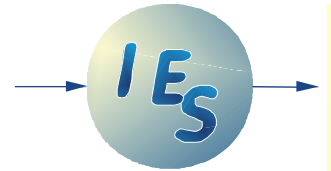# IES 2098
Belt Movement Sensor

SHORTFORM DATA

Converts the movement of a belt to an analog output voltage for car crash testing, characterization of belt retractors and the characterization of seats.

- ☺ **Resolution 0.5 mm**

- ☺ **Reliable optical reading**

- ☺ **Guaranteed velocity response 50 m/s**

- ☺ **Special designed high contrast, very adhesive stickers**

- ☺ **All optical elements behind easily cleaneable window**

- ☺ **Low supply current, DAS sensor supply sufficient**

- ☺ **Shunt test and ID-Module supported**

IES Ingenieurbüro für Elektronikentwicklung und Spezialgerätebau

SPECIFICATIONS
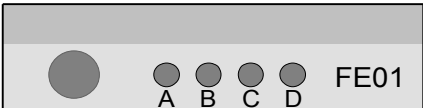
Metrics

Dimensions	68 x 56 x 21 mm³
Weight	110 grams
Cable	6 m black EPD
Thread for attachment bracket	M6, 6 mm deep

Environment

Temperature range	0 …60 °C
Acceleration	Can be used in crash and sled tests
Ambient light	100000 lx

Electrical Interface

Power supply	10 ... 16 V, max. 0,3 W
Output resistance	100 ohms
Output signal range	+/- 2,5 V differential

Characteristics

Belt align tolerance	+/- 5°
Measuring range	+/- 1024 mm, wrap around feature
Resolution	0,5 mm
Velocity response	guaranteed 50 m/s

Cable colors

Black	Supply-GND
Red	Supply +10V
Green	-SIG
White	+SIG
Yellow	Shunt input. Forces output to +1024 mm resp. -1024 mm, when pulled to +10V resp. to GND. Pulling to GND also resets position counter.
Screen	Must be connected to GND. No internal connection.

Check-LED´s

LED´s A, B show a walking light pattern, while the sticker is moved. The pattern changes every 0.5 mm and repeats after 2 mm.
LED´s C, D extend the pattern for devices with option 0.25 mm resolution and are permanently OFF in standard devices.

Options:
-SM second analog output with belt speed signal
-HR 0.25 mm resolution