

Line Relays DISTR1

Three-Zone Distance Relay with Transfer Trip

Relays are assigned to a specific end of a branch. This end is specified by the column **Device Location** which can be set to either *From* or *To*. It is specified on the branch dialog by checking the box **Device is at From End of Line (otherwise at To End)**. The end specified by the **Device Location** is referred to as the "Relay End", while the other is referred to as the "Other End". When this relay's conditions are met, the entire branch is opened.

There are three zones for the relay which depend on the zone shape specified. The zone shapes are determined by the Impedance Type integer. 1 = mho Distance shapes, 2 = impedance distance, and 3 = reactance distance. In addition to these shapes, two blinders may be specified which block all zones. These are described on the next page.

Each zone has a time in cycles associated it. When the apparent impedance enters the zone, a timer is started. If the impedance stays inside the zone for the specified number of cycles, then the relay will send a trip signal to the breaker. The breaker will then trip after the *Self Trip Breaker Time* has elapsed. Three additional branches may also be specified as *Transfer Trip Branch 1, 2, and 3*. These branches use the *Transfer Trip breaker time* instead.

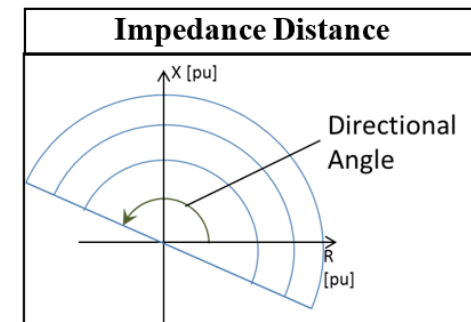
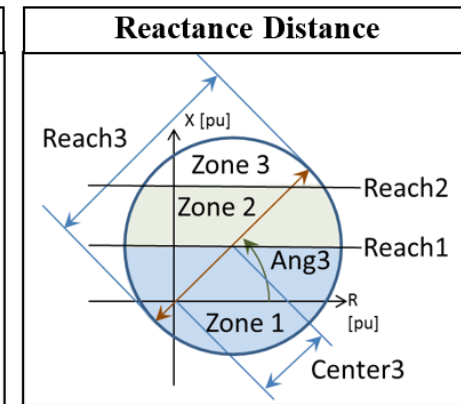
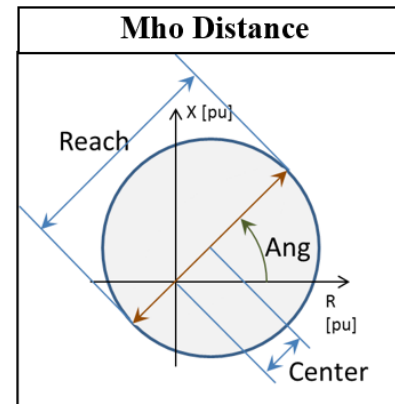
Optionally, after the branches are tripped, the branches may reclose after a specified number of cycles according to the *Self Trip Reclosure Time* or *Transfer Trip Reclosure time*. This reclosure will happen only once during the simulation.

Other field results include signals associated with a particular zone which have the following meanings.
 0 : not picked up (not in Zone)
 1 : Picked up, not timed out
 2 : Picked up, timeout complete

Other field results include signals associated with a breaker. For breaker signals, the values have the following meanings.
 0 : Trip not initiated
 1 : Trip initiated, CB timer running
 2 : Breaker has tripped

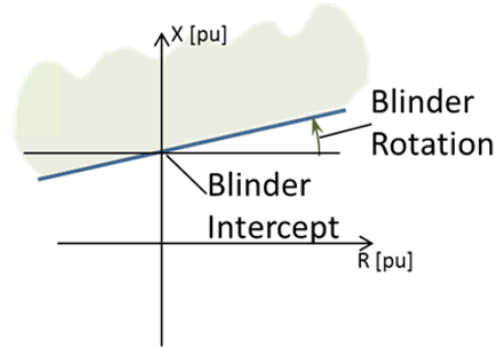
Type: Active - OOSLEN ID=1 (From) ☒ Active
 Device ID: 1 ☒ Device is at From End of Line (otherwise at To End)

	From Number	To Number	Circuit	From Name_Nominal kV	To Name_Nominal kV	Device Location	Device ID	Type
1	4	1	1	Bus 4_230.00	Bus 1_16.50	From	1	OOSLEN
2	4	1	1	Bus 4_230.00	Bus 1_16.50	To	1	OOSLNQ
3	2	7	1	Bus 2_18.00	Bus 7_230.00	From		ZLIN1
4	5	4	1	Bus 5_230.00	Bus 4_230.00	To		ZLIN1

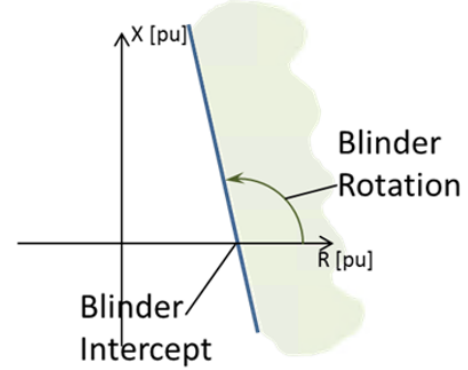


Model Supported by PSSE

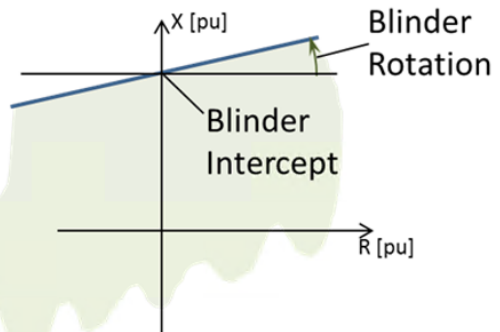
Blinder Type = +1



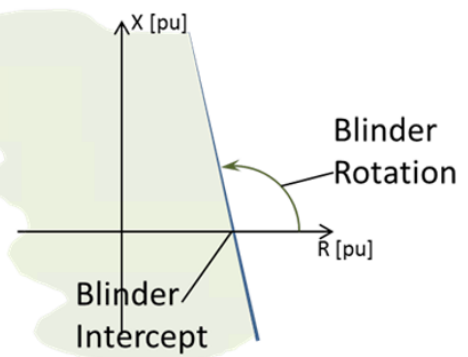
Blinder Type = +2



Blinder Type = -1



Blinder Type = -1



Model Supported by PSSE