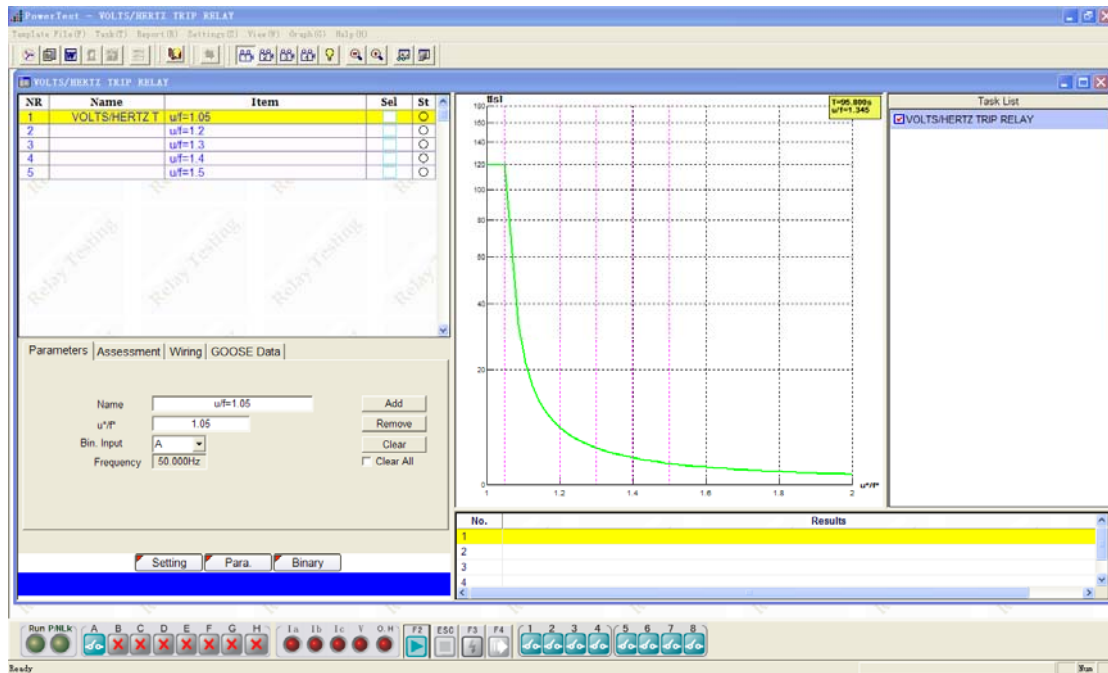


Volts/Hertz Trip Relay



This module is verifying the time inversed over-excitation protection characteristic and the formula:

$$t(s) = \frac{D}{\left(\frac{V/F}{V_{nom}/F_s \times Pickup} \right)^p - 1}$$

Set group settings

Click  button to enter into group setting page

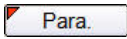
Group setting page is shown bellow

Name	Value	Variable
Pickup	1.050V/Hz	Pickup
TripTime	120.000Sec	Tpickup

pickup: Time inversed curve pickup value

TripTime: The longest fixed time

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
Tprefault	2.000Sec	PreFaultTime
Tmax	25.000Sec	FaultTime
Mode	FreqConst	Mode

TPrefault

Prefault time setting.

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

Tmax

FaultTime The longest fault time

Mode

Voltage or frequency const

- Freq Const: frequency const, and voltage variable
- Voltage Const: voltage const, and frequency variable

Set assessment criterion

In **Characteristic Definition** we can set the criterion for assessment

Assessment		Criterion	
☒ Abs. Err<	0.2	S	
☐ Rel. Err<	2	%	$(ABS(TRIPTIME - ((A * TD + K1) / (((I/p)^P) - C)))$

Add test point

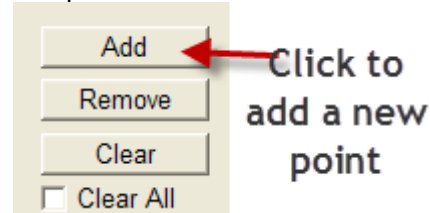
When we open the module one default test point is already in the test list.

NR	Name	Item	Sel	St
1	Time Inversed Cu	I=5.000*ln.3Io	☒	☐

We can use different ways to add the test points.

Direct Add

In the parameter page click **Add** to add a new test point



Editing the added point

When we add a new test point we follow the procedure of **first add then edit**.

Example:

Move cursor the test item where we want to add one more test point.

NR	Name	Item	Sel	St
1	VOLTS/HERTZ T	u/f=1.05	☐	☐

After we add one new point we can see it in the test list

NR	Name	Item	Sel	St
1	VOLTS/HERTZ T	u/f=1.05	☐	☐
2		u/f=1.05	☐	☐

Editing test point on characteristic plain

Move mouse pointer to the position where we want to set and double click the mouse button to confirm this operation.

Set test parameters

Editing from parameter page

For each test point we can set its test parameters on the parameter setting area

Name

u/f=1.05

Add

u*/f*

1.2

Remove

Bin. Input

A

Clear

Frequency

50.000Hz

☐ Clear All

Prefault setting	
U*/F*	Ratio between U/F and Un/Fn
Bin. Input	Select trigger monitor binary input
Frequency	Rated frequency

Test Report example

DGT-801A Test Report

Test Object	
Substation: 500kV	Bay:Testing Laboratory
Device:DGT-801A	Type:Transformer
Manufacture:NARI	SN:1234567
Tested by: Lee	Date:05/08/2008 09:56

TimeInversedCurrent	
Tprefault=50.000Sec	Tfault=10.000Sec
Fault:A-E	CT Dir.:Line

NR	Current	TripTime
1	2.000In	10.239S
2	3.000In	3.668S
3	4.000In	1.946S
4	5.000In	1.222S
5	6.000In	0.845S
6	7.000In	0.619S
7	9.000In	0.382S
8	10.000In	0.134S
9	11.000In	0.130S
10	12.000In	0.127S
11	13.000In	0.127S
12	14.000In	0.126S

