

» Features

- 2 Form A (2NO) + Auxiliary mirror contact (optional)
- 40A switching capability
- 1,88W coil power
- Main contact gap $\geq 3,6\text{mm}$; aux. contact gap $\geq 0,8\text{mm}$
- Low coil holding voltage to save power
- High inrush current capability
- Fulfills requirements of EN 61810, IEC 62955 and IEC 62752



H x W x D: 40 x 30 x 36 [mm]

» Application Examples

- EV Charging (pile/wallbox/in-cable)
- Industrial control
- Energy metering
- PV inverter

» Ordering Information

NF63 - **210** **A** **40** **12** **V**
 1 2 3 4 5 6

- | | | | |
|---------------------------|--|---------------------|---|
| 1. Type: | NF63 | 5. DC Coil voltage: | 06 = 6V; 09 = 9V; 12 = 12V;
24 = 24V; 48 = 48V |
| 2. Contact configuration: | 200 = 2NO (2 form A)
210 = 2NO (2 form A) +
1NC (1 form B) | 6. Protection: | V = Vented (flux-tight) |
| 3. Contact material: | A = Ag Alloy | | |
| 4. Contact rating: | 40 = 40A | | |

» Contact Data

Contact Arrangement	2 form A (2NO) + Auxiliary 1 form B (NC) mirror contact (optional)
Contact Material	Ag Alloy
Contact Rating (Resistive Load)	Main Contacts: 40A, 277VAC Auxiliary Contact: 1A, 277VAC/30VDC
Max. Switching Voltage	277VAC
Max. Switching Current	40A
Max. Switching Power	Main Contacts: 11080VA Auxiliary Contact: 277VA/30W
Initial Contact Resistance	Main Contacts: $\leq 10\text{m}\Omega$ (6VDC/20A) Auxiliary Contact: $\leq 100\text{m}\Omega$ (6VDC/1A)
Short-Circuit tests	$I_p \geq 1,85\text{kA}$, $I^2t \geq 4,5\text{kA}^2\text{s}$ (based on requirements of IEC 62955) $I_p \geq 1,5\text{kA}$, $I^2t \geq 6\text{kA}^2\text{s}$ (based on requirements of IEC 62752)
Breaking capacity	500A (based on requirements of IEC 62955 & 62752)
Inrush current	230A for 100 μs (based on requirements of IEC 61851)
Surge current	3kA for 8/20 μs (based on requirements of IEC 62955)
Electrical Endurance	40A, 277VAC, 10×10^3 35A, 277VAC, 50×10^3
Mechanical Endurance	5×10^6

» 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]	Holding Voltage [VDC] $\leq +23^\circ\text{C}$	Holding Voltage [VDC] $> +23^\circ\text{C}$
6	313,3	19	4,50	0,30	1880	1,8 ~ 6,6	2,4 ~ 3,6
9	208,9	43	6,75	0,45	1880	2,7 ~ 9,9	3,6 ~ 5,4
12	156,7	77	9,00	0,60	1880	3,6 ~ 13,2	4,8 ~ 7,2
24	78,3	306	18,00	1,20	1880	7,2 ~ 26,4	9,6 ~ 14,4
48	39,2	1226	36,00	2,40	1880	14,4 ~ 52,8	19,2 ~ 28,8

» Specification

Insulation resistance	≥1000MΩ (at 500VDC)
Creepage / Clearance Distance	between main contacts & coil: ≥12,6mm / ≥10,9mm
Initial Dielectric Strength	between open main contacts: 2000Vrms, 50/60Hz for 1 min between main contact groups: 5000Vrms, 50/60Hz for 1 min between main contacts & coil: 5000Vrms, 50/60Hz for 1 min between main & auxiliary contacts: 2000Vrms, 50/60Hz for 1 min between open auxiliary contact: 1000Vrms, 50/60Hz for 1 min between auxiliary contact & coil: 2000Vrms, 50/60Hz for 1 min
Surge voltage	between main contacts & coil: 10kV (1,2/50μs) between auxiliary contact & coil: 2,5kV (1,2/50μs)
Operate Time / Release Time	≤30ms / ≤10ms (at nominal voltage)
Environmental Protection	RTII (flux-tight), 94V (0 Flammability Rating)
Shock Resistance	Malfunction: 98m/s ² Destruction: 980m/s ²
Vibration Resistance	Malfunction: 10 ~ 55Hz, 1,0mm double amplitude
Ambient Operating Temperature (without icing or condensation)	-40 ~ +85°C
Ambient Operating Humidity	5% ~ 85% RH
Weight	66g

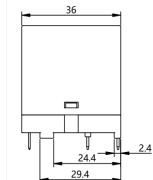
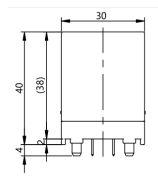
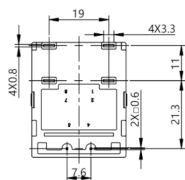
» Safety Approvals

Approval	File No.	Rating(s)
UL	E352915	Main (2NO): 35A @ 250VAC/277VAC @ 90°C 40A @ 250VAC/277VAC @ 85°C Aux (1NC): 1A @ 277VAC @ 90°C
VDE	pending	Main (2NO): 35A/40A @ 277VAC @ 85°C Aux (1NC): 1A @ 30VDC @ 85°C

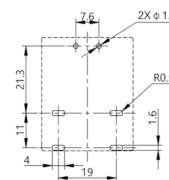
» Dimensions

Without Auxiliary Contact

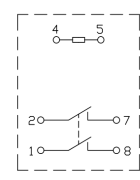
Outline Dimensions



PCB Layout (Bottom View)

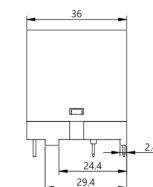
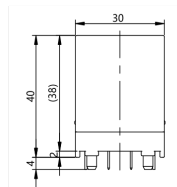
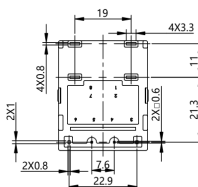


Wiring Diagram (Bottom View)

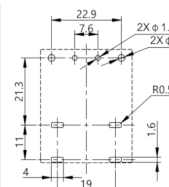


With Auxiliary Contact

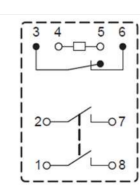
Outline Dimensions



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.

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.