PROJECT NAME	Behavioral of the system present in the our module	
PROTOTYPE DESCRIPTION	n.a.	
DOCUMENT NAME	CERT-210-0001	
FIRST CO# REFERENCE	n.a.	
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AIM OF THE DOCUMENT

Explain the architecture present on our module due to the introduction of the distributed logic.

ISSUE

Our system work with a distribute logic; each module present on the plant has got a device that decode the information and manage the operation. In this document we describe the system build with this architecture.

ANALYSIS

Each module present in our plant it is able to receive information from the main Ethernet network and execute some action following its programmation. These feature it is possible due to the distributed logic system, present in all the module. The devices that can be used to build the system are:

- DDT - Tag Board
- ACH – Digital Analog I/O peripheral
- MOH or MQA – Digital Servo Driver
- MOL – RFID Base Station

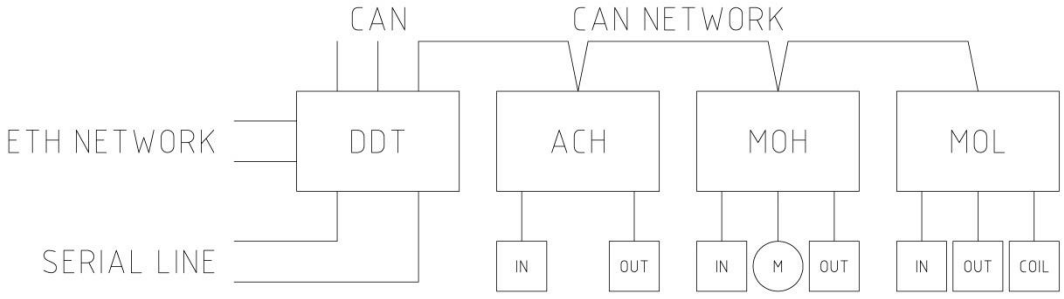

Figure 1 : block diagram of the architecture

The architecture of the system it is reported in the Figure 1, were it is possible how all the device are connected.

In the following part we describe all the device present in the system.

Sirius DDT TAGBOARD it is a real time industrial computer based on MPC5121, powered at 24Vdc. The installed operative system it is UNIX-LIKE and it has a Linux kernel. The scheduler Xenomai permits to create real time task. The device has the following pheripheral:

- N°02 connection Ethernet
- N°03 connection to CAN network
- N°02 opto isoled serial line.

SIRIUS ACH – Digital Analog I/O Peripheral it is a device for the manage of the I/O. the board it is based on the DSP MICROCHIP 33JF128MC804. The device has the following I/O connection:

- N°04 digital input for generic purpose
- N°04 digital output for generic purpose
- N°08 digital configurable input or output
- N°04 fast digital input
- N°01 analog input for manage the PT1000
- N°02 analog input 4-20mA or 0-10V
- N°01 encoder input.

SIRIUS MOH –MQA it is a small driver powered in cc. It can be used for position, speed and torque control for AC/DC brushless, stepper and DC motor. It can be in a network (version MOH-C, MOH-D and MQA) or standalone (version MOH-A and MOH-B); normally the feedback it is realized with Hall sensor and incremental encoder. The version called MQA it is equal to the MOH but with an Ethernet communication port. The connections are:

- N°03 hall sensor connection
- N°01 analogic input
- N°03 digital input
- N°02 digital output
- N°01 encoder connection
- N°01 CAN connection (MOH-C/MOH-D)
- N°01 Ethernet connection (MQA)
- N°01 motor connection

SIRIUS RFID Base Station - MOL-A it is a small I/O board. These devices present:

- N°05 input non isolated
- N°07 output non isolated
- N°01 CAN connection
- N°02 antenna connector

This board it is the only dispositive were it is possible to connect an antenna. On the device it is present an IC, code HTRC110 that it is responsible to manage and decode the data from-to the antenna that it is realized with a simple coil. The carry frequency of that device it is 125 KHz and it is manage by a microcontroller installed on the board. The diagram block of the system it is reported in Figure 2. The receiver device it is only a passive component, so it do not require power supply or I/O connection.

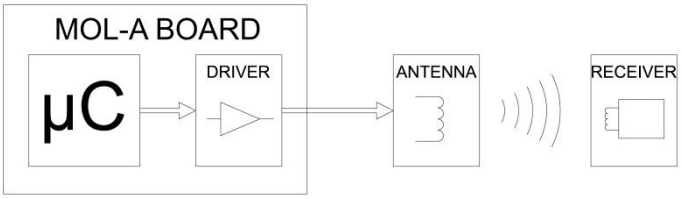

Figure 2 : Bloch diagram of the communication between MOL-A and pallet tag

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