PIEZOLOR

Ceramic piezoelectric sensors

- WEIGH-IN-MOTION (**WIM**) – TYPE **PE** SENSORS (CLASS I),
- CLASSIFICATION (**AVC**) – TYPE **PF'** SENSORS (CLASS II),
- ON SCALE – TYPE **PF'** SENSORS (CLASS II),
- DELIVERED WITH INSTALLATION KIT.

PE sensor

PF' sensor

- DYNAMIC SENSORS,
- SPEED HIGHER THAN 20 KM/H,
- CLASS I : ACCURACY ± 7%,
- CLASS II : ACCURACY ± 20%,
- 20 YEARS OF EXPERIENCE,
- ECM SUPPORT FOR INSTALLATION,
- MTBF > 5 YEARS (20 MILLION AXLES).

FRANCE

Head office

Electronique Contrôle Mesure
4 Rue du Bois Chêne le loup
Parc d'Activité de Brabois
54 500 VANDOEUVRE LES NANCY
☎(33) 0383442413, Fax (33) 0383443797

Website : www.ecm-france.com
E-mail : info@ecm-france.com

U.S.A

Electronic Control Measurement Inc
464 commercial drive
BUDA 78610 - TEXAS
☎ (512) 2959752, Fax (512) 2959753

PRINCIPE DE FONCTIONNEMENT

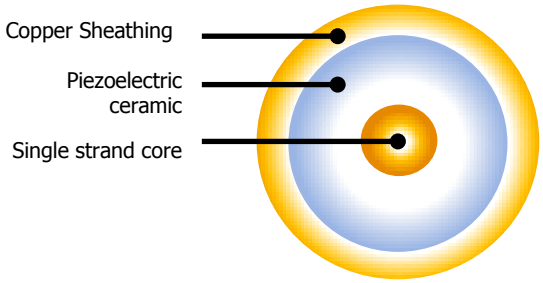
When a piezoelectric sensor of length (L) undergoes a variation of pressure ΔP over a certain length (l), the voltage (ΔV) that comes forth between the core and the casing is represented by :

$$\Delta V = k\Delta P \frac{l}{L} \frac{C}{C+Cm} e^{-t/\tau} \quad \text{ou} \quad \tau = \frac{C+Cm}{X+Xm}$$

Cm & Xm respectively represent the capacity and the conductance of the measuring circuit.
τ represents the time constant of this system.
k represents the average coefficient to a given specific sensor.

As a result of this formula, it should be noted that :

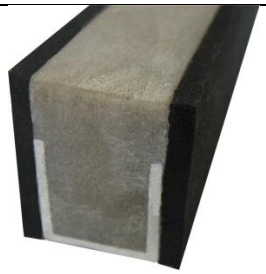
1. The vehicle must be in motion, as the sensor is a DYNAMIC SENSOR.
2. ΔP l/L represents the DYNAMIC WEIGHT of the axle and takes into consideration both the load and the speed factors.



CHARACTERISTICS

- Single-strand core and copper sheathing
- Piezoelectric material : polarised ceramic
- Temperature for continuous operating : -30°C to +70°C
- Capacity per unit of length : 7550 pF/m
- Insulation resistance : ≥10 10 Ωm
- Sensitivity dispersion : class I : ≤7% ; class II : ≤20%.
- Piezoelectric constant : ≅ 1V/bar.

PRESENTATION

REF	PIEZO CLASS	PRESENTATION	APPLICATIONS	ROAD TYPE	INSTALLATION
PF'	II		■ Counting, ■ Classification, ■ Speed.	See ECM procedure 4113.	■ Installation kit including P5G resin (see ECM procedure 4581). ■ Installation according to ECM procedure 3303.
PE	I		■ Counting, ■ Classification, ■ Speed, ■ Weigh-in-motion.	See ECM procedure 4115.	■ Installation kit including P5G resin (see ECM procedure 4581). ■ Installation according to ECM procedure 3303.

For order :