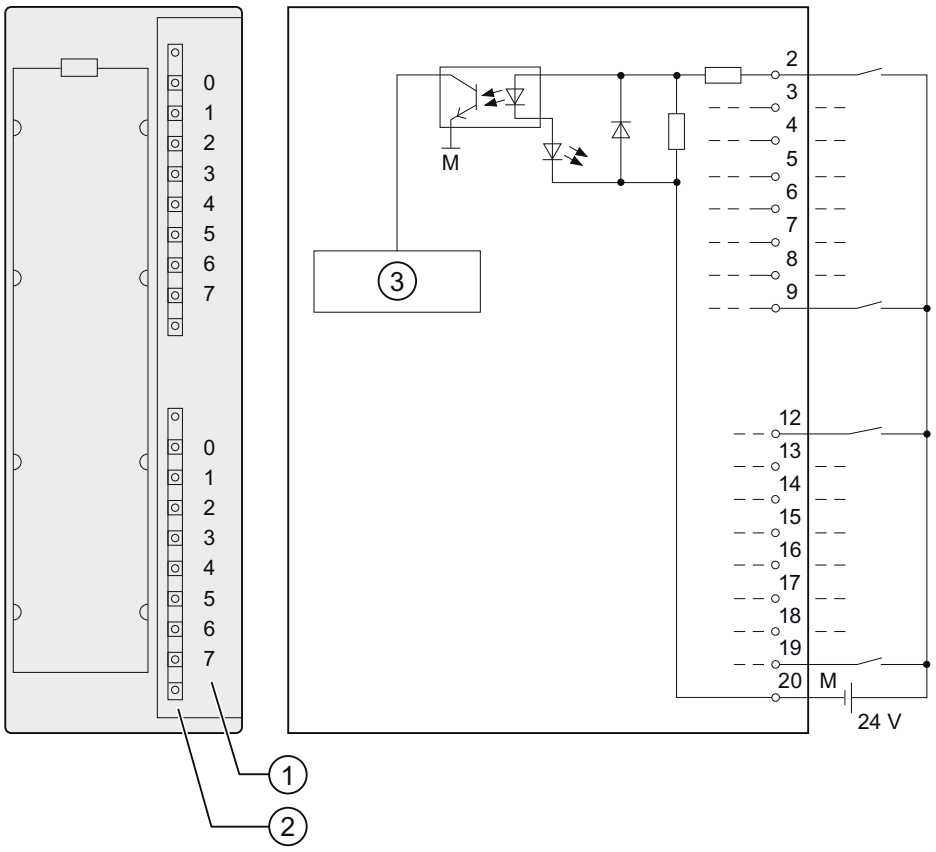
Wiring and block diagrams of SM 321; DI 16 x DC 24 V

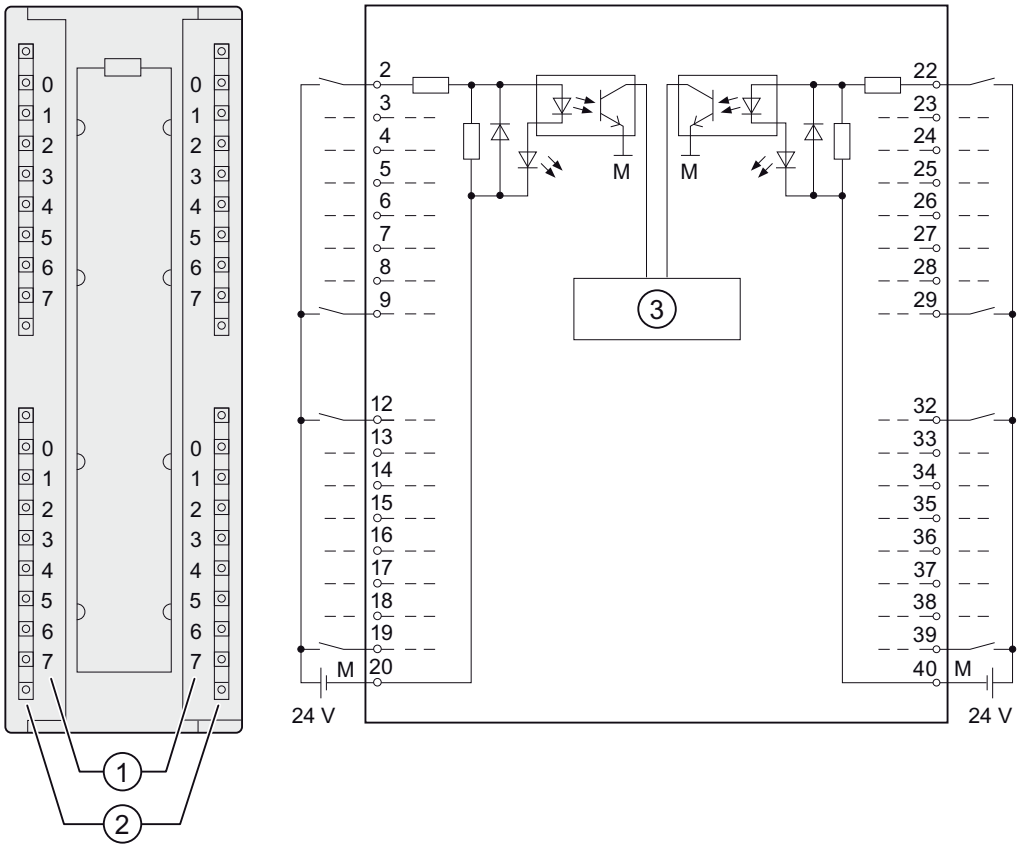


① Channel number
② Status display - green
③ Backplane bus interface

Technical specifications of SM 321; DI 16 x DC 24 V

Technical specifications	
Dimensions and weight	
Dimensions W x H x D (mm)	40 x 125 x 117
Weight	ca. 200 g
Module-specific data	
Supports isochronous mode	no
Number of inputs	16
Cable length • unshielded • shielded	 max. 600 m max. 1000 m

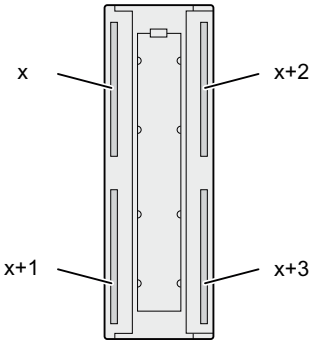
Wiring and block diagrams of SM 321; DI 32 x DC 24 V



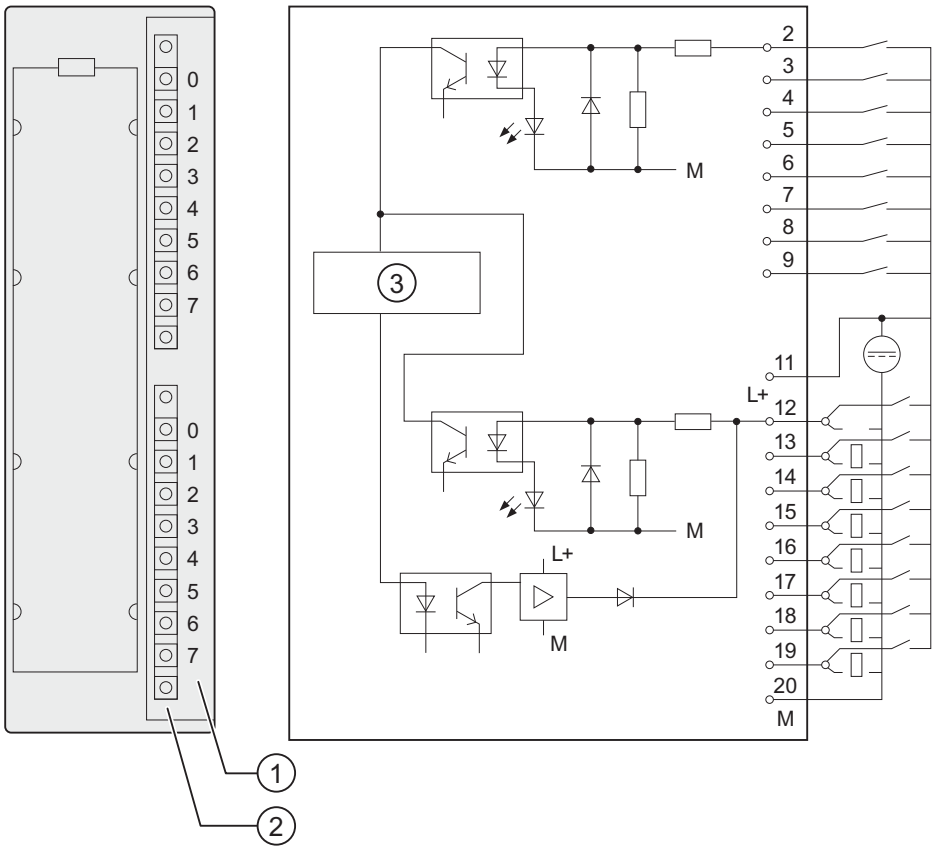
① Channel number
② Status display - green
③ Backplane bus interface

Terminal assignment of SM 321; DI 32 x DC 24 V

The figure below shows how channels are assigned to addresses (input byte x up to input byte x+3).



Wiring and block diagram of SM 327; DI 8/DO 8 x DC 24 V/0.5 A, programmable



① Channel number
② Status display - green
③ Backplane bus interface

Technical specifications of SM 327; DI 8/DO 8 x DC 24 V/0.5 A, programmable

Technical specifications	
Dimensions and weight	
Dimensions W x H x D (mm)	40 x 125 x 120
Weight	ca. 200 g
Module-specific data	
Supports isochronous mode	no
Number of inputs	8 digital
Number of inputs/outputs	8, can be programmed separately
Cable length • unshielded • shielded	 max. 600 m max. 1000 m

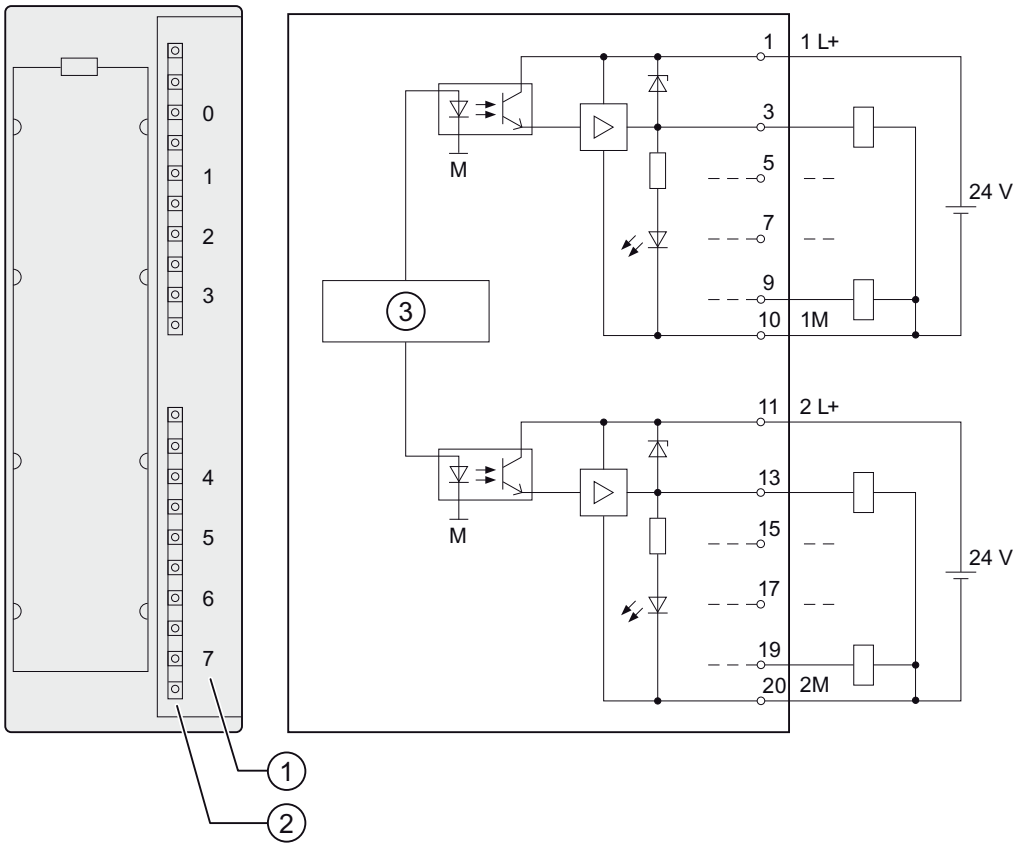
Use of the module with high-speed counters

Please note when using the module in combination with high-speed counters:

Note

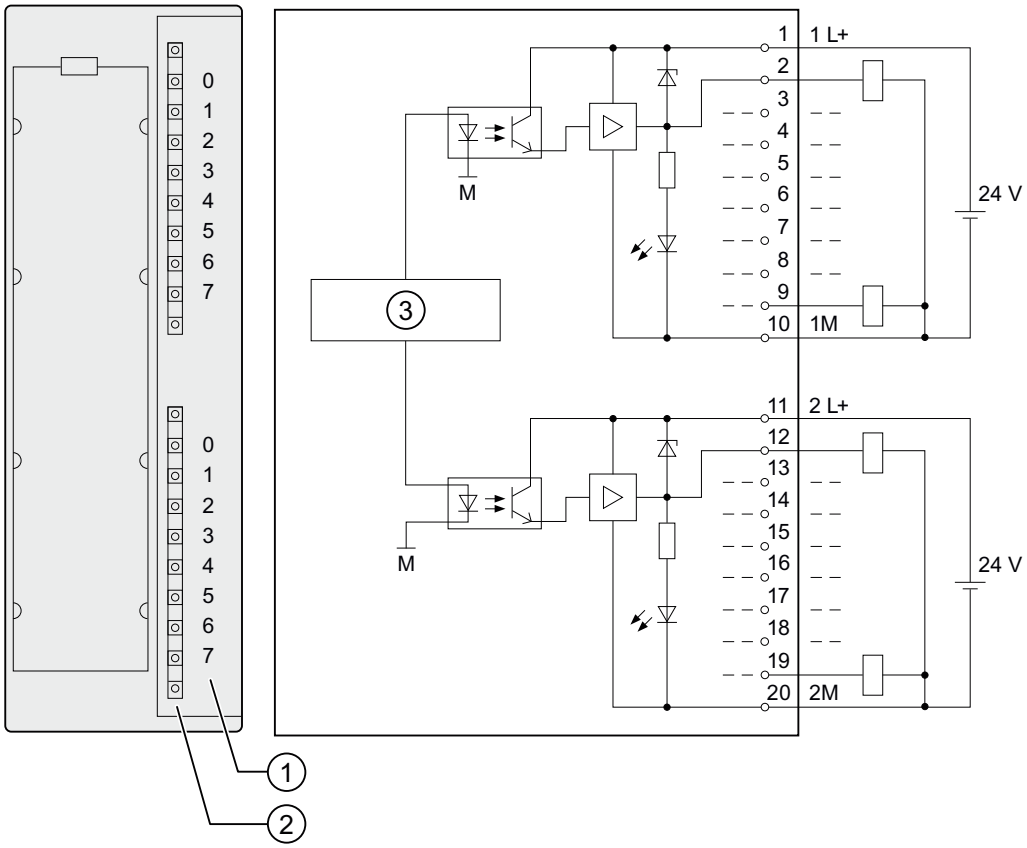
When using a mechanical contact to switch on the 24-V power supply to SM 322; DO 8 x DC 24 V/2 A, the module outputs will carry a "1" signal for the duration of ca. 50 µs due to the circuit structure.

Wiring and block diagram of SM 322; DO 8 x DC 24 V/2 A



① Channel number
② Status display - green
③ Backplane bus interface

Wiring and block diagram of SM 322; DO 16 x DC 24 V/ 0.5 A

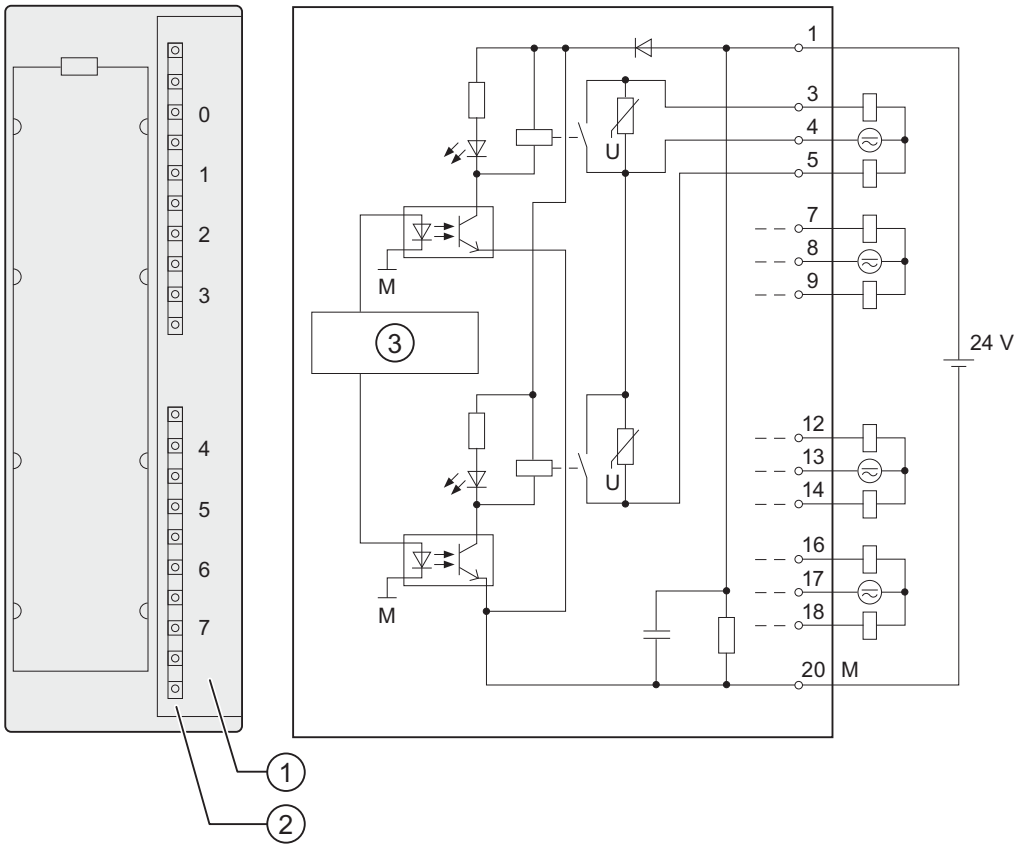


① Channel number
② Status display - green
③ Backplane bus interface

SM 322; DO 16 x DC 24 V/0.5 A - Technical specifications

Technical specifications	
Dimensions and weight	
Dimensions W x H x D (mm)	40 x 125 x 117
Weight	ca. 190 g
Module-specific data	
Supports isochronous mode	no
Number of outputs	16
Cable length • unshielded • shielded	 max. 600 m max. 1000 m

Wiring and block diagrams of SM 322; DO 8 x Rel. AC 230 V



① Channel number
② Status display - green
③ Backplane bus interface

SM 322; DO 8 x Rel. AC 230 V - Technical specifications

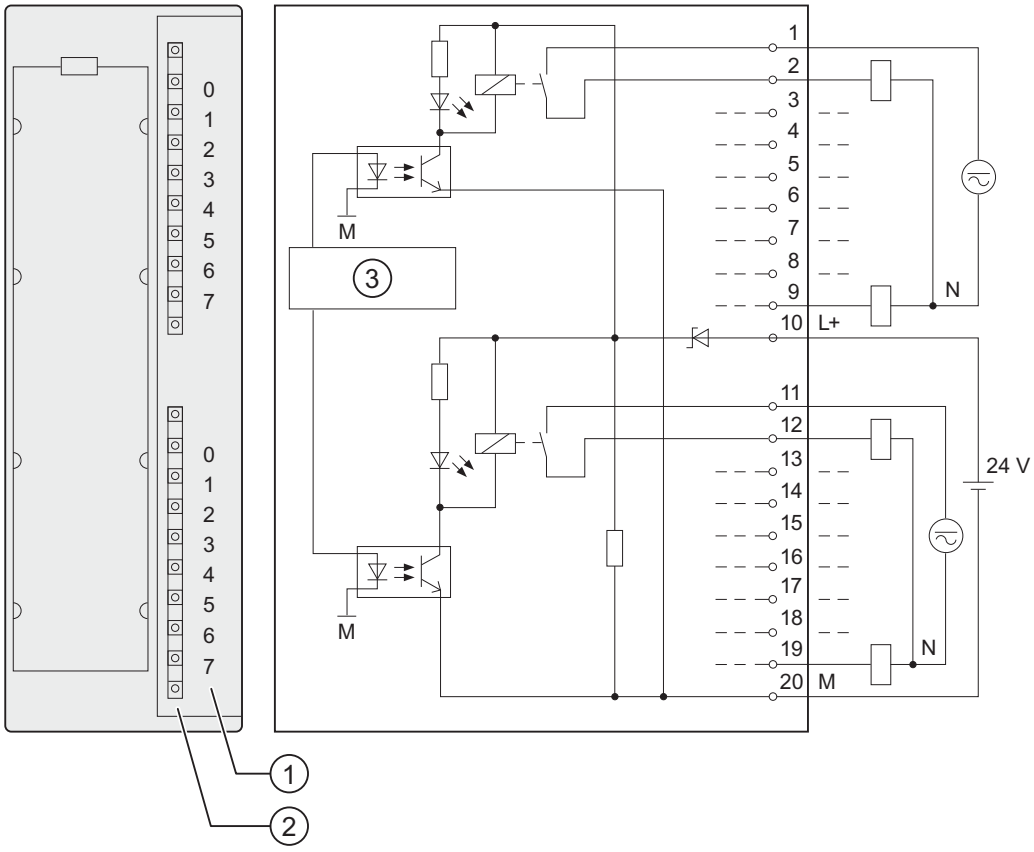
Technical specifications	
Dimensions and weight	
Dimensions W x H x D (mm)	40 x 125 x 117
Weight	ca. 190 g
Module-specific data	
Supports isochronous mode	no
Number of outputs	8
Cable length • unshielded • shielded	 max. 600 m max. 1000 m
Voltages, currents, electrical potentials	
Rated power supply L+ to the relays	24 VDC
Total current of outputs (per group)	max. 4 A

Reaction to a shutdown of the power supply

Note

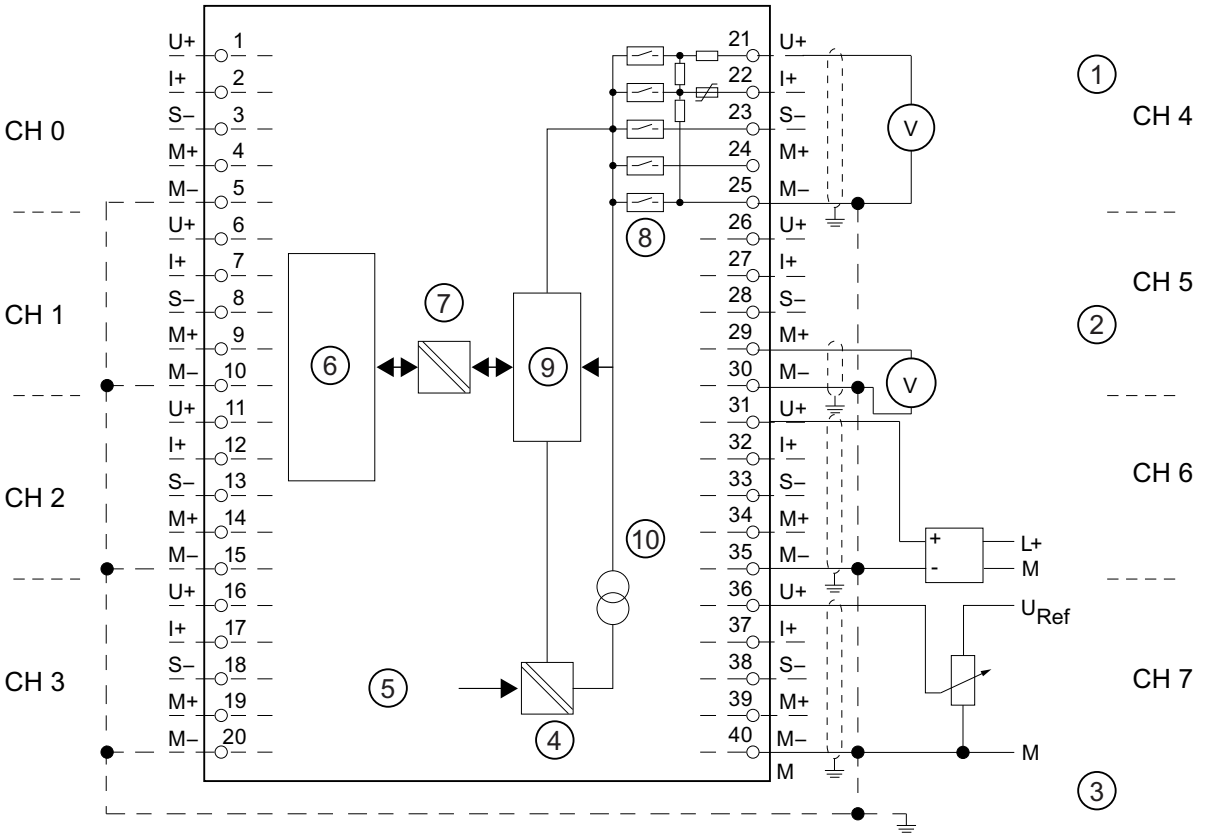
The internal 200-ms buffer capacitance discharges sufficient power after power off to allow the user program to set a defined relay state.

Wiring and block diagrams of SM 322; DO 16 x Rel. AC 120/230 V



① Channel number
② Status display - green
③ Backplane bus interface

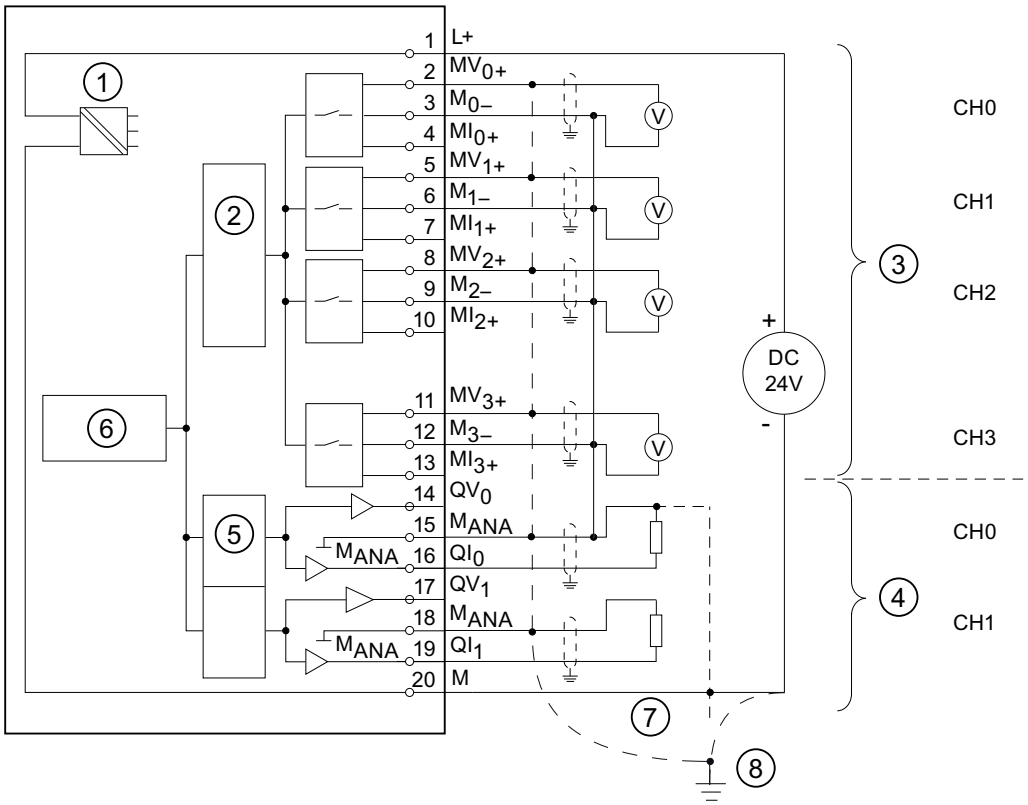
Wiring: Voltage measurement



① Voltage measurement (± 5 V, ±10 V, 1 V to 5 V, 0 V to 10 V)
② Voltage measurement (± 50 mV, ± 500 mV, ± 1 V) (note the input resistance defined in the technical data)
③ Equipotential bonding
④ Internal supply
⑤ + 5 V from backplane bus
⑥ Logic and backplane bus interface
⑦ Electrical isolation
⑧ Multiplexer
⑨ Analog digital converter (ADC)
⑩ Current source

Figure 6-10 Block diagram and terminal diagram

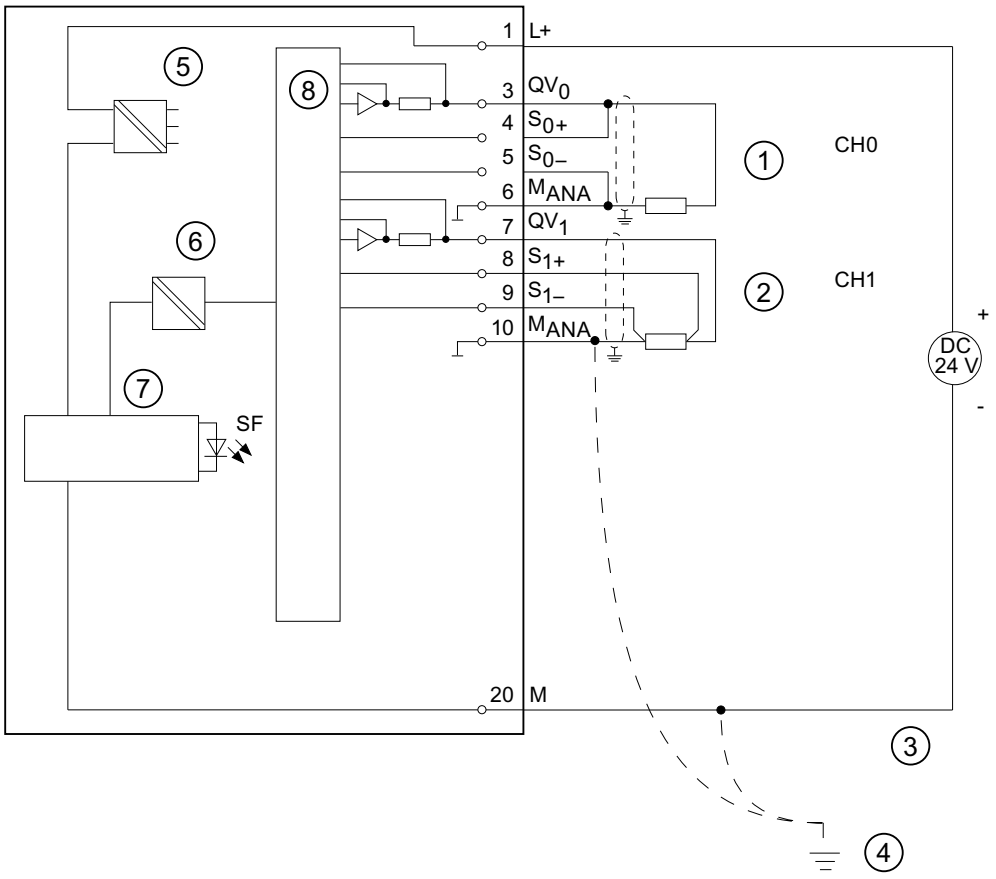
Wiring: Voltage measurement and current output



① Internal supply
② Analog-to-Digital Converter (ADC)
③ Inputs: Voltage measurement
④ Outputs: Voltage output
⑤ Digital-to-Analog Converter (DAC)
⑥ Backplane bus interface
⑦ Equipotential bonding
⑧ Functional ground

Figure 6-50 Wiring and block diagrams

Wiring: 2 and 4-wire connection for voltage output

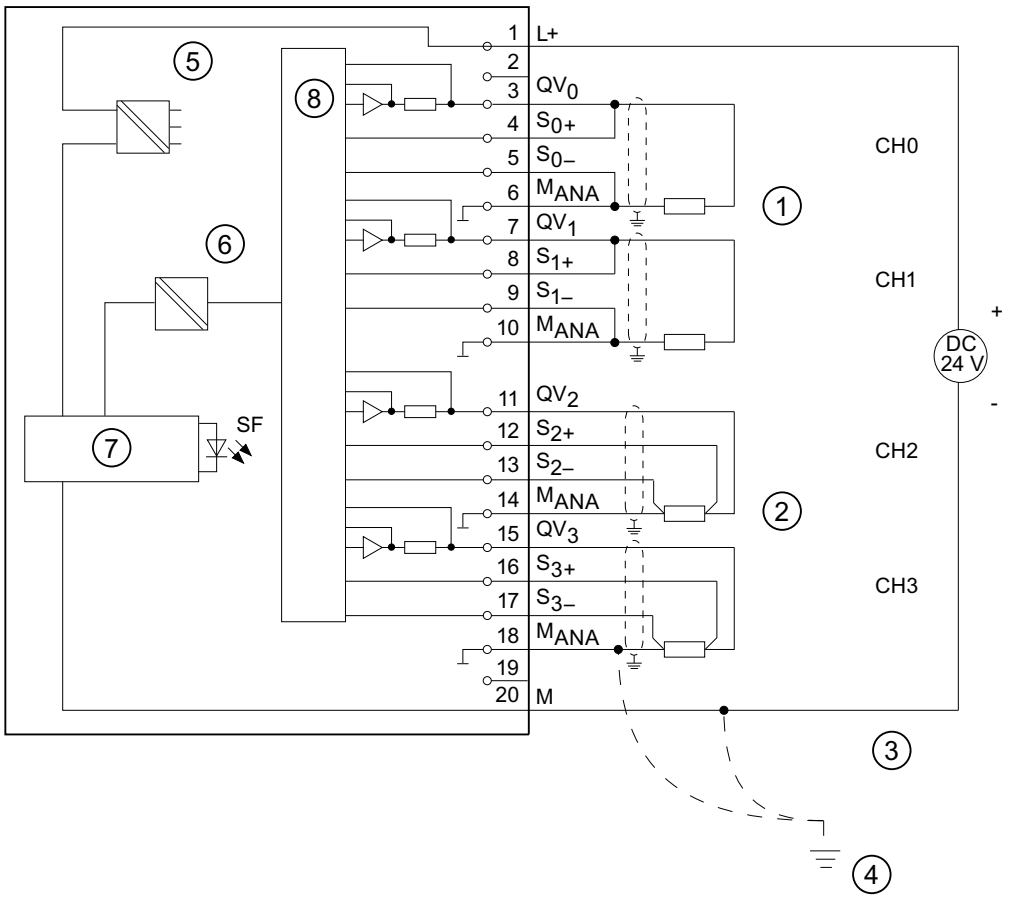


① 2-wire connection: no compensation for line impedance
② 4-wire connection: with compensation for line impedance
③ Equipotential bonding
④ Functional ground
⑤ Internal supply
⑥ Electrical isolation
⑦ Backplane bus interface
⑧ Analog-to-Digital Converter (ADC)

Figure 6-48 Wiring and block diagrams

Wiring: 2 and 4-wire connection for voltage output

The following Fig. represents the 2-wire connection with no compensation for line resistors and the 4-wire connection with compensation for line resistors.



① 2-wire connection, no compensation for line resistors
② 4-wire connection, with compensation for line resistors
③ Equipotential bonding
④ Functional ground
⑤ Internal supply
⑥ Electrical isolation
⑦ Backplane bus interface
⑧ Analog-to-Digital Converter (ADC)

Figure 6-46 Wiring and block diagrams