



MMBC Modular Magnetic Track Brake Control System



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APPLICATIONS

Delivers full electronic control and regulation of magnetic track brakes



MMBC – AN ESSENTIAL COMPONENT FOR ALL HIGH-SPEED TRAINS



The new, technologically advanced controller for electromagnetic track brakes, MMBC was developed to deliver outstanding performance and is based on fulfilling the latest EN50126/28/29 European standards.



MMBC DELIVERS THE FOLLOWING MAGNETIC TRACK BRAKE SYSTEMS FUNCTIONS:

- Switching of the field current to the MG brake magnets
- Monitoring of the functional effect (control of the touch down during the brake test)
- Monitoring of the minimum current
- Monitoring of the differential current
- Self-diagnosis of the magnetic track brake

The MMBC was developed with keen attention for the need to deliver a combination of high system availability, capability and safety and especially for applications with chargeable magnetic brakes. The MMBC has been endowed with a number of added features to help it to deliver high in-service performance. The monitoring of the functional effect is, amongst its many features, perhaps the key one of the MMBC unit. The MMBC can monitor whether or not the brake magnets are actually making contact with the rail and facilitates an automatic brake test of the magnetic brake.



The operator can save time and reduce costs as the MMBC can carry out all of the magnetic track brake tests on the train using the minimum number of operator staff (visual check to be omitted). The MMBC unit employs only electronic switches and no electromechanical contacts, therefore eliminating any parts which may wear over time.

DESIGN

The MMBC unit can be located either on the outside or on the inside of the train. There is the option of a special housing which can be used if external installation is chosen. This housing provides extra protection against issues such as moisture and dust (protection to class IP54).

MODULAR MAGNETIC TRACK BRAKE CONTROL SYSTEM – MMBC

ADVANTAGES	OPTIONS	DEVELOPED TO THE FOLLOWING INTERNATIONAL STANDARDS
<ul style="list-style-type: none"> ■ Reduced staff numbers 	<ul style="list-style-type: none"> ■ Installation Box (Protection class IP54), max weight: 5 kg 	EN 50155 <ul style="list-style-type: none"> ■ Temperature range class TX -40 °C to + 70 °C ■ Protection class to EN 60529 IP20 ■ Robust against supply voltage tolerances and interruptions of supply (class S2) ■ Electromagnetic compatibility according to EN 50121-3-2 ■ Vibration, shock and impact resistant according to EN 61373, class B (mounted on body shell), vibration to 7.9 m/s², impact resistance to 50 m/s²
<ul style="list-style-type: none"> ■ Supply voltage is switched by maintenance-free electronic switches 	<ul style="list-style-type: none"> ■ CAN Interface (ESRA) ■ Maintenance message for touch down control ■ Inputs for buffer switch (upper position "quitting") ■ Control of the touch down while driving ■ MMBC diagnostic software 	EN 50126/ EN 50128/ EN 50129 <ul style="list-style-type: none"> ■ Safety classification SIL2 for detection of touch down on the rail ■ Safety classification SIL 2 for detection of minimum current ■ RAMS – conformity
<ul style="list-style-type: none"> ■ Function test and monitoring of the functional effects at each brake test and thus chargeable magnetic track brake 		
<ul style="list-style-type: none"> ■ Permanent detection of cable break 		
<ul style="list-style-type: none"> ■ Monitoring of the differential and minimum current 		
<ul style="list-style-type: none"> ■ Various options for installation 		
<ul style="list-style-type: none"> ■ The status of the MMBC can be issued selectively for bogie 1 and bogie 2 or as a summary message 		
<ul style="list-style-type: none"> ■ Special dimensions are available as an option 		
TECHNICAL DATA <ul style="list-style-type: none"> ■ MMBC 24V – 36V standard: Mounting plate 450 mm x 380 mm, height 82 mm ■ MMBC 72V – 110V standard: Mounting plate 450 mm x 380 mm, height 82 mm ■ Max weight: 10 kg 		