CASE STUDY

INDUSTRIAL SHIELDS

AUTOMATION PROCESS WITH TOUCHBERRY

On this case study, we will show you how to automate a process without using a PLC.. To reach this goal, we just can use our PC Panel Touchberry 7".

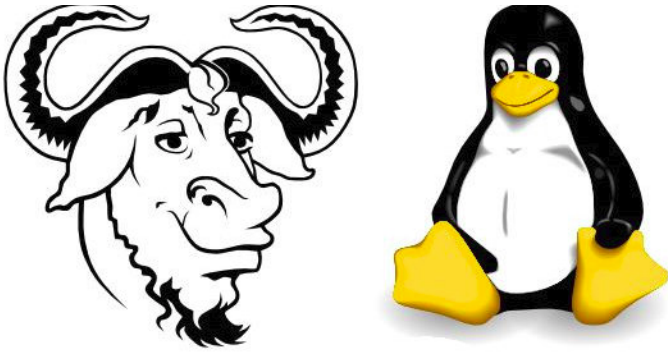
SUMMARY

Why did we think about this application?

The main reason is because our customers do not often know the **versatility** that our Panels have. Touchberry 7" can be used as a PLC because it has 10 I/O at (5-24Vdc) configurable by software. Regarding the communications, it has WiFi, RS-485 - RS-232, Serial TTL, I2C, SPI, Ethernet and USB. Using Ethernet and WiFi, you can control the diferents parameters and I/O of the system.

One of the most useful characteristics of the Panel is that, in complex systems, you can create a **network** between several Touchberries, providing a comprehensive monitoring and control solution for complete production plants and real-time data at hand.

The Panel is based in OS GNU/Linux (Raspbian/Ubuntu) installed in an SD card. You can find examples and explanations in our Blog to learn how to program it.



GNU/Linux

CASE STUDY

GOAL

The goal that we have to reach is controlling some peripheral devices using TouchBerry 7". The importance of this project consists in learning which devices can be used (or not) in the functionality and how to connect them. So this is just an example.

CONCLUSION (HARDWARE)

The Touchberry 7" has to control a water bottling plant. We thought about this application because the number of sensors and actuators is limited so with our number of I/O we can control all this process. In this project, we want to control a lot of signals so we can use a signal distributor of 16 I/O programmable by software and communicate it with the Panel using RS-485. Moreover, apart from using the Panel PC as a PLC, you can use it as an HMI so you can monitor all these signals and compile data from them (cycle time, hour, batch, machine failures etc.).

To make this project, we will use the devices detailed below. We are using 7 I/O in total:

- conveyor belt (x1) (1 Digital Output with solid state relay to control the engine) (See example in the our Blog).
- capacitive sensor (x1) (1 Digital Input)
- cylinder (x1) (2 Digital Outputs for the electrovalve - 1 for Forward, 1 for Backward)
- cylinder inductive sensor (x2) (2 Digital Inputs)
- water pump (x1) (1 Digital Output with solid state relay to control the engine) (See example in our Blog).
- PC Panel Touchberry PI 7"

The sequence will be as follows: **(1.)** The bottles will arrive to the conveyor belt. **(2.)** The capacitive sensor will be under the water pump; this sensor will detect the bottle when it is just under the pump. **(3.)** Then the cylinder bringing the pump will go forward. **(4.)** Finally, when the inductive sensor is high, the pump will begin to fill the bottle with the correct quantity of water.