Siemens 6ES5451-4UA12

01 Record group and enable allocation

1. Identify the four eight-output load groups, their fuses and their field-supply feeds. Record the module address and enable-mode jumper before disconnecting the front connector.

2. ### Group and enable allocation — acceptance

   The replacement can reproduce the original group boundaries and enable behavior without an assumed default jumper position.

Stage record	Record group and enable allocation observations and acceptance result
Digital outputs	32
Field supply range	20–30 V DC

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02 Check load duty and cabinet cooling

1. Review actual resistive, inductive and lamp loads separately. Add the currents in each output group and assess simultaneous loading against the available cabinet ventilation.

2. ### Load duty and cabinet cooling — acceptance

   Both per-output duty and group loading are acceptable, with excessive coil duty or lamp inrush corrected before energization.

Stage record	Check load duty and cabinet cooling observations and acceptance result
Output current	5 mA to 0.5 A
Total current per eight outputs	4 A maximum

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03 Restore the output interface

1. Place actuators in a safe maintenance state, isolate the relevant supplies and follow the S5 module replacement procedure. Reconnect the coded front connector and reinstate the recorded address and enable arrangement.

2. ### Output interface — acceptance

   No field circuit is shifted to another output, and the enable supply and module configuration correspond to the approved installation.

Stage record	Restore the output interface observations and acceptance result
Group fuse	6.3 A slow, one per eight outputs
Off-state leakage	0.5 mA maximum

04 Test groups under controlled command

1. Command representative outputs individually before testing the required simultaneous state. Observe channel indications, group short-circuit indications and the physical release of each load.

2. ### Groups under controlled command — acceptance

   Outputs drive the intended devices and release correctly, with no unexplained fuse operation, diagnostic indication or heating.

Stage record	Test groups under controlled command observations and acceptance result
Resistive switching frequency	100 Hz maximum
Lamp load	5 W maximum

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05 Return the actuator sequence to service

1. Run the authorized sequence while observing interlocks and coil duty. Record the final fuse types, enable setting, affected output addresses and load checks for the maintenance handover.

2. Actuator sequence to service — acceptance

   The sequence is repeatable and every affected actuator has a verified command and release path.

Technical basis: SIMATIC S5 U Peripheral Equipment, Digital Modules.

Related product navigation

- Siemens 6ES7531-7KF00-0AB0
- Siemens 6ES7392-1AJ00-0AA0
- Siemens 6ES7331-1KF02-0AB0

Related products for separate application assessment; verify the platform and interface. No interchangeability is implied.