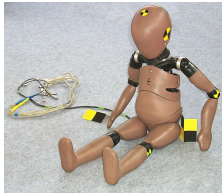


# Technical Datasheet

## APT SENSORS - ABDOMINAL PRESSURE TWIN SENSORS



TRANSPOLIS produces **Abdominal Pressure Twin Sensors (APTS\*)** developed by IFSTTAR for the **Q-dummies serie**, which are an essential tool for the in-depth assessment of child restraint systems. The use of APTS has been recommended in the international **UN Regulation No. 129 Enhanced Child Restraint System (ECRS)** since 2014.

Each sensor is composed of a soft cylindrical elastomer bladder, filled with a thick liquid and closed by a metal cap containing a miniature pressure sensor. The key design of the fluid-elastomer assembly accurately represents the stiffness of the abdominal tissues.

The ability of the restraint system to meet with the regulatory criterion is assessed by recording the sensor pressure during the crash test. For testing, the sensors are vertically implanted by pair in the abdomen; they enable the provision of relevant information needed for the assessment of abdominal injuries.

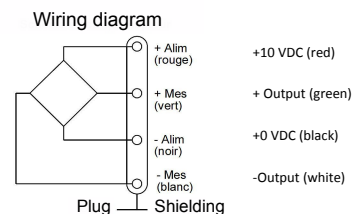
**The APTS are currently available in three sizes:**

- ° a nominal diameter of **30mm** for Q1/1.5 abdomen,
- ° a nominal diameter of **40mm** for Q3 and Q6 abdomens,
- ° a nominal diameter of **50mm** for Q10 abdomen.

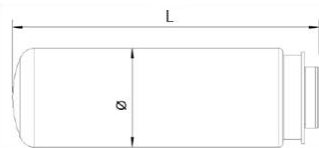
*\*patented*

## TECHNICAL SPECIFICATIONS

Range (bar)	10
Overrange (bar)	20
Max Error (% full scale)	0.35
Compensated temperature range (°C)	0-60
Excitation (VDC)(1)	2.5 to 10
Typical Output sensitivity (mV/V/bar)	1 (2)
Electrical connection (3)	Lemo push-pull (1B serie)
Cable length (m) (4)	10



SENSOR TYPE	APTS30	APTS40	APTS50
Dimensions L x D (mm)	105 x 30	125 x 40	141 x 50
Weight (g)	81 +/- 5%	160 +/- 5%	272 +/- 5%
Static response (bar/mm)(5)	1.01/10.81 +/- 10%	0.67/16.51 +/- 10%	0.60/15.81 +/- 10%
Special Abdomen Part Num.	Q1/1.5 : P/N 036-5005-PR	Q3 : P/N 020-5005-PR Q6 : P/N 033-5005-PR	Q10 : P/N 010-4309-PR



- (1) To specify on the purchase order  
(2) Input voltage 10 VDC  
(3) Other plug on request  
(4) Other lenght on request  
(5) Data obtained after a compression test with a belt : measurement of the deflection (mm) and the pressure (bar) with 250 N static load

## ORDERING INFORMATION

To order please specify characteristics :

**APTS-Dww-Uxx-Ly-Cz**

> <b>ww</b>	30 or 40 or 50	diameter in mm
> <b>xx</b>	2.5 to 10	power supply in VDC
> <b>y</b>	1 to 9	cable lenght in meter
> <b>z</b>	0	without Lemo output connector
> <b>z</b>	1	with LEMO output connector (Standard LEMO plug ref. FGG.1B.307.CLAD52Z)
> <b>z</b>	2	with other plug, on request : please specify

