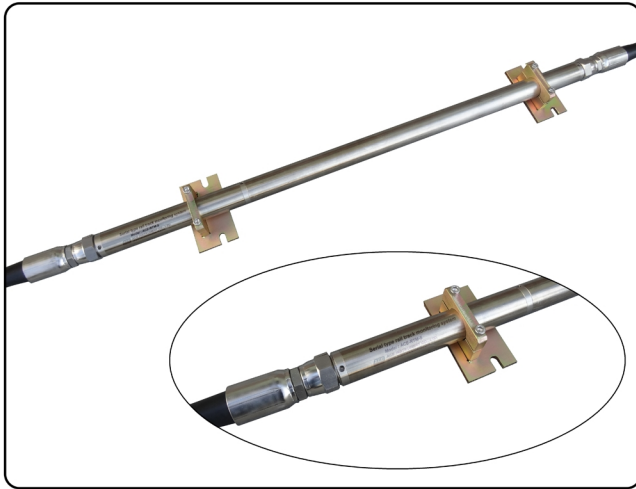


Rail track monitoring system



Description

The model ACE-RTM Rail track monitoring system can precisely measure any settlement or twist of rails on railroad tracks. It is also useful for measuring horizontal settlement of structures.

The adjacent construction work has great influence on rail road bed when making tall buildings or subway tunnels under the bed. When this problem occurs or expected the rail displacement monitoring sensors accurately detect the magnitude and tendency of twist or rail settlement.

The sensor is embedded in a waterproof stainless tube that is connected to the joint and the protective tube via a one-line cable. Multi-point sensors are pre-assembled, making installation in the field very easy.

Install with mounting brackets parallel to the center of the rail. If a displacement occurs in the rail roadbed, the displacement detection sensor and the twist detection sensor react and are sent to the data logger. Displacement value is converted into coordinate movement of current measured value and initial value then showed as graph or profile.

The measured data can be showed in 0.01mm unit in 2D graphic through the Web-based management program of ACE-WMP.

The ACE-RTM connects the sensors of all points by the sequential serial communication type of one-line cable. It can be remotely measured using our ADL-200A smart logger and wireless modem.



[Bundle of ACE-RTM]

Specification

Model	ACE-RTM-U (1 axis)	ACE-RTM-B (2 axis)
Range	$\pm 10^\circ$	
Resolution	10 arc seconds	
Accuracy	$\pm 0.1\%$ FSR	
Nonlinearity	$\pm 0.5\%$ FSR	
Supply voltage	12V DC	
Output voltage	-5V~5V DC	
Insulation resistance	More than 100 M Ω / 500 V	
Operating temperature	-30~80°C	
Communication method	Serial communication	
Gage length	Selection of standard length 1, 2, 3m	
Waterproof	400m H ₂ O	
Built-in quantity	Depend on installation depth (max. 50 to min. 10 inclinometers)	
Materials	Stainless steel pipe, Hydraulic tube	
Weight	1m kit : 1.5kg, 2m kit : 2.2kg, 3m kit : 2.9kg	
Signal cable	$\varnothing 7\text{mm}$, 0.24mm ² × 7C shielded PU sheath cable	
Accessories	① Mounting bracket ② Jumper cable	
Using logger	ADL-200A	
Analyzing program	Web management program of ACE-WMP	

System composition

- Settlement-sensor :
Measures deflection of Y-axis by putting mounting bracket and extension tube parallel with rails.
- Twist-sensor :
Measures twist of X-axis by putting with twist sensor at a right angle against the settlement sensor.
- Mounting bracket, extension tube :
Connection the settlement-sensor and twist-sensor with rails.

Features

- High precision and reliability
- 2-dimensional graphics of measured data
- Minimized impact from construction work
- Easy to use and analyze measured data
- Possible to automatic measured

Ordering information

- Application field
- Quantity and length of gage
- Kind of railroad bed

Rail track monitoring system

The readout

Serial communication type rail track monitoring system can connect to our model ADL-200A Smart logger and can be remotely controlled and measured by wireless modem. It is also compatible with third-party devices such as the CR-1000.

Installation of quantity of sensor

Quantity of sensor	Length of signal cable
10	380m
13	340m
16	300m
19	260m
23	220m
27	190m
32	150m
37	110m
43	70m
50	40m



[Installation of ACE-RTM]



[ADL-200A Smart logger]

Web program



Web monitoring program as ACE-WMP is available graph frontier, report creation and modification, alarm, real-time measurement data retrieval. It is based on the data stored in the server computer throughout all kind of static sensors.