

Case Details

Strainstall Malaysia a specialist in structural monitoring solutions designed and installed a long term monitoring system on the bridge joining Malaysia and Singapore. The bridge is a crucial link between the two countries critical to transporting up to 200,000 vehicles a day. Our client's system was based around the dataTaker DT85GM with 6 logging stations located throughout the bridge.

Key Requirements

- Remote solution with large number of inputs for a range of geotechnical sensors
- Hourly Data Upload



dataTaker DT85GM

- Vibrating Wire Support
- Carlson, Electro Level & LVDT support
- Strain Gauge Support
- Dual Channel Isolation Technology
- Up to 48 Analog ($\pm 30V$) sensor inputs
- Expandable to 960 analog inputs
- Integrated cellular modem
- Automatic data transfer via email or FTP
- Sending alarm via SMS or email
- Modbus for SCADA connection
- Web & FTP client / server
- USB memory for easy data and program transfer



Malaysia-Singapore Second Link Bridge

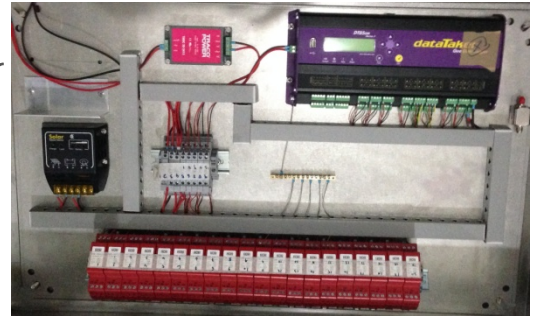
dataTaker Solution

Equipment

dataTaker DT85GM data logger

Sensors

- Vibrating Wire Strain Guages
- Crack Meters
- LVDT's
- Thermocouples



Implementation Notes

Six logging stations were installed at key structural locations along the bridge. Each station consists of a DT85GM, which is powered locally via a 20W solar panel and 12V batteries. Each DT85GM has a 3G sim card for remote access and automatic data transfer.

The system takes measurement of a range of sensors, including vibrating wire strain gauges, crack meters, 4-20mA LVDT's and temperature sensors. In total there are over 100 sensors. The dataTaker carries out on board processing e.g. frequency to temperature compensated strain and displacement of cracks.

The data is sent back hourly via the integrated dataTaker modem to the Strainstall FTP server.

