

Siemens 6ED1052-2FB08-0BA2

01 Scope and system boundary

Installed function

Siemens 6ED1052-2FB08-0BA2 provides eight digital inputs and four relay outputs in a LOGO! 230RCEo logic module without an integral display. Its supply options include 115/230 V AC or DC. The eight-input/four-relay arrangement suits compact switching sequences. The 400-block capacity describes program resources; it is not a count of physical terminals. Time-switching functions share the function-specific program capacity. Ethernet, web pages and MQTT extend access to the application without increasing the four physical relay outputs.

Functional sequence

01	8 digital inputs
02	400-block logic
03	4 relay outputs
04	External load circuits

Before work starts

Check	Technical purpose
Supply and circuit separation	Identify the logic-module feed and every independently powered load circuit. Before touching terminals, isolate all affected feeds and verify absence of voltage. Treat the 115/230 V input arrangement as mains-voltage wiring.
Output load assessment	For each relay, distinguish resistive current from inductive current. The upper contact ratings are 10 A resistive and 3 A inductive. External fusing is necessary; the module has no output short-circuit protection. Do not size protection from the program logic alone.

Isolation and handling

Check relay-load type before assigning circuit protection. A controller supply isolation point may leave externally fed relay contacts energized.



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02 Connections and readiness

Interface preparation

Interface	Function	Check
Discrete inputs	Eight input states enter the application logic.	Check each physical input against its assigned program function.
Relay contacts	Four outputs switch the connected load circuits.	A resistive load and an inductive load have different permissible current.
Ethernet	Web visualization and application communication.	A network link does not demonstrate a correct switching sequence.
microSD	Memory workflow for the controller.	Retain the intended project revision before exchanging media.

Engineering considerations

Load assessment comes before program testing. A relay can be commanded correctly while its connected circuit is unsuitable for the contact rating. Keep the 10 A resistive and 3 A inductive limits distinct and provide external fusing. The module supply and independently powered relay circuits must both be included in the isolation plan.

Relevant setup data

Item	Value or condition
Storage temperature	-40 to +70 °C
Time-switching capacity	Up to 400; function-specific
Radio interference	EN 55011, Class B
Programming standard	IEC 61131



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03 Installation and replacement

Work sequence

01	Supply and circuit separation
02	Output load assessment
03	Engineering preparation
04	Network commissioning
05	Functional test
06	Environment and handover

Execution details

Stage	Action and reason
Engineering preparation	Open the project with LOGO! Soft Comfort V8.4 or newer. Confirm the actual eight-input/four-relay hardware assignment. Retain the application timing and interlocks when transferring an older executable project.
Network commissioning	Connect the Ethernet interface to the intended network and check the integrated web-server pages separately from local logic. Validate the configured MQTT exchange and data log with known input states rather than assuming that a network link proves application operation.
Functional test	Exercise each discrete input individually and observe the assigned relay action. Check delayed switching and the sequence after a power interruption. Verify connected machinery remains in the intended state during program startup.
Environment and handover	Confirm non-condensing ambient conditions throughout the -20 to +55 °C operating range. Record the final project version and network settings. Release the installation only after the load circuits and automatic sequence have both been tested.

Before energization

Isolate the module supply and independently powered relay circuits before wiring. Use the supply variant and voltage indicated for this 230RCEo model. Fit external fusing because the relay outputs have no internal short-circuit protection. Keep resistive switching loads within the 10 A contact limit.



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04 Commissioning and fault isolation

Functional acceptance

Test	Action	Expected result
Inputs	Change one of the eight input states at a time.	Only the intended application condition changes.
Relay function	Exercise each assigned relay with a controlled load.	The intended output and load respond together.
Timed sequence	Run the intended delay or schedule.	Timing and restart behavior agree with the approved project.
Network services	Check web values, data logging and configured MQTT exchange.	Data follows the known application state.

Interpret the symptom

Observation	Investigation	Decision boundary
Relay circuit trips	Check load type, connected current and external protection.	Do not increase a protective-device rating simply to stop tripping.
Correct logic, wrong load action	Compare output assignment with the actual relay wiring.	Verify the final load response with the application held in a controlled state.
Web page available, local function wrong	Test the discrete input and relay path separately.	Web-server accessibility is independent of a successful process test.
Clock changed after an outage	Review outage duration and time settings.	The time-switching clock has 480 h reserve.

Controlled return to service

Retain the final LOGO! Soft Comfort project, software version, I/O allocation, timer settings and network configuration. Separate the successful local logic test from successful web and MQTT tests so that a later communications problem does not obscure the condition of the switching function.



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05 Technical checks and handover

Questions that affect the work

Can Siemens 6ED1052-2FB08-0BA2 switch a motor load at the same current as a heater? No. The relay contact limit is 3 A for inductive loads and 10 A for resistive loads, so the load type changes the permissible current.	Why do relay circuits on Siemens 6ED1052-2FB08-0BA2 need separate fuses? The relay outputs do not include short-circuit protection, so external fusing is required for the connected circuits.
How long can the clock in Siemens 6ED1052-2FB08-0BA2 retain its time after supply loss? The time-switching clock has a power reserve of 480 hours.	Does Siemens 6ED1052-2FB08-0BA2 need a local screen for web-based visualization? No. This display-free module includes a web server and supports user-defined web pages accessed over Ethernet.

Final checks

Check	Requirement
1	Limit inductive contact loading to 3 A and evaluate the load switching characteristics.
2	Operate only within -20 to +55 °C without condensation.
3	Use LOGO! Soft Comfort V8.4 or later when preparing the project.
4	Test each input, relay action and required network function before enabling automatic operation.

Related catalogue pages

Siemens 6ED1052-1FB00-0BA6
Siemens 6ED1052-1HB08-0BA1

Technical basis

Siemens data sheet, 29 April 2024, pages 1-2

