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**Axle counter and balise cables  
for reliability, upgradeability, interoperability**

# Nexans, worldwide leader in cables and cabling systems

As a global expert in cables and cabling systems, Nexans brings an extensive range of advanced copper and optical fiber solutions to three key sectors of the economy: **infrastructure, industry and buildings.**

Its cables and systems can be found in every area of people's lives, from rolling stock and railway infrastructure to telecommunications and energy networks, aeronautics, aerospace, automobiles,

petrochemicals, windmills, medical applications, etc.

The presence of Nexans in over 65 countries gives it a full mastery of both national and international standards. Its 10 Competence Centers and International Research Center work closely with customers to constantly improve its standard range of products and technologies and to develop customized, country and industry-specific solutions.



# Axle counter and balise cables to assure your infrastructure growth

The efficiency of any train system is dependent on an infrastructure which provides reliable energy for rolling stock, and data and telecommunications for train management and control. Whether for a tramway, subway or high-speed train, operators are anxious to streamline costs, future-proof their systems, upgrade customer services, and assure a high level of public safety.

Nexans produces a wide range of energy and telecommunication cables and components specifically adapted to the various rail environments, many with enhanced fire-performance characteristics. We also give expert advice about network architecture and evolving standards, and can provide customized engineering, installation and maintenance worldwide.

As national rail networks continue to unify under an EU initiative, you want to move smoothly from fixed block systems to cable-based continuous automatic train control (LZB), and radio-based ERTMS/ETCS (European Rail Traffic Management System/European Train Control System) which will consolidate signaling systems across Europe into one interoperable system, allowing trains to run in all European countries without having to have several types of signaling equipment onboard.

To help you achieve this, Nexans offers reliable and easily upgradeable **axle counter and balise cables.**



**Axle counter and balise cables**  
to collect and carry vital  
train control information

# Axle counter and balise cables: easy upgrades for a cost-effective, European-wide train system



By manufacturing both axle counter and balise cables, Nexans makes it possible to achieve continuity in the evolution of your rail infrastructure to meet the challenge of interoperability. Reliable axle counter cables are used to connect counting points which determine train presence, direction of travel, and integrity. But, as ETCS continues to be implemented across Europe and beyond through four escalating levels of operation, eventually, a fully radio-based GSM-R system will carry all train signals. Nexans advanced balise cables are flexible, resistant and have electromagnetic immunity for HF communications, providing you with the headroom you need for full railway unification.

## This Nexans solution gives you:

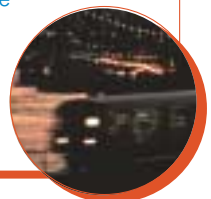
- **High reliability** for traditional relay interlocking and continuous automatic train control, customized to national standards
- **Easy upgradeability** to new ERTMS/ETCS Eurobalise, mixed Fixed Block, all-GSM-R Moving Block and Signaling Systems
- **Full interconnectivity** with all approved ETCS systems
- **Shielding capability** and conductor types to meet all OEM special requirements
- **High flexibility** for easy trackside installation
- **Enhanced fire performance** through Halogen-Free, Flame-Retardant (HFFR) versions available for tunnels
- **Communication versatility** for continuous links and burst transmissions
- **Durability** in the train environment, and headroom for future equipment upgrades
- **Electromagnetic immunity** for safe and secure automatic train control





## Nexans supports important UK train network upgrade

For UK's National Rail, Nexans supplied axle counter cables with a superior design giving definite advantages in terms of size and


performance. Nexans is also providing axle counting cables to two sub-contractors Westinghouse and Balfour, to the former for the East Coast Line project which is the largest in Europe, and to the latter for the Wellington Signal Upgrade. Other types of axle counter cables have also been provided for the Spanish, French and German high speed lines.



## Axle counter cables

Product families	Product family names	Standards / Specs
 <p>Copper multiconductor cables, unarmoured</p> <p>Axle counter unarmoured</p>	<p><b>Axle Counter cable 90 kHz</b></p> <p><b>Unarmoured</b></p> <p><b>Reduction factor</b></p>	<ul style="list-style-type: none"> <li>• RT/E/PS/00031</li> <li>• RT/E/PS/00031</li> </ul>
 <p>Copper multiconductor cables, armoured</p> <p>Axle counter armoured</p>	<p><b>Signaling cable with star quads and steel armour</b></p> <p><b>SW</b></p> <p><b>Axle Counter cable 90 kHz</b></p> <p><b>Armoured</b></p>	<ul style="list-style-type: none"> <li>• SBB/CFF/FFS 3001.82.1000</li> <li>• RT/E/PS/00031</li> </ul>

## Balise cables

Product families	Product family names	Standards / Specs
 <p>Copper conductor cables, armoured</p> <p>Eurobalise armoured</p>	<p><b>Eurobalise</b></p> <p><b>Armoured</b></p> <p><b>Armoured</b></p> <p><b>Braided armouring</b></p>	<ul style="list-style-type: none"> <li>• ET-1965-1</li> <li>• 3NSS005227D0002</li> <li>• SIF/5326 203/C</li> </ul>



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