

TRACKING

# Frauscher Tracking Solutions FTS-FAS



The FTS-FAS (Frauscher Acoustic Sensing) system is capable of real-time signal analysis, event interpretation and alarm generation from a single point for a number of applications simultaneously along the entire monitored route. A single FTS-FAS unit uses one single-mode fibre next to the track and covers up to 40 km in each direction.



## INFORMATION

Position, speed, acceleration, direction, train length, estimated time of arrival (ETA)

Rail defects, flat wheel, catenary flashover, rock fall

Work crews, trespassers, cable theft, vandalism, animals etc.



## APPLICATIONS

Train Tracking (non vital)

Asset Condition Monitoring

Safety & Security



## BENEFITS

Activities and alarms logged and categorized

80 km of optical fibre monitored per FTS unit

Alert location accuracy 10 m

Continuous real-time tracking along total network

Low maintenance

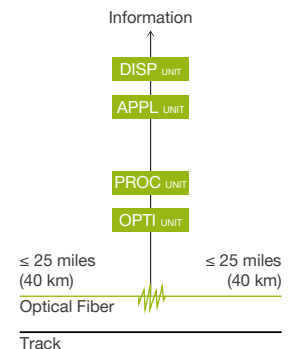
## FTS-FAS

A networked set of FTS-FAS units provides coverage across a whole network regardless of length. FAS converts the fibre cable into sensing channels that work like virtual microphones. Detected events can be localized with a maximum accuracy of down to 10m.

This system provides valuable information about train movements, condition of assets on trains and tracks, as well as detection of individuals and animals on and near the track.

For vital applications and to enhance the quality of information, wheel detection systems and axle counters can be integrated.

**DISP UNIT** Display Unit  
**APPL UNIT** Application Unit  
**PROC UNIT** Processing Unit  
**OPTI UNIT** Optical Unit



## Technical Data

### FTS-FAS

<b>Interfaces</b>	FAS Display Unit, XML, MODBUS SCADA, email and SMS notification
<b>Power requirements</b>	+115 V AC or +230 V AC – peak power consumption: 1 200 W
<b>Required fibre type</b>	Single-mode ITU-T G.652, G.654 or G.655
<b>Wavelength</b>	1 540 nm
<b>Laser</b>	Class 1
<b>Connection type</b>	E2000 APC pig tail
<b>Fibre cable signal quality</b>	Loss per km <0,25dB, step losses <1dB
<b>Distance monitored per system</b>	2 x 40 km (unlimited distances enabled by multiple network systems)
<b>Fibre cable installation recommendation</b>	Buried, installed in a cable trough (minimum distance to track)
<b>Typical data rate (80 km)</b>	600 MB/s
<b>Operating temperature range (server)</b>	+5 °C to + 30 °C
<b>Optional equipment</b>	Cellular router, UPS
<b>Dimensions</b>	Height: 1 300 mm Width: 810 mm Depth: 850 mm
<b>Weight</b>	> 200 kg