

MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

SIEMENS

6ED1052-1CC08-0BA2

LOGO! 24CE LOGIC MODULE

Used with the applicable LOGO! 8.4 basic module with display system configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official pages follow this cover with source pagination retained.

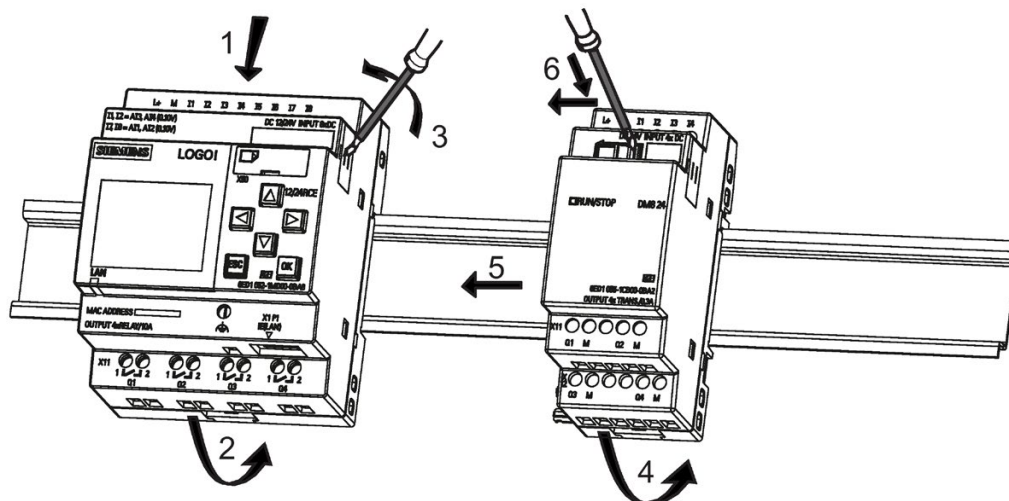
Siemens LOGO! System Manual, 06/2023, A5E33039675-AL

2.2.1 DIN rail mounting

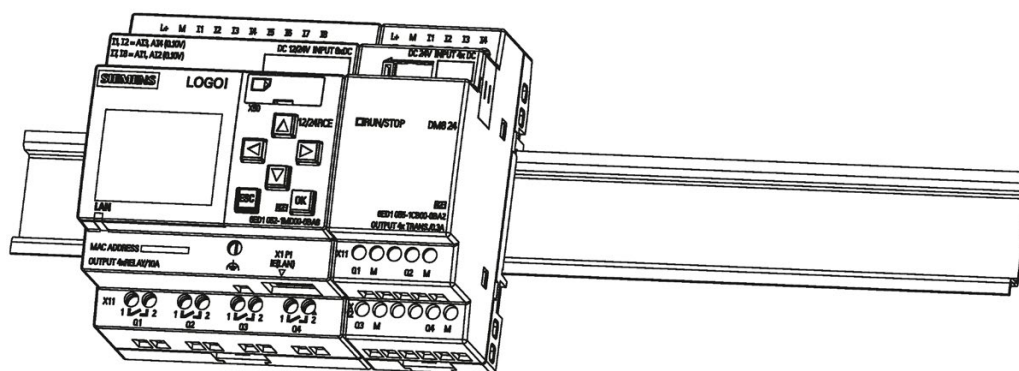
Mounting

To mount a LOGO! Base Module and a digital module onto a DIN rail, follow these steps:

1. Hook the LOGO! Base Module onto the rail.
2. Push down the lower end to snap it on. The mounting interlock at the rear must engage.



3. On the right side of the LOGO! Base Module/LOGO! expansion module, remove the connector cap.
4. Place the digital module onto the DIN rail on the right-hand side of the LOGO! Base Module.
5. Slide the digital module towards the left until it contacts the LOGO! Base Module.
6. Using a screwdriver, push the interlock to the left. In its end position the slide interlock engages in the LOGO! Base Module.



Repeat the digital module steps to mount further expansion modules.

Note

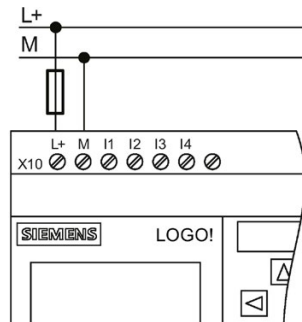
Be sure to cover the expansion interface on the last expansion module.

2.3 Wiring LOGO!

Connecting LOGO!

Connect LOGO! to the power supply as shown below, depending on whether your power supply is DC or AC:

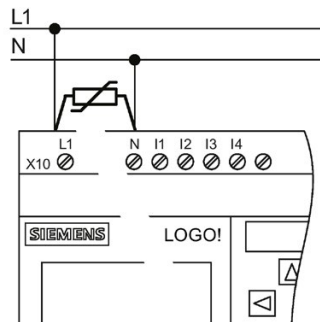
LOGO! ... with DC power supply



Protection with safety fuse
if required (recommended) for:

12/24 RC...:	0.8 A
24:	2.0 A

LOGO! ... with AC power supply



To suppress surge voltages, install
varistors (MOV) with an operating
voltage at least 20% above the rated
voltage.

Note

LOGO! is a double-insulated switchgear. You must connect its FE terminal to earth ground.

Circuit protection with AC voltage

To suppress voltage peaks on the power supply lines, you can install a metal oxide varistor (MOV). Make sure the operating voltage of the varistor (MOV) used lies at least 20% above the rated voltage (for example S10K275).

Circuit protection with DC voltage

To suppress voltage peaks on the power supply lines, install a protection device, for example DEHN (order number BVT AVD 24).

2.3 Wiring LOGO!

The inputs I1, I2, I7 and I8 provide digital inputs, and the inputs AI3, AI4, AI1 and AI2 provide analog inputs, as described in the topic "Constants and connectors (Page 132)". AI3 corresponds to the input terminal I1; AI4 corresponds to I2; AI1 corresponds to I7; AI2 corresponds to I8. The use of AI3 and AI4 is optional. You configure your LOGO! to use either two or four analog inputs as the topic "Setting the number of AIs in LOGO! (Page 300)" describes.

When using inputs I1, I2, I7 and I8 as analog inputs, only the range from 0 to 10 VDC is available.

Connecting a potentiometer to inputs I1, I2, I7 and I8

To allow you to achieve 10 V as the maximum value when you completely turn the potentiometer once, you must connect a series resistor on the potentiometer's input side regardless of the input voltage (see figure below).

We suggest the following sizes of potentiometers and associated series resistors:

Voltage	Potentiometer	Series Resistor
12 V	5 k Ω	-
24 V	5 k Ω	6.6 k Ω

When using a potentiometer and 10 V input voltage as the maximum value, you must ensure that with a connected input voltage of 24 V, 14 V must release via the series resistor to ensure a maximum supply of 10 V when you turn the potentiometer one full rotation. With a voltage of 12 V, you can neglect this.

Note

The LOGO! AM2 expansion module provides additional analog inputs. The LOGO! AM2 RTD expansion module provides PT100/PT1000 inputs.

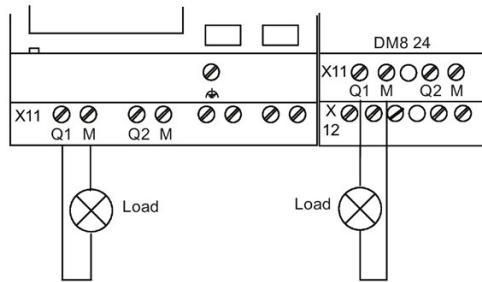
Always use twisted and shielded cables for analog signals, and keep these as short as possible.

Sensor connections

Connect sensors to LOGO! as shown below.

Connecting

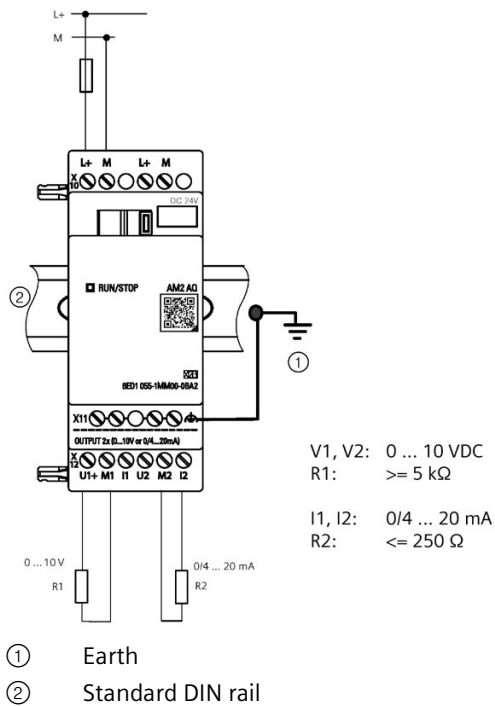
Connect the load to a LOGO! with solid-state outputs as shown below:



Load: 24 VDC, 0.3 A max.

LOGO! AM2 AQ

The illustration below shows an example of how to connect the voltage or current load.



2.3.5 Connecting the Ethernet interface

LOGO! ...E

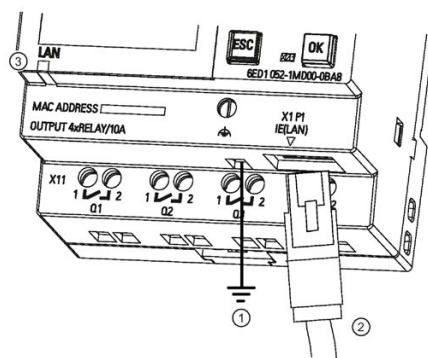
The LOGO! ...E version is equipped with a 10/100 Mbit/s Ethernet RJ45 interface.

Requirements for the network cable

Use a shielded Ethernet cable to connect to the Ethernet interface. To minimize electromagnetic interference, make sure you use a standard Category 5 shielded twisted-pair Ethernet cable with a shielded RJ45 connector on each end.

Connecting

You connect the FE terminal to earth ground, and connect a network cable to the Ethernet interface.



- ① Earth ground
- ② Ethernet cable, for connecting to the Ethernet interface
- ③ Ethernet status LED

Ethernet status LED

LED type	Color	Description
Status LED	Flashing orange	LOGO! is receiving/sending data across Ethernet.
	Steady green	LOGO! is already connected to Ethernet.

Note

LOGO! sample applications are available to all our customers free of charge on the Siemens LOGO! website (<http://www.siemens.com/logo>) (go to Products & Solutions → Applications → Application Examples).

Siemens does not guarantee that the provided examples are error-free; they serve as general information about the fields of application for LOGO!, and can be different from user-specific solutions. Siemens reserves the right to make changes.

You are responsible for the operation of your system.. For safety concerns, refer to the relevant national standards and system-related installation regulations.

On the Internet you can find the following sample applications, tips for further applications, and more:

- Irrigation system for greenhouse plants
- Conveyor control system
- Bending machine control system
- Shop window lighting
- Bell system (for example, in a school)
- Parking lot surveillance
- Outdoor lighting
- Shutter control system
- Domestic outdoor and indoor lighting system
- Control system of a cream stirrer
- Sports hall lighting
- Constant load on three consumers
- Sequential control system for cable-welding machines for large cross-sections
- Step switch (for example, for fans)
- Sequential control for boilers
- Control system for several pump sets with centralized operator control
- Cutting device (for example, for detonating fuses)
- Monitoring periods of utilization, for example of a solar energy system
- Intelligent foot switches, for example, for speed preselection)
- Elevating platform controls
- Impregnation of textiles, heating and conveyor belt controls

Technical data

A.1 General technical data

Criterion	Tested in accordance with	Values
LOGO! Base Modules (0BA8) LOGO! Basic Dimensions (WxHxD) Weight - Modules with relay output - Modules with transistor output Installation		71.5 x 90 x 60 mm Approx. 240 g Approx. 195 g On a 35 mm profile rail four module widths or wall mounting
LOGO! Pure Dimensions (WxHxD) Weight - Modules with relay output - Modules with transistor output Installation		71.5 x 90 x 58 mm Approx. 200 g Approx. 160 g On a 35 mm profile rail four module widths or wall mounting
LOGO! expansion modules DM16... Dimensions (WxHxD) Weight - Modules with relay output - Modules with transistor output Installation		71.5 x 90 x 58 mm Approx. 225 g Approx. 165 g On a 35 mm profile rail four module widths or wall mounting
LOGO! expansion modules DM8... Dimensions (WxHxD) Weight - Modules with relay output - Modules with transistor output Installation		35.5 x 90 x 58 mm Approx. 130 g Approx. 95 g On a 35 mm profile rail two module widths or wall mounting
LOGO! expansion modules AM... Dimensions (WxHxD) Weight Installation		35.5 x 90 x 58 mm Approx. 95 g On a 35 mm profile rail two module widths or wall mounting
LOGO! TDE (Text Display with Ethernet interfaces) Dimensions (WxHxD) Weight Installation		128.2 x 86 x 38.7 mm Approx. 220 g Bracket mounting

	LOGO! DM8 230R	LOGO! DM16 230R
Continuous current I_{th}	Recommended range of application ≥ 100 mA at 12 VAC/VDC Max. 5 A per relay	Recommended range of application ≥ 100 mA at 12 VAC/VDC Max. 5 A per relay
Relay rated voltage	240 VAC/VDC	240 VAC/VDC
Surge current	Max. 30 A	Max. 30 A
Incandescent lamp load (25000 switching cycles) at: 230/240 VAC 115/120 VAC	1000 W 500 W	1000 W 500 W
Fluorescent tubes with ballast (25000 switching cycles)	10 x 58 W (at 230/240 VAC)	10 x 58 W (at 230/240 VAC)
Fluorescent tubes, conventionally compensated (25000 switching cycles)	1 x 58 W (at 230/240 VAC)	1 x 58 W (at 230/240 VAC)
Fluorescent tubes, uncompensated (25000 switching cycles)	10 x 58 W (at 230/240 VAC)	10 x 58 W (at 230/240 VAC)
Short circuit-proof cos 1	Power protection B16, 600 A	Power protection B16, 600 A
Short circuit-proof cos 0.5 to 0.7	Power protection B16, 900 A	Power protection B16, 900 A
Derating	None; across the entire temperature range	None; across the entire temperature range
Parallel output circuits for power increase	Not permitted	Not permitted
Protection of output relay (if desired)	Max. 16 A, characteristic B16	Max. 16 A, characteristic B16
Line length (unshielded)	Max. 100 m	Max. 100 m
Switching rate		
Mechanical	10 Hz	10 Hz
Ohmic load/lamp load	2 Hz	2 Hz
Inductive load	0.5 Hz	0.5 Hz

Notice: For fluorescent lamps with capacitors, you must consider the technical data of fluorescent lamp ballasts. If the current exceeds the maximum allowed surge current, appropriate contactor relays must switch the fluorescent lamps.

The data was determined with the following devices:

- Siemens fluorescent tubes 58 W VVG 5LZ 583 3-1 uncompensated.
- Siemens fluorescent tubes 58 W VVG 5LZ 583 3-1 parallel compensated with 7 μ F.
- Siemens fluorescent tubes 58 W VVG 5LZ 501 1-1N with ballast.

A.4 Technical data: LOGO! 24...

	LOGO! 24CE LOGO! 24CEo
Power supply	
Input voltage	24 VDC
Permissible range	20.4 VDC to 28.8 VDC

	LOGO! 24CE LOGO! 24CEo
Reverse polarity protection	Yes
Permissible mains frequency	--
Power consumption from 24 VDC	25 mA to 50 mA (no load on digital output) 1.2 A (with max. load on digital output)
Voltage failure buffering	--
Power loss at 24 VDC	0.6 W to 1.2 W
Backup of the real-time clock at 25 °C	Typ. 20 days
Accuracy of the real-time clock	Typ. ± 2 s/day
Digital inputs	
Number	8
Electrical isolation	No
Number of high speed inputs	4 (I3, I4, I5, I6)
Input frequency	• Normal input • High speed input
Max. continuous permissible voltage	28.8 VDC
Input voltage	L+
Signal 0	< 5 VDC
Signal 1	> 12 VDC
Input current at	
Signal 0	< 0.9 mA (I3 to I6) < 0.07 mA (I1, I2, I7, I8)
Signal 1	> 2.1 mA (I3 to I6) > 0.18 mA (I1, I2, I7, I8)
Delay time at	
0 to 1	• Typ. 1.5 ms < 1.0 ms (I3 to I6)
1 to 0	• Typ. 1.5 ms < 1.0 ms (I3 to I6)
Line length (unshielded)	Max. 100 m
Analog inputs	
Number	4 (I1=AI3, I2=AI4, I7=AI1, I8=AI2)
Range	0 VDC to 10 VDC Input impedance 80 k Ω
Cycle time for analog value generation	300 ms
Line length (shielded and twisted)	Max. 10 m
Error limit	$\pm 1.5\%$ at FS
Digital outputs	
Number	4
Output type	Transistor, current-sourcing ¹⁾
Electrical isolation	No
In groups of	--
Control of a digital input	Yes
Output voltage	$\leq$ Supply voltage