ABB 1TGE102009R2300

01 Modbus Switchgear Communication Gateway / system role

Product function

ABB 1TGE102009R2300 connects switchgear information to supervisory systems while keeping the internal switchgear bus, control network and DCS communication roles distinct.

Selected configuration

The R2300 execution identifies the RS232 and TCP Modbus hardware arrangement. It must not be confused with the R4200 or R4800 serial variants, or with the separate dual-redundant order family.

Integration checkpoints

- Modbus supervisory integration
- Switchgear engineering access
- Web-based condition review
- OPC data integration

Internal interface	MControl communication over the switchgear bus
Network roles	Separate DCS and switchgear-control connections
Software functions	Enabled services depend on the installed configuration

LAN2 serves the switchgear control network used by engineering, visualization and related tools. The internal bus connects MLink to MControl within the cubicle, while the DCS interface serves a different communication role; port labels and retained network settings are essential to a correct replacement.

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02 Technical operating envelope

Execution	Standard, non-redundant
DCS protocol	Modbus RTU / TCP
Serial hardware	RS232
Nominal supply	24 V DC
Supply range	19-33 V DC

Typical current	1.0 A
Maximum current	1.7 A
Control-network Ethernet	10/100 Base-T
Operating temperature	0-55 degrees C
Protection	IP20

Apply the 1TGE102009R2300 execution and the stated configuration-dependent limits; shared family material does not assign features from another variant.

Interface identity

Retain the RS232 serial execution and Modbus mapping of R2300. RS422/RS485 variants differ electrically even when the gateway enclosure looks similar.

Network segregation

Preserve LAN and switchgear-bus roles. Protect any connection from the control network to other plant networks with the project-approved network controls and access rules.

Application storage

The running application is associated with the configured MLink and its CompactFlash arrangement. Preserve the configuration, service activation and data mapping before replacement rather than transferring only IP addresses.

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03 System integration and applications

Modbus supervisory integration

Exchange configured switchgear data with a compatible DCS.

Switchgear engineering access

Use the designated control network for approved tools.

Web-based condition review

Provide visualization when the web service is enabled.

OPC data integration

Supply the activated MNS iS OPC architecture with gateway data.

Application and compatibility boundary

Web visualization, OPC data provision, time synchronization and other software functions depend on the installed configuration and activated services. Hardware capability does not establish that every optional service or software package is included with the offered unit.

Available unit verification

Check the complete R2300 label, serial-interface execution, CompactFlash application and enabled services. Confirm the MLink hardware, CompactFlash media, terminal plugs, licensed software services, network switch and cables in the quotation. Evaluate the actual interfaces and included accessories against the installed arrangement.

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04 Engineering selection decisions

Can 1TGE102009R2300 replace an RS485 MLink using the same serial cable?

No. This is the RS232 execution. Compare the complete interface requirement and cable pinout; similar housings do not make the electrical interfaces interchangeable.

Why should LAN1 and LAN2 remain identifiable on 1TGE102009R2300?

They serve distinct communication roles in the configured system. Swapping connections can leave a physical Ethernet link while breaking DCS exchange, engineering access or visualization.

Does 1TGE102009R2300 include every software service supported by MLink?

No. Services depend on the installed configuration and activation. Confirm web, OPC and time-synchronization requirements separately from the gateway hardware identity.

What does a running indication on 1TGE102009R2300 tell the technician?

It indicates that the CompactFlash application is loaded and running. It does not alone prove that every DCS mapping, bus connection or enabled service is communicating correctly.

Why should 1TGE102009R2300 not be treated as a dual-redundant execution?

The standard and dual-redundant order families are distinct. Redundancy requires the appropriate hardware, configuration and network arrangement rather than a second standard unit assumed to behave identically.

How should switchgear-bus shielding be restored on 1TGE102009R2300?

Retain the intended shielding at both cable ends and termination appropriate to the topology. An Ethernet link check does not verify the internal switchgear-bus wiring.

What must be backed up beyond the IP addresses before replacing 1TGE102009R2300?

Preserve the application, service activation, fieldbus mapping, cubicle identity and network-role assignments. Those settings determine what the supervisory system receives and controls.

Why can 1TGE102009R2300 require a managed switch and network protection?

The control network may connect several gateways, tools and plant systems. Managed topology and approved access boundaries support diagnosis and prevent unauthorized use of switchgear services.

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05 Configuration boundary and references

Lifecycle and support

The current manufacturing and manufacturer-support stage for this exact model is not confirmed.

Replacement assessment

Match the R2300 serial execution, standard architecture and application configuration. Treat a different protocol or redundant gateway as a system change requiring revised mapping and validation.

Available unit details

Offered reference: ABB 1TGE102009R2300. Condition: New, original product. Check the complete R2300 label, serial-interface execution, CompactFlash application and enabled services. Confirm the MLink hardware, CompactFlash media, terminal plugs, licensed software services, network switch and cables in the quotation; companion equipment is included only when itemized.

Document roles: The original excerpt retains manufacturer tables and drawings; this brief addresses selection and system context; the separate installation guide covers field procedures and acceptance.

Technical basis: ABB MNS iS Interface Manual MLink, 1TGC910127M0201 Release 5.4.

Related product navigation

- ABB CP60 P0961FR
- ABB CI830 3BSE013252R1
- ABB CI854AK01 3BSE030220R1

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

Product enquiries