Indigo

Track and ride
monitoring
system

Indigo

I.D.COMPUTING
SOFTWARE DEVELOPMENT FOR RAIL
www.idcomputing.co.uk
made in UK

A	B	C	D	E
F	G	H	I	J
K	L	M	N	O
P	Q	R	S	T
U	V	W	X	Y
Z				

MODEL		Indigo
110V INPUT		60mA
12V INPUT		340mA
ACCELEROMETER		+/- 2g
SERIAL NUMBER		

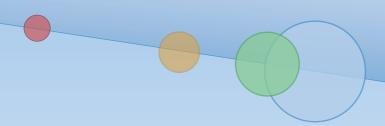# Indigo is a device that can be fitted to in-service passenger vehicles to continuously monitor the track and ride quality.

Using the latest embedded technology, Indigo detects anomalies in shocks and vibration and reports these events to an Indigo data server in the cloud for reporting and analysis.

- Fitted to in-service passenger trains
- GPS positioning
- Configurable generation of events
- Continuous monitoring of accelerations
- Data automatically uploaded to the cloud
- Analysis of data (trending, clustering)

What are the benefits?

Discrete bumps and shocks can give early indication of developing track faults allowing for timely preventative maintenance reducing costly delays. To increase the monitoring frequency and to more effectively cover more of the network, simply fit more Indigo devices to more vehicles.

By comparing run on run over time, changes in track geometry and deterioration of track quality can also be monitored,
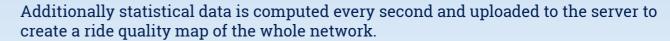
SAVE TIME AND MONEY

How it works

Indigo is fitted to in-service vehicles. It has internal sensors that continuously measure vertical and lateral accelerations, roll, pitch and yaw while tracking the vehicle's location using GPS.

An internal ARM processor monitors these sensors and when configurable thresholds are exceeded, an alarm is sent to the Indigo cloud server along with a snapshot of the raw data spanning the event.

The Indigo cloud server collects events reported by all Indigo devices. By correlating data from different devices a high confidence can be placed on the location and severity of developing track faults.

Additionally statistical data is computed every second and uploaded to the server to create a ride quality map of the whole network.

The user can log into the Indigo data server to view and download all reports.
With an accurate GPS location, engineering teams can be quickly deployed to site minimising the time and cost associated to delays in train services.

As time goes on, analysis of track information will allow operators to react to events and plan future maintenance.

Advantages

- Track can be measured more frequently than by dedicated measurement trains.

- Cost effective – runs autonomously with no user intervention.

- Supports predictive maintenance activity.

- Information available in real time on the Indigo web site.
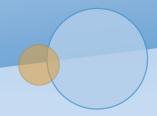
- Quick and easy installation.

Technical Specification

Input Voltage: 40 – 160VDC

Power: <20W

Linear accelerometers: 3-axis, ±2g full scale

Gyros: 3-axis, ±500dps full scale

Sampling Rate: 160 samples per second

Mobile Telecommunications: 2G / 3G

GPS: Yes

Wi-Fi: Dual band (802.11 a/b/g/n)

Dimensions: 140 x 130 x 90mm
Mass: 2.3kg

Certified to:
EN50121-3-2:2016 (EMC)
ETSI EN 300 328 V2 1.1 (Radio Compatibility)
EN50155 12.2.9:2007 (Insulation)
EN 61372:2010 (Cat 1 Class B Shock and Vibration)