

# TracFeed® MTS

English



Disconnectors

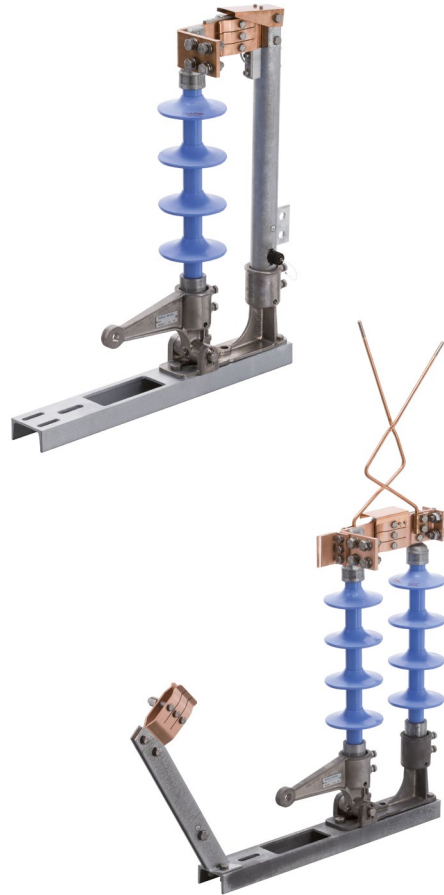
## TracFeed® MTS DISCONNECTORS FOR CATENARY SYSTEMS OF MAINLINE AND MASS TRANSIT RAILROADS

For decades, Rail Power Systems has been developing and producing TracFeed® catenary products in close collaboration with customers and partners. TracFeed® products are approved in many countries for mass transit and mainline traffic system operators, and have proven themselves over many years of deployment under the most varied conditions.

Disconnectors in electrical railway systems enable the switching and connection of feed sections of the catenary. Generally, disconnectors are installed at feeding points and insulated overlaps.

Thanks to the modular structure, the TracFeed® MTS disconnector product families developed by Rail Power Systems offer many customisation possibilities for addressing special customer requirements.

Thanks in no small part to their sturdy design and choice of materials, Rail Power Systems TracFeed MTS disconnectors have an especially long expected service life, require minimal maintenance and can be installed easily.



Basic electrical data	15 to 25 kV AC	1.5 to 3 kV DC
Nominal voltage	15 to 25 kV AC	3 kV
Rated insulation voltage	17.5 to 36 kV AC	6.5 kV
Rated operating current	1 700 to 2 300 A	3 kA
Creepage distance	760 to 1 300 mm	up to 355 mm
Clearance to earth and between phases	up to 470 mm	up to 170 mm
Clearance across the isolating distance	up to 475 mm	up to 231 mm
Rated withstand voltage (opened)	up to 290 kV	up to 75 kV
Power frequency withstand voltage (opened)	up to 110 kV	40 kV
Rated surge current	up to 125 kA	-
Rated short time withstand current	40 to 50 kA	40 to 50 kA
Short-time current duration	1 000 ms	1 000 ms

## DESIGN PRINCIPLE AND PRODUCT CONCEPT

**Rail Power Systems disconnecter models are organised into the following basic components:**

- Base plate
- Insulators
- Contact sets
- Arcing horns
- Earth contact support
- Earth contact

In general, the disconnecters are equipped with composite insulators containing glass fibre reinforced plastic cores and silicone sheaths. These insulators are water-repellent and offer improved resistance against vandalism.

### Further options for the configuration

At the customer's request, adapted components can be considered:

- Alternative drives
- Porcelain insulators

For increased power requirements:

- Adapted contact elements (dimensions, silver plating)

To facilitate the installation, for many switch variants the weight has been significantly reduced by using lighter materials. The connection dimensions of all product generations have been intentionally kept identical for the easy replacement of disconnector generations.

### Accessories

Rail Power Systems delivers high-quality, precision-fit accessories that can be integrated together with disconnecters in catenary systems. Here is an overview of the technical add-ons:

- Mast console
- Switch console
- Switch linkages
- Motor drive
- Manual drive

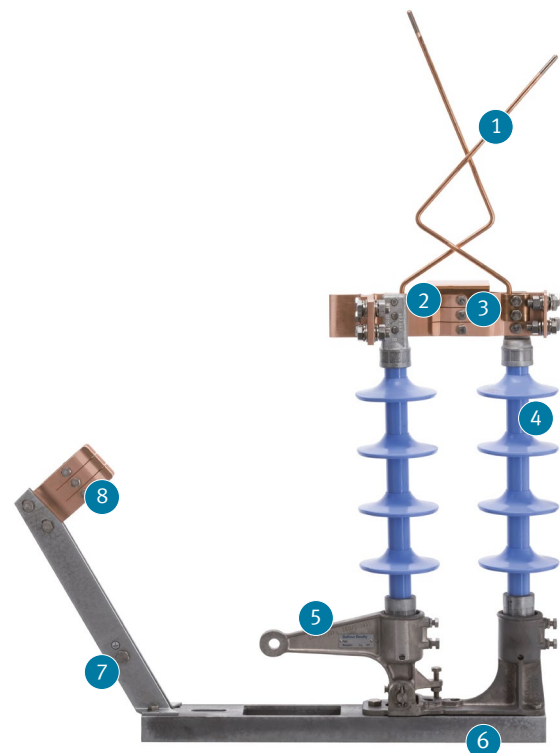
### Instructions for mounting and operation

Generally, disconnecters are installed directly at the top of the catenary masts by means of special brackets.

In the conventional design the switches can be operated by means of a switch linkage, which establishes the mechanical connection to the operating lever of the switch from a motor drive mounted on the mast.

Rail Power Systems can provide the following variants for driving the switches:

- Manual drive
- Electro-mechanical switch mechanism with stainless steel housing



- |                           |                    |                    |
|---------------------------|--------------------|--------------------|
| 1. Arcing horns           | 2. Contact blade   | 3. Contact springs |
| 4. Insulators             | 5. Operating lever | 6. Base Plate      |
| 7. Earth contact support* | 8. Earth contact * |                    |

\* Only for versions with earth contact



## DISCONNECTORS UP TO 25 KV AC WITHOUT EARTH CONTACT

Order number		3EGF015852	3EGF013306	3EGF010883	3EGF010579
Nominal voltage	V AC	25 000	25 000	25 000	15 000
Insulators		composite	composite	porcelain	porcelain
Rated insulation voltage	V AC	36 000 (OV4)	36 000 (OV4)	36 000 (OV3)	17 500 (OV4)
Rated operating current	A	1 700	1 700	1 000	1 700
Creepage distance	mm	1 300	915	1 200	760
Clearance to earth and between phases	mm	~ 470	~ 465	~ 405	~ 250
Clearance across the isolating distance	mm	~ 475	~ 475	~ 409	~ 330
Rated withstand voltage (closed)	kV	250	250		
Rated withstand voltage (opened)	kV	290	290	225	150
Power frequency withstand voltage (closed)	kV	95	95		
Power frequency withstand voltage (opened)	kV	110	110	95	75
Rated surge current	kA	125	125	100	112.5
Rated short time withstand current	kA	50	50	40	45
Short-time current duration	ms	1 000	1 000	1 000	1 000
Mechanical service life (switching cycles)		> 30 000	> 30 000	> 30 000	> 30 000
Installation position		upright	upright	upright	upright
Environmental temperature	°C	- 40 to 60	- 40 to 60	- 40 to 60	- 40 to 60
Mass	kg	30.1	29.5	43.5	35.7
Switch stroke	mm	200	200	200	200
Dimensions (L <sup>1</sup> x B x H)	mm	786 x 210 x 1353	786 x 210 x 1353	800 x 225 x 1252	800 x 225 x 1150
Switching force	N	750	750	550	650
References		Hungary/MÁV Malaysia/KTMB	Romania/CFR Germany/DB AG	China/CNR	Germany/ DB AG

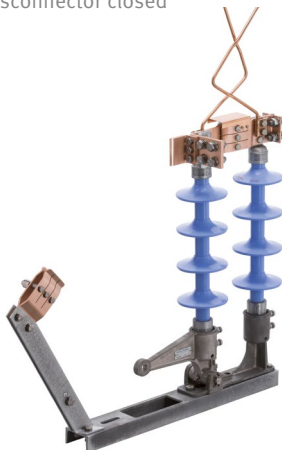
<sup>1</sup> Disconnecter closed



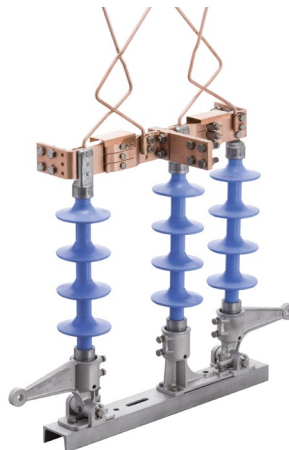
## DISCONNECTORS UP TO 25 KV AC WITH EARTH CONTACT

Order number		3EGF015853	3EGF013307	3EGF010580	3EGF014470
Nominal voltage	V AC	25 000	25 000	15 000	25 000
Insulators		composite	composite	porcelain	composite
Rated insulation voltage	V AC	36 000 (OV4)	36 000 (OV4)	17 500 (OV4)	36 000 (OV4)
Rated operating current	A	1 700	1 700	1 700	1 700
Creepage distance	mm	1 300	915	760	1 300
Clearance to earth and between phases	mm	~ 470	~ 465	~ 250	~ 470
Clearance across the isolating distance	mm	~ 475	~ 475	~ 330	~ 475
Rated withstand voltage (closed)	kV	250	250		250
Rated withstand voltage (opened)	kV	290	290	150	290
Power frequency withstand voltage (closed)	kV	95	95		95
Power frequency withstand voltage (opened)	kV	110	110	75	110
Rated surge current	kA	125	125		125
Rated short time withstand current	kA	50	50	45	50
Short-time current duration	ms	1 000	1 000	1 000	1 000
Mechanical service life (switching cycles)		> 30 000	> 30 000	> 30 000	> 30 000
Installation position		upright	upright	upright	upright
Environmental temperature	°C	- 40 to 60	- 40 to 60	- 40 to 60	- 40 to 60
Mass	kg	38.1	37.5	43.2	30.1
Switch stroke	mm	200	200	200	200
Dimensions (L <sup>1</sup> x W x H)	mm	1 005 x 210 x 1 353	1 005 x 210 x 1 353	923 x 225 x 1 150	786 x 210 x 1 353
Switching force	N	750	750	650	750
References		Malaysia/KTMB	Romania/CFR Germany/DB AG	Germany/DB AG	Hungary/MÁV

<sup>1</sup> Disconnector closed



3EGF013307



3EGF014470

**SYSTEM CHANGEOVER  
SWITCH/SWITCH FOR  
TWO SECTIONS  
1.5 KV TO 3 KV DC AND  
15 KV TO 25 KV AC**



## EARTH SWITCH UP TO 25 KV AC WITH CONTACT RUN-IN MONITORING SENSOR, SUITABLE FOR TracFeed® OLSP AND OLSIG

Order number		3EGF018093
Nominal voltage	V AC	25 000
Insulators		composite
Rated insulation voltage	V AC	36 000 (OV4)
Rated operating current	A	1 700
Creepage distance	mm	915
Clearance to earth and between phases	mm	~ 465
Clearance across the isolating distance	mm	~ 475
Rated withstand voltage (closed)	kV	250
Rated withstand voltage (opened)	kV	290
Power frequency withstand voltage (closed)	kV	95
Power frequency withstand voltage (opened)	kV	110
Rated surge current	kA	125
Rated short time withstand current	kA	50
Short-time current duration	ms	1 000
Mechanical service life (switching cycles)		> 30 000
Installation position		upright
Environmental temperature	°C	- 40 to 60
Mass	kg	29.5
Switch stroke	mm	200
Dimensions (L <sup>1</sup> x W x H)	mm	786 x 210 x 1 353
Switching force	N	750
References		Norway/Mantena Austria/ÖBB Luxembourg/CFL Sweden/Trafikverket Germany/DB AG



<sup>1</sup> Disconnecter closed

### Fundamental testing included

Technical components from Rail Power Systems are factory-tested in accordance with standard EN 50119.

In addition, traditional random testing also takes place during the production process. In order to further increase the quality and value for our customers, we perform extensive additional routine tests in the course of the production. These include the following:

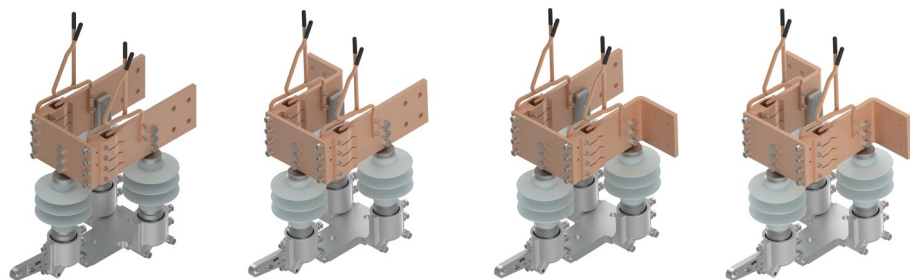
- Dimensional and tolerance testing
- Testing of mechanical connections
- Mechanical function testing
- Electrical function testing



## DISCONNECTORS UP TO 3 KV

Order number		3EGF019823	3EGF020026	3EGF020027	3EGF020028
Nominal voltage	V DC	3 000	3 000	3000	3000
Insulators		composite	composite	composite	composite
Rated insulation voltage	V DC	6 500	6 500	6 500	6 500
Rated operating current	A	3 000	3 000	3 000	3 000
Creepage distance	mm	355	355	355	355
Clearance to earth and between phases	mm	170	170	170	170
Clearance across the isolating distance	mm	88	88	88	88
Rated impulse withstand voltage	kV	75	75	75	75
Power-frequency voltage withstand level	kV	20	20	20	20
Rated short-time withstand current	kA	40	40	40	40
Short-time current duration	ms	1 000	1 000	1000	1000
Installation position		upright	upright	upright	upright
Environmental temperature	°C	-40 bis +60	-40 bis +60	-40 bis +60	-40 bis +60
Mass	kg	31	31	31	31
Switch stroke	mm	100	100	100	100
Dimensions (L <sup>1</sup> x B x H)	mm	522 x 305 x 630,5	522 x 352 x 630,5	522 x 352 x 630,5	522 x 398 x 630,5

<sup>1</sup> Disconnector closed



### Why TracFeed® components from Rail Power Systems?

To put it simply: because you can be certain of overwhelming benefits with catenary components from Rail Power Systems. They are suitable for both standard solutions and for tailored, customer-specific operating concepts in mass transit and mainline traffic. Whether you purchase clamps for cables and wires, aluminium components for booms, wheel tensioners, or section insulators from Rail Power Systems: all catenary elements that we supply provide advantages that you can also realise with our mast disconnectors. These include:

- Long service life
- High reliability in daily operation
- Low lifetime costs
- Outstanding quality
- Safe use in the widest ranging climates and operating conditions

Contact us if you have any questions about our products. We would also be pleased to provide you with detailed information and, on request, present our entire product portfolio with all TracFeed® product lines for contact line systems, such as TracFeed® ALU 1000, 2000, 3000 catenary systems, TracFeed® OSS overhead conductor rails and TracFeed® STS conductor rail systems.

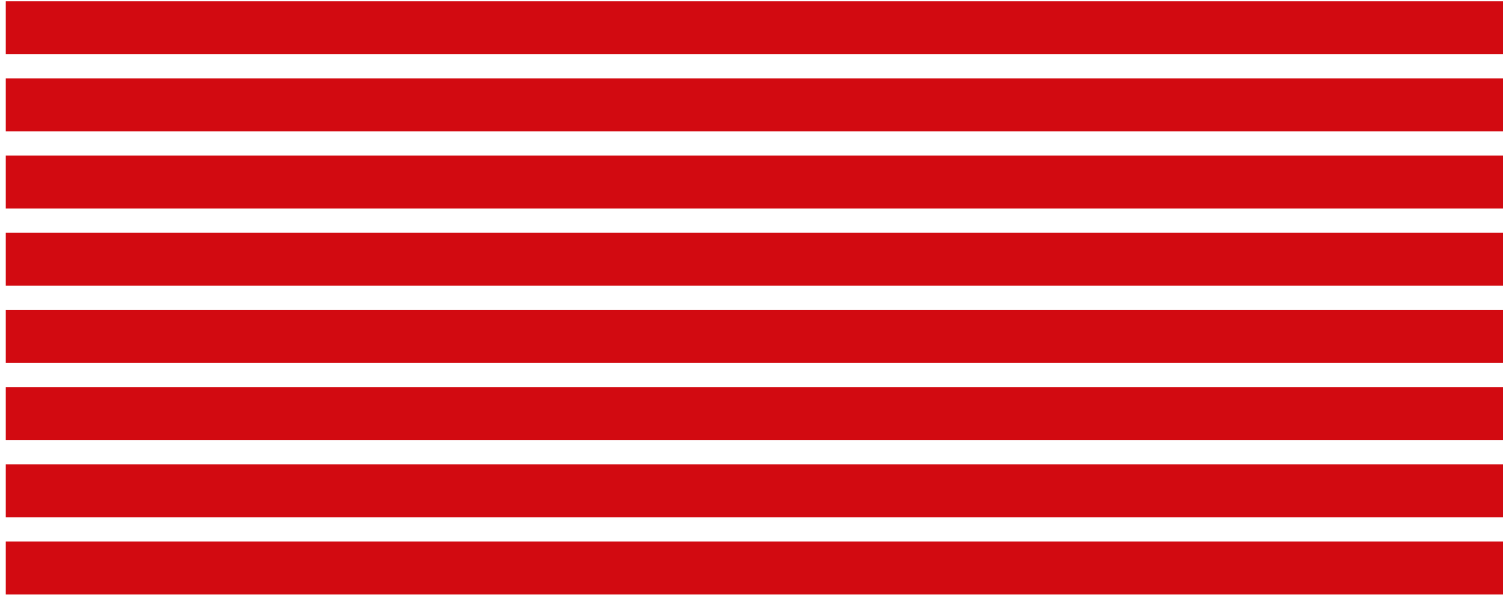


### **Quality made in Germany**

Rail Power Systems TracFeed® catenary components are manufactured in our Munich production facility.

### **Quality used worldwide**

Rail Power Systems TracFeed® catenary products are used all over the world. The TracFeed® MTS disconnectors are used in the following countries, among others, by mass transit and mainline traffic operators: Germany, Austria, Spain, Luxembourg, Hungary, Sweden, Norway, Romania, Turkey, Malaysia, China, Philippines



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The specifications set out in this document apply to conventional applications. They do not represent performance limits. This means that divergent specifications may be attained in specific applications. The contractually agreed specifications alone shall apply. We reserve the right to effect technical modifications. TracFeed® is a registered trademark of Rail Power Systems GmbH.