⚠ Discontinued

NAiS HEAVY DUTY POWER RELAYS HZ RELAYS

■ Features
1. Small and compact size
2. High opening speed
   arc extinction in 1 msec (220 V DC, 20 A)
3. Wide range of ambient condition by capsulated contacts
4. Low power consumption

Specifications

■ Contacts and coil

Arrangement	Nominal voltage	Type No.	Pick-up voltage (at 20°C)	Drop-out voltage (at 20°C)	Nominal operating current (±10%) (at 20°C)	Nominal operating power	Max. allowable voltage (at 60°C)
1a	DC 12V	HZ 1a- 12V-W	less than 70% of nominal voltage	more than 10% of nominal voltage	250mA	approx. 3W	110% V
	DC 24V	HZ1a- 24V-W			125mA		
	DC 100/110V	HZ1a-100/110V-W			30/33mA	3/3.63W	DC 121V

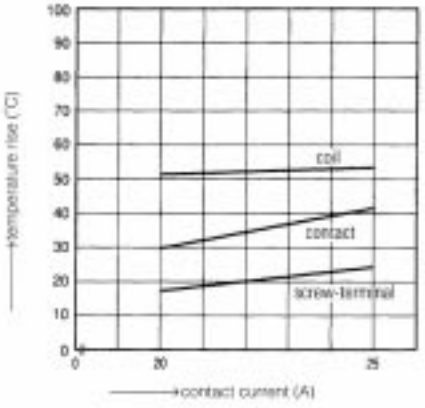
■ Characteristics

		Contact data
Arrangement		1a
Initial contact resistance		max. 30 mΩ (by voltage drop 6VDC, 1A)
Contact ratings		DC100V, 25A, L/R=60msec; A Zinc-Oxide Non-linear Resistor (Varistor voltage=220V) is connected in parallel with the load.
Max. switching voltage		DC220V
Max. switching current		25A: 1 minute
Initial insulation resistance		min. 1000mΩ at 500VDC (measured portion is the same as that of dielectric strength)
Initial breakdown voltage	Between open contacts	AC2000Vrms for 1min (Detection current: 10mA)
	Between contact and coil	AC5000Vrms for 1min (Detection current: 10mA)
Surge withstand voltage (initial)		More than 10000V surge (between contacts and coil)
Max. temperature rise		70°C
Operate time		30ms
Release time		15ms
Shock resistance min.	Functional	98m/s² (sine half-wave pulse: 11ms) (Detection time: 10μs)
	Destructive	980m/s² (sine half-wave pulse: 6ms)
Vibration resistance	Functional	10 – 55Hz at double amplitude of 1.0mm (Detection time: 10μs)
	Destructive	10 – 55Hz at double amplitude of 2.0mm
Mechanical life		20000 ope. (ON/OFF = 0.5s/0.5s)
Electric life		5000 ope. (ON/OFF = 1s/59s)
Ambient temperature		-20°C – + 60°C
Unit weight		Approx. 200g

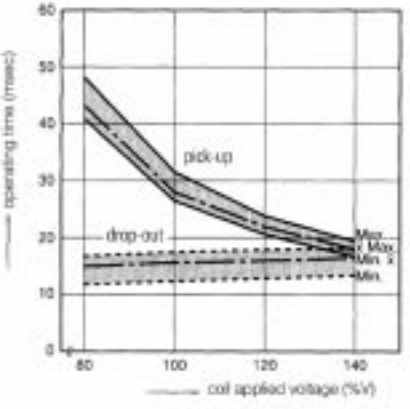
*Surge voltage is a standard impulse voltage that continues for ±(1.2x50) μ s as specified in IEC- 212-1981

HZ

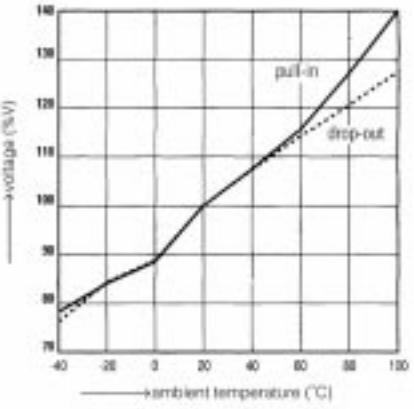
1. Temperature rise coil voltage
110%V ambient temperature 60˚C



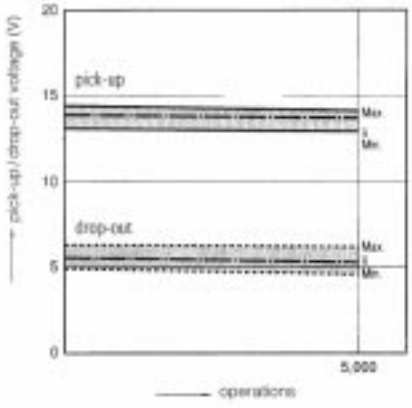
2. Operating time



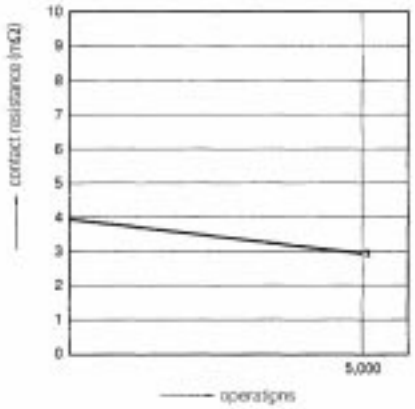
3. Ambient temperature characteristics

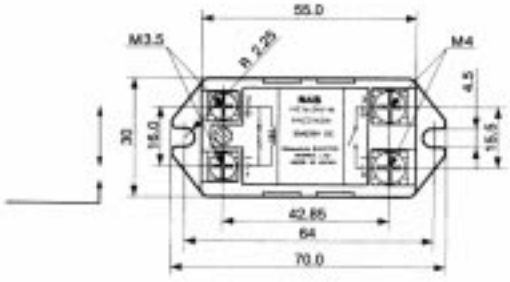


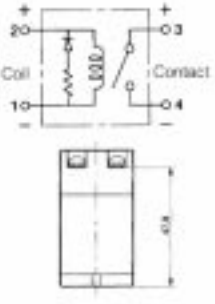
4. Change of pick-up / drop-out voltage
(DC 100 V, 25 A, L/R = 60 ms, 20˚

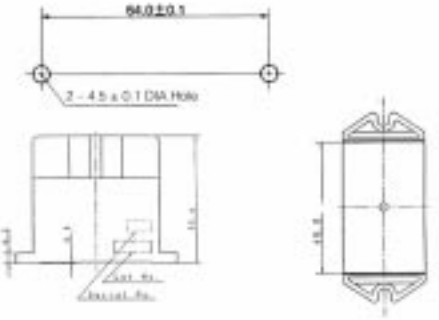


5. Change of contact resistance
(DC 100 V, 25 A, L/R = 60 ms, 20˚

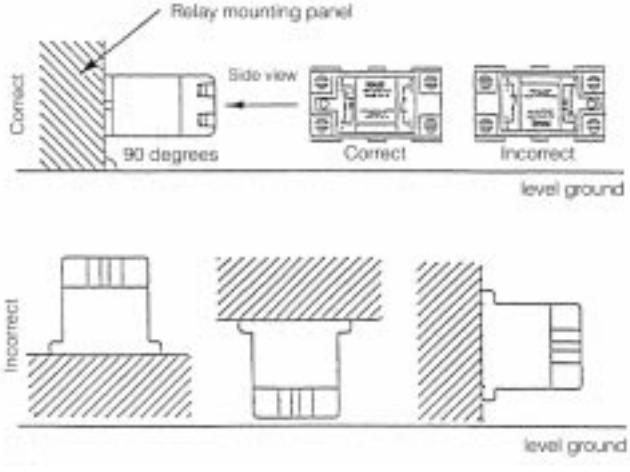








Relay mounting orientation



CAUTIONS FOR USE

1. If the relay is used while exceeding the coil rating, contact rating or cycle lifetime, this may result in the risk of overheating, smoke or combustion.

2. If the relay is dropped onto a hard surface, it should not be used again. If it is used, be sure to check electrical/mechanical characteristics and the external conditions beforehand.

3. Take care to avoid cross connections as they may cause malfunctions, overheating or combustion.

4. For connections to a screwed terminal block, use crimp splayed lugs and tighten screws with the following tightening torque:
- M4 screws (contact side): 1.176Nm (0.12kgm) to 1.37Nm (0.14kgm)
- M3.5 screws (coil side): 0.784Nm (0.08kgm) to 0.98Nm (0.1kgm)

5. Both the relay coil and contacts have a polarity. Please connect coil and contacts in accordance with the connection diagram. An external surge suppressor such as a diode should not be used as the relay contains an internal surge suppressor. Use of an external surge suppressor might severely affect performance.

6. The relay contacts are encapsulated in an inert gas atmosphere. Care must be exercised when the relay is to be used or stored at high ambient temperature. Do not use the relay in a vacuum environment as the contact capsule will quickly lose its internal gas.

7. The relay should not be installed near strong magnetic fields (transformers, magnets, etc.) and should not be installed near heat sources.

8. When installing a relay, use flat washers to prevent deformation and spring washers to prevent loose-nuts. The tightening torque should be 0.49Nm (0.05kgm) to 0.686Nm (0.07kgm).

The relay mounting panel must be mounted vertically (forming an angle of 90 degrees with the level ground, refer to the drawing beside). Relay itself must also be installed with the orientation specified in the attached specification drawings. In particular, if a relay mounting panel is installed horizontally (parallel to the level ground, refer to the below drawing), the switching performance may be severely impaired.