

Siemens 6DS1605-8BA

TELEPERM M 16-channel relay output module

Product scope

- Sixteen potential-free relay channels each provide one changeover contact.
- The documented switching ceiling is 60 V DC or 24 V AC with up to 2.5 A per channel.
- Official timing is approximately 8 ms pickup and 5 ms release for the relay mechanism.

Manufacturer source

Siemens TELEPERM M relay output module documentation.

This English web copy combines exact-model specifications with detailed function, system role, operating principle, application scenarios and installation boundaries.

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Siemens 6DS1605-8BA

TELEPERM M 16-channel relay output module

Verified technical specifications

Values below apply to the exact model or nameplate identified on this page; adjacent family variants are not merged.

Relay outputs	16 changeover contacts
Internal supply	20 to 33 V DC
Maximum switched voltage	60 V DC or 24 V AC
Maximum channel current	2.5 A
Maximum group current	10 A
Typical pickup time	8 ms
Typical release time	5 ms
Switching power	Up to 60 W DC
Minimum contact current	0.75 mA
L+ current	170 mA plus 12 mA per energized relay
5 V bus current	Approximately 0.2 mA
Power dissipation	Approximately 5 W
Module fuse	1 A fast acting
Channel fuse at 20 to 33 V	2.5 A medium acting
Channel fuse at 33 to 60 V	1.6 A medium acting
Maximum inductive load	300 mH with external flyback diode
Mechanical endurance under operating-like load	Approximately 250,000 operations
Board format	233.4 x 160 mm
Front width	30.48 mm (2 SEP)

Product function and system role

Exact configuration

Siemens 6DS1605-8BA is a TELEPERM M relay output module with 16 potential-free changeover contacts. It switches mixed field circuits within a 60 V DC or 24 V AC ceiling and a 2.5 A channel limit.

The 6DS1605-8BA provides sixteen electromechanical changeover contacts, allowing each controller command to use either normally open or normally closed logic. Because the contacts are potential-free, the card can interface circuits that cannot share the semiconductor output reference used by other TELEPERM modules.

Functional role

An energized coil transfers its contact from rest to working position, giving the field circuit both NO and NC choices.

The BA order code denotes the dry-contact output card used when galvanic separation or changeover logic is needed.

Key operating characteristics

- Sixteen potential-free relay channels each provide one changeover contact.
- The documented switching ceiling is 60 V DC or 24 V AC with up to 2.5 A per channel.
- Official timing is approximately 8 ms pickup and 5 ms release for the relay mechanism.

Operating principle and application guidance

Working principle

A relay typically picks up in 8 ms and releases in 5 ms. Each channel is limited to 2.5 A, the grouped current to 10 A and switching power to 60 W DC, while inductive loads up to the documented limit require the prescribed external flyback diode.

Confirm voltage-specific fusing, 10 A group loading, inductive suppression and the original contact logic before commissioning.

Application scenarios

- Alarm circuits can use normally closed logic so loss of module power produces a detectable state change.
- Contactors and valve interface relays can be commanded through isolated dry contacts within the switching limits.
- Mixed low-voltage AC and DC control circuits can be kept electrically separate by assigning independent relay contacts.

Integration and replacement boundary

Fuses and suppression must be selected from the actual field voltage rather than copied from a neighboring channel. Replacement work should also confirm the terminal contact used—common, NO or NC—because the changeover arrangement can implement inverse logic that is not obvious from the device name.

Critical technical check

Before transferring wires to 6DS1605-8BA, identify every common/NO/NC conductor and fit suppression for inductive DC loads; swapping contact positions can invert the commanded safe state.

Manufacturer evidence used

- Siemens TELEPERM M relay output module documentation.
- Exact product identity checked: Siemens 6DS1605-8BA

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