20A / 277VAC 19.8A / 277VAC 30A / 240VAC 20A / 30VDC	15A / 277VAC 10A / 30VDC	20A / 277VAC 20A / 30VDC	15A / 277VAC 10A / 30VDC
General Purpose Load	10A / 277VAC	8A / 277VAC	10A / 277VAC	8A / 277VAC
Motor Load (Cos ϕ : 0.4 ~ 0.5)	2HP / 250VAC 1HP / 125VAC	1/2HP / 250VAC 1/4HP / 125VAC	2HP / 250VAC 1HP / 125VAC	1/2HP / 250VAC 1/4HP / 125VAC
Horse Power	FLA 10.3 LRA 61.8 / 277VAC FLA 11.2 LRA 67.2 / 240VAC FLA 12 / 250VAC FLA 16 LRA 96 / 240VAC FLA 16 LRA 96 / 120VAC FLA 16 / 125VAC	FLA 4.9 / 250VAC FLA 5.8 / 125VAC	FLA 12 / 250VAC FLA 16 / 125VAC	FLA 4.9 / 250VAC FLA 5.8 / 125VAC
Ballast	20A / 277VAC		20A / 277VAC	

● TUV APPROVAL

Contact Rating	1 Form A (SPST-NO)	1 Form B (SPST-NC)	1 Form C (SPDT)	
			NO	NC
Resistive Load	30A / 250VAC 20A / 30VDC	15A / 250VAC 15A / 30VDC	20A / 250VAC 20A / 30VDC	10A / 250VAC 10A / 30VDC
Inductive Load (Cos ϕ : 0.4, L/R: 7ms)	15A / 250VAC 15A / 30 VDC	8A / 250VAC 8A / 30VDC	10A / 250VAC 10A / 30VDC	8A / 250VAC 8A / 30VDC
Motor Load (Cos ϕ : 0.6)	2HP / 250VAC 1HP / 125VAC	1/2HP / 250VAC 1/4HP / 125VAC	2HP / 250VAC 1HP / 125VAC	1/2HP / 250VAC 1/4HP / 125VAC
Pilot Duty Load (Rate 6000 Operations)	720VA / 240VAC 800VA / 125VAC	360VA / 240VAC 290VA / 125VAC	470VA / 240VAC 470VA / 125VAC	360VA / 240VAC 290VA / 125VAC

● CCEE APPROVAL

Contact Rating	1 Form A (SPST-NO)	1 Form B (SPST-NC)	1 Form C (SPDT)	
			NO	NC
Resistive Load	30A / 240VAC	20A / 240VAC	30A / 240VAC	20A / 240VAC

● CE DECLARATION OF COFORMITY

In conformity with the Low Voltage Directive 73/23/EEC

Test Report No.: E9967734E02 (TUV)

Test Specification: EN61810-1

EN61810-5

EN60255-23