

OFFICIAL MODEL-SPECIFIC GUIDE

Installation Instructions

FMBT-21 3AXD50000049963

ABB drive fieldbus adapters · two-port Modbus TCP adapter

01

VERIFIED CONFIGURATION

Primary Protocol	Modbus TCP
Ethernet Ports	2 x RJ45
Network Rate	10/100 Mbit/s
Transport Services	TCP and UDP
Configuration Tool	ABB IP configuration tool

02

DOCUMENTED INSTALLATION SCOPE

- Isolate all applicable electrical and process energy before work.
- Confirm the exact article number, option slot and connector assignments.
- Follow the official ABB mounting, wiring and commissioning sequence.

INSTALLATION CHECK

Confirm compatible drive or controller hardware and site procedure before work.

Table of contents 5

Table of contents

1 Safety instructions

Contents of this chapter	9
Use of warnings and notes	9
Safety in installation and maintenance	9

2 Introduction to the manual

Contents of this chapter	11
Purpose of the manual	11
Applicability	11
Compatibility	11
Drives	11
Protocols	12
Tools	12
Target audience	13
Cyber security disclaimer	13
Terms and abbreviations	13
General terms and abbreviations	13
Modbus/TCP terms and abbreviations	14
Related documents	14



3 Overview of the Ethernet network and the FMBT-21 module

Contents of this chapter	17
Ethernet network	17
Example topology of the Ethernet link	17
FMBT-21 module overview	18
FMBT-21 module layout	19

4 Mechanical installation

Contents of this chapter	21
Necessary tools and instructions	21
Unpacking and examining the delivery	21
Before you start	21
Installing option modules	22

5 Electrical installation

Contents of this chapter	23
Necessary tools and instructions	23
General cabling instructions	23
Connecting the FMBT-21 module to the network	23
Connection procedure	24

6 Modbus/TCP – Start-up

Contents of this chapter	25
Warnings	25

OFFICIAL INSTALLATION AND WIRING REFERENCE

Introduction to the manual 13

For more information on the Ethernet tool network, refer to:

- [Ethernet tool network for ACS880 drives application guide \(3AUA0000125635 \[English\]\)](#)
- [Drive composer user's manual \(3AUA0000094606 \[English\]\)](#).

Target audience

This manual is intended for people who plan the installation, install, start up, use and service the module. Before you do work on the module, read this manual and the applicable drive manual that contains the hardware and safety information for the product.

You are expected to know the fundamentals of electricity, wiring, electrical components, and electrical schematic symbols.

The manual is written for readers worldwide. Both SI and imperial units are shown.

Cyber security disclaimer

This product is designed to be connected to and to communicate information and data via a network interface. It is Customer's sole responsibility to provide and continuously ensure a secure connection between the product and Customer network or any other network (as the case may be). Customer shall establish and maintain any appropriate measures (such as but not limited to the installation of firewalls, application of authentication measures, encryption of data, installation of anti-virus programs, etc.) to protect the product, the network, its system and the interface against any kind of security breaches, unauthorized access, interference, intrusion, leakage and/or theft of data or information.

ABB and its affiliates are not liable for damages and/or losses related to such security breaches, any unauthorized access, interference, intrusion, leakage and/or theft of data or information.

Terms and abbreviations

■ General terms and abbreviations

Term	Description
Command word	See Control word.
Control word	16-bit or 32-bit word from a controller to the controlled device with bit-coded control signals (sometimes called the Command word).
DHCP	Dynamic Host Control Protocol. A protocol for automating the configuration of IP devices. DHCP can be used to automatically assign IP addresses and related network information.
Drive	Frequency converter for controlling AC motors
EMC	Electromagnetic compatibility
FBA	Fieldbus adapter
Fieldbus adapter module	Device through which the drive is connected to an external communication network, that is, a fieldbus
FMBT-21 adapter module	One of the optional fieldbus adapter modules available for ABB drives. FMBT-21 is a device through which an ABB drive is connected to an Ethernet network.
LSB	Least significant bit
LSC	Least significant character
MAC address	Media Access Control address