

MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

SIEMENS

6ED1052-1FB08-0BA1

LOGO! 230RCE LOGIC MODULE

Used with the applicable LOGO! 8.3 basic module with display system configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official pages follow this cover with source pagination retained.

Siemens LOGO! System Manual, 7/2022, A5E33039675-AK

! WARNING

Hazardous Voltage

Hazardous electrical voltage can cause electric shock, burns and property damage.

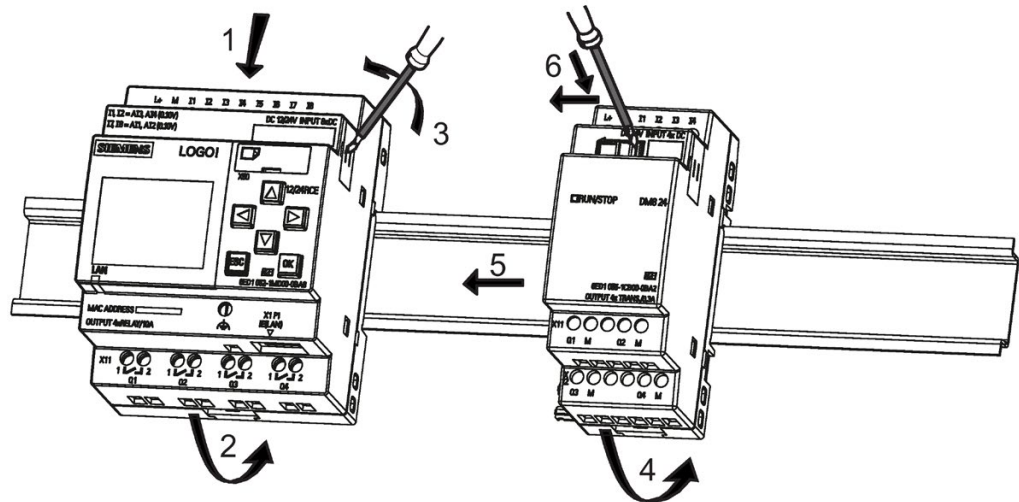
Disconnect your system and devices from the power supply before starting any assembly tasks.

2.2.1 DIN rail mounting

Mounting

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

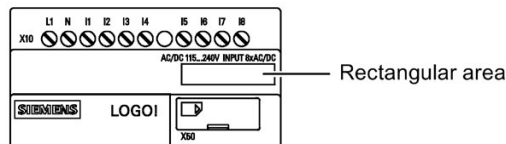
1. Hook the LOGO! Base Module onto the rail.
2. Push down the lower end to snap it on. The mounting interlock at the rear must engage.



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.

2.2.4 Labeling LOGO!

The rectangular areas on the LOGO! modules are intended for labeling.



In the case of expansion modules, you can use the rectangular areas for labeling the inputs and outputs, for example. In this connection, you can enter a delta factor of +8 for the inputs or +4 for the outputs if the LOGO! Base Module already has 8 inputs or 4 outputs.

2.3 Wiring LOGO!

Wire LOGO! using a screwdriver with a 3 mm blade.

You do not need to wire ferrules for the terminals. You can use conductors fulfilled the following requirements:

- Cross-sections of up to the following thicknesses:
 - $1 \times 2.5 \text{ mm}^2$
 - $2 \times 1.5 \text{ mm}^2$ for each second terminal chamber
- Conductor material: Cu
- Insulation temperature rating: 75 °C
- Tightening torque: 0.5 Nm to 0.6 Nm or 4.5 in.lbf to 5.3 in.lbf

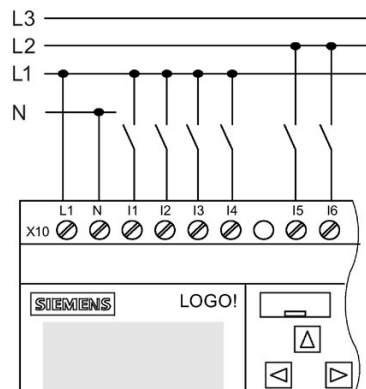
Note

Always cover the terminals after you have completed the installation. To protect LOGO! adequately from impermissible contact to live parts, comply with local standards.

2.3.1 Connecting the power supply

The 230 V versions of LOGO! are suitable for operation with rated voltages of 115 VAC/VDC and 240 VAC/VDC. The LOGO! 24 V and 12 V versions can be operated with a 24 VDC, 24 VAC or 12 VDC power supply. For information on permissible voltage tolerances, line frequencies and power consumption, refer to the installation instructions in the Product Information supplied with your device and to the technical data in Appendix A.

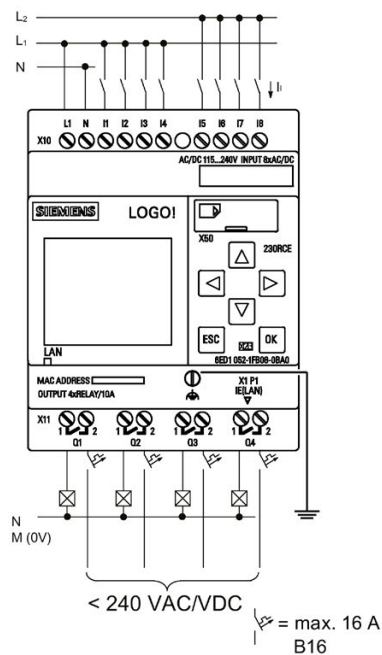
LOGO! 230....



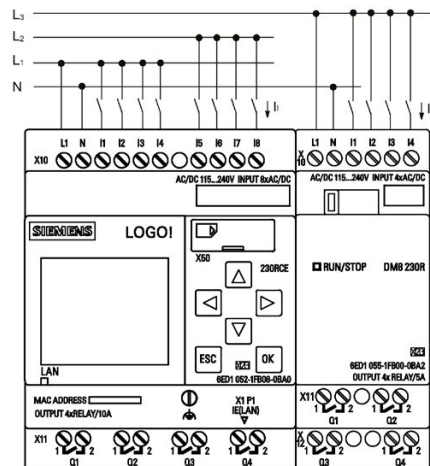
The inputs of these devices are in two groups, each consisting of four inputs. Different phases are only possible between blocks, but not within the blocks.

Connection example

Two-phase connection of the Base Module



Three-phase connection of the Base Module with an expansion module



WARNING

Current safety regulations (VDE 0110, ... and IEC 61131-2, ... as well as cULus) do not permit the connection of different phases to an AC input group (I1 to I4 or I5 to I8) or to the inputs of a digital module.

2.3.5 Connecting the Ethernet interface

LOGO! ...E

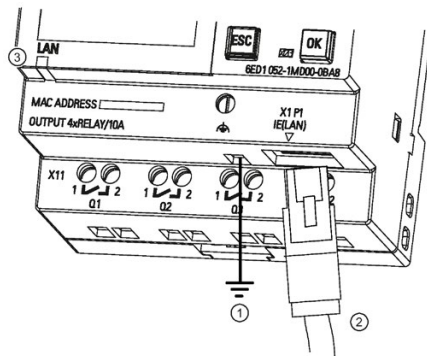
The LOGO! ...E version is equipped with a 10/100 Mbit/s Ethernet RJ45 interface.

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.

Applications

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

Criterion	Tested in accordance with	Values
Surge immunity (applies only to LOGO! 230 and DM8/16 230R)	IEC 61000-4-5	1 kV line-to-line 2 kV line-to-earth
Surge immunity (applies to low-voltage (12 V or 24 V) LOGO! modules)		With surge arrester (such as BVT AD 24): 1 kV line-to-line 2 kV line-to-earth Without surge arrester: 0.5 kV line-to-line 1 kV line-to-earth
Safety to IEC		
Clearance and creepage distance rating	IEC 60664, IEC 61131-2, cULus to UL 508, CSA C22.2 No. 142	Fulfilled
Insulation strength	IEC 61131-2	Fulfilled
Cycle time		
Cycle time per function		< 0.1 ms
Startup		
Startup time at power-up		Typ. 1.2 s

¹⁾ The updating rate of LCD can be reduced at operating temperature less than 0°C.

Note

The maximum length for directly connecting two LOGO! Base Modules through CAT5e shielded network cable is 100 meters.

A.2 Technical data: LOGO! 230...

	LOGO! 230RCEo	LOGO! 230RCE
Power supply		
Input voltage	115 VAC/VDC to 240 VAC/VDC	115 VAC/VDC to 240 VAC/VDC
Permissible range	85 VAC to 265 VAC 100 VDC to 253 VDC	85 VAC to 265 VAC 100 VDC to 253 VDC
Permissible mains frequency	47 Hz to 63 Hz	47 Hz to 63 Hz
Power consumption	115 VAC 240 VAC 115 VDC 240 VDC	20 mA to 40 mA 15 mA to 25 mA 10 mA to 20 mA 5 mA to 15 mA

	LOGO! 230RCEo	LOGO! 230RCE
Digital outputs		
Number	4	4
Output type	Relay outputs	Relay outputs
Electrical isolation	Yes	Yes
In groups of	1	1
Control of a digital input	Yes	Yes
Continuous current I_{th}	Recommended range of application ≥ 100 mA at 12 VAC/VDC Max. 10 A per relay	Recommended range of application ≥ 100 mA at 12 VAC/VDC Max. 10 A per relay
Relay rated voltage	240 VAC/VDC	240 VAC/VDC
Surge current Incandescent lamp load (25000 switching cycles) at	Max. 30 A	Max. 30 A
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.