

# Industrial automation

Web-engine features described

- Variables
- Modbus (read and write)
- E-Mails
- SMS

## Introduction

Here will be described a configuration of a industrial automation control

The machine being controlled produces each day a number of iron bars, and

- we want that at the end of each day an SMS is sent to the commercial office to notify how many bars were produced during the day.
- we want to be able to know the status of the machine (if it is running) and how many pieces were produced at the time we call only with a phone ring.
- we want to be able to stop and start the machine with a SMS
- we want to be able to set or reset the number of pieces produced today accessing the web page
- we want that the number of bars produced daily to be added to a monthly total, to be displayed on a wap and web page.(the machine resets the pieces count each morning)

The machine is equipped with a PLC that implements the ModBus protocol on RS232 RTU. This PLC holds in memory the number of pieces and a variable that controls the maximum pieces that are to be produced.

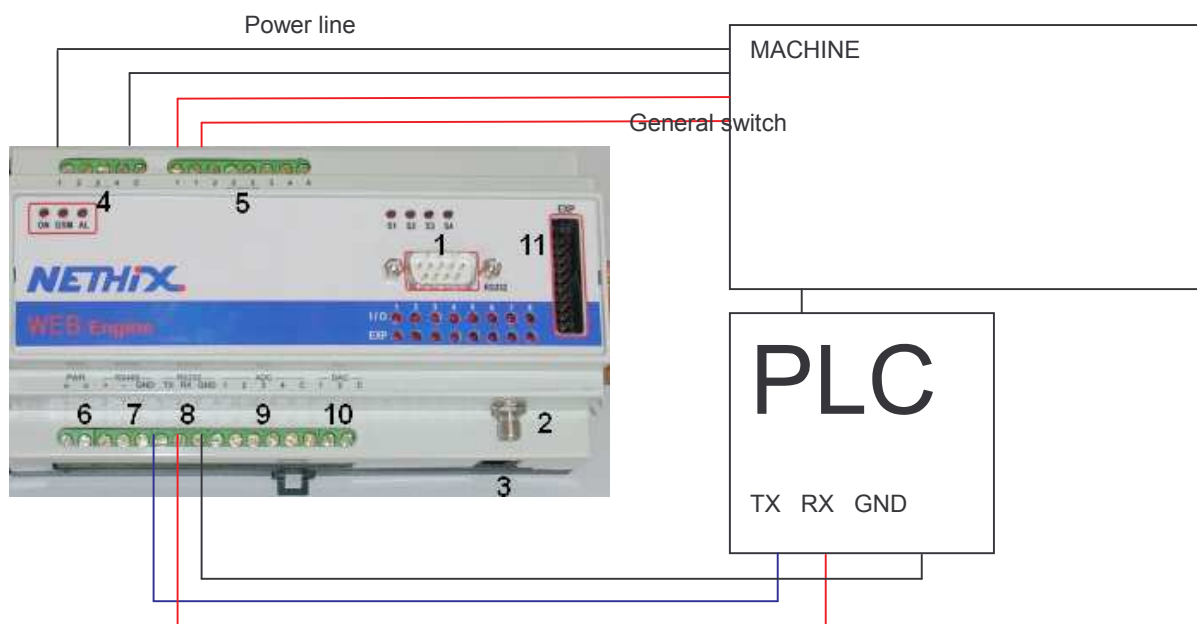
PLC Internal memory		
01	"pieces today"	16 bit integer

The WE-DEVTOOL plant will be built as follows:

A ModBus command (type read) will be configured to read the "pieces today" variable from the PLC.

This variable will then be published on the Web-engine web server and sent with SMS

Also the web-engine will have its Digital Input1 connected to the machine power, and the digital output1 is connected to a general switch to turn on and off the machine.



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## How the plant configuration works

The web-engine holds a variable called "piecestoday". This periodically is set to the value of the variable "pieces today" on the PLC.

When a reset command is issued, a variable named reset on the web-engine is set to 0.  
The associated ModBus command sets to 0 the variable on the PLC.

When a ring is received from a supervisor phone, a sms to tell the machine status is sent to that supervisor.

When the hour variable is 1 (at one O'clock), the variable piecestoday is added to the variable that holds the number of pieces each month.

NOTE: to allow testing this functionality, a sms with text reset can be sent to web-engine.

When the variable Day is 1, (only when the variable day is 1 for the first time) the variable pieces this month is set to 0.

When a reset is made from the web-page, the total of pieces today is set to 0.

To be able to test the ModBus communication even without using a PLC, please refer to the document [ModbusTestProcedure.pdf](#)