

Siemens 6DS1603-8BA

TELEPERM M 32-channel non-isolated binary output module

Product scope

- Thirty-two 24 V DC semiconductor outputs are arranged in four non-isolated groups of eight.
- Each protected channel is rated 100 mA and the module uses a 4 A fuse.
- Output reset or hold behavior can be selected for loss of controller control.

Manufacturer source

Siemens TELEPERM M binary 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 6DS1603-8BA

TELEPERM M 32-channel non-isolated binary output module

Verified technical specifications

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

Output channels	32 non-isolated outputs
Nominal output voltage	24 V DC
Supply range	20 to 33 V DC
High output level	15 to 33 V
Rated output current	100 mA per output
Output protection	Short-circuit protected
Maximum switching frequency	2 Hz
Module fuse	4 A
Output grouping	4 groups of 8 outputs
Supply ripple	Less than 15%
5 V bus range	4.75 to 5.25 V
PM current	Approximately 60 mA
Low output level	0 to 2.5 V
Output fault behavior	Reset or hold selectable after controller failure
Board format	233.4 x 160 mm
Front width	30.48 mm (2 SEP)

Product function and system role

Exact configuration

Siemens 6DS1603-8BA is a TELEPERM M card with 32 protected, non-isolated 24 V DC binary outputs rated 100 mA per channel. Four eight-output groups support dense low-current command functions.

The 6DS1603-8BA converts TELEPERM controller decisions into thirty-two semiconductor output commands. Four banks of eight share the 24 V supply and reference, providing compact control of interposing relays, indicators and other low-current loads that remain within the channel and bank limits.

Functional role

Controller bits drive protected electronic switches that distribute the external L+ supply to assigned loads.

The BA execution is the lower-current, high-density output card intended for a common 24 V field system.

Key operating characteristics

- Thirty-two 24 V DC semiconductor outputs are arranged in four non-isolated groups of eight.
- Each protected channel is rated 100 mA and the module uses a 4 A fuse.
- Output reset or hold behavior can be selected for loss of controller control.

Operating principle and application guidance

Working principle

Each channel is short-circuit protected and produces the documented 0–2.5 V low state or 15–33 V high state. The module's controller-failure behavior can be selected so outputs reset or retain their last image, a decision that directly affects the safe response of connected equipment.

Check bank current, inductive suppression, common return integrity and failure-state configuration before any field command is enabled.

Application scenarios

- Large indication panels can be driven directly when every lamp or interface load remains below the channel rating.
- Interposing relays can translate the electronic outputs into isolated higher-power contacts for external equipment.
- Small solenoid or pilot circuits can be consolidated where the 2 Hz switching limit meets the process requirement.

Integration and replacement boundary

Commissioning should calculate simultaneous loading and verify suppression for inductive devices even though the channels are protected. Common reference wiring, 4 A module fuse, 2 Hz switching ceiling and the configured failure response must match the original control philosophy.

Critical technical check

Confirm whether 6DS1603-8BA is configured to reset or hold outputs after controller failure; changing that choice during replacement can alter the plant's fail-state behavior.

Manufacturer evidence used

- Siemens TELEPERM M binary output module documentation.
 - Official source: <https://support.industry.siemens.com/cs/attachments/18312213/C79000-G8076-C293-07.pdf>
- Exact product identity checked: Siemens 6DS1603-8BA



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