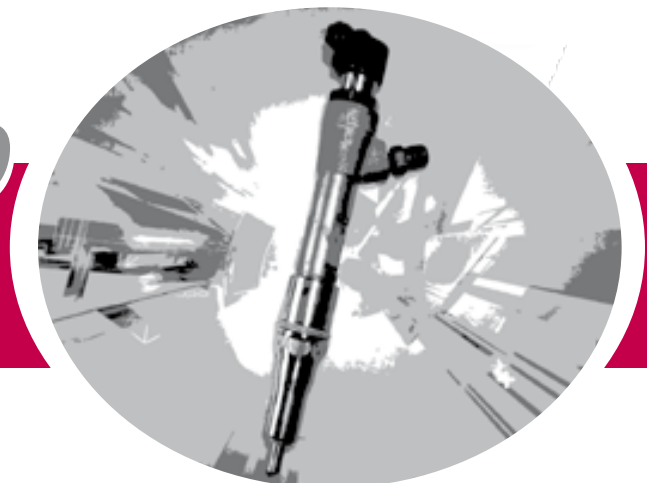




A **power driving module** for injectors using **piezo-electric technology**. It features several different driving modes and numerous advanced functions enabling it to **adapt to most commercially available injectors**.

IPOD piezo

Injector Power Driver



The **IPoD piezo** is a system for **driving piezo-electric injectors**.

- **Injector opening and closing voltages adjustable from -200 to +200 V**
- **Maximum command current adjustable from -20 to +20 A**
- **Current slope adjustable from 0.1 A/ μ s to 10 A/ μ s**
- **Injection frequency of up to 5 injections per rev at 3000 revs/minute**
- **Stand-alone unit with internal pulse generator**
- **Fully protected**

IPoD piezo
Injector Power Driver

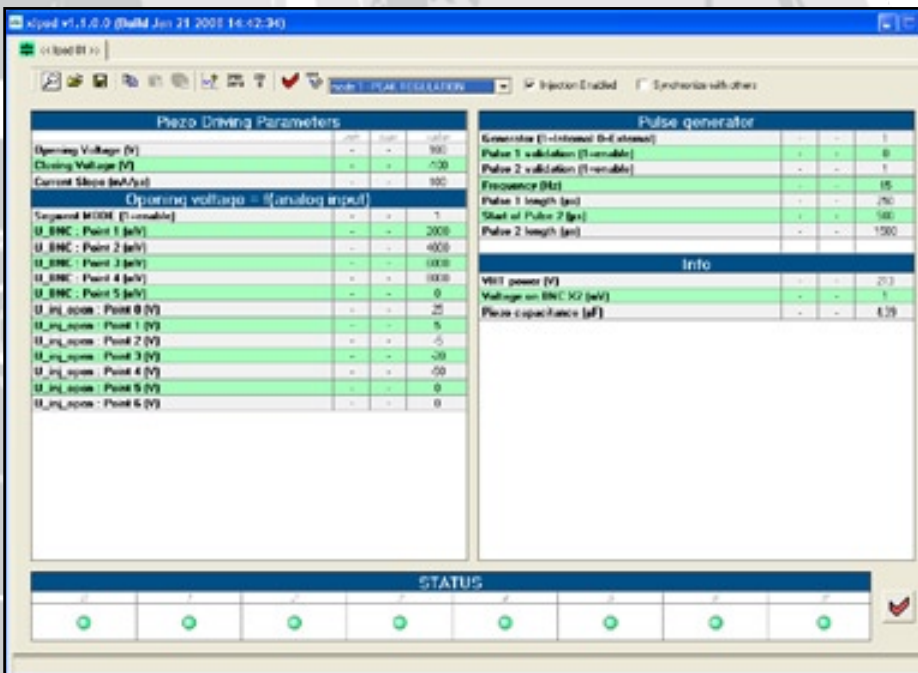
ELECTRONIC RACK



The **IPOD** system is made up of:

- an **electronic driving rack**
- **set-up and control software**
- **connection cables**

SOFTWARE



The main screen of the **XIPOD** software displays the various parameters to be set.

Drives any type of piezo-electric injector

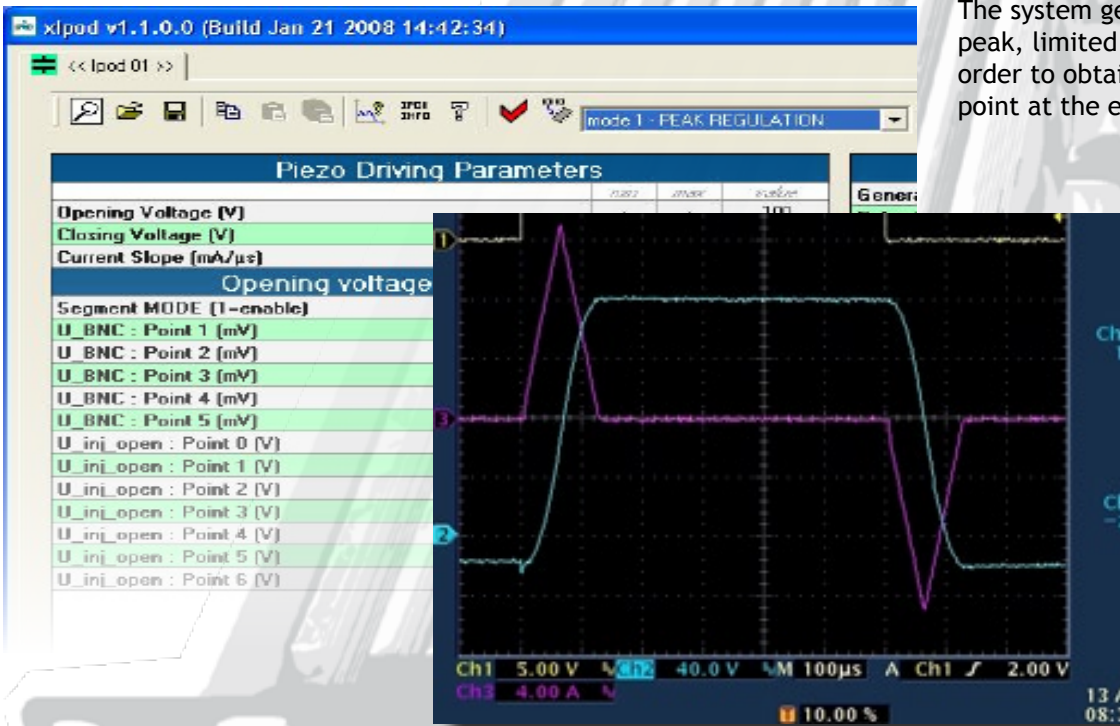


DRIVING MODES

The rack gives you the choice of 3 driving modes so as to adapt to the specific characteristics of each injector.

Driving by a single current peak (mode 1)

The system generates a current peak, limited to «Imax» (20A) in order to obtain the voltage set-point at the end of the cycle.



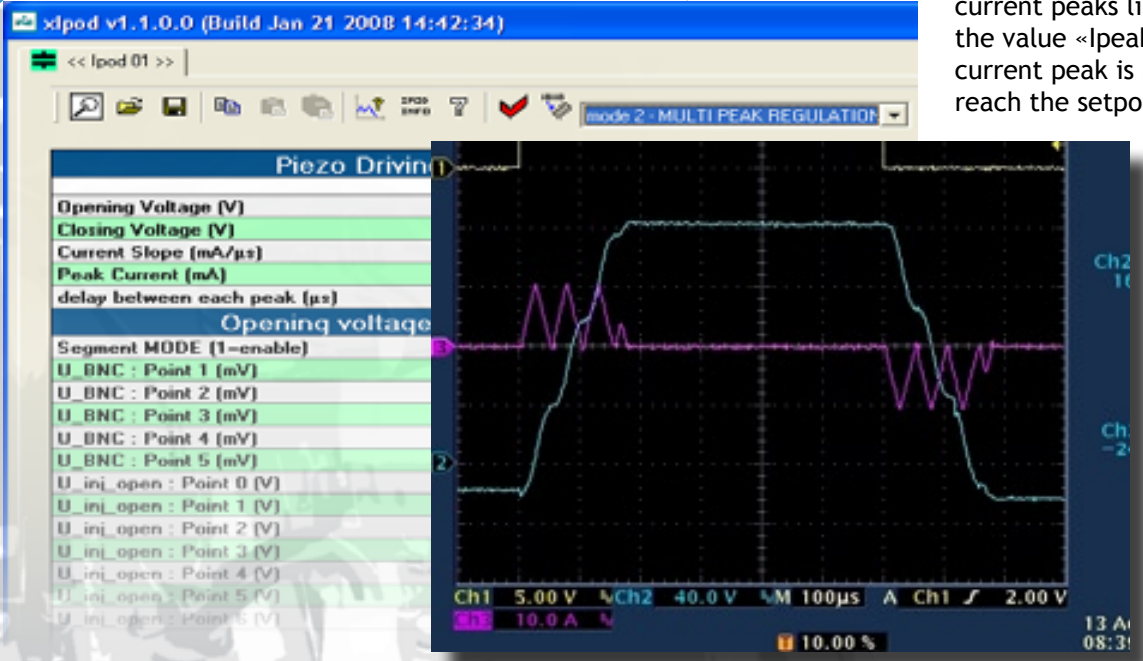
- Perfectly adapted to all commercially available piezo-electric injectors
- Can be adapted to your specific needs on request

4

Key features

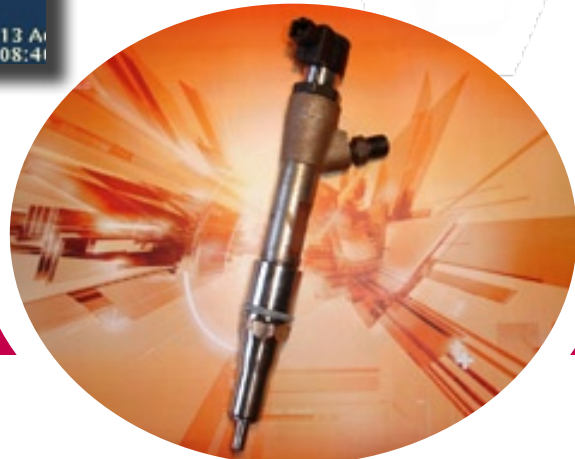
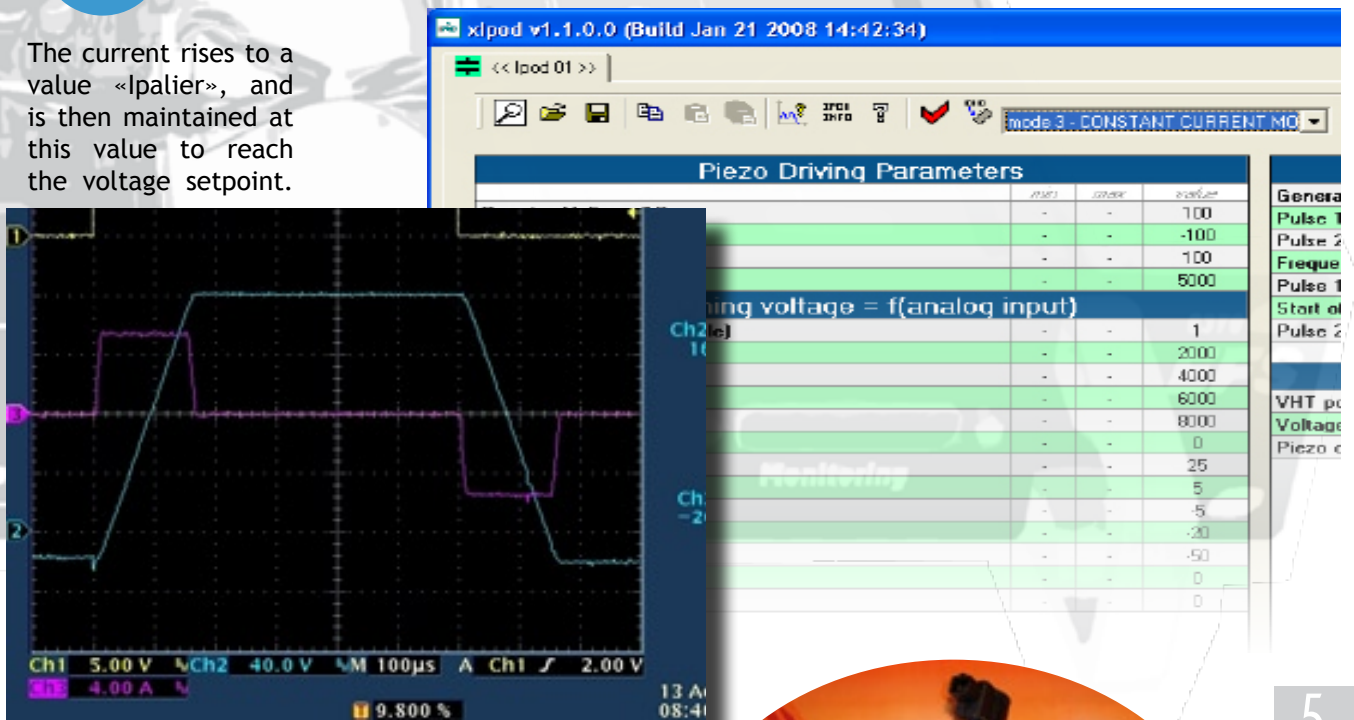
Multiple pulse driving (mode 2)

The system generates current peaks limited to the value «Ipeak». The final current peak is adjusted to reach the setpoint.



Rising current driving (mode 3)

The current rises to a value «Iplater», and is then maintained at this value to reach the voltage setpoint.



INJECTOR COMMAND

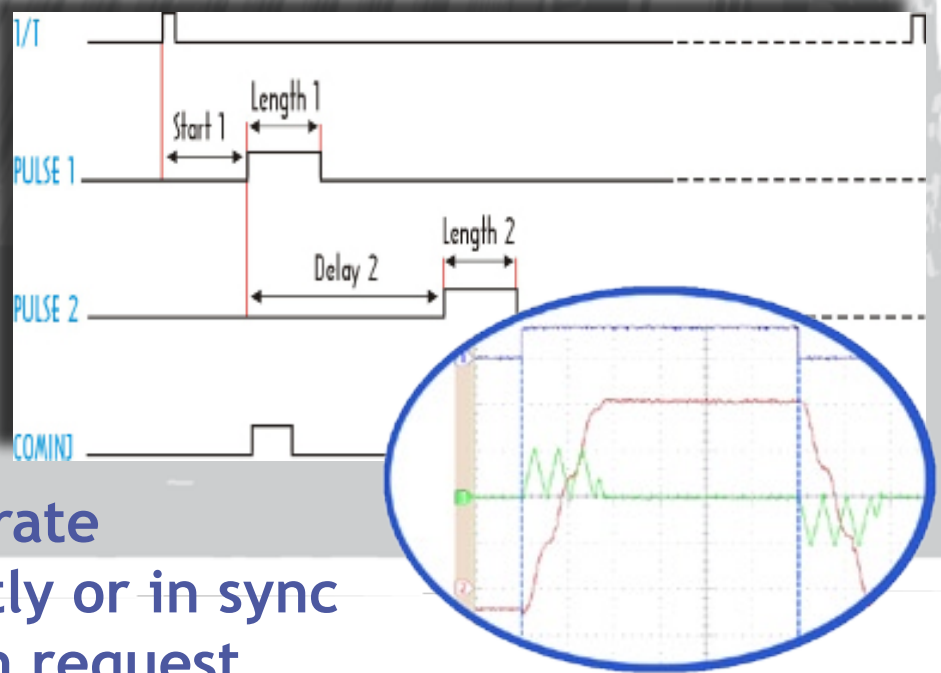
| Pulse generator | | | |
|-----------------------------------|---|---|------|
| Generator (1=Internal 0=External) | . | . | 1 |
| Pulse 1 validation (1=enable) | . | . | 0 |
| Pulse 2 validation (1=enable) | . | . | 1 |
| Frequency (Hz) | . | . | 15 |
| Pulse 1 length (μ s) | . | . | 250 |
| Start of Pulse 2 (μ s) | . | . | 500 |
| Pulse 2 length (μ s) | . | . | 1500 |

Pulse generator: Gene = 1

The driving is triggered by an external input (MIQ, IFR, client computer).

Pulse generator: Gene = 0

The driving is triggered by the internal pulse generator.



- You can operate independently or in sync with a bench request

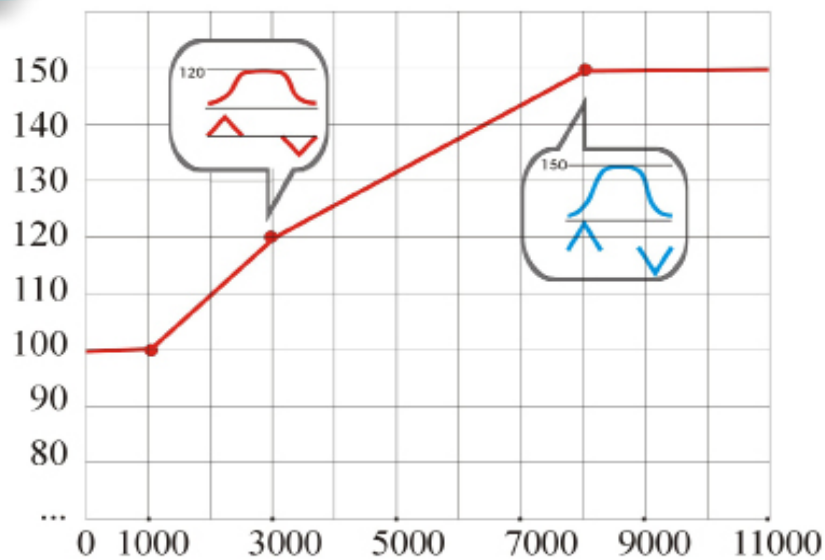
6

Key features

ANALOG INPUT

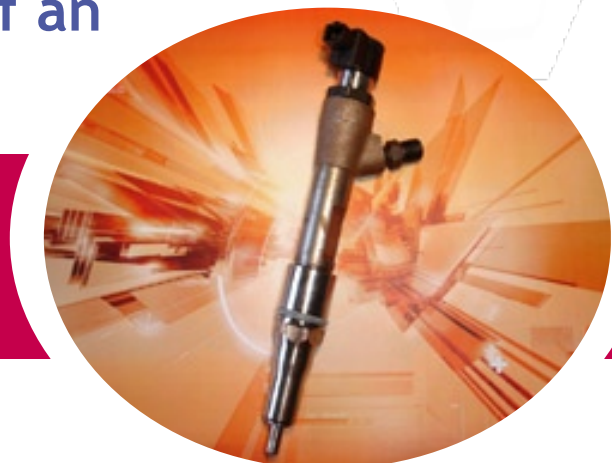
The analog input enables regulation for the «injector opening» voltage in relation to an external measurement such as rail pressure.

Opening
voltage
(V)



Input
analog
voltage
(mV)

- The regulation can be adjusted by means of an external parameter



QUALITY

All the set-up parameters can be saved in a file, meaning that you can load an existing set-up at any time.

Updating the internal IPoD software is done easily by means of the serial link

Several signals are available to the user via the MONITORING connector:



All of the most useful signals are available on the front panel.

CONTROL

The **IPoD piezo** enables you to drive any type of injector with one single device.

REPEATABILITY

Parameter adjustment is handled by means of specific software in real time.

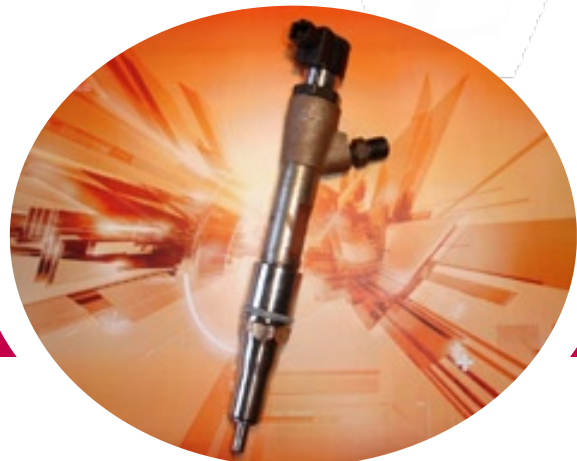
RAPIDITY

You can test different types of injector *without* changing the IPoD.

IPoD COIL

REPRODUCIBILITY

There are no new adjustments to be made when you change an IPoD on a bench.

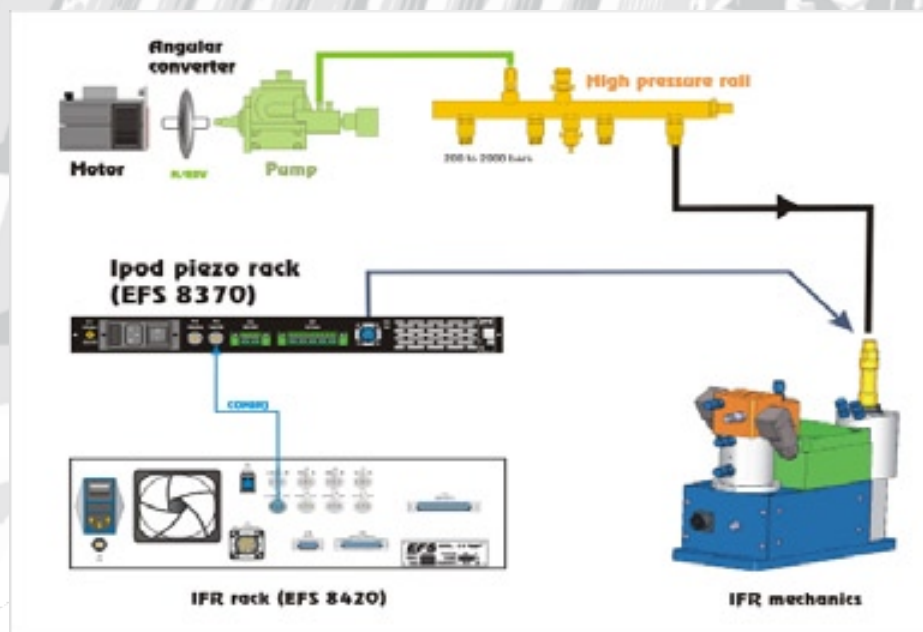


INSTALLATION IN A CABINET

The rack can be fitted easily into a cabinet or can be placed on a work surface in a laboratory.

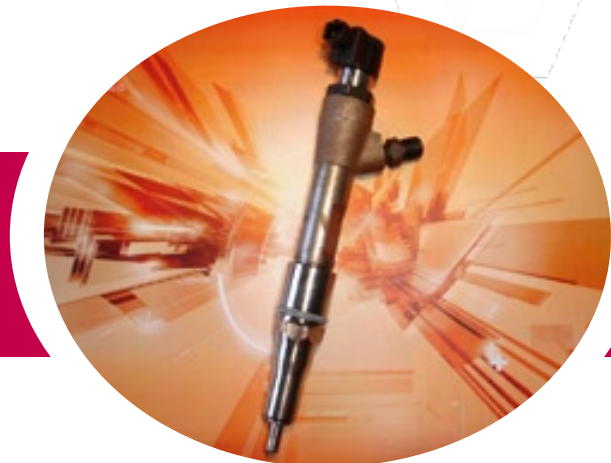


INSTALLATION SYNOPSIS



SPECIFICATIONS

| SETTINGS | |
|--|---|
| Internal generator | 1 to 250 Hz (2 length adjustable pulse) |
| Driving frequency | 250 Hz max (limited by P injector < 100 Wrms) |
| <i>Duration resolution</i> | 1 μ s |
| Driving voltage | Adjustable from ± 10 V to ± 200 V |
| <i>Adjustment resolution</i> | 1 V |
| Load current | Adjustable from ± 0.1 A to ± 20 A |
| <i>Adjustment resolution</i> | 0,1 A |
| Current rise speed | Adjustable from ± 0.1 A/ μ s to 10 A/ μ s |
| <i>Adjustment resolution</i> | 0,1A/s |
| Maximum injection speed | 250 inj/s |
| MONITORING | |
| Signal de commande d'injection COMINJ | TTL |
| Courant dans l'injecteur | ± 10 V for ± 20 A |
| Tension dans l'injecteur | ± 10 V for ± 200 V |
| Curseurs analogiques | 0-7.5 V (500 mV / LSB) |
| SIGNAUX DE COMMANDE | |
| Entrée BNC pour signal de commande externe | TTL |
| Entrées/sorties opto-isolées | TTL compatible 5 V on 10-pin Miniconnec |
| Liaison RS485 opto-isolée | 4-pin Miniconnec (modbus protocol) |
| Liaison RS232 | Male 9-pin DB (Modbus protocol) |
| ENVIRONNEMENT | |
| Tension d'alimentation | 90 to 240 Vac / 50 to 60 Hz |
| Puissance (maximum) | 120 W |
| Dimensions (hors tout) | 1U, 19" (440 mm x 360 mm x 44 mm) housing |
| Poids | 3,5 kg |



REFERENCES

8370 - IPoD PIEZO

OTHER PRODUCTS
IN THE RANGE



8472 - 6-CHANNEL
IPoD COIL



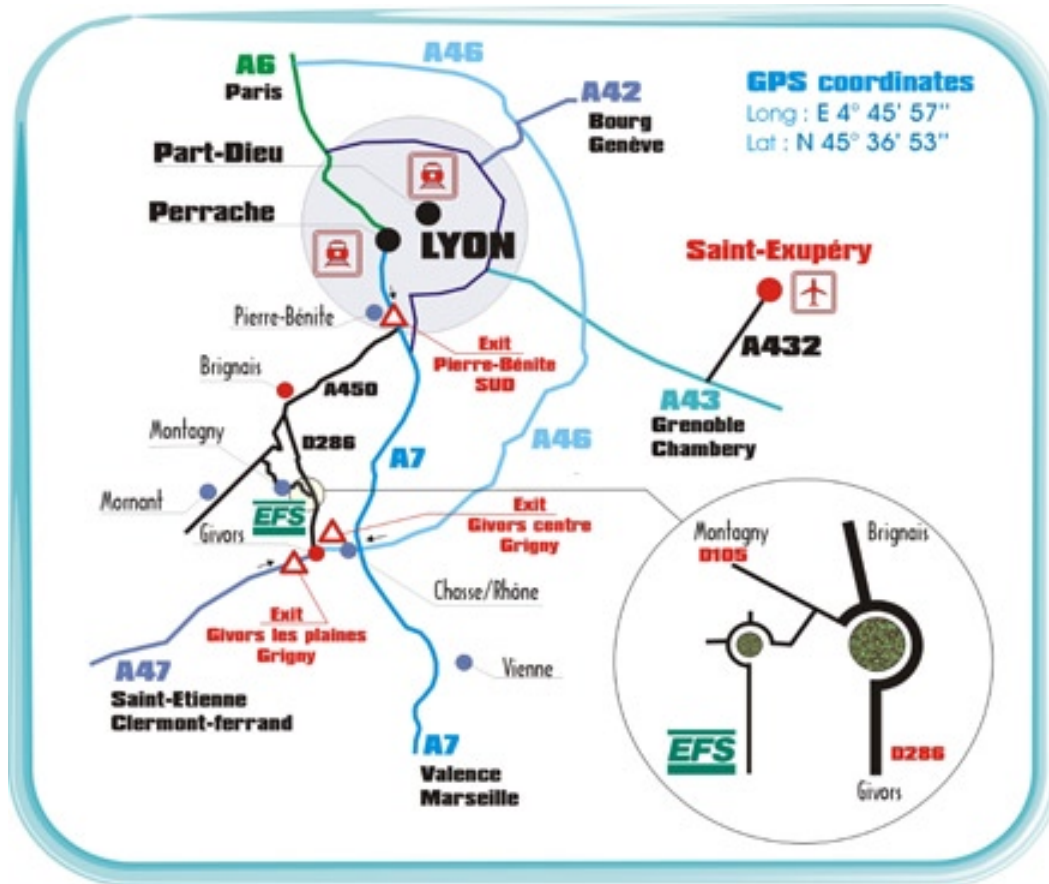
8327 - IPoD COIL



SITE ADDRESS

Parc d'activité du Baconnet
192 Allée des Chênes
MONTAGNY (69700)
FRANCE

ACCESS MAP



SUBSIDIARIES IN CHINA AND THE USA to provide technical support (installation, training, maintenance, calibration).

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