



Taiwan Mass Rapid Transit (MRT) Selects AP Sensing for Power Cable Monitoring

AP Sensing, together with our local partner NEC, have been selected to monitor the power cable in a newly-built metro tunnel. This is the first power cable temperature monitoring system to be used in the Taipei MRT. The Linear Power Series solution continually monitors the temperature of high-voltage power cables that serve the Songsan and Xinyi metro lines. The modern Distributed Temperature Sensing solution ensures a stable, safe and efficient power transmission and distribution.

The installation for both lines has over 80 km of fiber cable installed, and provides real-time, continuous temperature monitoring for the power cable in the tunnels, greatly enhancing the security of the underground MRT station and its passengers, as well as protecting valuable metro assets.

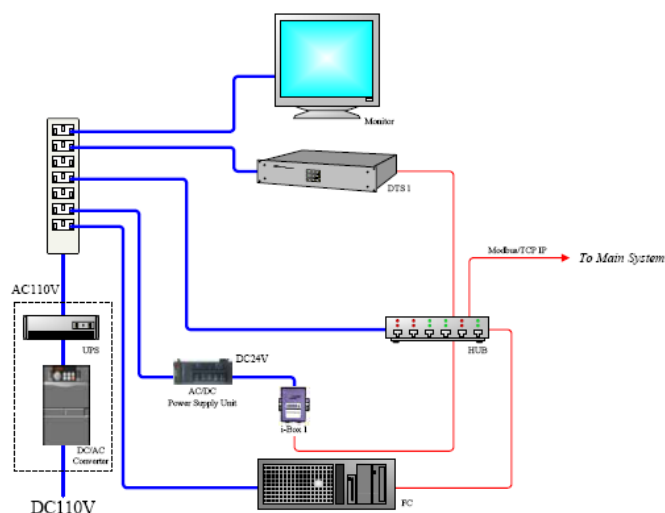


Taipei Metro Line Overview

System parameters		
	Xinyi Line	Songshan Line
Number of channels	7	11
Sensor cable length	32050 m	43420 m
Temperature range	-40°C to 85°C short-term -50°C to 150°C	
Measurement mode	single-end	
Temperature resolution	1.5°C	
Measurement time	60 s each channel	
Sampling interval	1 m	
Fiber	MMF GI 50/125	
Interface	USB, LAN, Modbus	

System Configuration

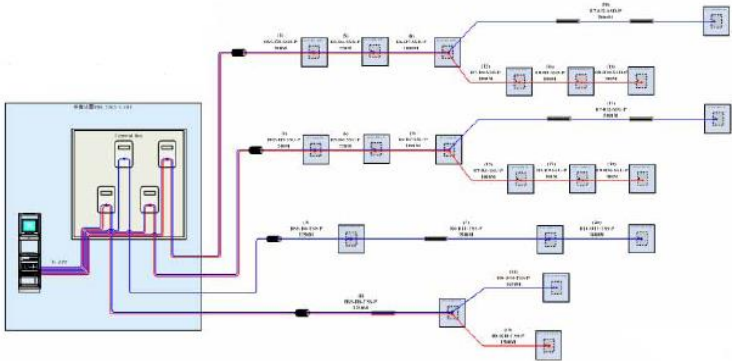
Two Linear Power Series DTS units monitor the power cables in the Songshan and Xinyi lines, and each unit is equipped with one interface box to access via the Modbus protocol over RS232, RS422 and RS485, as well as over TCP/IP. The system architecture is pictured below:



Sensor cable arrangements

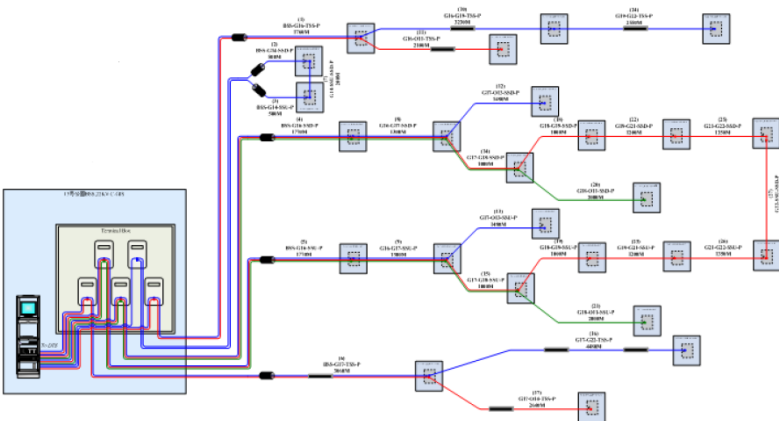
Xinyi line

Channel	Span
1	7250
2	4750
3	7250
4	4750
5	6150
6	4900
7	4750



Songshan line

Channel	Span
1	7540
2	3860
3	1200
4	4550
5	7620
6	6070
7	4550
8	7820
9	6070
10	7540
11	5700



Why was AP Sensing selected?

The AP Sensing solution was selected because it fulfilled the customer requirements: a very high level of overall system reliability in order to protect valuable assets and ensure passenger safety.

The Linear Power Series uses a class 1M laser, which is inherently safe and enables continuous operation even in the presence of fiber breaks. Its open interfaces (LAN / Modbus) allow for easy integration to the SCADA systems. With the lowest failure rate in the industry, AP Sensing provides a stable and virtually maintenance-free temperature monitoring solution.