

SOFTWARE DESIGN SPECIFICATIONS (SDS)

Project No : EMG-20-036
Date : 13.01.2021
Document Ref Number : EMG-20-036.3844.SDS

MODULER
CAPPING MACHINE

M-MDL

Document Approved

Prepared by

Name	Department/Function	Date	Sign



Approved by

Name	Department/Function	Date	Sign

Revised date



Rev.No.	Date	Prepared by	Description Changement
01	13.01.2021		Initial Version



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1. Purpose

The purpose of this software design specification document is to define the design and function of the Modular Capping Machine and its components project by the system designer.

2. Scope

This software design specification document is prepared for the Modular Capping Machine automation system and the automation system and its related components.

3. System / Equipment Description

3.1 Equipment / Description of System

The Modular Capping Machine(Pilfer Proof) which is EMG-20-036 order code,consist of following equipment and components.

Equipment Name	Equipment Code	Equipment / Serial No
MODULAR CAPPING MACHINE	M-MDL	3844

3.2 Machine Technical Data

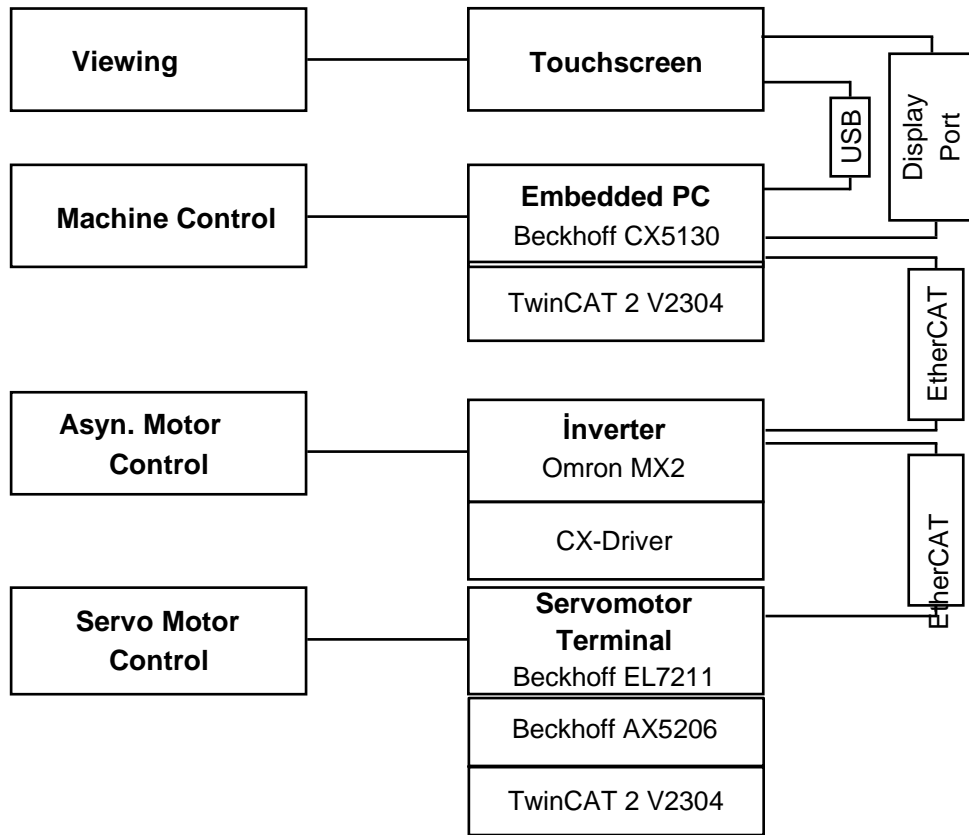
Machine	MODULAR CAPPING MACHINE
Type	M-MDL
Machine-No	3844
Weight	600 kg
Supply Voltage	3 Faz 380V 50Hz
Power Consumption	4.5 kW
Air Sply	4-6 bar



4. Description of Used System


4.1 System Architecture

Modular Capping Machine



4.2 Software General View

MODULAR CAPPING MACHINE	
Device	Embedded PC
Manufacturer / Type	CX5130-0122
Hardware Version	V3.8 2019-04-05
Operating System	Windows Embedded Standart 32-Bit
Operating System Version	6.1, Build 7601

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4.3 Programming Standard

The programming standard is based on the guidelines of GAMP 5 / ISO 9001.

4.4 Software Informing

All control logic in the software is contained in the Beckhoff CX5130. Operator interface terminals read Embedded PC memory locations to monitor facility status and alarms. In addition, the operator terminal keeps all machine recipes / configuration parameters and saves them to the Embedded PC USB path or server path when necessary. All software modules and software sub-modules are called from the Embedded PC loop. The software modules used are a combination of program blocks and program function blocks.

MODULAR CAPPING MACHINE



Software type	TwinCAT / Movicon
Software name	M-MDL
Software version	01
System request	RWin XP – Win 7 – Win 10
Data transfer	USB & Ethernet

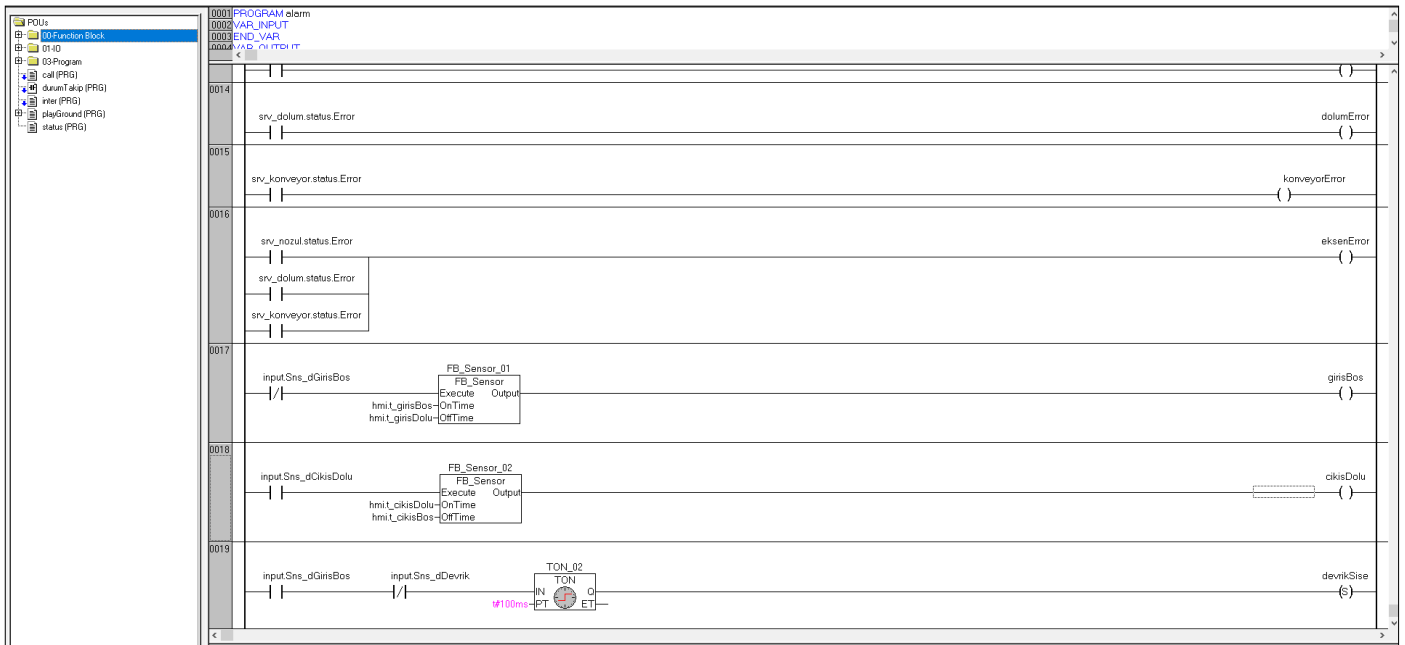


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4.5 Programme Structure

4.6 Programming & Configuration and Software

4.6.1 TwinCAT 2

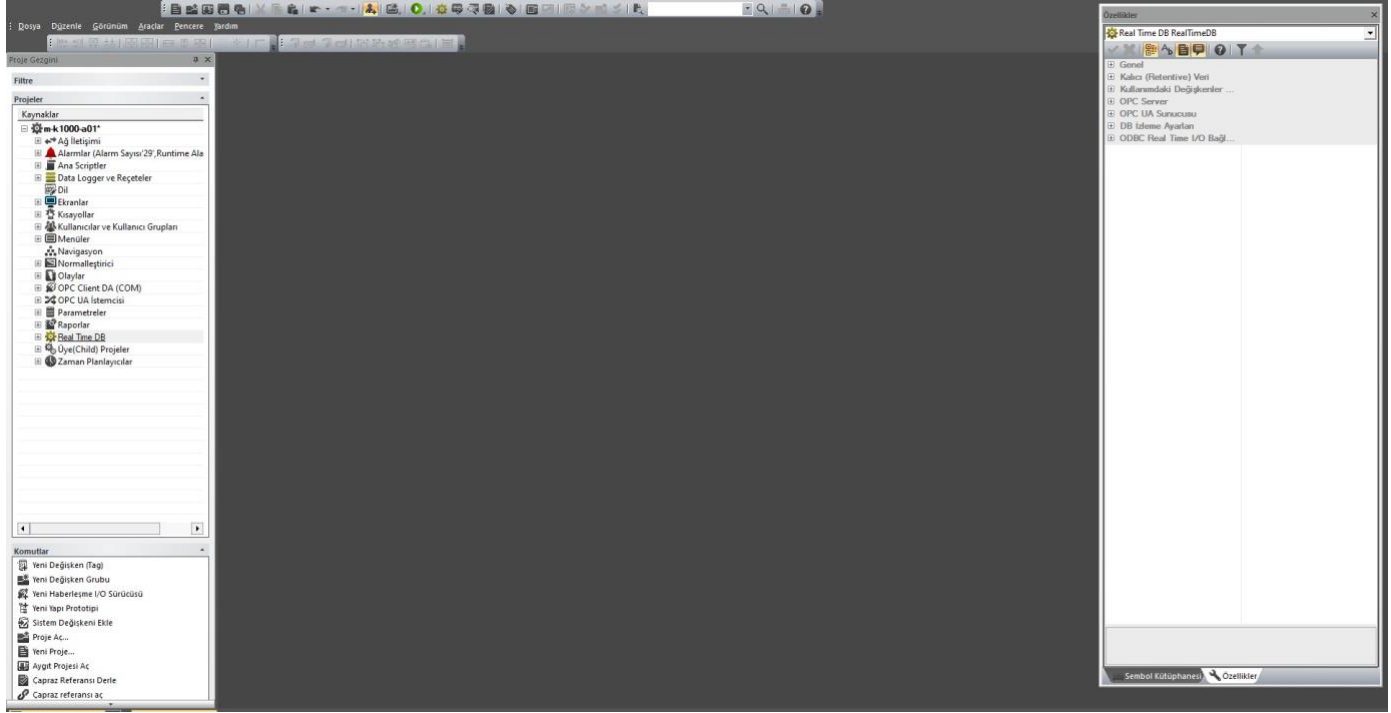


Description	
Software type	Programming Software
Software name	TwinCAT 2
Software version	2304
Job	TwinCAT programming software, build Embedded PC program and configure hardware is used.
System request	TwinCAT programming software works on a standard computer with Win XP, Win 7, Win10.
Data transfer	Application software data is transferred from the programming device to the Embedded PC via Ethercat.



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4.6.2 Movicon



Description	
Software type	Display Software
Software name	Movicon 11.05
Software version	11.5.1185
Job	Movicon display software is used to visually prepare machine controls.
System request	Movicon screen software works on a standard computer with Win XP, Win 7, Win10.
Data transfer	Application software data is transferred from the programming device to the Embedded PC via Ethercat.



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5. Acces Authorization - User Management

Access authorization and user management are performed through groups and group Access Rights, which means that each user with their own password is assigned to a specific group and has access rights defined for that group. Some functions can be accessed without Group access rights, and the control system can be used unaffected. All other functions require logging in with a valid password. After logging in, all functions of the corresponding user group are available.

Automatic logoff occurs after 15 minutes.

User groups and passwords are managed through the SYSTEM /users menu. The following user groups with associated password are pre-set by ELEKTROMAG.

The following user groups and passwords are pre-set by ELEKTROMAG.

No	User group	Password
1	Keyless Input	NA
2	Operator	*****
3	Technician	*****
4	Administrator	*****

Passwords will be notified by email to the company official.

6. Changement Management


Change management will be handled in accordance with customer protocols and Quality Assurance System.

7. Documentation

Program files for the machine'S PLC, HMI and frequency inverters are stored in the documentation folder marked with the data carrier symbol.

After installation and validation of entire system, it is recommended to the user to perform the “image import” process by the company.



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8. Comments and Explanation

