

Transmission Line Rating Platform

Software Release Notes: October 2021

Lindsey Systems has enhanced the SMARTLINE dynamic line rating (DLR) and transmission capacity forecasting platform with our October 2021 software release.

New Or Enhanced Features Include:

Transient Rating Capability

The SMARTLINE platform now provides transient dynamic ratings in addition to continuous ratings.

- Continuous ratings allow lines to be operated safely, efficiently, and economically on a day-to-day basis.
- Transient ratings refer to the short-term ratings needed to respond to emergency conditions. The ratings are valid for specific periods of time without risking violation of dictated clearance requirements.

The SMARTLINE platform can be configured to provide either or both types of rating depending on your systems' requirements.

Perpendicular Wind Speed

Perpendicular wind speed is particularly important in computing DLR. The effective perpendicular wind speed across the length of the conductor span is now developed according to CIGRE or IEEE methodologies using the directly measured values from each TLM line monitor and live weather data. The effective perpendicular wind speed is displayed on the user dashboard.

Effective Conductor Temperature: *Newly Revealed Feature*

Standard conductor models have never been required as SMARTLINE's learning-based system automatically generates "as-built" models of conductor behavior for each monitored span. Not previously discussed, these models are used to compute the average effective conductor temperature across the length of the spans, regardless of any shielding effects caused by surrounding terrain. The models are validated by direct conductor temperature measurements taken by TLM conductor monitors. The models are used to track the thermal performance of the line and to ensure the line's thermal limits are not exceeded.



SMARTLINE® Transmission Line Rating Platform

Software Updates: October 2021

New Or Enhanced Features (Continued):

Configurable Alarms

The SMARTLINE platform now provides for both comparative and limit-based alarms to be established for TLM data and/or SMARTLINE calculated ratings. Limit based alarms are tied to one or more specified limits for any metric. Comparative alarms are based on a comparison to previous data or other related metrics. The system provides tools to reduce or eliminate redundant alarms.

Conductor Sag/ Inclination Measurement

The expansion and contraction of a conductor based on thermal and mechanical loads results in a change in the sag of the conductor across its span. TLM line monitors include an inclination sensor which provides direct measurement of the conductor's inclination as it relates to sag. This measurement is now incorporated into the SMARTLINE platform's DLR and Asset Monitoring software models.

Primary and Secondary Weather Services

The SMARTLINE platform now supports the use of primary and secondary global weather feeds.

Customizable Weather Services

Users may now choose to use SMARTLINE's default weather feed services or may choose to specify alternate or more local weather services as primary and/or back-up.

**For additional background information
on the SMARTLINE platform,
see the full brochure here:**

[Download full version of brochure](#)

[Visit our website](#)

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