

Overhead line sensor (OHLs)

Synaptec's Overhead Line Sensor (OHLs) combines multiple high-performance optical measurement techniques into one completely passive device, enabling remote circuits to be instrumented without data networks, control power, or expensive civil works.

The OHLs can be refitted to any overhead power line to enable active monitoring of ampacity, vertical clearance, ice loading, and general condition monitoring.

Multiple OHLs can be daisy-chained per fibre over a distance of up to 60 km, and can be combined with Synaptec's current and voltage sensors to obtain high-fidelity, synchronised measurements over a wide area. Measurements are available in real time within the substation firewall through Synaptec's Interrogator unit, and are published using the standardised IEC 61850 sampled value protocol.

The OHLs is particularly well-suited to instrumentation of extremely remote critical spans, where electronic and wireless sensing suffers from poor coverage and challenging maintenance access.



Specifications

Performance

Sag resolution	5 mm ¹
Operating sag range	±15 m ¹
Operating temperature range (ambient)	-40 to +80 °C
Estimated microstrain error	±15µε

Mechanical

Dimensions	Ø140 x 290 mm
Weight	6 kg
Housing material	Aluminium 6082 (default) Alternative materials available upon request

¹ Estimate based on 400 m conductor span with 4 m nominal line sag.
For detailed estimates of performance please contact Synaptec with application information.