Pact Series

MasterPact MTZ - MicroLogic X Control Unit

Firmware Release Notes

Pact Series offers world-class breakers and switches

DOCA0144EN-11 10/2021





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Safety Information

Important Information

Read these instructions carefully, and look at the equipment to become familiar with the device before trying to install, operate, service, or maintain it. The following special messages may appear throughout this documentation or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.



The addition of this symbol to a "Danger" or "Warning" safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

A DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

WARNING indicates a hazardous situation which, if not avoided, **could result in** death or serious injury.

A CAUTION

CAUTION indicates a hazardous situation which, if not avoided, **could result** in minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to physical injury.

Please Note

Electrical equipment should be installed, operated, serviced, and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

A qualified person is one who has skills and knowledge related to the construction and operation of electrical equipment and its installation, and has received safety training to recognize and avoid the hazards involved.

About the Book

Pact Series Master Range

Future-proof your installation with Schneider Electric's low-voltage and medium-voltage Pact Series. Built on legendary Schneider Electric innovation, the Pact Series comprises world-class circuit breakers, switches, residual current devices and fuses, for all standard and specific applications. Experience robust performance with Pact Series within the EcoStruxure-ready switchgear, from 16 to 6300 A in low-voltage and up to 40.5 kV in medium-voltage.

Document Scope

This document provides users technical information needed to update the firmware of MicroLogic[™] X control unit, and download and install an optional Digital Module.

Validity Note

This document applies to MicroLogic X control units in MasterPact™ MTZ circuit breakers.

Related Documents for IEC Devices

The following table lists documents for IEC devices compatible with MicroLogic X control units with firmware version greater than or equal to 004.109.000.

Title of documentation	Publication date	Reference number
MasterPact MTZ Catalogue	07/2021	LVPED216026EN
MasterPact MTZ - MicroLogic X Control Unit - User Guide	10/2021	DOCA0102EN-08

You can download these technical publications and other technical information from our website at www.se.com/ww/en/download.

Related Documents for UL/ANSI Devices

The following table lists documents for UL devices compatible with MicroLogic X control units with firmware version 004.107.000.

Title of documentation	Publication date	Reference number
MasterPact MTZ - Circuit Breakers and Switches - Catalog	08/2018	0614CT1701
MasterPact MTZ - MicroLogic X Control Unit - User Guide	10/2021	DOCA0102EN-08

You can download these technical publications and other technical information from our website at www.se.com/ww/en/download.

Firmware Release Notes

Introduction

MicroLogic X Control Unit

MasterPact MTZ circuit breakers with MicroLogic X control units provide protection functions, metering, diagnostics, communication, and remote operations.

The control unit is customizable with optional Digital Modules.

MicroLogic X control units allow operation and monitoring of MasterPact MTZ circuit breakers locally or remotely.

NOTE: This release note also applies to MicroLogic Xi control units. A MicroLogic Xi control unit is a MicroLogic X control unit without Bluetooth® Low Energy communication. The firmware versions of the MicroLogic X and MicroLogic Xi control units are the same from firmware version 004.105.003.

MicroLogic X Firmware Release History

Date	MicroLogic X Firmware version	Availability
October 2021	004.109.000	Release for manufacturing of MicroLogic X control units for IEC standard
March 2021	004.107.000	Release for manufacturing
October 2020	004.105.003	Obsolete
April 2020	004.105.000	Obsolete
December 2019	004.101.000	Obsolete
July 2019	003.012.000	Obsolete
March 2019	003.011.000	Obsolete
November 2018	002.000.004	Obsolete
April 2018	002.000.003	Obsolete
March 2018	002.000.002	Obsolete
December 2017	001.000.206	Obsolete
July 2017	001.000.202	Obsolete
December 2016	001.000.200	Obsolete

Firmware Update Policy

If the latest features of a firmware update are not required, it is not mandatory to update the firmware of a device.

Use this document to determine whether an update to the latest version of the MicroLogic X firmware is interesting or relevant for your application.

For more information about the firmware update policy and the firmware compatibility between devices, refer to DOCA0155EN *MicroLogic Trip Units and Control Units - Firmware History*.

Firmware Update with EcoStruxure Power Commission Software

EcoStruxure™ Power Commission is the new name of Ecoreach software.

Use the latest version of EcoStruxure Power Commission software:

To check the firmware compatibility of the devices in the IMU

• To update the devices with the latest firmware version available

After updating the firmware of one device, use EcoStruxure Power Commission software to check the firmware compatibility between IMU devices.

The Firmware Update table helps you to diagnose and identify all discrepancy issues between IMU devices. This table also provides the recommended actions for each discrepancy issue.

The latest version of EcoStruxure Power Commission software is available at: www.se.com.

For more information about the use of EcoStruxure Power Commission software, refer to *EcoStruxure Power Commission Online Help*.

Firmware Version 004,109.000

Bugs Fixed

- Insignificant values displayed at load current close to 0 on MasterPact MTZ3 circuit breakers.
- The event Replace Battery (0x1433) was generated spuriously. Battery health detection improved.
- The event Last protection settings have not been applied (0x142F) was generated spuriously.

Firmware Version 004.107.000

New Features

 Performance improvement of self-test to monitor the presence of internal current power supply (CPS) sensors

NOTE: The discontinuity of internal current power supply (CPS) sensor can lead to user exposure to electric hazard. As a default behavior, a failed self-test can result in the opening of the circuit breaker to help to ensure user and material protection. In this case, the trip message **Replace Circuit Breaker Self Diagnostic (0x641F)** will be generated. For more information about this behavior, contact your Schneider Electric Customer Care Center and mention the following reference: FAQ000190726.

 Addition of automatic acknowledgment mode for orange pop-up messages related to medium severity protection alarms on the MicroLogic display screen

Bugs Fixed

- The event Last protection settings have not been applied (0x142F) was generated spuriously.
- The event Schedule manufacturer maintenance within three months (0x1482) was generated prematurely due to absence of commissioning date entered by the user in EcoStruxure Power Commission software.

Firmware Version 004.105.003

New Features

Addition of the MicroLogic Xi control units. A MicroLogic Xi control unit is a MicroLogic X control unit without Bluetooth Low Energy communication.

Firmware Version 004.105.000

New Features

Addition of self-test to monitor the presence of the internal current power supply (CPS) sensors

Firmware Version 004.101.000

New Features

- Compatibility with the following optional Digital Modules (available through the Schneider Electric GoDigital marketplace):
 - ANSI 51 IDMTL overcurrent protection
 - ANSI 67 Directional overcurrent protection
 - IEC 61850 for MasterPact MTZ
- · Compatibility with communication features:
 - RSTP (Rapid Scanning Tree Protocol)
 - NTP (Network Time Protocol)
- Addition of contact wear interpretation to facilitate the preventive maintenance of the circuit breaker
- Firmware update process made faster and more reliable

Bugs Fixed

The following events were generated spuriously and simultaneously on display screen of MicroLogic X control unit:

- Control unit self test #2 (0x1470)
- Firmware Discrepancy within control unit (0x0D09)

Firmware Version 003.012.000

New Features

Compatibility with the ANSI 81 – Under/Overfrequency Protection optional Digital Module (available through the Schneider Electric GoDigital marketplace)

Firmware Version 003.011.000

New Features

- Addition of maintenance schedule reminder events to help user to plan preventive maintenance programs
- Password management: enhancement of user profiles from levels to role profiles
- Addition of ERMS force unlock command to unlock ERMS function if smartphone used to engage the function is unavailable

Bugs Fixed

- Possible loss of voltage release configuration
- The following events were generated spuriously:
 - Control unit self test #5 (0x1473)
 - Earth leakage (Vigi) sensor disconnected (0x1408)
 - Invalid Control Unit factory config #1 (0x0D0A)

Firmware Version 002.000.004

Bugs Fixed

- High consumption of battery in specific cases without auxiliary power supply
- The following alarms and pop-up messages were generated spuriously on display screen of MicroLogic X control unit:
 - Protection settings reset to factory value (0x1430)
 - Error 21 Service not performed Internal error
 - Error 190 Service not performed Internal error

Firmware Version 002.000.003

New Features

Conformity to UL/ANSI standard with the addition of the following control units:

- MicroLogic 3.0 X control unit (LV848815)
- MicroLogic 5.0 X control unit (LV847609)
- MicroLogic 6.0 X control unit (LV847608)

Firmware Version 002.000.002

New Features

- Compatibility with the following optional Digital Modules (available through the Schneider Electric GoDigital marketplace):
 - ANSI 27/59 Under/Over Voltage Protection Digital Module
 - ANSI 32P Reverse Active Power Digital Module
 - ANSI 51N/51G Ground-Fault Alarm Digital Module
 - Individual Harmonics Analysis Digital Module
 - Modbus Legacy Dataset Digital Module
 - Energy Reduction Maintenance Settings (ERMS) Digital Module
- Addition of support for ERMS switch module (ESM)
- Protection setting procedure in 2 steps (Submit/Apply) for compliance with UL489SE
- · Addition of current and power demand
- New calculation method for minimum and maximum values for current, voltage, and power factor
- · Addition of load profile monitoring
- Multiple events assignment with M2C or IO module
- Addition of long waveform capture in the Waveform Capture on Trip Event Digital Module
- Additional information with Configuration mismatch between IO and control unit event message
- Enhancement of reliability of event management and time-stamping
- Addition of event code on event messages to improve diagnosis
- Enhancement of internal battery test pattern
- Enhancement of internal battery loss management
- Enhancement of external 24 Vdc power supply management
- Improved robustness of the file system management

Bugs Fixed

- Bluetooth LED remained on with Error 5 displayed, requiring control unit to be switched off and on
- Snapshot was not showing correct li coefficient pickup when Instantaneous protection was set to OFF
- Frequency measurement was shifted and/or unstable in 3-pole system using 3-wattmeter calculation
- Loss of event message Configuration mismatch between IO and control unit occurred when power cycling the control unit

Firmware Version 001.000.206

Bugs Fixed

- Incorrect calculation for In value:
 - Value displayed was twice the expected value
 - Impacted only 3-pole MTZ3 circuit breakers with External Neutral Current Transformer (ENCT)
- Unexpected trip due to ground-fault protection test function occurred without pushing test button:
 - If the value of the current power supply (CPS) mode was decreasing at a specific rate while the voltage power supply (VPS) was being powered up simultaneously
 - Impacted only MicroLogic 6.0 X control units with VPS voltage power supply module

Firmware Version 001.000.202

Bugs Fixed

- Ground-fault test did not always operate with firmware that was directly flashed in MCU
- Service LED Orange HMI error 8/21/22 was displayed and no alarm/trip history

Firmware Version 001.000.200

Description

Initial firmware version

Firmware Update

Updating Firmware of MicroLogic X Control Unit

Prerequisites

The prerequisites for updating MicroLogic X firmware are the following:

- The latest version of EcoStruxure Power Commission software is downloaded and installed on the PC.
- The PC is connected to a power supply. Standby mode is deactivated to avoid the possibility of interruption during the update.
- The PC is connected to the mini USB port on the MicroLogic X control unit by using the USB cable with part number LV850067SP.
- The MicroLogic X control unit is continuously powered during the firmware update.
 - When the control unit is not connected to other ULP modules, it is powered by the PC through the mini USB port.
 - When the control unit is connected to other ULP modules, it is powered by an external 24 Vdc power supply.

The MicroLogic X Administrator password is required to launch the firmware update.

For more information, refer to *EcoStruxure Power Commission Online Help*.

Procedure for Updating MicroLogic X Firmware

NOTICE

HAZARD OF INTERRUPTION OF POWER SUPPLY

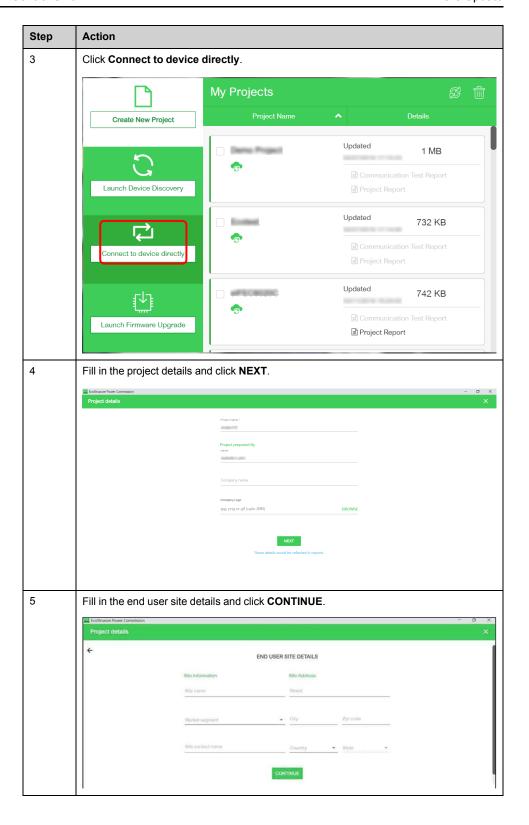
- The MicroLogic X control unit must be continuously powered during the firmware update.
- Do not disconnect the USB cable before clicking the CLOSE button at the end of the update procedure with EcoStruxure Power Commission software.
- Do not perform a replacement of the MicroLogic X display screen during the firmware update.

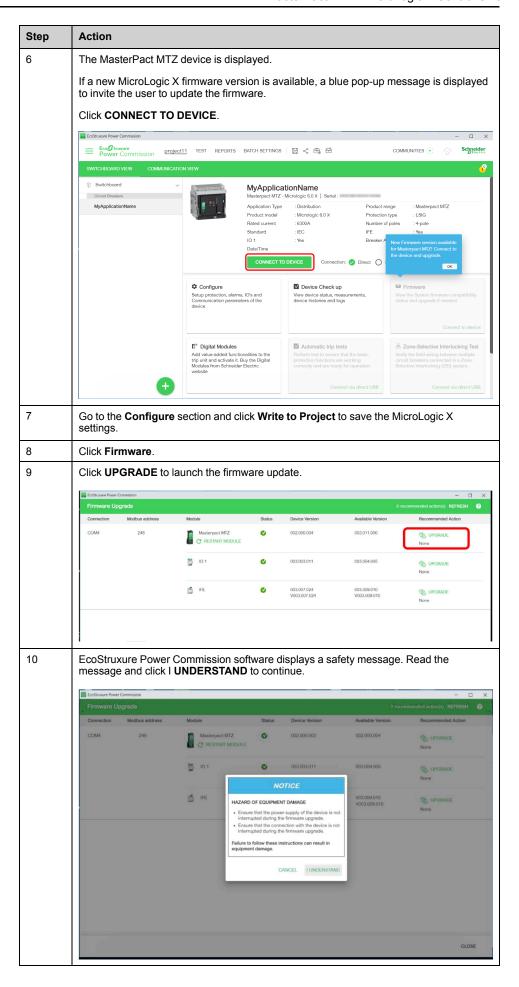
Failure to follow these instructions can result in deterioration of the control unit.

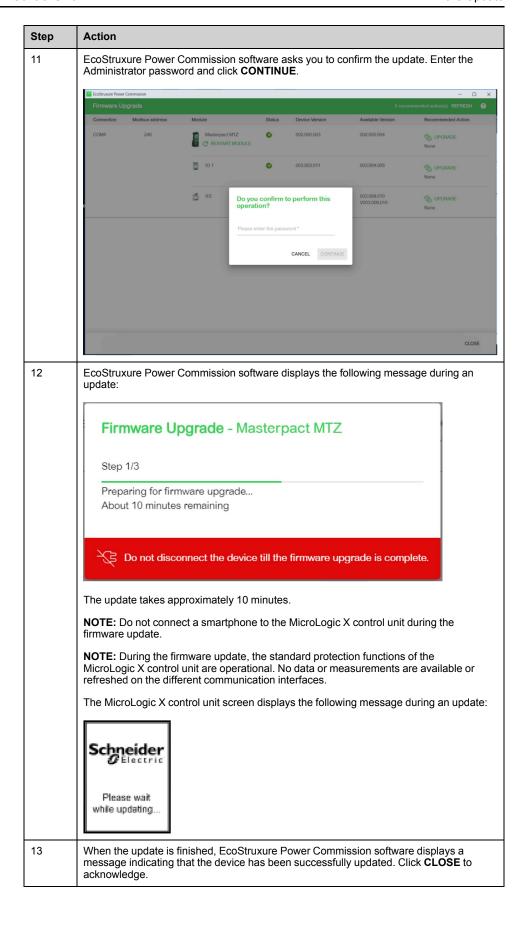
During the firmware update, the standard protection functions of the MicroLogic X control unit are operational. No data or measurements are available or refreshed on the different communication interfaces.

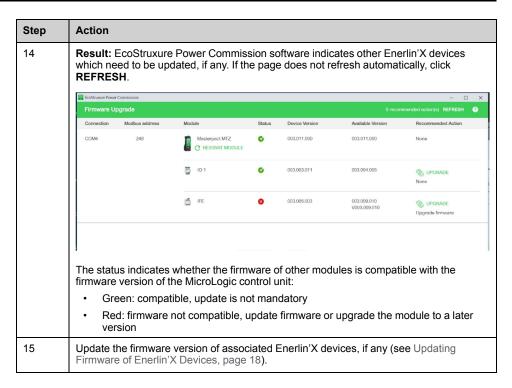
Follow this procedure to update the firmware version of the MicroLogic X control unit:

Step	Action
1	Disable all wireless access (Bluetooth and NFC) between the MicroLogic X control unit and a smartphone.
2	Use the USB cable with part number LV850067SP to connect a PC to the mini USB port on the front face of the MicroLogic X control unit.









NOTE: After updating the MicroLogic X firmware version 001.000.200, red pop-up trip or alarm messages may be displayed on the MicroLogic X display screen following the firmware update. This corresponds to trip or alarm messages that were not acknowledged by the user before the firmware update. Press the **ESC** button on the control unit to remove these messages.

Updating Firmware of Enerlin'X Devices

Introduction

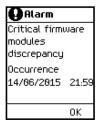
After updating the firmware of an Enerlin'X device connected to the MicroLogic X control unit, use the latest version of EcoStruxure Power Commission software to check the firmware compatibility between IMU devices.

The Firmware Update table helps you to diagnose and identify all discrepancy issues between IMU devices. This table also provides the recommended actions for each discrepancy issue.

The firmware update of the Enerlin'X devices with EcoStruxure Power Commission software can be done:

- With the PC connected to the communication network.
- With the PC connected to the mini USB port of the MicroLogic X control unit for MicroLogic X control units with firmware version greater than or equal to 002.000.000, EIFE/IFE interface with firmware version greater than or equal to 003.007.024, and IO module version greater than or equal to 003.003.016.

NOTE: If Enerlin'X devices are associated with the MicroLogic X control unit, from the start of the MicroLogic X firmware update and until the Enerlin'X devices are updated, the event **Critical firmware modules discrepancy** is detected. An event message is displayed on the screen of the control unit.



When there is a firmware discrepancy between the MicroLogic X control unit and the communication interfaces (IFE, EIFE, or IFM interface), MicroLogic X data is not available remotely.

Procedure for Updating Enerlin'X Device Firmware

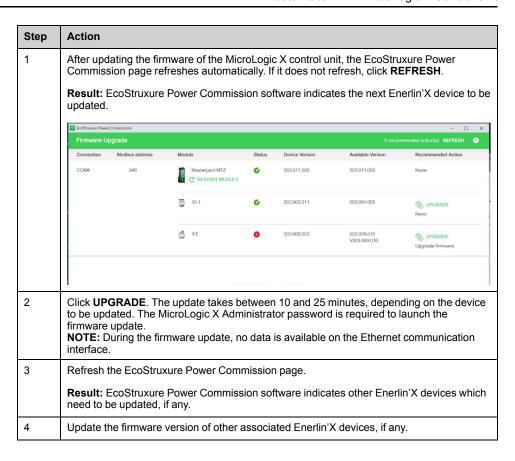
NOTICE

HAZARD OF INTERRUPTION OF POWER SUPPLY

The Enerlin'X device must be continuously powered during the firmware update.

Failure to follow these instructions can result in equipment damage.

Follow this procedure to update the firmware version of an Enerlin'X device, for example, EIFE interface, with the PC running EcoStruxure Power Commission software and connected to the mini USB port on the MicroLogic X control unit, by using the USB cable with part number LV850067SP.



Purchasing and Installing a Digital Module

Purchasing a Digital Module

Prerequisites

The prerequisites are:

 The firmware version of the MicroLogic X control unit must be compatible with the Digital Module (refer to table below). Update the firmware version of the MicroLogic X control unit if the Digital Module required is not compatible.

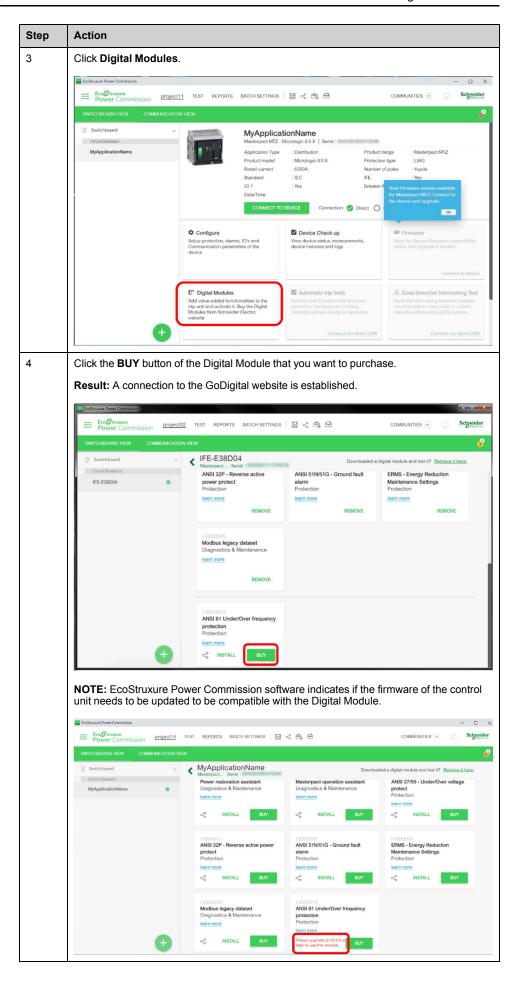
Digital Module	Part number	Minimum MicroLogic X firmware version
IEC 61850 for MasterPact MTZ	LV850046	004.101.000
Directional overcurrent protection	LV850015	004.101.000
IDMTL overcurrent protection	LV850037	004.101.000
Under/Overfrequency protection	LV850013	003.012.000
Individual harmonics analysis	LV850006	002.000.002
Under/Over voltage protection	LV850012	002.000.002
Reverse active power	LV850011	002.000.002
Ground-fault alarm	LV850007	002.000.002
Energy Reduction Maintenance Settings (ERMS)	LV850009	002.000.002
Modbus legacy dataset	LV850045	002.000.002
Energy per phase	LV850002	001.000.002
Power restoration assistant	LV850004	001.000.002
MasterPact operation assistant	LV850005	001.000.002
Waveform capture on trip event	LV850003	001.000.002

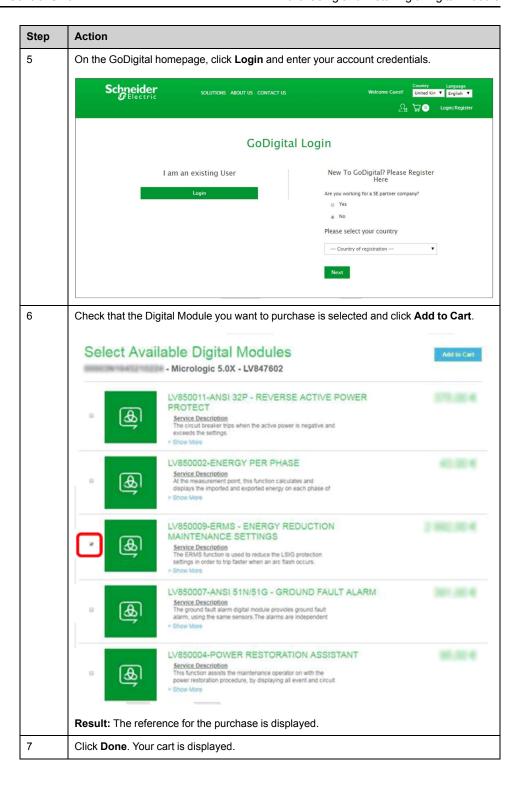
- The latest version of EcoStruxure Power Commission software is downloaded and installed on the PC.
- The PC is connected to a power supply.
- · The PC is connected to the Internet.
- · You have a GoDigital user account.

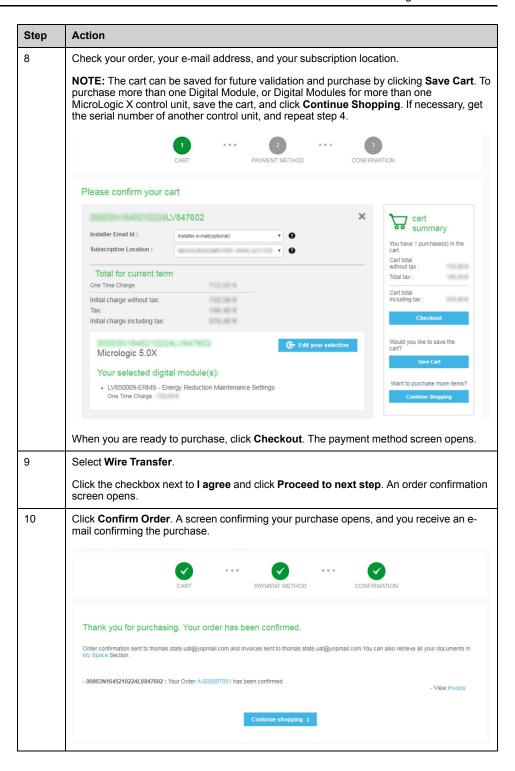
Selecting and Purchasing a Digital Module in GoDigital

Follow this procedure to select and purchase a Digital Module:

Step	Action
1	Open EcoStruxure Power Commission software on a PC connected to the Internet.
2	Connect to your MasterPact MTZ device by clicking CONNECT TO DEVICE.



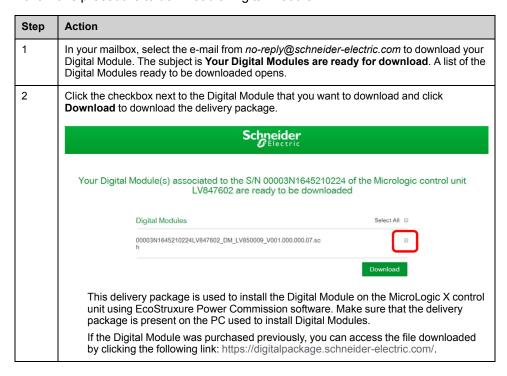




Downloading and Installing a Digital Module

Downloading a Digital Module

Follow this procedure to download a Digital Module:

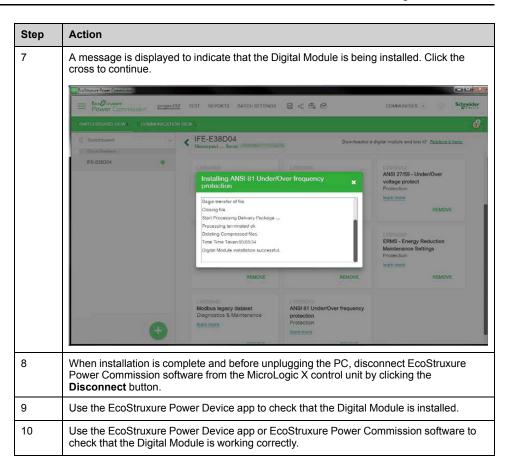


Installing a Digital Module on the MicroLogic X Control Unit

The MicroLogic X Administrator password is required to install a Digital Module on the MicroLogic X control unit.

Follow this procedure to install a purchased Digital Module on a MicroLogic X control unit.

Step	Action
1	Use the USB cable with part number LV850067SP to connect a PC running EcoStruxure Power Commission software to the mini USB port on the front face of the MicroLogic X control unit.
2	Click Connect to device directly to establish a connection between the EcoStruxure Power Commission software and the MicroLogic X control unit. EcoStruxure Power Commission software displays the MicroLogic X control unit identification number on the screen.
3	Open the Digital Module page by clicking Digital Modules .
4	Check that the delivery package for the Digital Module to be installed is present on the PC being used.
5	Select the Digital Module to be installed by clicking Install. The standard protection functions of the MicroLogic X control unit remain active during installation of the Digital Module. Only modules previously purchased can be installed directly by clicking Install.
6	EcoStruxure Power Commission software asks you to confirm the installation. Enter the
	Administrator password and click CONTINUE .



For more information, refer to EcoStruxure Power Commission Online Help.

NOTE: To uninstall a Digital Module, use EcoStruxure Power Commission software.

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