



# Mechanical remote controls for railway technology

**As purely mechanical remote controls, bidirectional push/pull cables from RINGSPANN RCS have proven themselves in many emergency and safety systems worldwide. In international railway technology, these control elements can be found, for example, in maintenance and parking brakes, door releases or devices for switch disconnection of overhead lines. Their application does not require mains power or the use of hydraulic or pneumatic units. Compared to rigid rod constructions, they usually prove to be more space-saving and easier to install.**

Unlike traditional Bowden cables, push/pull cables from RINGSPANN RCS have a bidirectional effect. This means that they can transmit both pulling and pushing forces and movements. This is particularly important in emergency, maintenance and safety systems, which require a high level of functional-kinematic reliability when manually triggering, locking, setting and operating. No less relevant is the fact that, as purely mechanical remote controls, they are completely independent of any power or media supply. In addition to many other market segments, the company's push/pull cables are therefore also used in railway technology, in the field of wagon construction and in the area of tensioning technology. Internationally widespread applications include venting systems for parking brakes, emergency locks and releases for automatic doors, and switch disconnectors on overhead lines.

## Safe switching over 100,000 times

In overhead and power line technology, push/pull cables from RINGSPANN RCS are entirely in the service of occupational safety. As a central component of the disconnecting system, they ensure that all maintenance work on the overhead lines of the traction power systems and on the tracks can be carried out without any health risk to MRO personnel. A push/pull cable that is now often used for this purpose is a special version of the type 284-H from RINGSPANN RCS. This is a high-quality cable system with stainless steel end parts and PTFE-coated core, which proves to be extremely smooth and permanently functional at temperatures from  $-50^{\circ}\text{C}$  to  $+90^{\circ}\text{C}$ . Its sheath is made of a material with above-average UV resistance. "Like other variants, this push/pull cable has passed extremely demanding field tests. It completed over

100,000 switching cycles without any problems," reports Robert Lacko, Sales Manager of RINGSPANN RCS. Operators of traction power systems benefit from the use of this mechanical remote control system in other areas as well: in contrast to the rigid, assembly- and maintenance-intensive hinged rods previously used primarily for disconnectors, the push/pull cable proves to be the much more flexible alternative. It is easy to install, easy to lay and requires no maintenance.

## Safe and easy release

Another area of application for power-transmitting cable systems from RINGSPANN RCS is the routine repair and safety inspection of wagon bogies. In this case, it is a 278-V type remote control that acts as a mechanical emergency release cable for the parking brakes. It is needed so that the parking brakes, which work automatically in normal operation, can be opened manually for service purposes and shunting in workshop mode. "To ensure that this is done safely and easily, the pull cable can be equipped optionally with an integrated spring reset and a matching T-handle," explains Robert Lacko. Thanks to its high flexibility, the 278-V remote control system was also very easy to integrate into the existing disc brake design of the bogie. The short idle stroke also proved to be an advantage.

## Integrated emergency solution

Mechanical cable systems from RINGSPANN RCS have almost established themselves as a standard solution in the emergency releases of automatic wagon doors. In many places, it is a high-quality Bowden cable that is installed directly in the door mechanism. This ensures that the door can be locked or unlocked in an emergency or in the event of technical malfunctions. "In this railway application as well, our cable systems are able to impress with very low friction coefficients, maintenance-free operation and a long service life," says Robert Lacko.

The following applies to all the application examples from the railway industry and many others outlined above: push/pull cables from RINGSPANN RCS comply with a large number of technical industry and product standards. And going far beyond that, the specialists of the German company always offer an opportunity to put their know-how at the service of special projects and new developments. <<

## Bidirectional and flexible

Basically, push/pull cables from RINGSPANN RCS are flexible mechanical transmission elements that are characterised by high-quality workmanship, excellent sliding properties and long service lives. In their function as currentless, maintenance-free remote controls, they are used in kinematic-constructive environments in which it must be possible to transmit forces and movements between two distant locations in both the direction of pressure and tension. Under these conditions, cable systems from RINGSPANN RCS prove to be extremely functionally reliable operating elements – not least thanks to their fidelity to length. They meet high demands on accuracy and can also be installed in tight radii.

**Robert Lacko**  
Head of Sales of  
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