

W&T

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Manual

Installation and wiring

Web-IO Digital 4.0

valid for:

#57015	Coupling relay 1 X changeover
#57016	Coupling relay 2 X changeover

Release 1.02 10/2021

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Legal notices

Warning notice system

This manual contains notices that must be observed for your personal safety as well as to prevent damage to equipment. The notices are emphasized using a warning sign. Depending on the hazard level the warning notices are shown in decreasing severity as follows.

DANGER

Indicates a hazard which results in death or severe injury if no appropriate preventive actions are taken.

WARNING

Indicates a hazard which can result in death or severe injury if no appropriate preventive actions are taken.

CAUTION

Indicates a hazard that can result in slight injury if no appropriate preventive actions are taken.

NOTE

Indicates a hazard which can result in equipment damage if no appropriate preventive actions are taken.

If more than one hazard level pertains, the highest level of warning is always used. If the warning sign is used in a warning notice to warn of personal injury, the same warning notice may have an additional warning of equipment damage appended.

Qualified personnel

The product described in this manual may be installed and placed in operation only by personnel who are qualified for the respective task.

The documentation associated with the respective task must be followed,


especially the safety and warning notices contained therein.

Qualified personnel are defined as those who are qualified by their training and experience to recognize risks when handling the described products and to avoid possible hazards.

Disposal

Electronic equipment may not be disposed of with normal waste, but rather must be brought to a proper electrical scrap processing facility.

Symbols on the product

Symbol	Explanation
	CE Mark The product conforms to the requirements of the relevant EU Directives.

Safety notices

General notices

This manual is intended for the installer of the coupling relays described in the manual and must be read and understood before starting work. The devices are to be installed and put in operation only by qualified personnel.

Intended use

DANGER

The coupling relays described in this manual are used for galvanic isolation, amplification and signal conditioning between controllers and its peripherals. The relay coils are operated with a voltage of 24V DC, the relay contacts can switch currents up to 16A and voltages up to 250V AC.

Protection of operating personnel and the equipment is only assured if the coupling relays are used according to their intended purpose. Any other use than described in the manuals may compromise the safety and function of the connected systems.

Non-intended use is any other use or any modification to the described devices.

Responsibility for adhering to the local prevailing safety regulations lies with the operator.

Electrical safety

WARNING

Before starting any work on the relays, the power supply must be completely disconnected by suitable measures. Make sure that the power supply cannot be switched on again accidentally!

The relays may only be used in enclosed and dry rooms.

The device should not be subjected to high ambient temperatures or direct sunlight, and it should be kept away from heat sources. Please observe the limits with respect to maximum ambient temperature.

Voltage and currents must not exceed the nominal values of the specification.

Make sure that there is enough space between the cables leading to the mains and SELV terminals to avoid any potential flashovers between the cables.

During installation, make sure that no stray wires come into contact with other components of the circuit.

When using lead wire, the ends must be provided with wire end ferrules!

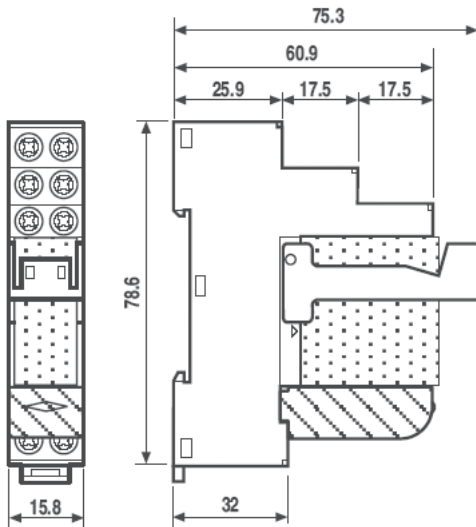
Tighten the screws of unused terminals.

3. Product description

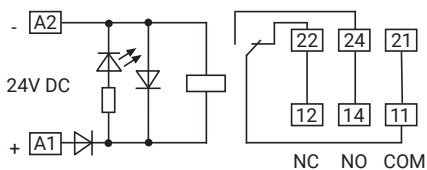
Coupling relay with 1x changeover contact, #57015

Coupling relay with one change-over contact, 15.8mm wide, for top-hat rail mounting with integrated EMC protective circuit and reverse polarity protection diode. Safe separation between coil and contact set according to VDE 0106, EN50178, EN60204 and EN60335.

Dimensions



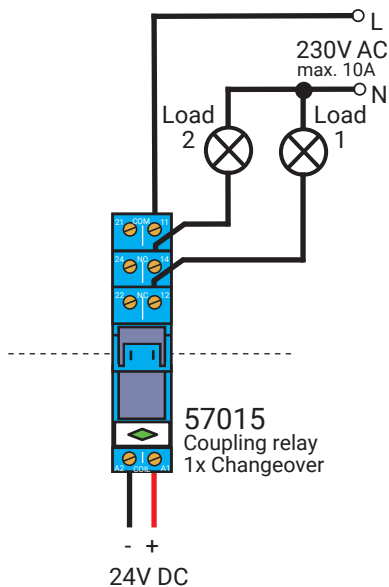
Pinout



Wiring example 230V

⚠DANGER

Before starting wiring work, make sure that all supply lines and connected components are de-energised. Also make sure that the voltage supply cannot be switched on again accidentally.



⚠NOTE

For switching loads above 10A, terminals 11-21, 12-22 and 14-24 must be bridged.

Technical Data

Manufacturer: Finder GmbH
 Model: 48.61.7.024.0050

Coil specification:

Nominal voltage: 24V DC
 Rated power: 0,5W
 Operating range: 19,2V...36V DC
 Holding voltage: 9,6V DC
 Must drop-out voltage: 2,4V DC

Contact specification:

Contact configuration: 1 CO (SPDT)
 Rated current/Maximum peak current: 16A*)/30A
 Rated voltage/Maximum switching voltage: 250V/400V (AC)
 Rated load AC1: 4.000VA
 Rated load AC15 (230V AC): 750VA
 Single phase motor rating (230V AC): 0,55kW
 Breaking capacity DC1 (30/110/220V): 16A/0,3A/0,12A
 Minimum switching load: 500mW
 Contact material: AgCdO

General data:

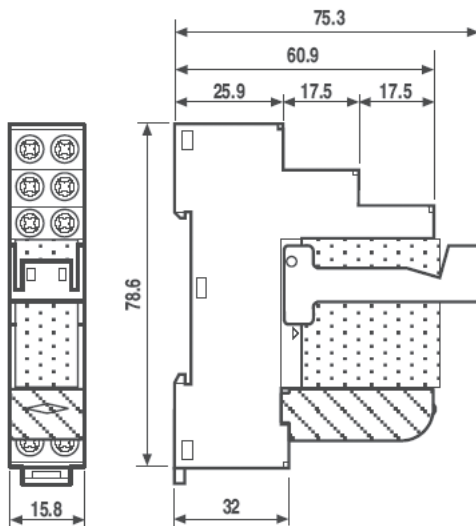
Mechanical life (cycles): 20.000.000
 Electrical life at rated load AC1 (cycles): 100.000
 Operate/release time: 12ms/12ms
 Insulation between coil and contacts (1,2/50 μ s): 6kV
 Dielectric strength between open contacts (AC): 1.000V
 Ambient temperature range: -40°C...+70°C
 Protection category: IP 20

*) For currents > 10A, contact terminals must be connected in parallel (11 - 21, 14 - 24 and 12 - 22)

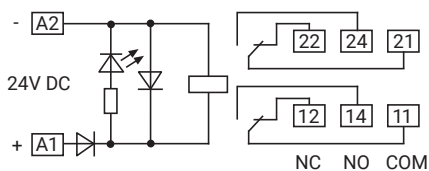
Coupling relay with 2 changeover contacts, #57016

Coupling relay with two changeover contacts, 15.8mm wide, for top-hat rail mounting with integrated EMC protective circuit and reverse polarity protection diode. Safe separation between coil and contact set according to VDE 0106, EN50178, EN60204 and EN60335.

Dimensions



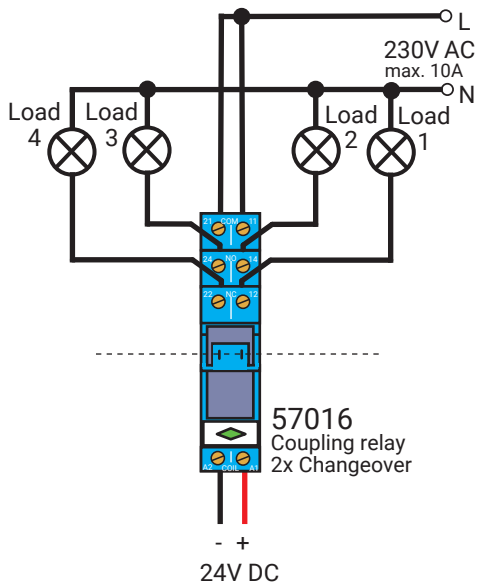
Pinout



Wiring example 230V

⚠ DANGER

Before starting wiring work, make sure that all supply lines and connected components are de-energised. Also make sure that the voltage supply cannot be switched on again accidentally.



Technical Data

Manufacturer: Finder GmbH
Model: 48.61.7.024.0050

Coil specification:

Nominal voltage: 24V DC
Rated power: 0,5W
Operating range: 19,2V...36V DC
Holding voltage: 9,6V DC
Must drop-out voltage: 2,4V DC

Contact specification:

Contact configuration: 2 CO (DPDT)
Rated current/Maximum peak current: 8A/15A
Rated voltage/Maximum switching voltage: 250V/400V (AC)
Rated load AC1: 2.000VA
Rated load AC15 (230V AC): 400VA
Single phase motor rating (230V AC): 0,3kW
Breaking capacity DC1 (30/110/220V): 8A/0,3A/0,12A
Minimum switching load: 300mW
Contact material: AgCdO

General data:

Mechanical life (cycles): 20.000.000
Elektrical life at rated load AC1 (cycles): 100.000
Operate/release time: 12ms/12ms
Insulation between coil and contacts (1,2/50 μ s): 6kV
Dielectric strength between open contacts (AC): 1.000V
Ambient temperature range: -40°C...+70°C
Protection category: IP 20

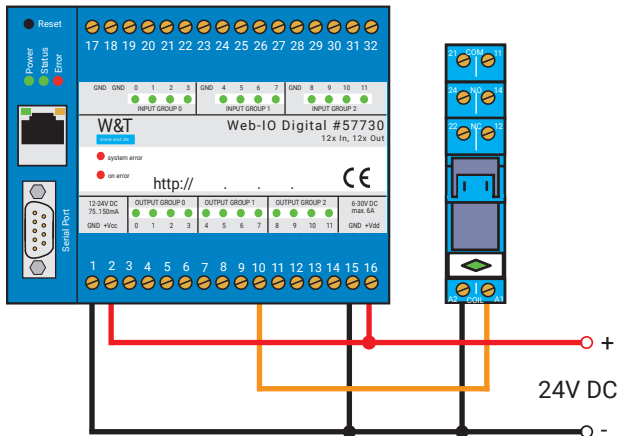
4. Wiring with Web IO

The following examples show the control of a coupling relay by an output of the respective Web-IO. Of course, the other outputs can also be wired with further coupling relays in the same way.

NOTE

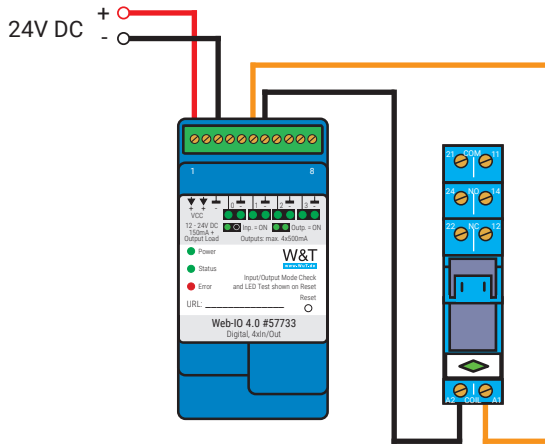
The coupling relays are equipped with an integrated free-wheeling diode. It is therefore essential to observe the polarity when connecting them (A1 +, A2 -).

#57730, 57731

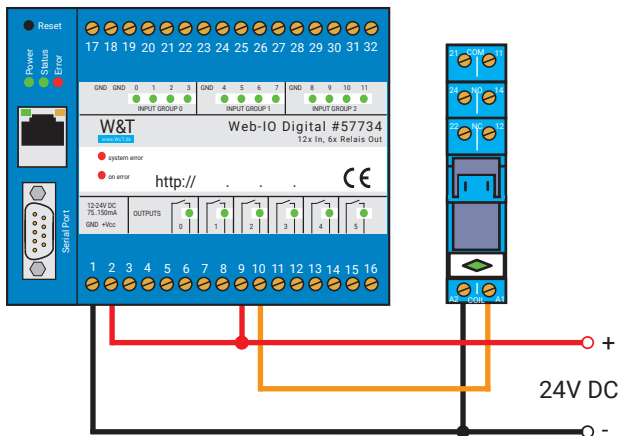


The unit supply Vcc (terminals 1, 2) and the output supply Vdd (terminals 15, 16) can be fed from the same 24V power supply.

#57733

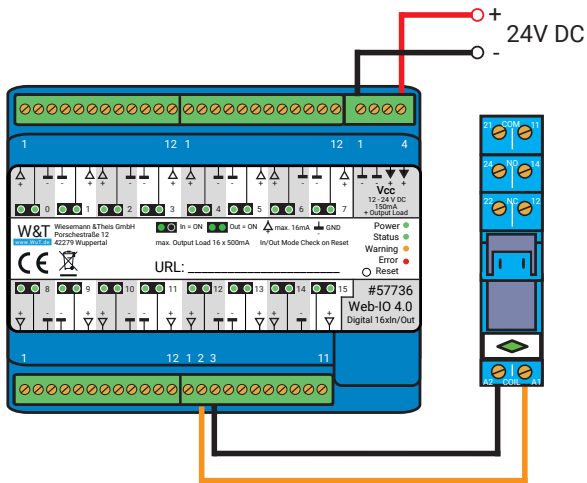


#57734

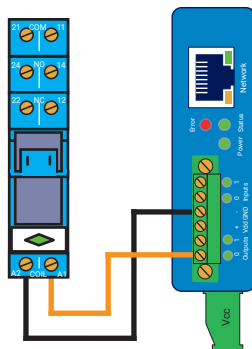


The unit supply Vcc (terminals 1, 2) and the relay switching voltage can be supplied from the same 24V power supply.

#57736

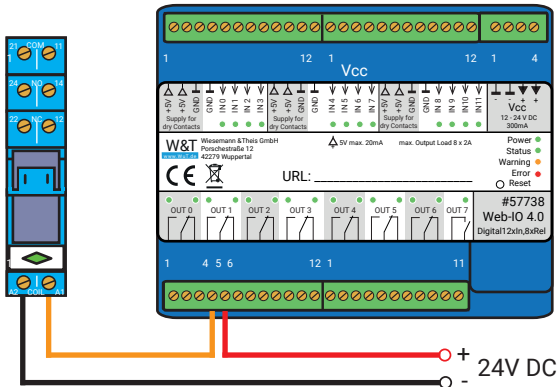


#57737



The Web-IO can optionally be supplied via the Vcc terminal or PoE (Power over Ethernet). In any case, the internal 24V IO supply must be activated (menu Basic Settings >> Inputs/Outputs).

#57738



The Web-IO can optionally be supplied from the same 24V power supply or via PoE (Power over Ethernet).



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