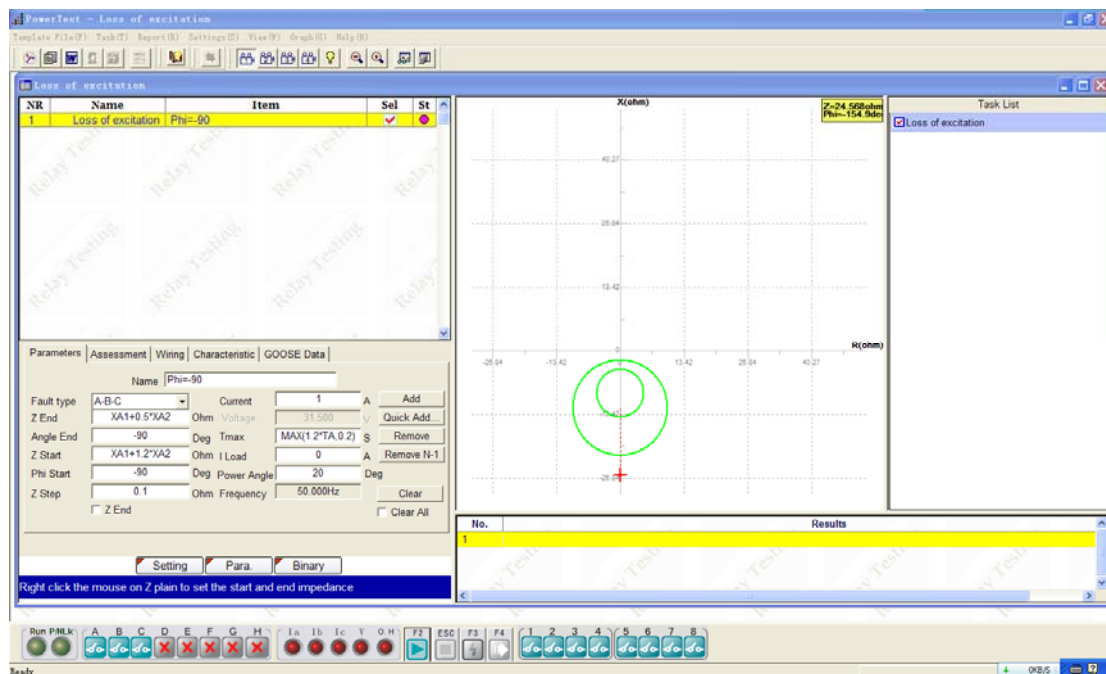


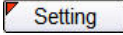
Loss of Excitation

This module searches for different excitation loss characteristics. Two different excitation loss characteristics can be searched according to fixed value setting.

During the test process a series of shots will be generated to search out the boundary along this shot line. Then next shot at a different angle will be generated. In this way we can then find out the boundary at different angles.



Set group settings

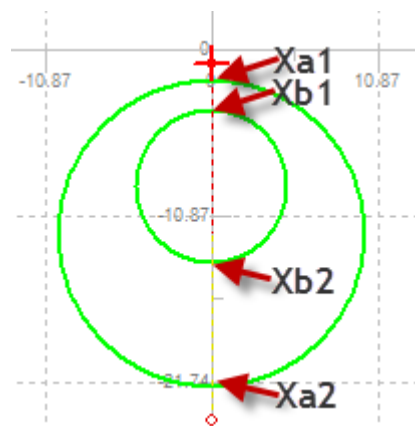
Click  button to enter into group setting page

Group setting page is shown bellow

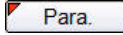
Name	Value	Variable
Xa1	2.000Ohms	XA1
Xa2	20.000Ohms	XA2
Ta	2.000S	TA
Xb1	4.000Ohms	XB1
Xb2	10.000Ohms	XB2
Tb	1.000S	TB

Here we can set the values based on actual relay settings under test.

- Xa 1:** zone a setting for L-N fault
Xa 2: zone 5 setting for L-L fault
Ta: tripping time for zone a
Xb 1: zone 1 setting for L-N fault
Xb 2: zone 5 setting for L-L fault
Tb: tripping time for zone b



Set group parameters

Click  button to enter into group parameter page. Group test parameter page along with default settings is shown bellow

Name	Value	Variable
Tprepare	15.000S	PrepareTime
Tprefault	15.000S	PreFaultTime
PT	Bus	PTCON
CT Polarity	Line	CTPOINT
CB Simu.	No	BCSIMULATION
Topen	200ms	TripTime
Tclose	100ms	CloseTime
Fault Inc. Mode	random	FaultIncMode
Fault Angle	40.0Deg	FaultAngle
DC-offset	Yes	DCSIM
Test Mode	IConst	TestMode
Zs	0.000Ohm	Zs
Phis	90.0Deg	Phis
KE(IK0 KR Z0/Z1)	0.670	K0A
KE(Phi(K0) KX Phi(Z0/Z1))	0.670	K0B
KE Given As	KR,KX	K0Mode
Search Mode	dichotomic	SearchMode
Ks Magnitude	0.670	Ks
Ks Angle	0.000	PhKs

TPrepare

Time for relay to reset at the first test cycle.

TPrefault

Prefault time setting for each test cycle

During this time the test set will supply normal system balance voltage.

PT

Select it according to the actual PT installation position

- Busbar side
- Line side

CT polarity

Select it according to the actual CT polarity

- Busbar: polarity is toward busbar side
- Line: polarity is toward line side

CB Sim.

When optional *Circuit Breaker Simulator* is used we can need to select **Yes** here.

Open Time

Related to *CB Sim.*

Close Time

Related to *CB Sim.*

Note: Please contact the manufacture for more information about the optional *Circuit Breaker Simulator* and its application

Fault Inc. Mode

Here we define how the fault is simulated.

- random
- fixed angle

random the angle between voltage and current at the moment of fault is given randomly by test set

fixed angle the angle between voltage and current at the moment of fault can be set here

Fault Angle

If we select **fixed angle** in *Fault Inc. Mode* we need to set the angle here

DC offset

Here we can define if DC offset is to be added when fault occurs

Test Mode

We can select the follow test modes.

- IConst: Constant current
- VConst: Constant voltage
- ZsConst: Constant system impedance

Zs, Phis, Ks Magnitude, Ks Angle

When Constant system impedance is selected then we need to give settings here.

KE(| K0/KR | Z0/Z1 |)

Setting for | K0 | , RERL or | Z0 |

KE(Phi(K0) KX Phi(Z0/Z1)

Setting for Phi(K0), XEXL or Phi(Z0)

KE given as

There are three types of KE mode available and we need to select the one according to the relay under test.

- | K0 | , Phi(K0)
- RERL, XEXL
- | Z0 | , Phi(Z0)

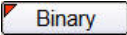
Search Mode

Here we define the search mode for searching the boundary along one shot line.

There are two methods available

- **Dichotomic**
- **Linear**

Configure binary inputs

Click  button to enter into binary input configuration page

Name	Value	Variable
Bin. In1	TripA	KA
Bin. In2	TripB	KB
Bin. In3	TripC	KC
Bin. In4	Reclose	KD
Bin. In5	TripA	KE
Bin. In6	TripB	KF
Bin. In7	TripC	KG
Bin. In8	Reclose	KH
Trip Sel.	1234	KBinary

To simplify the wiring operation and reduce the preparation time before the test we have assigned each binary input here to a dedicated purpose.

Bin. In1	● TripA ● TripABC	
Bin. In2	● TripB	
Bin. In3	● TripABC	
Bin. In4	● Reclose	
Bin. In5	● TripA ● TripABC	
Bin. In6	● TripB ● TripABC	
Bin. In7	● TripC ● TripABC	
Bin. In8	● Reclose	
Trip Sel	● 1234 ● 5678	Select to use binary 1234 or 5678