Line:

* Chatacteristic Impedance, (ohms)
* Line Inductance, (henries)

, where is the line series inductive reactance in ohms per mile

* Line Capacitance, (farads)

, where is the line shunt capacitive reactance in MegaOhm-miles

* Propogation velocity,
* Propogation constant, (
* Wavelength, (miles)
* Surge impedance loading, (MegaVolt Amperes)
* Line voltage, (kiloVolts)
* Line current, (Amps)

* Line impedance at a point of distance d (ohms)

Receiving End:

* Receiving end voltage, (kiloVolts)
* Recieving end current, (amps)

For lossless line:

* Recieving end apparent power, (MegaVolt Amperes)
* Recieving end real power, (MegaVolt Amperes)
* Recieving end reactive power, (MegaVolt Amperes)

Source End:

* Source end voltage, (kiloVolts)

( is the power factor

* Source end current, (amps)
* Source end apparent power, (MegaVolt Amperes)
* Source end real power, (MegaVolt Amperes)
* Source end reactive power, (MegaVolt Amperes)

Apparent Power source

Bibliography

https://www.electrical4u.com/transmission-line-in-power-system/

FE Electrical and Computer Review Manual

https://www.electricalclassroom.com/real-reactive-complex-apparent-power/