

## Piezo Actuators Introductory course



Ref PAIN-en

450 € excl VAT

1 day

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
						16 Porto*			1		

**Piezo Actuators introductory course:**

It is relevant for every engineers and technicians willing to have a first knowledge about piezo based actuators, mechanisms and motors and their related driving electronics.

**Objectives**

• To learn the use of piezo actuators • To understand main principles • To know how to operate piezo actuators with their electronics.

**Who should attend**

Electronic and mechanical engineers, technicians.

**Documentation**

Copies in English.  
Training taught in English.

\* The July 16 session is a joint event to SMART'09 Conference. Course will be held at the Faculty of Engineering of the University of Porto (FEUP)

**Basic knowledges**

- Basics on piezoelectric materials bulk and MLA
- Piezo materials for actuators
- Constitutive laws / Equivalent electric circuit

**Review of piezoelectric actuators**

- Review of direct and amplified piezoelectric actuators
- Piezo mechanisms
- Driving piezo actuators
- Exercises

**Review of piezoelectric motors**

- Inchworm stepping motors
- Ultrasonic motors
- Inertial stepping motors (Impact drive mechanisms)
- Contact, mechanism & tribology

**Applications**