

1TGE120021R0810

MNS Digital Gateway for Modbus and Ethernet TCP/IP

Four Modbus RTU segments with serial or Ethernet supervisory communication

PRODUCT SNAPSHOT

BRAND

ABB

FAMILY

ABB MNS Digital low-voltage switchgear

PART

1TGE120021R0810

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PRODUCT OVERVIEW

Four Modbus RTU segments with serial or Ethernet supervisory communication

1

Connects as many as 128 M10x devices

2

Provides four independent Modbus RTU ports

3

Supports serial and Ethernet host communications

4

Operates from a nominal twenty-four-volt supply

SYSTEM COMPONENTS

ABB MNS Digital switchgear

M10x motor controllers

RS-485 Modbus segments

DCS or supervisory Ethernet/serial host

TECHNICAL NOTE

Verify 1TGE120021R0810, the four RS-485 segment assignments, every M10x address, host protocol selection, Ethernet parameters and 24 VDC supply before replacement; restore communications one segment at a time and confirm all 128 possible device positions.

TECHNICAL DATA

PARAMETER	VALUE
ABB identity	1TGE120021R0810
Field protocol	Modbus RTU over RS-485
Host interfaces	RS-422 and Ethernet TCP/IP IEEE 802.3
Modbus RTU ports	4
Maximum connected devices	128; 32 per port
Supply	24 V DC, 19 to 31 V DC

PARAMETER	VALUE
Typical current	800 mA
Maximum current	1000 mA
Operating temperature	0 to 55 degC
Storage temperature	-20 to +70 degC
Ingress protection	IP51
MTBF	46 years at 40 degC

ENGINEERING NOTE

Verify 1TGE120021R0810, the four RS-485 segment assignments, every M10x address, host protocol selection, Ethernet parameters and 24 VDC supply before replacement; restore communications one segment at a time and confirm all 128 possible device positions.

RELATED PRODUCTS ON APTER POWER

MODEL	SYSTEM ROLE	APTER POWER PAGE
Siemens 6RY1803-0CM20	Related industrial automation product	View Siemens 6RY1803-0CM20 page
Siemens C98043-A7107-L4	Related industrial automation product	View Siemens C98043-A7107-L4 page
Siemens 6RY1803-0DB02	Related industrial automation product	View Siemens 6RY1803-0DB02 page
Siemens 6SL3200-0SP06-0AA0	Related industrial automation product	View Siemens 6SL3200-0SP06-0AA0 page
Emerson PR6426-010-140	Related industrial automation product	View Emerson PR6426-010-140 page
Emerson PR6426-000-030	Related industrial automation product	View Emerson PR6426-000-030 page
Emerson PR6424-010-140	Related industrial automation product	View Emerson PR6424-010-140 page
Emerson PR6423-10R-010	Related industrial automation product	View Emerson PR6423-10R-010 page

APPLICATIONS & PRECAUTIONS

COMMON APPLICATIONS

Motor-control-center data concentration

Connects as many as 128 M10x devices

Plant DCS motor integration

Provides four independent Modbus RTU ports

MNS Digital communication retrofit

Supports serial and Ethernet host communications

Gateway replacement and network restoration

Operates from a nominal twenty-four-volt supply

PRODUCT PRECAUTIONS

- 1 Verify the complete 1TGE120021R0810 marking and its assigned ABB MNS Digital low-voltage switchgear position before work.
- 2 Place the connected motor-control-center data concentration process in the approved maintenance state.
- 3 Isolate applicable power and four modbus rtu segments with serial or ethernet supervisory communication field energy before disconnecting conductors.
- 4 Record connector, conductor, address, firmware and software identities before removal.
- 5 Use ESD controls and protect keyed interfaces, exposed contacts and electronic assemblies.
- 6 Confirm the installed ABB MNS Digital switchgear and M10x motor controllers against the approved project.
- 7 Restore power in a controlled sequence and review device, network and host diagnostics.
- 8 Prove the intended plant dcs motor integration function and retain the final test result.

ENGINEER FAQ

Q1 Does 1TGE120021R0810 match ABB MNS Digital switchgear in a Motor-control-center data concentration installation?

Verify the complete 1TGE120021R0810 marking, the documented ABB MNS Digital low-voltage switchgear position and the installed ABB MNS Digital switchgear before fitting the assembly.

Q2 How should 1TGE120021R0810 be wired when it must connects as many as 128 m10x devices?

Isolate the circuit, identify every terminal and reproduce the approved polarity, shield and channel assignment for 1TGE120021R0810; then continuity-test the affected path.

Q3 Which ABB MNS Digital low-voltage switchgear records should be captured before removing 1TGE120021R0810?

Record the as-found wiring, installed position, active configuration and diagnostic state associated with 1TGE120021R0810 before disconnection.

Q4 What controlled test confirms that 1TGE120021R0810 can provides four independent modbus rtu ports?

Apply the approved field or simulated stimulus, observe the ABB MNS Digital low-voltage switchgear indication and confirm the intended response without bypassing the normal interlocks.

Q5 Which M10x motor controllers condition should be checked when 1TGE120021R0810 reports an abnormal state?

Check the M10x motor controllers supply, seating and connection first, then compare channel diagnostics with the recorded 1TGE120021R0810 baseline.

Q6 Can 1TGE120021R0810 be moved directly into Plant DCS motor integration without validating DCS or supervisory Ethernet/serial host?

No. Confirm the DCS or supervisory Ethernet/serial host, revision, connection scheme and ABB MNS Digital low-voltage switchgear configuration before transferring 1TGE120021R0810 to that duty.

Q7 What maintenance evidence is required after 1TGE120021R0810 is used for MNS Digital communication retrofit?

Retain the nameplate record, corrective action, final diagnostics and a controlled mns digital communication retrofit functional-test result for 1TGE120021R0810.

Q8 How should 1TGE120021R0810 be returned to service in Gateway replacement and network restoration?

Restore power under control, verify supports serial and ethernet host communications, exercise the intended signal path and release 1TGE120021R0810 only after the ABB MNS Digital low-voltage switchgear remains in its approved operating state.

SOURCE ABB MNS Digital with M10x Interface Manual Modbus | 1TGC908004M0201, release 1.1

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