



Mechatronik



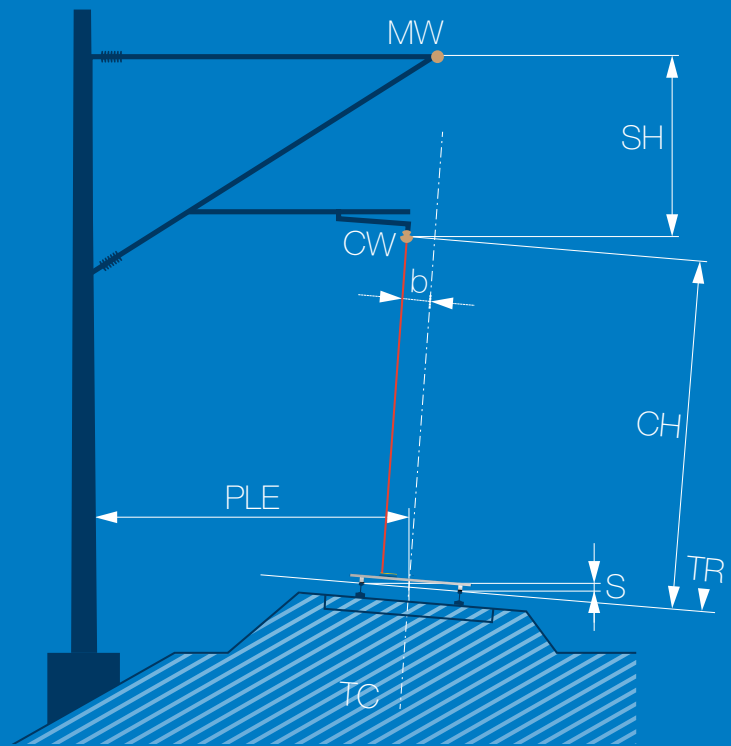
# FM5-BT

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Contact wire measuring device for height,  
stagger, pole leading edge and superelevation

## Measurements

CW	Contact wire
CH	Contact wire height
b	Contact wire stagger
MW	Messenger wire
SH	System height
PLE	Pole leading edge – track center
S	Superelevation
TC	Track centerline
TR	Top of the rail



## Versatile

Install catenary infrastructures faster

Inspect and maintain contact wires with minimal effort

Flexible, worldwide use in local and long-distance transportation

## Application overview in local and long-distance transportation

As a German manufacturer of precision equipment, we have been simplifying contact wire measurements in railroad technology for more than 50 years. Our contact wire measuring devices (FM) are suitable for the installation as well as for the maintenance of contact wires in local traffic (DC) and long-distance traffic (AC).

The laser beam of the FM determines the position of the catenary in relation to the track center as well as from the top of the rail. This enables you to measure quickly and easily the:

- Contact wire height and stagger (zig-zag)
- Messenger wire height and stagger
- Distance between pole leading edge and track center
- Bridge and tunnel heights, height of crossing power lines
- With accessories: superelevation (tilt/angle)

## Optional accessories

LED lighting device for measurements in the dark

Laser glasses for better visibility of the laser point

Carrying bags and power adapter for more comfort

Measuring bars for worldwide track gauges from 750 – 1676 mm

Additional mechanical measuring system for superelevation

FMcapture software for digitized data



## Features FM5-BT Camera Bluetooth

In combination with the measuring bar, the measuring device can measure contact wire stagger on track gauges in the range of 750 - 1676 mm. The measurement data is transferable via Bluetooth. The measurements can be performed quickly and in any weather condition.



High-precision laser measurement with up to 1 mm measuring accuracy



Easy targeting of the contact wire by the camera display (4x zoom) incl. screenshot function



Fast data capture by software incl. import and export function (XLSX, CSV, TXT)



# Data sheet FM5-BT

Specifications		Basic	Standard	Capture
<b>Contact wire measuring device FM5-BT</b>				
<b>Measuring range</b>				
Contact wire height (laser)	up to 200 m (666 ft)	x	x	x
Contact wire stagger	± 700 mm (27.5 in)	x	x	x
Tilt sensor for track superelevation	± 180°	x	x	x
<b>Measuring accuracy</b>				
Contact wire height (laser/system)	± 1 mm (1/16 in) / ± 5 mm (1/8 in)			
Contact wire stagger (system)	± 5 mm (1/8 in)			
Horizontal distance measurement pole leading edge – track center (laser/system)	± 1 mm (1/16 in) / ± 5 mm (1/8 in)			
Tilt measurement for track superelevation	± 0.1°			
<b>Laser/display</b>				
Laser class (according to IEC60825-1)	2			
Laser power/wavelength	<1 mW / 635 nm			
Direction laser beam	vertical / horizontal			
Display (automatically illuminated)	70 x 42 mm			
Operating modes	single / continuous measurement			
Operating time (number of measurements)	up to 4000			
Temperature range operation/storage	-10 ... +50 / -25 ... +70°C			
Automatic power switch off (laser)	90 s			
Automatic power switch off (display)	180 s			
Display unit (optional units)	0.000 m (0.00 ft / 0.00 in / 0'00"1/32)			
<b>Power supply</b>				
Rechargeable battery type	lithium ion	x	x	x
USB charger incl. 4 diverse plug adapters	100 - 240 V (AC)	x	x	x
Protection class (DIN EN 60529)	IP65			
Dimensions/weight	280 x 112 x 72 mm / 1.8 kg			
<b>Measuring bar</b>		not separable	separable	separable
Adjusted to track gauge (further track gauges possible)	1435 mm (4' 8.5")			
Measuring range	± 700 mm (27.5 in)			
Scale value	1 mm (1/8 in)			
Dimensions/weight	184 x 20 x 16 cm	4.7 kg	5.1 kg	5.1 kg
<b>Accessories</b>				
Aluminum transport case	54 x 16 x 25 cm / 3.3 kg	x	x	x
Laser beam reflector		x	x	x
USB car charger adapter	12/24 V (DC)	-	x	x
Laser glasses		-	x	x
LED lighting device		-	x	x
Carrying bag for separable measuring bar	105 x 28 x 18 cm	-	x	x
<b>Data interface/data storage</b>				
Bluetooth 4.0, range	up to 10 m (32 ft)	x	x	x
Software FMcapture (MS Windows 10)	CSV, TXT, XLSX	-	-	x
<b>Shipping package</b>				
Dimensions		197 x 37 x 37 cm	110 x 37 x 37 cm	110 x 37 x 37 cm
Weight		15 kg	18 kg	18 kg

Further accessories and measuring bars for diverse track gauges can be found online at: [www.steinmeyer-railway.com](http://www.steinmeyer-railway.com)