INJECTOR CONTROL UNIT - EFS 8412

ICU

PRESENTATION

The ***8412*** module is designed for use with the **ITB 234V** test bench enabling automatic analysis of diesel or gasoline jets via image processing. It handles the injector driving by means of an Ipod power module, as well as driving the camera, the fog extraction system and the light sources (laser or strobe).

USE

The **ICU** system provides the **TTL command signals** for driving an injector and the equipment necessary for image acquisition. It must be accompanied by an additional power module adapted to the injector to be driven. For this, EFS offers the **IPOD** modules for solenoid and piezo-electric injectors.

Injector driving

The **ICU** system drives the injector with a **temporal resolution of 0.1 µs**. It can handle from 1 to 10 injections per revolution at frequencies of between 0.1 and 10 Hertz.

It can run in two modes :

- **« Signal generator » mode**
  The driving is based on the injection parameters entered by the user from the supervision PC. The injector command can be inhibited while allowing other signals to be generated thus enabling the calibration of the vision system without injections.
- **« One shot » mode**
  The ICU module receives external information (an impulse on a logical input) on the START input which synchronizes the execution of a single injection cycle (one motor revolution).

INJETVISION equipment driving

- The **camera** allowing instantaneous image acquisition is piloted by a TTL signal which defines the instant that the image is taken in relation to the 1/rev signal and the duration of the exposure with a resolution of **0.1 µs.**

- The **fog extraction device** enabling the automatic assembly cleaning necessary for successive injections is piloted by a TTL signal.

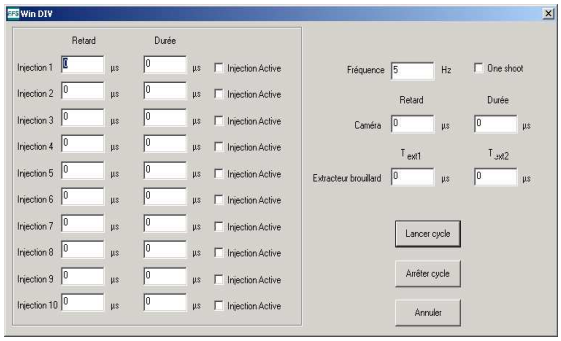
- 4 additional TTL signals (L1, Q1, L2, Q2) enable to **pulsed laser sources** to be driven. These signals can also be used to drive stroboscopic lighting.

The **ICU** comes equipped with an RS232 enabling software updates of the EFS 8412 module.

SOFTWARE

WinDIV (EFS 1767) is a graphic interface enabling the setting up of an injection cycle and the set up of the vision equipment.

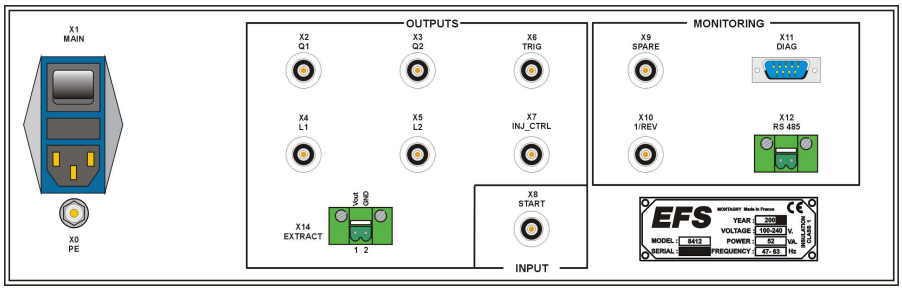
This software runs under Windows98®, Windows2000®, WindowsXP® and uses an RS232 or RS485 link.



TECHNICAL SPECIFICATIONS

General characteristics	
Power supply	220 V / 50 Hz
Power	25 W
Frequency range	0.1 to 10 Hz
Injection duration	10 µs to 60 ms
Resolution	0.1 µs for the entire range
Number of injections	10 per revolution
Communication protocol	MODBUS
Connections	
Injector driving	BNC socket
Camera driving	BNC socket
Light source driving	BNC socket (4)
Fog extractor driving	2-pin Miniconnec
Synchronization input	BNC socket
RS485 link	2-pin Miniconnec
RS232 link	9-pin Sub-D

RACK REAR PANEL



- Light source driving (X2 to X5)
- Camera driving (X6)
- Fog extractor driving (X14)
- Injector driving (X7)
- 1/rev Signal (X10)
- RS232 Link (X11)
- RS485 Link (X12)
- One-shot mode start signal (X8)

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Order reference

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