SUMITOMO ELECTRIC

The Dynamic Line Rating for Overhead Transmission Lines

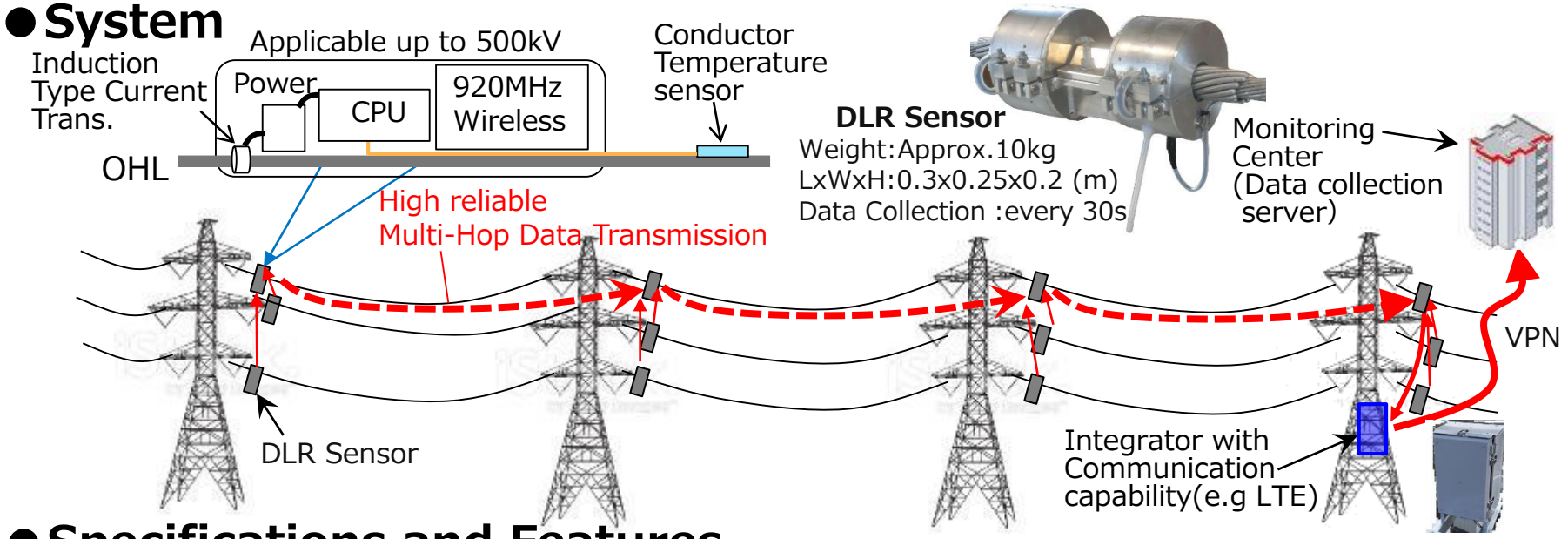
Sumitomo Electric Industries, Ltd.

SUMITOMO ELECTRIC GROUP

1. Dynamic Line Rating

Dynamic Line Rating enables to increase the capacity of existing transmission lines by considering actual power flow and weather conditions.(Wind speed, etc.)
DLR is effective for transmission lines to which renewable energy is connected.

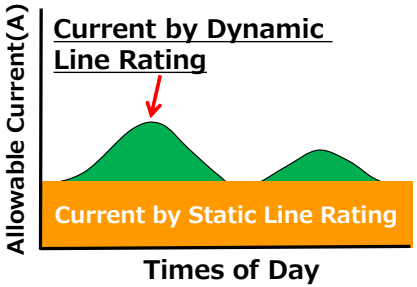
●System



●Specifications and Features

※The contents described are subject to change.

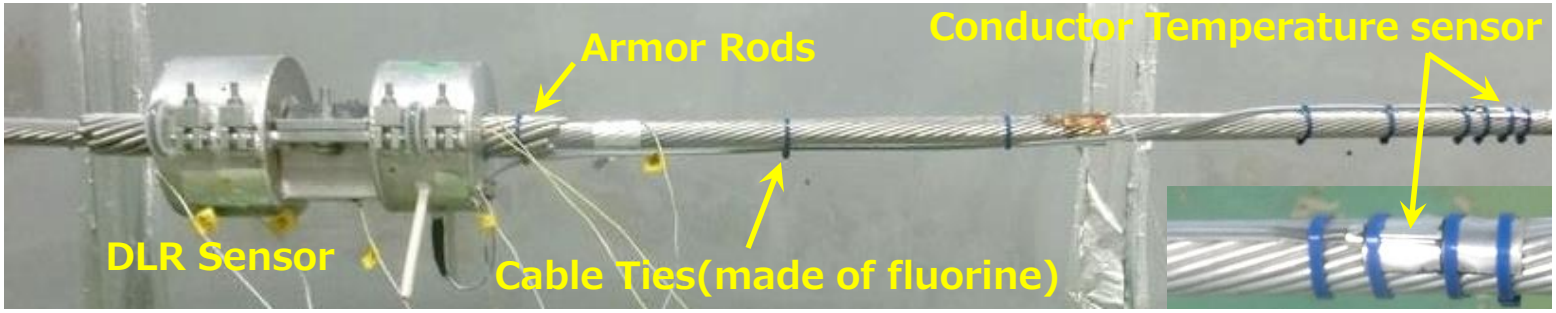
Monitoring item	Conductor temperature (～180℃)　Current (～3200A)
Accuracy	Conductor temperature :±2℃　　Current :±2%
Power supply	Current Transformer installed on transmission lines
Wireless device	■DLR sensor ~ Integrator(Private Wireless Network) ARIB-STD-T108 compliant　**Frequency:920MHz**　**Power:20mW (Japan)** Maximum number of Hops:50 Maximum communication distance:1km ■Integrator ~ Monitoring center(Mobile Phone Network)　**LTE(4G)**
Features	**①Direct measurement of conductor temperature is possible and DLR sensor has high accuracy　②No Battery** **③The system has superior network security.**



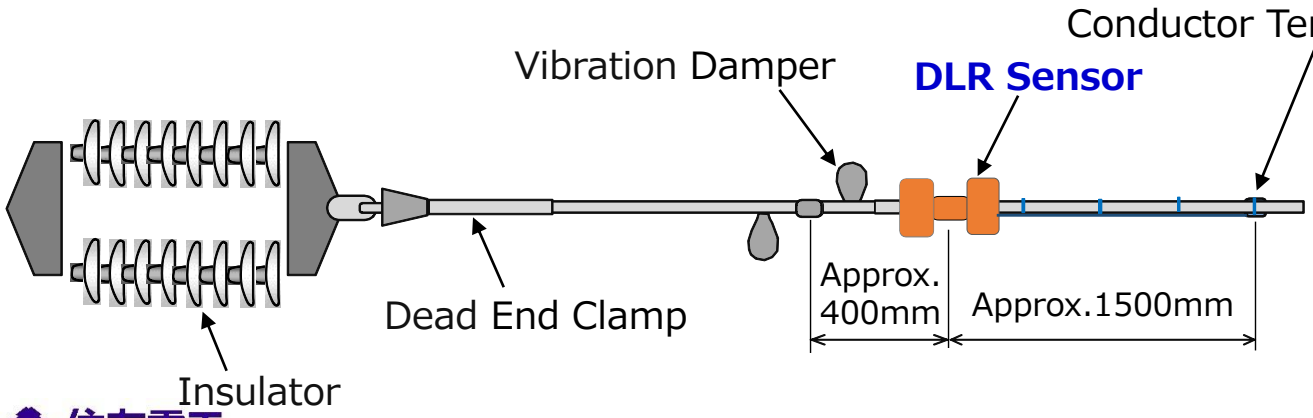
Capacity can be increased, by monitoring conductor temperature, considering actual wind speed, etc.

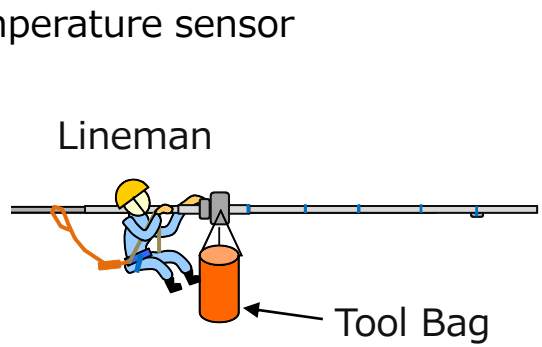
2. Installation Method of DLR sensor

- It takes about 30 minutes to install the DLR sensor to the conductor. After installing the DLR sensor, the operation check test requires about 30 minutes.
- Considering grounding work and ancillary work, the power outage time will require about 4 hours per one sensor.
- Please contact us for details on the installation method.



※Overall diameter of conductor to which can be installed : Approx.φ18~φ40mm（Bison φ27mm）

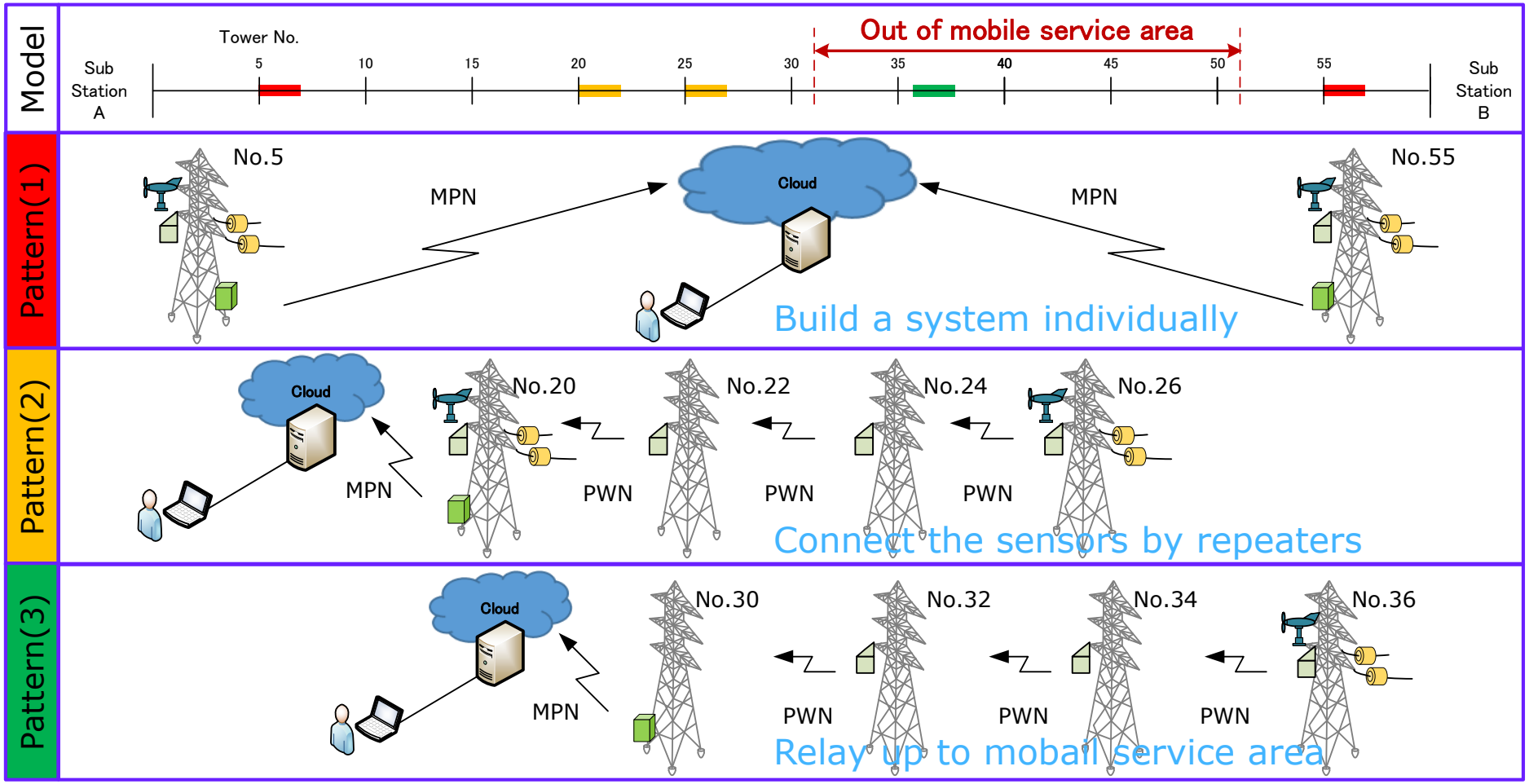




DLR Sensor Installation

3. System Pattern

- Pattern(1):Monitoring for two distant points
- Pattern(2):Monitoring for two nearby points
- Pattern(3):Monitoring point is out of mobile service area



4. Maintenance

- Basically check the alarm in web browser.
- Check the appearance of the equipment once a year.
- Replace the battery once every four years.

No.	Item	Description	Interval
1	All System	Check the alarm in web browser	every day
2	DLR Sensor	Visual confirmation	1 year
3	Weather Sensor	Visual confirmation	1 year
4	Repeater	Visual confirmation	1 year
		Replace battery	4 year
5	Integrator	Visual confirmation	1 year
		Replace battery	4 year