

» Features

- 1 form A (NO) contact
- 35A switching / 50A carrying capability
- 2,25W coil power
- Contact gap $\geq 1,8\text{mm}$
- High inrush current stability (50A model)
- Low coil holding voltage (40%) to save power
- In accordance with IEC60335-1 Ed.5 (optional)
- Halogen-free version (optional)



» Application Examples

- Wallbox EV charger
- Power supply
- PV inverter

H x W x D: 20,2 x 27,1 x 32,1 [mm]

» Ordering Information

NF90G - **100** **E** **35** **12** **V** **nil**
1 **2** **3** **4** **5** **6** **7**

- | | | | |
|---------------------------|------------------------|---------------------|--|
| 1. Type: | NF90G = 1,8mm wide gap | 5. DC Coil voltage: | 09 = 9V; 12 = 12V; 18 = 18V;
24 = 24V; 48 = 48V |
| 2. Contact configuration: | 100 = 1NO (1 form A) | 6. Protection: | V = Vented (flux-tight)
S = Sealed (washable)/only 35A |
| 3. Contact material: | E = AgSnO ₂ | 7. Special Suffix: | nil = Standard
0335 = IEC60335-1 (GWT)
ZHAL = Zero Halogen |
| 4. Contact rating: | 35 = 35A
50 = 50A | | |

» Contact Data

Contact Arrangement	1 form A (NO)
Contact Material	AgSnO ₂
Contact Rating (Resistive Load)	35A, 277VAC 15A-50A-15A (make-carry-break), 250VAC
Max. Switching Voltage	277VAC / 30VDC
Max. Switching Current	35A
Max. Switching Power	9695VA
Initial Contact Resistance	$\leq 100\text{m}\Omega$ (6VDC/1A voltage drop)
Inrush current	230A for 100 μs , 230 VAC (50A model)
Electrical Endurance	30×10^3
Mechanical Endurance	300×10^3

» Coil Rating

Rated Coil Voltage [VDC]	Nominal Current [mA]	Coil Resistance [Ω] $\pm 10\%$	Max. Pull-in Voltage [VDC]	Min. Drop-out Voltage [VDC]	Coil Power [mW]
9	250,0	36	6,75	0,45	2250
12	187,5	64	9,00	0,60	2250
18	125,0	144	13,50	0,90	2250
24	93,8	256	18,00	1,20	2250
48	46,9	1024	36,00	2,40	2250

*After energizing coil at rated voltage for $\geq 100\text{ms}$, holding voltage can be reduced to $\geq 40\%$ of rated voltage.

» Specification

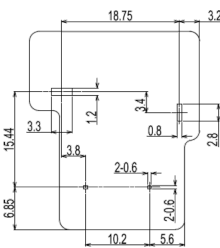
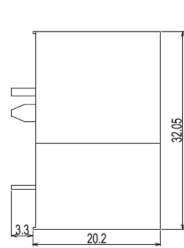
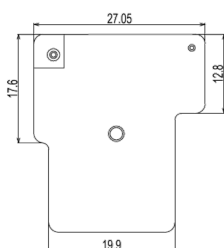
Insulation resistance	≥1000MΩ (at 500VDC)
Initial Dielectric Strength	between open contact: 2500 Vrms, 50/60Hz for 1 min between contact & coil: 4000Vrms, 50/60Hz for 1 min
Surge voltage	between contact & coil: 6kV (1,2/50μs)
Operate Time / Release Time	≤15ms / ≤15ms (at nominal voltage)
Environmental Protection	RTII (flux-tight) or RTIII (washable)
Shock Resistance	Malfunction: 98m/s ² Destruction: 980m/s ²
Vibration Resistance	Destruction: 10 ~ 55Hz, 1,5mm double amplitude
Ambient Operating Temperature (without icing or condensation)	-40 ~ +85°C
Ambient Operating Humidity	20% ~ 85% RH
Weight	26g

» Safety Approvals

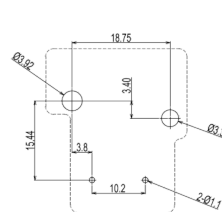
Approval	File No.	Rating(s)
UL	pending	35A @ 277VAC/250VAC/240VAC @ 85°C make&break 15A/carry 50A @ 277VAC/250VAC/240VAC @ 85°C

» Dimensions

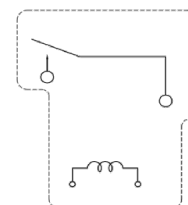
Outline Dimensions



PCB Layout (Bottom View)



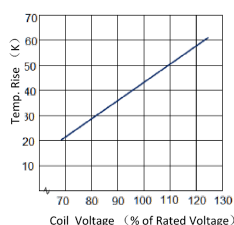
Wiring Diagram (Bottom View)



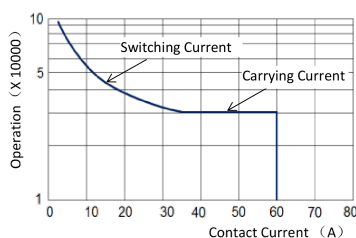
Remark: 1) The reference tolerance in outline dimension: outline dimension ≤1mm, reference tolerance is ±0.2mm;
outline dimension >1mm and ≤5mm, reference tolerance is ±0.3mm;
outline dimension >5mm, reference tolerance is ±0.5mm.
2) The reference tolerance for PC Board layout is ±0.1mm.

» Engineering Data

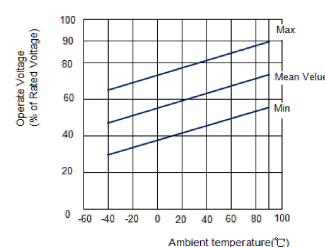
Coil Temperature Rise



Electrical Life Expectancy



Coil Operate Voltage/Temperature Cure



Disclaimer

All technical performance data apply to the relay as such, specific conditions of the individual application are not considered. Please always check the suitability of the relay for your intended purpose. We do not assume any responsibility or liability for not complying herewith. Any responsibility for the application of the product remains with the customer only. All specified values apply at room temperature, unless otherwise stated. All specifications are subject to change without notification. All rights are reserved.