ELECTROMECHANICAL RELAYS

Easy Selection Guide

TIMERS AND CONTROL RELAYS

finder

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step 1

Follow the six easy steps to select the right relay and base for your application.

STEP 1: Select the Number of Contacts

Select the number of output contacts you require to be switched (from one to four contacts).

step 2

STEP 2: Select your Current Rating

The current ratings are a guideline for the maximum amount of current through the contacts under normal operation. The current rating is dependent on the type of load and would vary accordingly.

- A **Resistive load (denoted by the AC1 or DC1 ratings):** is when 100% of the load is composed of resistive devices, which are not capacitive or inductive. Contact erosion is low, and as such, the switch's electrical life is longer. For example, incandescent lamps, heating elements.
- An **Inductive load (denoted by the AC15 ratings):** is when there are coils (inductors) which oppose any change in current flow by creating an induced voltage. Such devices are susceptible to heavy wear and tear due to inrush currents which can be about 8 times the normal operating current. For example, solenoids, fluorescent lights.

The standard contact material is silver nickel which is suitable for most relay applications. The contacts have 2 sets of ratings – a resistive load rating (AC1) and an inductive load rating (AC15). For very small loads, gold-plated silver nickel contacts are recommended.
Contact your NHP Sales Representative for assistance.

step 3

STEP 3: Select your Coil Voltage

Select from a range of coil voltages 12 to 240 V in AC or DC (see page 4).

For coil voltages not shown on page 4, please contact your NHP representative for assistance.

Scan the QR code to download this Catalogue

step 4

STEP 4: Select the Relay Base

Most relays require a base to mount on a DIN rail.
Refer to the **selection chart on page 4** for the appropriate relay base.

step 5

STEP 5: Select Suppression and Indication Modules (Optional)

LED modules are used for coil indication, that is, when the coil is energized, the LED lights up.

Suppression modules (diodes, varistors and RC modules) and are used to protect the relay coil against reverse polarity peaks, which can be generated upon the de-energization of the relay. These reverse polarity peaks can reach up to 15 times the supply voltage and as a result can disturb or destroy electronic devices.

These modules plug-into the relay bases. The modules are:

- **LED modules** – can be used for coil indication for both AC/DC coils.
- **Varistor modules** – can be used for suppression puposes for both AC/DC coils.
- **Diode modules** – can only be used for suppression on DC coils.
- **RC modules** – can be used for suppression on both AC/DC coils.

Please refer to Accessories section following each relay type.

step 6

STEP 6: Select Timer Modules (Optional)

These modules are used to introduce a time-delay for switching the contacts, once the coil has been energised. These modules are also plug-in types and fit into the relay bases as well.

The types of timing modules available are:

- ON delay
- ON pulse
- Symmetrical recycling
- Signal OFF delay
- Signal ON and OFF delay
- Signal ON pulse

Please refer to Accessories section following each relay type.

example

A customer walks in to your store and asks for a 24 V DC relay.
These are the questions that you need to ask to give them what they need:

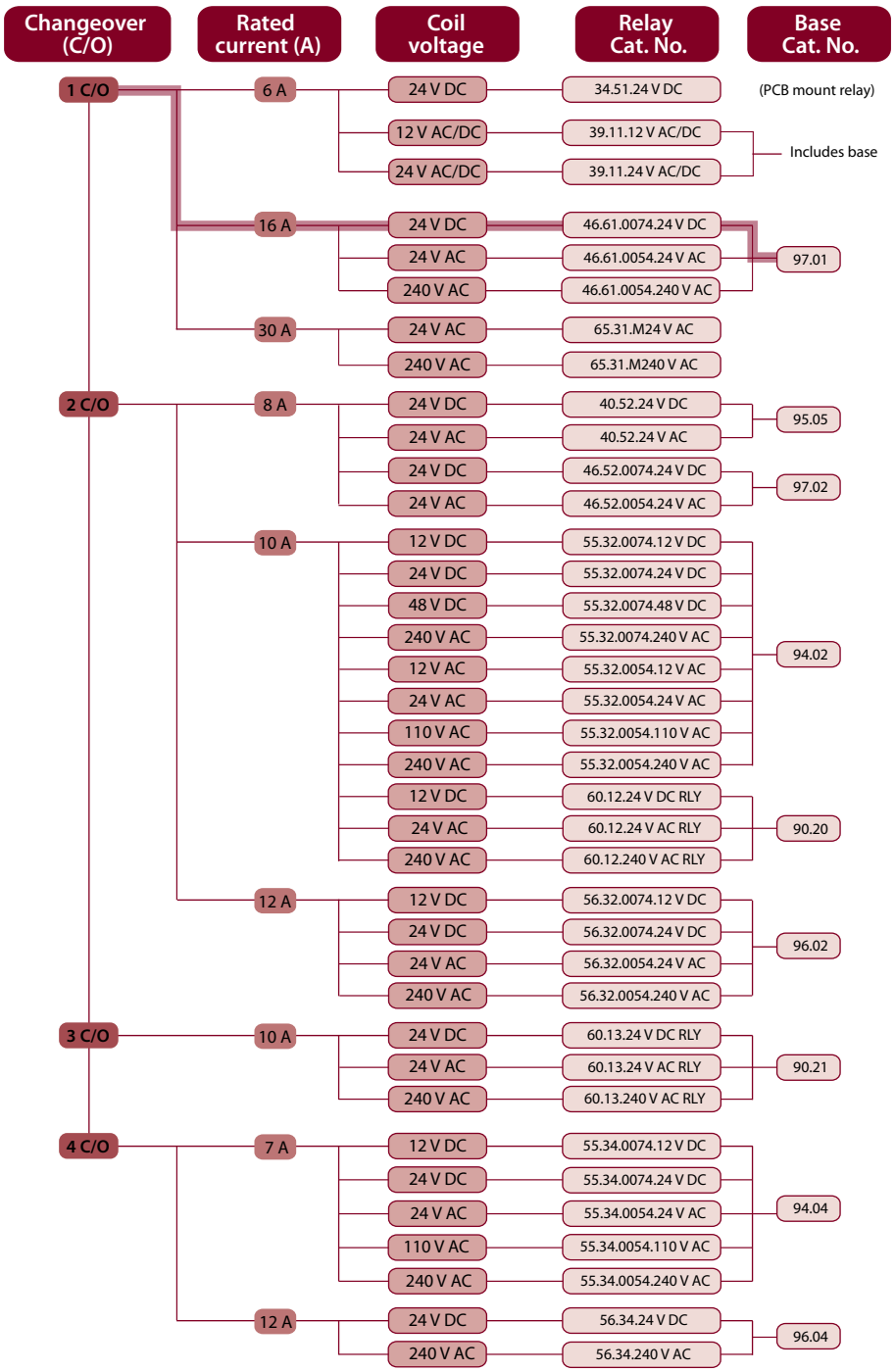
Q. *How many poles or changeover contacts do you need?*
A. I only need 1 changeover.

Q. *What current rating do you require OR how much current are you switching?*
A. I need to have something rated to about 12 A. (Look at the options, we have 6 A, 16 A and the 30 A model therefore, you would select the 16 A model).

Q. *What is the coil voltage required and do you need a relay base?*
A. I need a 24 V DC coil voltage, and yes I need a base.

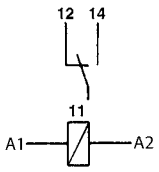
Looking at the chart, the best relay for the job would be the **46.61.0074.24 V DC** and the base would be **97.01.**

Selection Chart



For extended range please refer to NHP Price List – Part A.

34.51 Relay



34.51 Connection Diagram

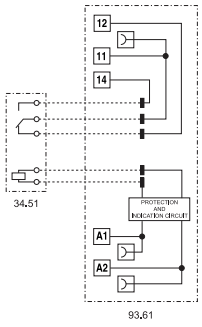
34 Series – Miniature Relay (PCB Mount or Plug-in)

- Ultra-slim profile, 5 mm wide
- Sensitive DC coil
- Replacement for 39.11.12 V AC DC and 39.11.24 V AC DC

1 C/O Contact

Rated current	Coil voltage	AC1	AC15	Single phase motor rating	Relay Cat. No.
6 A	24 V DC	1500 VA	300 VA	0.185 kW	34.51.24 V DC

39.11 Relay



39.11 Connection Diagram

39 Series – Relay Interface Module (DIN Rail Mount)

- Ultra-slim profile, only 6.2 mm wide
- Integrated LED and diode
- Simple removal of relay for replacement

1 C/O Contact

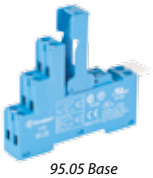
Rated current	Coil voltage	AC1	AC15	Single phase motor rating	Relay Cat. No.
6 A	12 V AC/DC	1500 VA	300 VA	0.185 kW	39.11.12 V AC DC
6 A	24 V AC/DC	1500 VA	300 VA	0.185 kW	39.11.24 V AC DC

Accessories for 39 Series

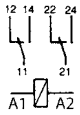
Description	Cat. No.	Image
Isolating plate	093.60	
Jumper link 16 way	093.16	
	093.16.0	
	093.16.1	
Identification labels	060.72	

Scan QR code for information on the 39 series.

40.52 Relay



95.05 Base



40.52 Connection Diagram

40 Series – Miniature Relays (PCB Mount or Plug-in)

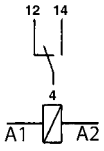
- Compact
- Operates reliably at high temperatures
- PCB or plug-in

2 C/O Contacts

Rated current	Coil voltage	AC1	AC15	Single phase motor rating	Relay Cat. No.		Base Cat. No.
8 A	24 V AC	2000 VA	400 VA	0.3 kW	40.52.24 V AC	+	95.05
8 A	24 V DC	2000 VA	400 VA	0.3 kW	40.52.24 V DC	+	95.05

46.61 Relay

97.01 Base (with retaining clip)



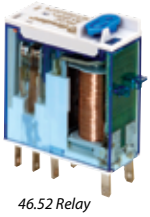
46.61 Connection Diagram

46 Series – Miniature Relay (Faston Connection or Plug-in)

- Compact
- High load switching up to 16 A
- Lockable test button and mechanical flag indicator with LED

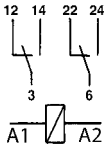
1 C/O Contact

Rated current	Coil voltage	AC1	AC15	Single phase motor rating	Relay Cat. No.		Base Cat. No.
16 A	24 V DC	4000 VA	750 VA	0.55 kW	46.61.0074.24 V DC	+	97.01
16 A	24 V AC	4000 VA	750 VA	0.55 kW	46.61.0054.24 V AC	+	97.01
16 A	240 V AC	4000 VA	750 VA	0.55 kW	46.61.0054.240 V AC	+	97.01



46.52 Relay

97.02 Base (with retaining clip)



46.52 Connection Diagram

2 C/O Contacts

Rated current	Coil voltage	AC1	AC15	Single phase motor rating	Relay Cat. No.		Base Cat. No.
8 A	24 V DC	2000 VA	350 VA	0.37 kW	46.52.0074.24 V DC	+	97.02
8 A	24 V AC	2000 VA	350 VA	0.37 kW	46.52.0054.24 V AC	+	97.02
8 A	240 V AC	2000 VA	350 VA	0.37 kW	46.52.0054.240 V AC	+	97.02

Accessories for 40 & 46 Series

Description	Cat. No.	Image
Faston DIN rail adaptor to suit 46.61 and 46.52 relays	046.07	
LED & diode plug-in module (024) 6 - 24 V DC (060) 25 - 60 V DC (220) 110 - 220 V DC *DC voltages only*	99.029.024 99.029.060 99.029.220	
On delay / interval timer module 12 - 24 V AC/DC	86.3024 V AC DC	
Jumper: 8 way for paralleling 95.05, 97.01 and 97.02 base terminals. Maximum 10 A, 250 V	95.18	

NEW!

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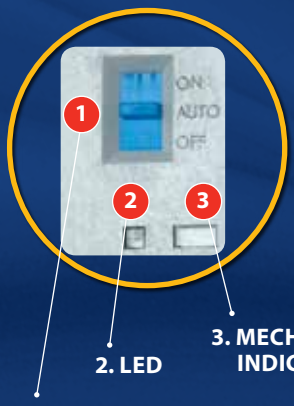
Finder 22 series

Modular Contactors – silent and easy

NHP



- Contact rating: 25 A
- AC and DC coils
- Auto-on-off selector, LED & mechanical indicator

Scan QR code for data sheet on the 22 series.

1. SELECTOR:

The three position manual selector has the following functions:

ON position: Contacts are latched in operated state (*NO contacts - closed and NC contacts - open*) the mechanical indicator is visible in its window, and the LED is not illuminated.

AUTO position: State of contacts, mechanical indicator and LED follow coil supply voltage.

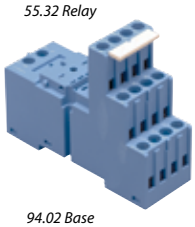
OFF position: Even with voltage applied to terminals A1 - A2, coil is not energized, contacts remain in non-operated state, mechanical indicator is not visible and the LED is not illuminated.

Type 22.32
2 contacts

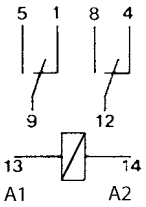
Type 22.34
4 contacts

Auxiliary Modules
022.33 & 022.35

55.32 Relay



94.02 Base



55.32 Connection Diagram

55 Series – General Purpose Relays (Flat Pin)

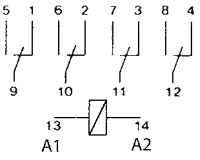
- Compact
- Lockable test button, mechanical flag and LED indicators
- Gold contacts option available (please contact NHP for more information)

2 C/O Contacts

Rated current	Coil voltage	AC1	AC15	Single phase motor rating	Relay Cat. No.		Base Cat. No.
10 A	110 V AC	2500 VA	500 VA	0.37 kW	55.32.0054.110 V AC	+	94.02
10 A	24 V AC	2500 VA	500 VA	0.37 kW	55.32.0054.24 V AC	+	94.02
10 A	240 V AC	250 VA	500 VA	0.37 kW	55.32.0054.240 V AC	+	94.02
10 A	12 V DC	2500 VA	500 VA	0.37 kW	55.32.0074.12 V DC	+	94.02
10 A	24 V DC	2500 VA	500 VA	0.37 kW	55.32.0074.24 V DC	+	94.02
10 A	48 V DC	2500 VA	500 VA	0.37 kW	55.32.0074.48 V DC	+	94.02

55.34 Relay

94.04 Base



55.34 Connection Diagram

4 C/O Contacts

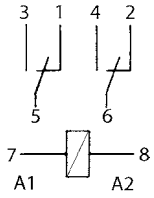
Rated current	Coil voltage	AC1	AC15	Single phase motor rating	Relay Cat. No.		Base Cat. No.
7 A	12 V DC	1750 VA	350 VA	0.125 kW	55.34.0074.12 V DC	+	94.04
7 A	24 V DC	1750 VA	350 VA	0.125 kW	55.34.0074.24 V DC	+	94.04
7 A	24 V AC	1750 VA	350 VA	0.125 kW	55.34.0054.24 V AC	+	94.04
7 A	110 V AC	1750 VA	350 VA	0.125 kW	55.34.0054.110 V AC	+	94.04
7 A	240 V AC	1750 VA	350 VA	0.125 kW	55.34.0054.240 V AC	+	94.04

Accessories for 55 Series

Description	Cat. No.	Image
On delay / interval timer module 12 - 24 V AC/DC	86.30.24 V AC DC	
LED & diode plug-in module (024) 6 - 24 V DC (060) 25 - 60 V DC (220) 110 - 220 V DC *DC voltages only*	99.029.024 99.029.060 99.029.220	
Jumper link 6 way: Maximum 10 A, 250 V	94.06	

56.32 Relay

96.02 Base



56.32 Connection Diagram

56 Series – Miniature Power Relays (Flat Pin)

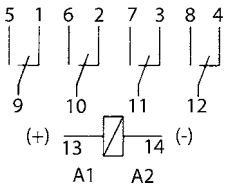
- Lockable test button, mechanical flag and LED indicators (2 contacts)

2 C/O Contacts

Rated current	Coil voltage	AC1	AC15	Single phase motor rating	Relay Cat. No.		Base Cat. No.
12 A	12 V DC	3000 VA	500 VA	0.55 kW	56.32.0074.12 V DC	+	96.02
12 A	24 V DC	3000 VA	500 VA	0.55 kW	56.32.0074.24 V DC	+	96.02
12 A	24 V AC	3000 VA	500 VA	0.55 kW	56.32.0054.24 V AC	+	96.02
12 A	240 V AC	3000 VA	500 VA	0.55 kW	56.32.0054.240 V AC	+	96.02

56.34 Relay

96.04 Base



56.34 Connection Diagram

4 C/O Contacts

Rated current	Coil voltage	AC1	AC15	Single phase motor rating	Relay Cat. No.		Base Cat. No.
12 A	24 V DC	3000 V AC	700 VA	0.55 kW	56.34.24 V DC	+	96.04
12 A	240 V AC	3000 V AC	700 VA	0.55 kW	56.34.240 V AC	+	96.04

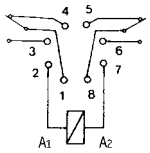
Not available in 240 V DC

Accessories for 56 Series

Description	Cat. No.	Image
On delay / interval timer module 12 - 24 V AC/DC	86.30.24 V AC DC	
LED & diode plug-in module (024) 6 - 24 V DC (060) 25 - 60 V DC (220) 110 - 220 V DC *DC voltages only*	99.029.024 99.029.060 99.029.110	

60.12 Relay

90.20 Base



60.12 Connection Diagram

60 Series – General Purpose Relays (Round Pin)

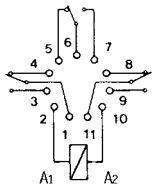
- Lockable test button and mechanical flag
- 8 and 11 pin round plug-in versions

2 C/O Contacts

Rated current	Coil voltage	AC1	AC15	Single phase motor rating	Relay Cat. No.		Base Cat. No.
10 A	24 V AC	2500 VA	500 VA	0.37 kW	60.12.24 V AC RLY	+	90.20
10 A	24 V DC	2500 VA	500 VA	0.37 kW	60.12.24 V DC RLY	+	90.20
10 A	240 V AC	2500 VA	500 VA	0.37 kW	60.12.240 V AC RLY	+	90.20

60.13 Relay

90.21 Base



60.13 Connection Diagram

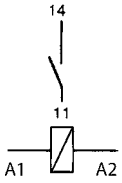
3 C/O Contacts

Rated current	Coil voltage	AC1	AC15	Single phase motor rating	Relay Cat. No.		Base Cat. No.
10 A	24 V AC	2500 VA	500 VA	0.37 kW	60.13.24 V AC RLY	+	90.21
10 A	24 V DC	2500 VA	500 VA	0.37 kW	60.13.24 V DC RLY	+	90.21
10 A	240 V AC	2500 VA	500 VA	0.37 kW	60.13.240 V AC RLY	+	90.21

Accessories for 60 Series

Description	Cat. No.	Image
Multifunction timer module 12 - 240 V AC/DC (suits 60.13 relays)	86.00	
LED & diode plug-in module (024) 6 - 24 V DC (060) 25 - 60 V DC (220) 110 - 220 V DC *DC voltages only*	99.013.024 99.013.060 99.013.110	

65.31 Relay



60.13 Connection Diagram

65 Series – Industrial Power Relays (Quick Connect)

- Suitable for high power switching
- Flange mounted
- Terminals suit 6.3 mm Faston lugs

1 N/O Contact

Rated current	Coil voltage	AC1	AC15	Single phase motor rating	Relay Cat. No.
30 A	24 V AC	2000 VA	350 VA	1.5 kW	65.31.M24 V AC
30 A	240 V AC	2000 VA	350 VA	1.5 kW	65.31.M240 V AC

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