



SENSOR SOLUTIONS FOR RAILWAY FROM TE CONNECTIVITY

MODULAR SENSOR DESIGN PROGRAM

TE Connectivity (TE), together with JAQUET is a leader and innovator in railway speed sensing for demanding ambient conditions, over-speed protection and condition monitoring solutions. We manufacture sensors for any railway vehicle (high speed train, locomotive, EMU/DMU, metro, tramway, and trolleybus) and application (propulsion, brake control and signalling). Create a unique and robust sensor solution with our modular sensor design program.

- Housing matched to the application
- Cable entry fully sealed
- Sealed, waterproof stainless steel housing - can be used in polluted environments
- Armoured cable - no degrading of hoses
- Can replace resolver systems by more robust approach
- Over moulded connector
- Cable mounting sleeve

STEP 1. SELECT YOUR HOUSING

Our wide range of flanged housings are machined from solid stainless steel, fully sealed at the front and manufactured to your specification, for a drop-in-replacement or new programs.



STEP 2. SELECT YOUR ELECTRONICS

We offer a large selection of electronics for various applications. Functionality, number of outputs, redundant channels and many other features are available and can be combined with any other element of the sensor kit.

Type Hall-Effect	Number of speed signal outputs	Sensor head (mm)	Output stage
.17	1	16	voltage, push-pull
.70	2 (galvanically separated)	16	voltage, push-pull
.71	2	16	voltage, push-pull
.21	3 (non differential)	16	voltage, push-pull
.72	2+2 inverted	16	voltage, push-pull
.40	1	16	current
.40	2 (galvanically separated)	18	current
.30	1	16	voltage, push-pull
.76	3 (2+1 galvanically separated)	24.5	voltage, push-pull
.74	4 (2+2 galvanically separated)	24.5	voltage, push-pull

Type Eddy current	Number of speed signal outputs	Sensor head (mm)	Output stage
.00	2	16	voltage, push-pull
.01	2 (with D-Signal)	16	voltage, push-pull
.02	2 (galvanically separated)	16	voltage, push-pull

STEP 3. SELECT YOUR CABLE ENTRY AND ORIENTATION

Our cable entries can be designed as straight or angled, enabling fast installation with optimum orientation to the target.



STEP 4. SELECT YOUR ACCESSORIES AND METHOD OF TERMINATION

Our overmoulding process enables us to integrate all connector types with a high level of sealing to the cable. Chose from Teflon cable with free ends or terminals and a PMA hose and many more combinations to create a unique robust sensor solution.



Low-Jitter Multi-Channel Hall Effect speed sensors with galvanic insulation

The multi-channel hall effect speed sensor is available for 3-channel and 4-channel for railway applications. The multi-channel speed sensor family (DSD 25) comprises of two galvanic separated circuits, each having up to two phase-shifted square wave signals proportional to the rotary speed. They have 3 or 4 independent sensing elements consisting of magnetic biased differential hall-effect semiconductors with static behaviour (frequency down to 0Hz). This lowers jitter and static characteristics that are extremely important for modern propulsion control systems. The versatility of these sensors means you can create different combinations for your applications such as propulsion control, wheel slip protection (WSP) and signalling (ATP, ATC, TPWS, ECTS, CBTC). This can be a cost effective solution as applications can be combined for retrofit and upgrade cases.



Multi-channel Eddy current speed sensors with galvanic insulation

The multi-channel eddy current sensor family DSH 16 has galvanic insulation between circuits. These sensors are available as two independent channels (DSH 16) with 90° phase shift or as a three channel (DSH 20) with one circuit having two channels with 90° phase and a galvanic insulated circuit with an independent channel.



Pole wheels

In harsh environments where non-contact speed sensing and control are required, the speed sensor and pole wheel need to work seamlessly. We recommend using our complete measurement chain, starting with the pole wheel as target, the sensor as the core and the tachometer for diagnostic.

te.com/sensorsolutions

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