NF99

Compact Industrial Power Relay

» Features

- 1 form A (NO) or 1 form C (CO) contact
- 40A or 50A switching capability
- 0,9W (40A) or 1,2W (50A) coil power
- Dielectric strength 4kV between coil and contact

pending pending pending

H x W x D: 15,3 x 29 x 21,5 [mm]

» Application Examples

- Machine tool electric appliance
- Electric vehicle
- Air condition

» Ordering Information

NF99	-	100	E	40	12	S
1		2	3	4	5	6

1. Type: NF99
2. Contact configuration: 100 = 1NO (1 form A)
   001 = 1CO (1 form C)
3. Contact material: E = $AgSnO_2$
4. Contact rating: 40 = 40A
   50 = 50A
5. DC Coil voltage: 05 = 5V; 06 = 6V; 09 = 9V;
   12 = 12V; 24 = 24V; 48 = 48V
6. Protection: V = Vented (flux-tight)
   S = Sealed (washable)

» Contact Data

Contact Arrangement	1 form A (NO) or 1 form C (CO)
Contact Material	$AgSnO_2$
Contact Rating (Resistive Load)	NO: 40A, 277VAC/30VDC; NC: 30A, 277VAC/30VDC NO: 50A, 277VAC; NC: 35A, 277VAC
Max. Switching Voltage	277VAC/30VDC
Max. Switching Current	40A or 50A
Max. Switching Power	13,85kVA/1,2kW
Initial Contact Resistance	≤30mΩ (voltage drop)
Electrical Endurance	40A: 30 x 10^3 50A: 10 x 10^3
Mechanical Endurance	10 x 10^6

» Coil Rating

Rated Coil Voltage [VDC]	Nominal Current [mA]	Coil Resistance [Ω] ± 10%	Max. Pull-in Voltage [VDC]	Min. Drop-out Voltage [VDC]	Coil Power [mW]	Comment
5	180,0	28	3,75	0,50	900	40A Model
6	150,0	40	4,50	0,60	900	40A Model
9	100,0	90	6,75	0,90	900	40A Model
12	75,0	160	9,00	1,20	900	40A Model
24	37,5	640	18,00	2,40	900	40A Model
48	18,8	2560	36,00	4,80	900	40A Model
5	240,0	21	3,75	0,50	1200	50A Model
6	200,0	30	4,50	0,60	1200	50A Model
9	133,3	68	6,75	0,90	1200	50A Model
12	100,0	120	9,00	1,20	1200	50A Model
24	50,0	480	18,00	2,40	1200	50A Model
48	25,0	1920	36,00	4,80	1200	50A Model

» Specification

Insulation resistance	≥1000MΩ (at 500VDC)
Initial Dielectric Strength	between open contact: 1500Vrms, 50/60Hz for 1 min between contact & coil: 4000Vrms, 50/60Hz for 1 min
Operate Time / Release Time	≤15ms / ≤10ms (at nominal voltage)
Environmental Protection	RTII (flux-tight) or RTIII (washable)
Shock Resistance	Malfunction: 98m/s² (11ms) Destruction: 980m/s² (11ms)
Vibration Resistance	Destruction: 10 ~ 55Hz, 1,5mm double amplitude
Ambient Operating Temperature (without icing or condensation)	-40 ~ +85°C
Ambient Operating Humidity	5% ~ 85% RH
Weight	21g

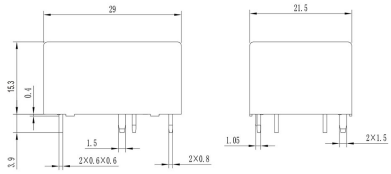
» Safety Approvals

Approval	File No.	Rating(s)
UL	pending	NO: 50A @ 277VAC @ 40°C / NC: 35A @ 277VAC @ 40°C NO: 40A @ 277VAC @ 40°C / NC: 30A @ 277VAC @ 40°C
TÜV	pending	NO: 50A @ 277VAC @ 40°C / NC: 35A @ 277VAC @ 40°C NO: 40A @ 277VAC @ 40°C / NC: 30A @ 277VAC @ 40°C
CQC	pending	NO: 50A @ 277VAC @ 40°C / NC: 35A @ 277VAC @ 40°C NO: 40A @ 277VAC @ 40°C / NC: 30A @ 277VAC @ 40°C

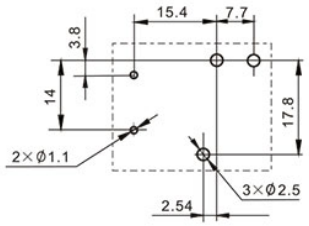
» Dimensions

40A Version

Outline Dimensions



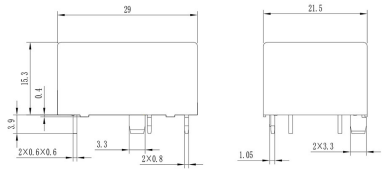
PCB Layout
(Bottom View)



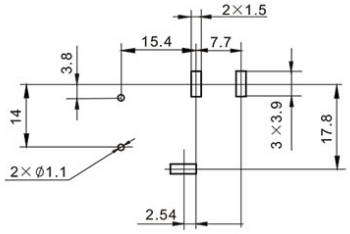
Wiring Diagram
(Bottom View)

50A Version

Outline Dimensions



PCB Layout
(Bottom View)



Wiring Diagram
(Bottom View)

Remark: 1) The reference tolerance in outline dimension: outline dimension ≤1mm, reference tolerance is ±0.2mm;
outline dimension >1mm and ≤5mm, reference tolerance is ±0.3mm;
outline dimension >5mm, reference tolerance is ±0.5mm.

2) The reference tolerance for PC Board layout is ±0.1mm.