

Manual

Coupling Relays for Web-IO



Release
Model

1.0
57015
57016

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Subject to errors and changes:

Since we can make mistakes, none of our statements should be used without checking. Please let us know of any mistakes or misunderstandings you are aware of, so that we can recognize and eliminate them quickly.

Perform work on and with W&T products only as described here and only if you have read and understood the manual fully. Unauthorized use can result in hazards. We are not liable for the consequences of unauthorized use. When in doubt, check with us or consult you dealer!

Introduction

All Web-IO Digital models from Wiesemann & Theis are equipped with digital outputs which can be switched over a network connection.

In automation technology, the customary application of the Web-IO Digital, 24V DC is generally used as the power supply, so that the outputs are designed for applications in low-voltage environments.

There are however applications cases for the Web-IO Digital which require that higher voltages be switched: In building automation systems for example there is often a need to switch devices powered by 230V AC on or off.

The coupling relay makes it simple to control such devices. The relays are driven by the Web-IO with 24V DC and in turn switch the 230V consumers.

These high-quality coupling relays are rated for a load current of up to 16A, ensuring sufficient switching capacity with save isolation between the low-voltage (SELV) and mains voltage side.

The following pages describe how the various Web-IOs are coupled to the relays and how to connect the consumers to the relays.

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Safety Advisory: HAZARDOUS VOLTAGE

The following instruction must be read and understood prior to installing the Coupling Relays. Ignoring this instruction may result in severe or fatal injury. This applies in particular when working with 230V mains.



Work on systems carrying dangerous voltages is to be performed only by electrical specialists.

Before starting any work on equipment carrying dangerous voltages, suitable measures must be taken to completely disconnect the power source.

During installation, be sure that no loose wires come into contact with other switching components.

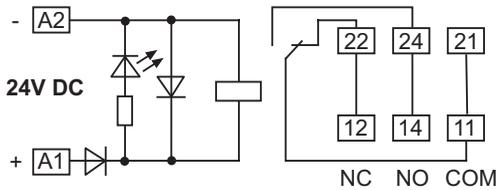
Protection of operating personnel and of the equipment is only ensured if the coupling relay is used as intended and the technical data are taken into consideration.

The operator is responsible for meeting the locally prevailing safety regulations.

Coupling relay with 1 change-over contact, #57015

Coupling relay with one change-over contact, 15.8 mm wide, for DIN rail mounting with integrated EMC protection circuit and polarity reversal protection diode. Safe isolation between coil and contacts per VDE 0106, EN50178, EN60204 and EN60335.

Pinout



Technical Data

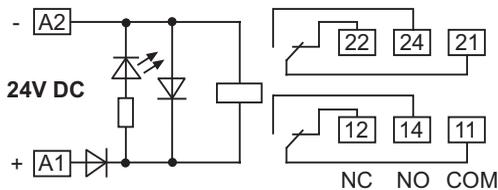
Contact specification	
Contact configuration	1 CO (SPDT)
Rated current/Maximum peak current	16A*/30A
Rated voltage/Maximum switching voltage	250V/400V (AC)
Rated load AC1	4.000VA
Rated load AC15 (230 V AC)	750VA
Single phase motor rating (230 V AC)	0,55kW
Breaking capacity DC1: 30/110/220V	16A/0,3A/0,12A
Minimum switching load	500mW
Standard contact material	AgCdO
Coil specification	
Nominal voltage	24V
Rated power	0,5W
Operating range	(0,8...1,5)U _N
Holding voltage	0,4U _N
Must drop-out voltage	0,1U _N
Technical 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 μs)	6kV
Dielectric strength between open contacts (AC)	1.000V
Ambient temperature range	-40°C...+70°C
Protection category	IP 20

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

Coupling relay with 2 change-over contacts, #57016

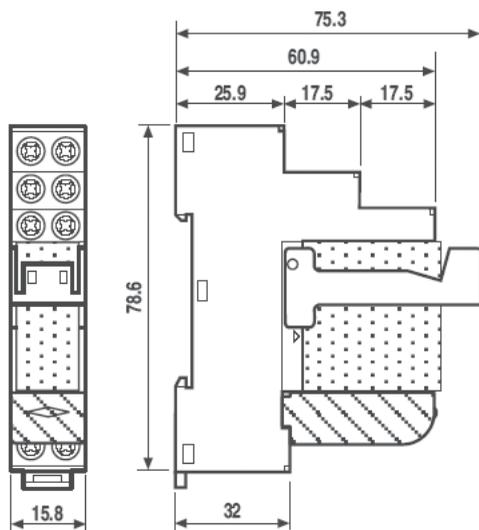
Coupling relay with two change-over contacts, 15.8 mm wide, for DIN rail mounting with integrated EMC protection circuit and polarity reversal protection diode. Safe isolation between coil and contacts per VDE 0106, EN50178, EN60204 and EN60335.

Pinout



Technical Data

Contact specification	
Contact configuration	2 CO (DPDT)
Rated current/Maximum peak current	8A/15A
Rated voltage/Maximum switching voltage	250V/250V (AC)
Rated load AC1	2,000VA
Rated load AC15 (230 V AC)	400VA
Single phase motor rating (230 V AC)	0,3kW
Breaking capacity DC1: 30/110/220V	8A/0,3A/0,12A
Minimum switching load	300mW
Standard contact material	AgCdO
Coil specification	
Nominal voltage	24V
Rated power	0,5W
Operating range	(0,8...1,5)UN
Holding voltage	0,4UN
Must drop-out voltage	0,1UN
Technical 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

Dimensions

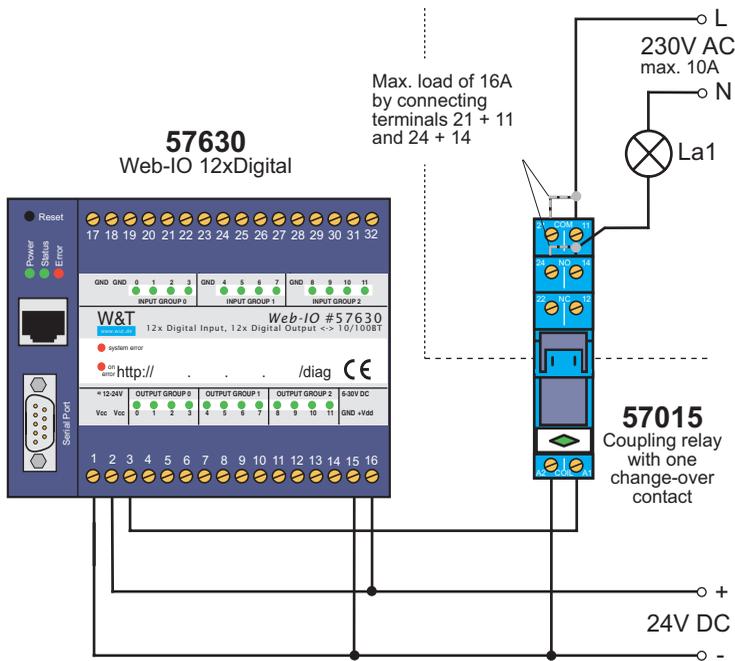
Circuit examples using the Web-IO 57630

If the Web-IO and coupling relay are powered by the same 24V source, we recommend using the W&T DIN rail mount power supply, model 11084.

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

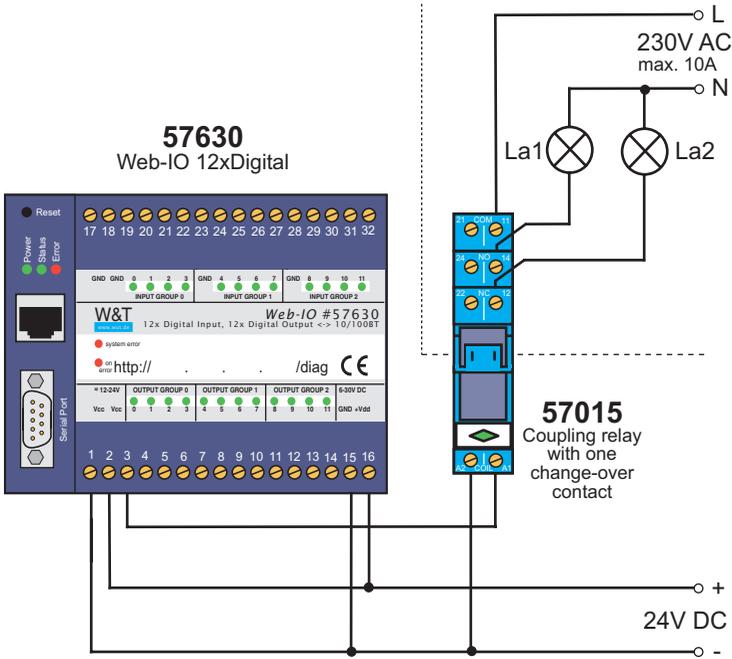


Web-IO with coupling relay 57015 as 230V switch

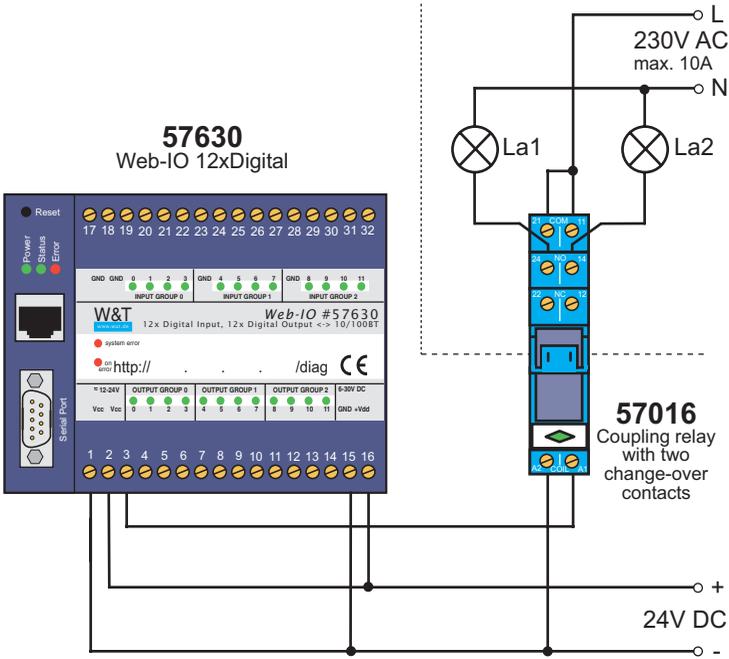


When switching loads over 10A terminals 11-21 and 14-24 must be jumpered.

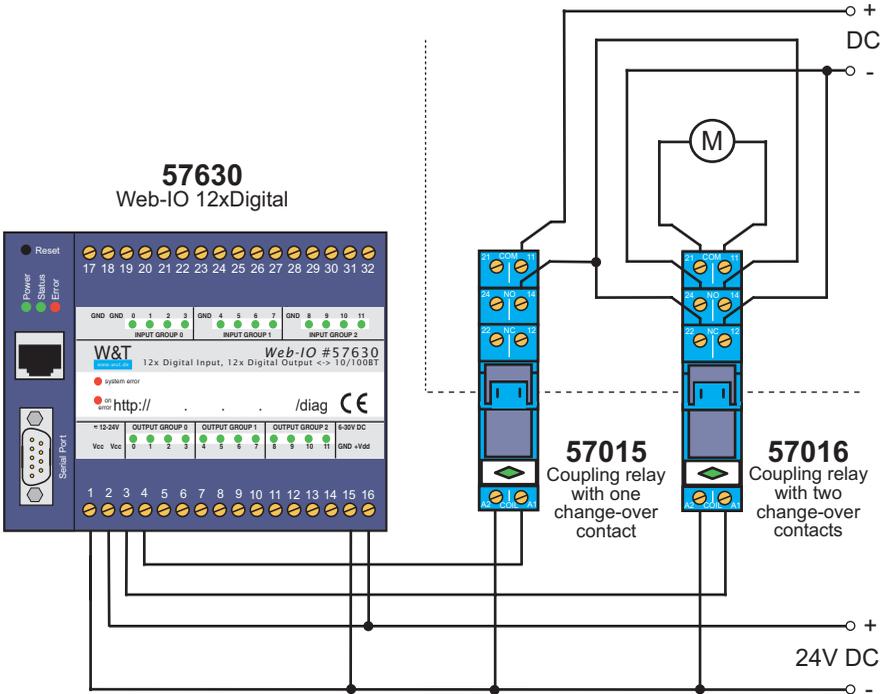
Web-IO with coupling relay 57015 as 230V change-over



Web-IO with coupling relay 57016 as dual switch



DC motor controller with Web-IO and coupling relay



Output 1 and the following coupling relay are used to switch the motor on or off. The rotation direction is controlled by Output 0 and uses a coupling relay as dual change-over circuit.

It must be ensured in the controlling application that the rotation direction is changed only while the motor is stopped. The motor should be sized so that the limits indicated in the technical data for the coupling relay are maintained.



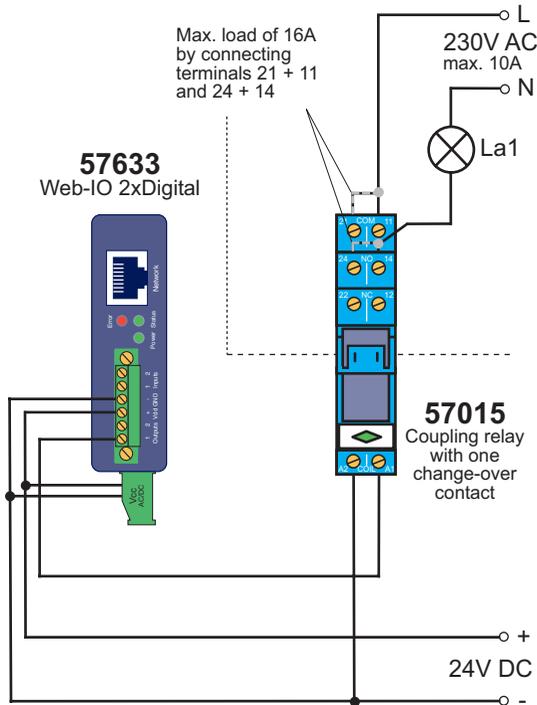
Circuit examples using Web-IO 57633

If the Web-IO and coupling relay are powered by the same 24V source, we recommend using the W&T DIN rail mount power supply, model 11084.

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

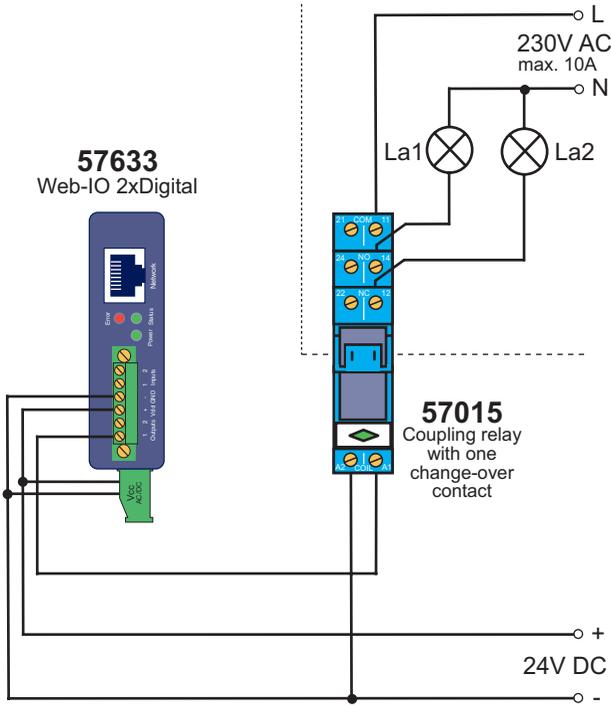


Web-IO with coupling relay 57015 as 230V switch

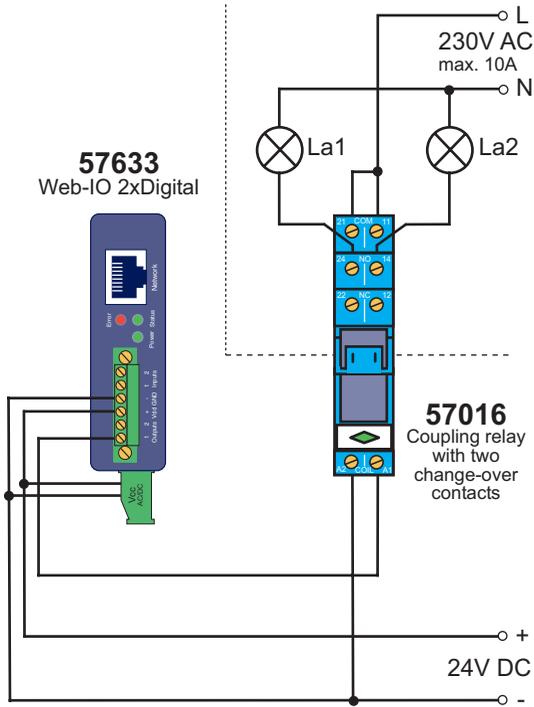


When switching loads over 10A terminals 11-21 and 14-24 must be jumpered.

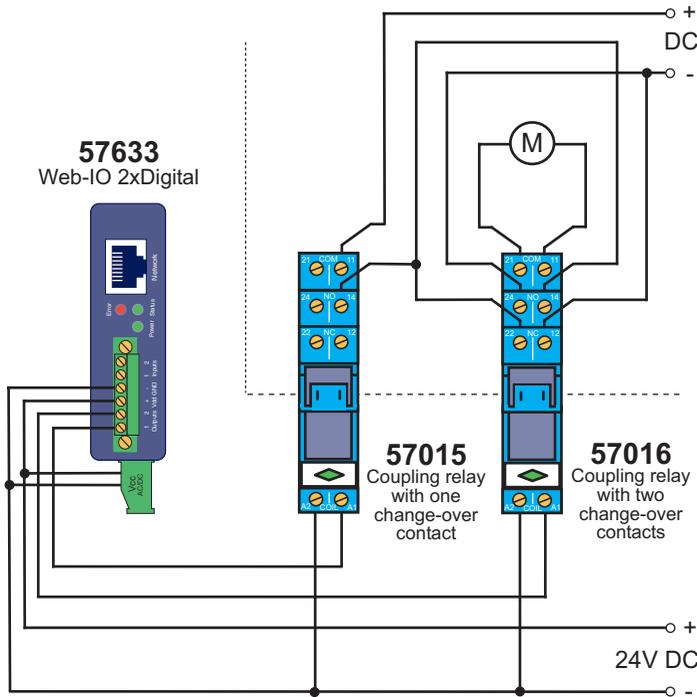
Web-IO with coupling relay 57015 as 230V change-over



Web-IO with coupling relay 57016 as dual switch



DC motor controller with Web-IO and coupling relay



Output 1 and the following coupling relay are used to switch the motor on or off. The rotation direction is controlled by Output 0 and uses a coupling relay as dual change-over circuit.

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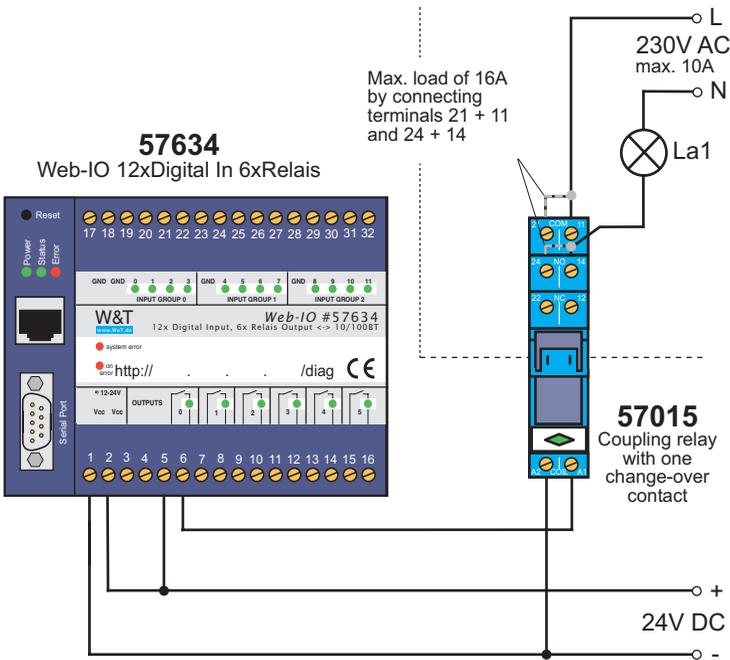
Circuit examples using Web-IO 57634

If the Web-IO and coupling relay are powered by the same 24V source, we recommend using the W&T DIN rail mount power supply, model 11084.

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

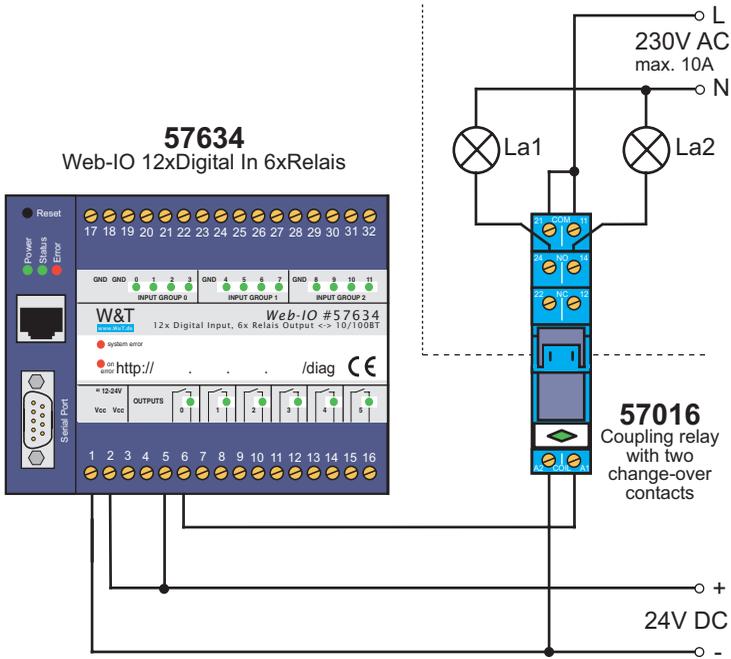


Web-IO with coupling relay 57015 as 230V switch

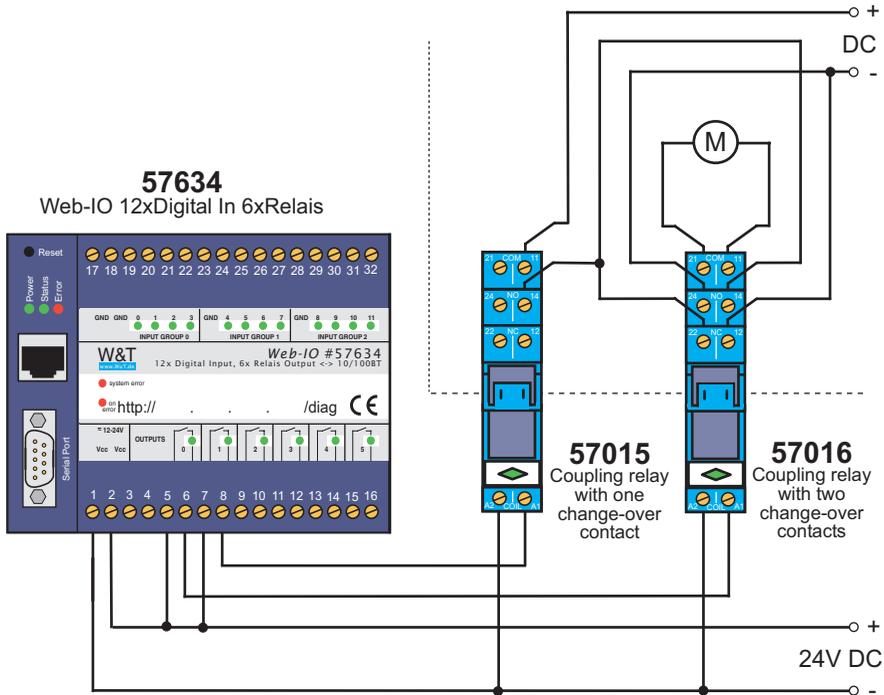


When switching loads over 10A terminals 11-21 and 14-24 must be jumpered.

Web-IO with coupling relay 57016 as dual switch



DC motor controller with Web-IO and coupling relay



Output 1 and the following coupling relay are used to switch the motor on or off. The rotation direction is controlled by Output 0 and uses a coupling relay as dual change-over circuit.

It must be ensured in the controlling application that the rotation direction is changed only while the motor is stopped. The motor should be sized so that the limits indicated in the technical data for the coupling relay are maintained.

