

INDUSTRIAL AUTOMATION PRODUCT

1TGE120021R0810

MNS Digital Gateway for Modbus and Ethernet TCP/IP

Four Modbus RTU segments with serial or Ethernet supervisory communication

IDENTITY	VERIFIED VALUE
Manufacturer	ABB
System family	ABB MNS Digital low-voltage switchgear
Part number	1TGE120021R0810
Country	Sweden
HS code	8537101190

APTER POWER SALES TEAM

WHATSAPP / PHONE +86 180 3023 5313
EMAIL sales13@apterpower.com
WEBSITE www.apterpower.com



2

Technical Specifications

Technical values below are limited to the named ABB product record.

PARAMETER	TECHNICAL 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
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 DATA SUMMARY

DATA GROUP	VERIFIED ASSIGNMENT
Installed host / carrier	ABB MNS Digital switchgear
Companion hardware	M10x motor controllers
Field connection	RS-485 Modbus segments
Primary system function	Connects as many as 128 M10x devices
Controlled acceptance duty	Motor-control-center data concentration

3

System Role and Architecture

Four Modbus RTU segments with serial or Ethernet supervisory communication

FUNCTION 1

Connects as many as 128 M10x devices

FUNCTION 2

Provides four independent Modbus RTU ports

FUNCTION 3

Supports serial and Ethernet host communications

FUNCTION 4

Operates from a nominal twenty-four-volt supply

Matched system components

- ABB MNS Digital switchgear
- M10x motor controllers
- RS-485 Modbus segments
- DCS or supervisory Ethernet/serial host

SYSTEM INTEGRATION RECORD

INTEGRATION ITEM	DOCUMENTED ROLE
Installed host / carrier	ABB MNS Digital switchgear
Companion hardware	M10x motor controllers
Field connection	RS-485 Modbus segments
Primary system function	Connects as many as 128 M10x devices
Controlled acceptance duty	Motor-control-center data concentration

4

Applications and Engineering Context

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

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.

MODEL-SPECIFIC ACCEPTANCE EVIDENCE

CHECK	ACCEPTANCE CONDITION
Identity	1TGE120021R0810 / 1TGE120021R0810 recorded
Physical interface	ABB MNS Digital switchgear
Companion check	M10x motor controllers
Functional proof	Connects as many as 128 M10x devices
Application test	Motor-control-center data concentration

5

Engineering 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.

RELATED PRODUCTS ON APTER POWER

MODEL	SYSTEM ROLE	APTER POWER PAGE
Bently Nevada 330102-00-20-10-02-00	Related industrial automation product	View Bently Nevada 330102-00-20-10-02-00 page
Bently Nevada 330101-00-60-10-02-05	Related industrial automation product	View Bently Nevada 330101-00-60-10-02-05 page
Bently Nevada 330101-00-40-10-02-05	Related industrial automation product	View Bently Nevada 330101-00-40-10-02-05 page
Bently Nevada 330101-00-40-10-02-00	Related industrial automation product	View Bently Nevada 330101-00-40-10-02-00 page
Bently Nevada 330101-00-40-05-02-00	Related industrial automation product	View Bently Nevada 330101-00-40-05-02-00 page
Bently Nevada 330101-00-30-10-02-05	Related industrial automation product	View Bently Nevada 330101-00-30-10-02-05 page
Bently Nevada 330101-00-30-10-02-00	Related industrial automation product	View Bently Nevada 330101-00-30-10-02-00 page
Bently Nevada 330101-00-20-05-02-00	Related industrial automation product	View Bently Nevada 330101-00-20-05-02-00 page

MANUFACTURER SOURCE RECORD

ABB MNS Digital with M10x Interface Manual Modbus

1TGC908004M0201, release 1.1

APTER POWER SALES TEAM

WHATSAPP / PHONE +86 180 3023 5313
EMAIL sales13@apterpower.com
WEBSITE www.apterpower.com

