EWCM 9000 PRO-HF

Release Notes

07/2023

9MA10310.03

www.eliwell.com

eliwell
by Schneider Electric

Legal Information

The Schneider Electric brand and any trademarks of Schneider Electric SE and its subsidiaries referred to in this guide are the property of Schneider Electric SE or its subsidiaries. All other brands may be trademarks of their respective owners.

This guide and its content are protected under applicable copyright laws and furnished for informational use only. No part of this guide may be reproduced or transmitted in any form or by any means (electronic, mechanical, photocopying, recording, or otherwise), for any purpose, without the prior written permission of Schneider Electric.

Schneider Electric does not grant any right or license for commercial use of the guide or its content, except for a non-exclusive and personal license to consult it on an "as is" basis. Schneider Electric products and equipment should be installed, operated, serviced, and maintained only by qualified personnel.

As standards, specifications, and designs change from time to time, information contained in this guide may be subject to change without notice.

To the extent permitted by applicable law, no responsibility or liability is assumed by Schneider

Electric and its subsidiaries for any errors or omissions in the informational content of this material or consequences arising out of or resulting from the use of the information contained herein.

As part of a group of responsible, inclusive companies, we are updating our communications that contain non-inclusive terminology. Until we complete this process, however, our content may still contain standardized industry terms that may be deemed inappropriate by our customers.

© 2023 Eliwell. All Rights Reserved.

Table of Contents

Table of Contents 3

Safety Information 5
Important Information 5

About the Book 7
At a Glance 7

Chapter 1 8
Product Information 8
Overview 8
Product Identification 8
Release History 8

Chapter 2 9
Hardware/Firmware Information 9
New Features v3.0 9
Mitigated Anomalies v3.0 10

Chapter 3 11
Software Information 11
Known Operational Anomalies 11

Chapter 4 12
Additional Information 12
Other Important External Information 12
Release Notes History 12
New Features v2.0 12
Mitigated Anomalies v2.0 13
New Features Hardware/Firmware v1.0 14
Mitigated Anomalies Hardware/Firmware v1.0 15
New Features Software v1.0 16
FREE Studio Plus 16

TelevisGo....16
Device Manager....16
Mitigated Anomalies Software v1.0....17
FREE Studio Plus....17

Safety Information

Important Information

NOTICE

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.

⚠ 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.

⚠ 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 and Eliwell 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

At a Glance

Document Scope

This document contains important information about the hardware/firmware/software delivery of product EWCM 9000 PRO-HF. Read the complete document before you use the product or products described herein.

Validity Note

The information in this Release Notes document is applicable only for EWCM 9000 PRO-HF compatible products. This document has been updated for the release of EWCM 9000 PRO-HF BIOS 644.08 PLC813.05 HMI814.05

The technical characteristics of the devices described in this document also appear online. To access this information online, go to the Eliwell home page *www.eliwell.com*.

The characteristics that are presented in the present document should be the same as those characteristics that appear online. In line with our policy of constant improvement, we may revise content over time to improve clarity and accuracy. If you see a difference between the document and online information, use the online information as your reference.

Chapter 1
Product Information

Overview

Maintenance release of EWCM 9000 PRO-HF, with implementation of new features and bug fixing.

Product Identification

Reference	Description	Version	Note
EPB●●FCTA500	EWCM 9000 PRO-HF/ CO2T Logic Controller 42 I/OS	Firmware msk: 644.07/813.03/ 814.03	Updated
EPB01FCXX500	EWCM 9000 PRO (HF) Logic Controller 42 I/OS	Firmware msk: 644.07	Updated
EPB●●PCTA500	EWCM 9000 PRO / CO2T Logic Controller 42 I/OS	Firmware msk: 638.04/613.11 / 613.13	Not Updated
EP4000000B00	EWCM 9000 Pro Expansion 14 I/Os	Firmware msk: 575.03	Not Updated
EPK010000000	Remote Display HMI	Firmware msk: 645.01/814.03	Updated
EPKE10000000	Remote Display HMI		Updated
EP4S00●●●500	EWCM 9000 Pro Expansion 25 I/Os SSR	Firmware msk: MSK803.00	New Product

Release History

Document Version	Software Release	Release date	Description
3.0	644.08/813.05/814.05 803.00	July 2023	EWCM 9000 PRO HF BIOS 644.08 PLC813.05 HMI814.05 EXP 4D PRO SSR
2.0	644.07/813.03/814.03	November 2022	EWCM 9000 PRO HF BIOS 644.07 PLC813.03 HMI814.03
1.0	644.05/813.01/814.02	May 2022	EWCM 9000 PRO HF BIOS 644.05 PLC813.01 HMI814.02
0.0	644.04/613.11/ 613.13	February 2021	EWCM 9000 PRO HF BIOS 644.04 PLC613_11_HMI613_13
0.0	638.04/613.11/ 613.13	February 2021	EWCM 9000 PRO BIOS 638.04 PLC613_11_HMI613_13

Chapter 2
Hardware/Firmware Information

New Features v3.0

EPB••FCTA500

- BIOS MSK 644.08
  - None

- PLC MSK 813.05
  - Up to 3 variable speed compressors for each suction line.
  - Option for compressor control algorithm: “PID” or “Smart PID”.
  - Continuous compressor rotation policy.
  - Compressor switch mode with power rebalancing.
  - Improved datalogger system.
  - Pressure limiter for the Parallel Compression line.
  - Option to enable/disable High Temperature feedback to High Pressure valve control.
  - Remote offset for the Flash Gas and High Pressure set points.

- HMI MSK 814.05
  - New datalogger page.
  - Test of motorized valves.

EPB01FCXX500

- BIOS MSK 644.08
  - None

EPK010000000 - EPKE10000000

- HMI MSK 814.05
  - New datalogger page.
  - Test of motorized valves.

EP4S0024V500 - EP4S00LIV500

- BIOS MSK 803.00
  - 25 IO expansion provided with 3 Solid-state relay digital output. Available in 2 models:
    - EP4S0024V500 SSR output 24 Vac/Vdc
    - EP4S00LIV500 SSR output 75…240 Vac

Mitigated Anomalies v3.0

EPB••FCTA500 / EPB01FCXX500

- BIOS MSK 644.08
  - Improved watchdog system.
  - In case of system reset due to the memory card subsystem that does not work properly, the memory card subsystem is disabled at the next system startup.

EPB••FCTA500

- PLC MSK 813.05
  - New application watchdog verifying the background task is working properly.
- HMI MSK 814.05
  - New procedure to insert and remove the memory card. Previous system may cause the memory card subsystem to not work properly.

Chapter 3
Software Information

Known Operational Anomalies

NONE

Chapter 4
Additional Information

Other Important External Information

None

Release Notes History

Release Notes EWCM 9000 PRO – v3.0

Fourth Release

Release Notes EWCM 9000 PRO – v2.0

Third Release

Release Notes EWCM 9000 PRO – v1.0

Second Release

Release Notes EWCM 9000 PRO – v0.0

First Release

New Features v2.0

EPB••FCTA500

- BIOS MSK 644.07
  - Support for new LCD component;
  - To enable full upload of the RAW parameter map independent from parameter limits checks, RAW parameter file format is supported. Command code ‘30’ added to sysUsbCommand to save parameter file to USB pen drive in RAW format, with ‘.RAW’ file extension.

- HMI MSK 814.03
  - In ‘Web Password’ page, the fields for User and Password are filled with default values ‘administrator’ and ‘password’;
  - In ‘Save Parameters’ page, with PLC BIOS supporting command code ‘30’ for sysUsbCommand command, parameter are saved in RAW format, with ‘.RAW’ file extension. In all other cases (prior than BIOS msk 644.07) the parameter map is saved in ‘.DAT’ format, with ‘.DAT’ file extension.

EPB01FCXX500

- BIOS MSK 644.07

  - Support for new LCD component;
  - To enable full upload of the RAW parameter map independent from parameter limits checks, RAW parameter file format is supported. Command code ‘30’ added to sysUsbCommand to save parameter file to USB pen drive in RAW format, with ‘.RAW’ file extension.

EPK010000000 - EPKE10000000

- HMI MSK 814.03

  - In ‘Web Password’ page, the fields for User and Password are filled with default values ‘administrator’ and ‘password’;
  - In ‘Save Parameters’ page, with PLC BIOS supporting command code ‘30’ for sysUsbCommand command, parameter are saved in RAW format, with ‘.RAW’ file extension. In all other cases (prior than BIOS msk 644.07) the parameter map is saved in ‘.DAT’ format, with ‘.DAT’ file extension.

Mitigated Anomalies v2.0

EPB••FCTA500 / EPB01FCXX500

- BIOS MSK 644.07

  - Fixed USB per drive not mounting the file system:
    - The USB pen drive file system was mounted only at the first connection after a power on, therefore it was not possible to use a second USB pen drive without re-booting the PLC.

- **EPB••FCTA500**

- PLC MSK 813.03

  - Fixed unexpected control of FG (Flash Gas) valve and/or HP (High Pressure) valve with EVEVD module connected via CAN:
    - PLC check procedure of written FG valve parameters in EVEVD module pointing to HP valve parameters could have caused unexpected control of FG valve; combined with corrupted HP valve parameters, could have caused unexpected control of both FG and HP valves.
  - Fixed short activation of compressor at startup:
    - Erroneous defaults values for EEV parameter in the PLC may have caused activation of the compressor at PLC startup for a short period of time, until the current values are read from the EVEVD module.
  - Fixed unhandled EVEVD backup modules:
    - Erroneous handling of valve 1 and valve 2 backup modules, referring both to valve 1 ‘n36’ parameter, may have caused unexpected operation of both valves backup in case of incorrect value for valve 1 ‘n36’ parameter or causing unexpected operation of backup for valve 2 in case valve 1 is not selected.

EPB••FCTA500 - NEW FEATURES

- BIOS MSK 644.05
  - Cybersecurity Improvement:
    - Ethernet connectivity, except for ping command, is disabled until the default web password is changed from local display or FREE Studio Plus
    - After password change, a reboot is required to enable Ethernet connectivity.

- PLC MSK 813.01
  - FGV and HPV Driver:
    - management via CAN bus of double bipolar EEV drive EVEVD2B000500 to control Flash Gas Valve and High Pressure Valve. Includes management of EEVD battery backup EVEVDBA000000 for emergency closure of valves (inoperable)
      Qualification with the following valves:
      - Parker GC
      - Danfoss CCMT 16-42 and CCMT-Light 3-5-8
      - Danfoss CCM-40
      - Alco CV4-5-6
      - Alco EX4-5-6-7-8
      - CAREL E2VCS-E3V-C
  - Normal Temperature (NT) Compressors Line:
    - Extended to a maximum of 9 compressors
    - Liquid Injection without limits on the number of cycles
  - Oil Recovery:
    - Operate based on Pressure Differential between Oil Tank and Normal Temperature suction side in case the parallel compressors line is not present
  - Low Temperature (LT) vs Normal Temperature (NT):
    - NT/LT interlock function configurable by parameter. Force NT start in case there is only LT demand
    - Manage additional suction line on secondary controller with interlock via Digital Input & Digital Output
  - Generic Regulators:
    - PID control configurable for analogue input and analog output (for example management of the valves used for the Hot Gas)
  - Heat Recovery:
    - Simplified heat recovery logic. Single Boiler temperature used as reference. Previously requiring one probe to start and a different probe to stop.
    - Removed Mixing Valve on water side
    - Control on water outlet and Gas Cooler pressure to enable/disable Heat Recovery
    - Control logic base on “Heat Recovery % demand”: a PID control, with adjustable setpoint, band, integral and derivative, calculates the % of Heat Recovery required according to distance to setpoint
      Heat Recovery actuators turned on/off according to the % calculated
    - Linear High Pressure (HP) Valve steps setpoint increase-decrease
    - Gas Cooler Setpoint steps increase-decrease
    - Gas Cooler Bypass valve, Analogue or Digital Output

- Heat Recovery Bypass valve on Analogue Output

- HMI MSK 814.02
  - Parameter's menu aligned with baseline 813.01
  - Menu Service:
    - Added "Menu Load par. USB". User can select a parameters file from the connected USB with name 00PARAM.dat … 07PARAM.dat choosing a number from 0 to 7 on the user interface (8 files)
    - Added menu "Init parameters". Menu that appears when updating a previous version of EWCM 9000 PRO (HF). Initializes to a default value the new parameters of the current mask that are not present in the previous version
  - Added menu "EEV" to setup Valve 1 and Valve 2
  - Menu "Password". Added WEB password menu to locally change the default password.

EPB01FCXX500 – NEW FEATURES (BIOS MSK 644.05)

- Cybersecurity Improvement:
  - Except for ping command, Ethernet connectivity is disabled until the default web password is changed from local display or FREE Studio Plus
  - After the password change, a reboot is required to enable ethernet connectivity.

EPK010000000 – NEW FEATURES

- HMI MSK 814.02
  - Parameter's menu aligned with baseline 813.01
  - Menu Service:
    - Added "Menu Load par. USB". User can select a parameters file from the connected USB with name 00PARAM.dat … 07PARAM.dat choosing a number from 0 to 7 on the user interface (8 files)
    - Added menu "Init parameters". Menu that appears when updating a previous version of EWCM 9000 PRO (HF). Initializes to a default value the new parameters of the current mask that are not present in the previous version
  - Added menu "EEV" to setup Valve 1 and Valve 2
  - Menu "Password". Added WEB password menu to locally change the default password.

EPKE10000000 - NEW PRODUCT (BIOS MSK 645.00, HMI MSK 814.02)

- New standard alternative to EPK010000000
- Extended temperature range: -20°C … 55°C.

Mitigated Anomalies Hardware/Firmware v1.0

EPB••FCTA500/ EPB01FCXX500 – BUG FIX (BIOS MSK 644.05)

Fixed: Error selecting the HMI language.

New Features Software v1.0

FREE Studio Plus

FREE Studio Plus is the workbench tool for EWCM 9000 PRO-HF

- Installer Pro Project. Perspective Configuration, menu Project/Options. For more details: Chapter: Installer Pro Project in User Guide.
- TelevisDriver generation. Perspective Configuration, menu Project/Options. For more details: Chapter: Televis Driver Generation in User Guide.
- Added dictionaries for pre-defined and custom description of parameters and status variables
- Added language selection for parameters and status variables description in the Language / Program Option menu
- BIOS download. Added a check on the target name
- Added Installer Access Level for parameters and status variables in Configuration
- Faster data refresh and update from Commissioning and Installer
- Commissioning:
  - Removed the command “Write Televis Parameters Value”
  - The command “Generate Parameter File” now generate an additional “.csv” file together with “Param.dat”
  - Added the command “Generate USB file on target” to force the target to create the files “Param.dat” and “Param.bin” on the connected USB pen-drive
  - Added to the command “Import parameter file” with the option to create a recipe with the imported parameters
- Catalog updated with the target EWCM 9000 PRO
- Added EWCM 9000 PRO User Guide.

FREE Studio Plus Installer is the commissioning tool for EWCM 9000 PRO-HF:

- PLC navigation tree, IO Definition, SoftScope automatically added to the PLC menu
- Menu Access Level management.

TelevisGo

- TelevisGo driver EWCM 9000 PRO/CO2T/HF (msk 12001).

Device Manager

- Model for EWCM 9000 PRO/CO2T/HF:
  - EWCM9000_PRO_CO2T_HF_MSK813 (PLC Parameters)
  - EWCM9000_PRO_CO2T_HF_MSK644 (Bios Parameters).

Mitigated Anomalies Software v1.0

FREE Studio Plus

- Solved the following issues:
  - Simulation of target EWCM 9000 PRO
  - Improved Parameters Export to “.txt” file in Commissioning
  - Improved filters in Print Setting in Commissioning
  - Improved Print Preview in Configuration and Installer.