



# zentrak ENVIRONMENTAL CONDITION MONITORING

## Weather Station

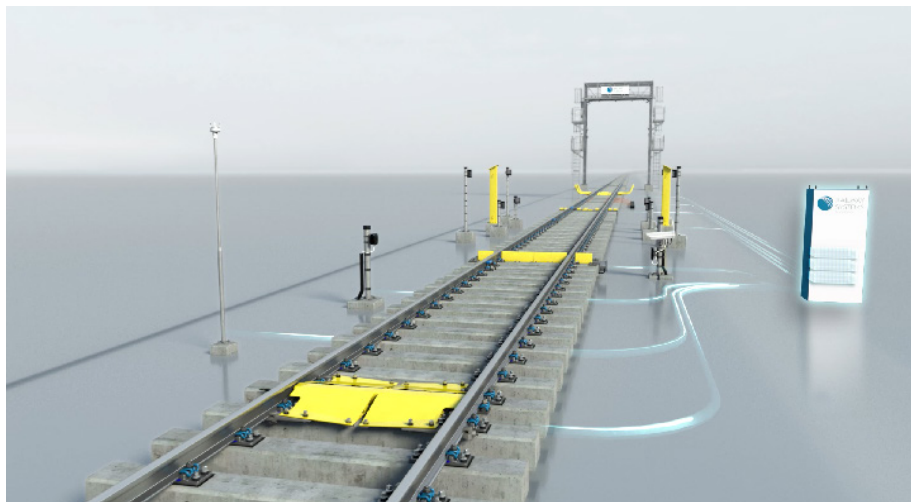
### Description

The Environmental Condition Monitoring (ECM) function supports this challenge with various sensors to ensure reliable operation in any weather and provides accurate data on the current weather situation on site. Strong winds, especially at bridges and open areas, or heavy rain may require intervention in regular rail operations, such as reduced speed or closure of the track section. As airflow measurement systems in tunnels, the systems provide accurate measurement data to inform rescue forces about the propagation speed and direction of dangerous smoke gases in the event of a fire and to indicate safe escape routes for evacuation.



### System advantages

- » Alarm for heavy rain and excessive wind
- » Accurate measurement of wind strength and direction
- » Measurement of current and cumulative precipitation amount, rainfall amount/duration and peak intensity
- » Resistance to salt spray and icing
- » No mechanically moving parts ensure a long service life and long maintenance intervals
- » Optional heating for applications in arctic, snowy and very humid climates
- » Low power consumption



## COMBINATION OF WEATHER INFORMATION

The ECM function as a sub-function of the modular diagnostic system combines the measurements of wind and precipitation. The wind sensor is based on an ultrasonic system that determines the horizontal wind speed and direction. Thanks to the inertia-free operation without moving parts, the system provides measured values almost without delay even at low wind speeds and offers a long service life and long maintenance cycles due to its robust design.

A piezo sensor records the precipitation on a metal plate. Raindrops and hailstones strike this metal plate and, based on the number and impact strength, deliver the values for the amount of precipitation, its peak intensity and the duration of precipitation.

Technical Specification	
Wind speed:	0 - 60m/s, $\pm 3\%$ at 10m/s
Available measured values:	Average, Maximum, Minimum
Wind direction:	0° - 360°, $\pm 3^\circ$ at 10m/s
Precipitation measurement:	Rain, Hail
Temperature measurement:	-52 - +60°C
Protection class:	IP65 (with optional mounting kit: IP66)
Input voltage range:	6 - 24VDC