

Siemens 6DS1603-8RR

TELEPERM M 32-channel 24 V binary output module

Product scope

- Thirty-two protected outputs operate from a 19–33 V DC field supply.
- Individual channels allow up to 400 mA while all active loads together must remain within 4 A.
- The double-Eurocard weighs approximately 290 g and follows Class III electrical-safety construction.

Manufacturer source

Siemens TELEPERM M 6DS1603-8RR official 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 6DS1603-8RR

TELEPERM M 32-channel 24 V 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
Module format	Double-Eurocard
Supply voltage	19 to 33 V DC
Output current	Up to 400 mA per channel
Total output current	Maximum 4 A
Permitted supply interruption	Maximum 15 ms
Mass	Approximately 290 g
Electrical safety	Class III according to DIN EN 60950 / IEC 950 / VDE 0805
Flammability	UL 94 V-1
Supply ripple	Less than 15%
5 V bus range	4.75 to 5.25 V
Recovery after supply interruption	1 s after a permitted interruption
Low output level	0 to 2.5 V
High output level	L+ minus 2.5 V to L+
Protection	Overload and short-circuit protection
No-load power loss	Approximately 0.75 W plus LED/output contribution
MTBF at 40 deg C	Approximately 18.3 years
MTBF at 55 deg C	Approximately 9.6 years

Product function and system role

Exact configuration

Siemens 6DS1603-8RR is a 32-channel TELEPERM M binary output module in double-Eurocard format. Its protected 24 V DC outputs support up to 400 mA per channel within a 4 A total envelope.

The 6DS1603-8RR provides thirty-two electronic field commands from a double-Eurocard assembly and carries a higher per-channel rating than the BA output version. Each channel may supply up to 400 mA, but the complete module remains limited to 4 A, so simultaneous-load planning is central to correct use.

Functional role

Electronic switches apply the external supply to commanded circuits while protection limits overload and short-circuit stress.

The RR article identifies the 400 mA/channel double-Eurocard execution used for heavier discrete field loads.

Key operating characteristics

- Thirty-two protected outputs operate from a 19–33 V DC field supply.
- Individual channels allow up to 400 mA while all active loads together must remain within 4 A.
- The double-Eurocard weighs approximately 290 g and follows Class III electrical-safety construction.

Operating principle and application guidance

Working principle

Outputs are protected against overload and short circuit and operate from a 19–33 V DC supply. The card tolerates a supply interruption of up to 15 ms at the stated condition, then requires the documented recovery interval before normal behavior can be assumed.

Build a worst-case simultaneity and temperature calculation, then confirm supply-interruption behavior before accepting the replacement design.

Application scenarios

- Valve coils and relay banks with moderate 24 V current can be driven without a separate output card for every load group.
- Field indicators and annunciators can share the module when the 4 A aggregate limit is observed.
- Legacy TELEPERM cabinets can retain the documented double-Eurocard mechanics and original process connector.

Integration and replacement boundary

Reliability data changes with cabinet temperature, with the official MTBF figure lower at 55 °C than at 40 °C. Load diversity, enclosure cooling, suppression and supply hold-up should therefore be reviewed as one system when replacing or upgrading the card.

Critical technical check

Although each 6DS1603-8RR output can reach 400 mA, never allocate 32 channels at that level simultaneously; the module total is limited to 4 A and thermal margin falls as cabinet temperature rises.

Manufacturer evidence used

- Siemens TELEPERM M 6DS1603-8RR official documentation.
- Exact product identity checked: Siemens 6DS1603-8RR

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