

FIELD BUS STUDY FOR ETHERNET - SCHNEIDER® COMPONENTS

**EDUCATIONAL OBJECTIVES**

- Study of field bus communication between different automation components
- Study of Ethernet cabling and creation of an IP network
- Configuring Ethernet components
- Set up a Wifi network and control the components from a tablet
- Configure a variable speed drive
- Configure an HMI
- Configure an automaton
- Configure the association of 2 remote PLCs (MAQ-IP / MAQ-IP-N version only)

**Practical works**

- Creation of a corporate Ethernet IP network with several PCs
  - Programming of a programmable logic controller with the integrated or remote Ethernet bus on a TCP/IP interface
  - Programming of an HMI interface, touch screen, with the integrated Ethernet bus
  - Programming of the variable speed drive from the SoMove software
  - Interconnection and configuration of components for global operation
  - Use of PLC programming software
  - Carry out the Wifi configuration for ordering on a tablet or smartphone.
  - Cabling an Ethernet network
  - Remote motor control via WiFi via a tablet or smartphone.
  - Programming with the HMI software (supplied)
  - **MAQ-IP / MAQ-IP-N version only**
- Programming the control of a motor via 2 associated PLCs.

In all the labs, the programming sequences of each component are provided as video files for better understanding by the student.

**Composition of the model**

- Power supply from the 230V-2P+T mains.
- 1 power supply unit with user protections (30mA) and equipment. Distributes the 24VAC voltage to the variable speed drive (for the PLC, the HMI, the interfaces Remote Inputs/Outputs as well as 230VAC-2P+T).
- "Machine" boxes each with 3 pushbuttons, 3 switches, 7 indicator lights as well as 3 pushbuttons and 3 switches for sensor simulation (1 for MAQ-IP1 / 2 for MAQ-IP and MAQ-IP-N).
- 1 Ethernet 14I/10S programmable logic controller.
- 1 Ethernet 24I/16S programmable logic controller (MAQ-IP and MAQ-IP-N only)
- 1 TM3 expansion card (analog for MAQ-IP and MAQ-IP-N / discrete for MAQ-IP1)
- 1 5.7" touch HMI with Ethernet port.
- 1 ATV32-0.18kW variable speed drive.
- 1 asynchronous motor 230/400V- 0.12kW with fan to visualize the rotation.
- 1 multifunction graphic programming terminal with large monochrome screen (8 lines) of 240x160 pixels allowing the programming of the variable speed drive.
- 1 set of Ethernet cables.
- 1 software for programming the PLC.
- 1 Vijéo Designer software for programming the HMI.
- 1 SoMove software for programming the ATV32 variable speed drive.
- 1 configured Wifi router (local Wifi specific to the system) fitted with a 5-port RJ45 Ethernet switch Control via the free Vijéo Design'air application.
- 1 DVD contains the instructions for the various components as well as practical exercises and examples programming of the PLC, the drive and the HMI in the form of video.

**Characteristics of the MAQ-IP Chassis**

- Chassis on wheels (including two with brakes) of dimensions H1800 x 800 x 700mm
- 1 melamine shelf 750 x 400mm
- Weight: 63kg

**Characteristics of the MAQ-IP-N chassis**

- Chassis to be placed on a table of dimensions H1000 x 450 x 690mm
- Weight: 27kg

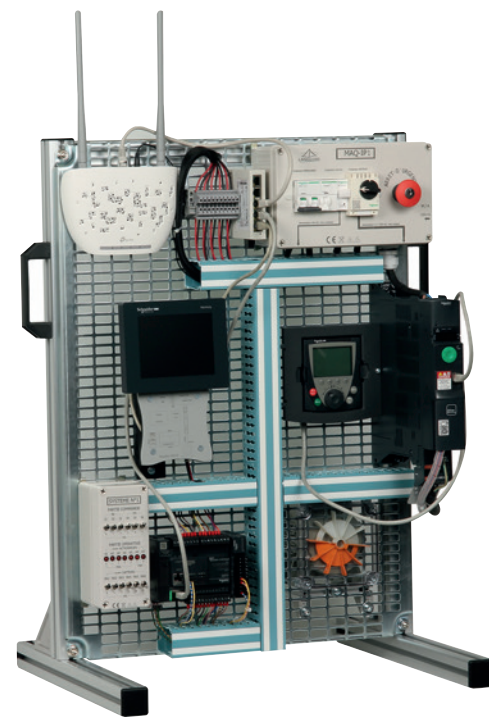
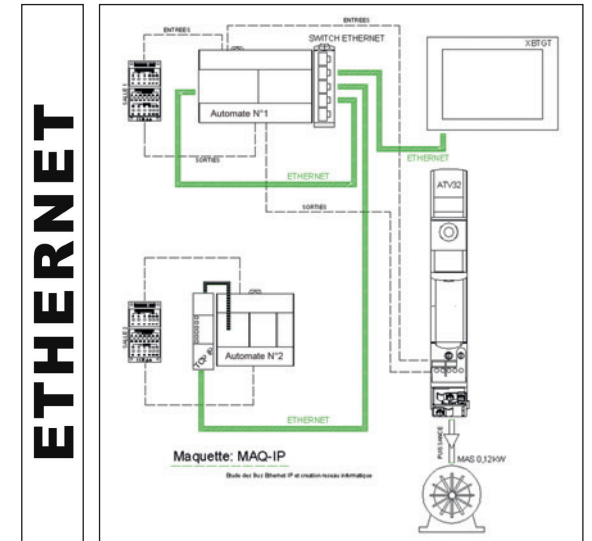
**Characteristics of the MAQ-IP-1 chassis**

- Chassis to be placed on a table of dimensions H800 x 450 x 570mm
- Weight: 20kg



ref. MAQ-IP	version on wheel with 2 PLC
ref. MAQ-IP-N	version to put on table
DELIVERED WIRED AND SET	AUTONOMOUS WIFI NETWORK
	TEACHING RESSOURCES STUDENTS/TEACHER

VERSIONS WITH 2 PLC



ref. MAQ-IP-1	simplified version (1 single PLC)
DELIVERED WIRED AND SET	AUTONOMOUS WIFI NETWORK
	TEACHING RESSOURCES STUDENTS/TEACHER

VERSION WITH 1 PLC

