



# ARCHIVO DE PRUEBAS OMICRON

## AUDITORIA TECNICA DE EQUIPOS DE PROTECCIONES.

**PROTECCION DE FALLA INTERRUPTOR 52J14 EN S/E CARDONES  
MODELO 7VK87, MARCA SIEMENS, TECNOLOGIA SIPROTEC 5**

INGEMA S. A		CLIENTE	
Probado por: Ing. Mario Aguilar	Revisado por: Ing. Antony Porras	Recibido por:	Aprobado por:
Fecha: 02-04-2019		Fecha:	Fecha:

## Test Object - Device Settings

### Substation/Bay:

Substation: CARDONES 500 kV      Substation address: COPIAPO  
Bay: J14      Bay address:

### Device:

Name/description: J14\_R01\_F007      Manufacturer: SIEMENS  
Device type: 7VK87      Device address: P1D8321  
Serial/model number: 7VK87-DAAA-AA0-0AAAA0-  
AC0111-12111B-BAA000-  
000AA0-CH1BA1-CG0  
Additional info 1: 50BF\_PAÑO J14  
Additional info 2:

## Hardware

### Test Equipment

Type	Serial Number
CMC356	HE295P

### Hardware Check

Performed At	Result	Details
02-04-2019 14:20:38	Passed	

-----Group:1. Verificacion Medida Fase L1-----

## 1.1 Inyeccion 25% de Inominal:

### Test Module

Name: OMICRON QuickCMC      Version: 4.00  
Test Start: 02-abr.-2019 10:42:42      Test End: 02-abr.-2019 10:47:48  
User Name:      Manager:  
Company:

## Test Results

---

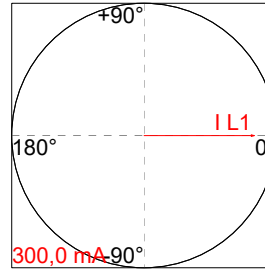
**Title: Verificacion de Medida al 25% Fase A**

### Fault Calculator:

Table Inputmode	Parameters (All values are secondary)			
Direct	I L1	250,0 mA	0,00 °	50,000 Hz
	I L2	0,000 A	-120,00 °	50,000 Hz
	I L3	0,000 A	120,00 °	50,000 Hz

## Generator Settings

I L1	0,250A	0,00°
I L2	0,000A	-120,00°
I L3	0,000A	120,00°



## Binary Inputs

Name	Slope	Time
DISP. L1_52J14	0	
DISP. L2_52J14	0	
DISP.L3_52J14	0	
ENVIO DDT	0	
DISP. 50BF_ET2/0	0	
DISP A 87B	0	
Overload	0	

## Summary

1 tests passed, 0 tests failed, 0 tests not assessed

100,00% passed

Test passed

Online access ▶ SIPROTEC 5 devices connected via USB ▶ J14\_R01\_F007 (Assigned) ▶ Measurements

Snapshot 0,0 Reset Show values as: primary CSV

✓ The values are displayed from normal operation. Set/reset of statistics, functional and user-defined values is allowed.

Fundamental	Function values	Statistics	User-def. values	
Measurements	Value	Quality	Number	
▼ Fundamental				
Vph:A	0 kV, ∠0 °	good (process)	301.1501.10391.302	
Vph:B	0 kV, ∠0 °	good (process)	301.1501.10391.302	
Vph:C	0 kV, ∠0 °	good (process)	301.1501.10391.302	
Vpp:AB	0 kV, ∠0 °	good (process)	301.1501.10391.301	
Vpp:BC	0 kV, ∠0 °	good (process)	301.1501.10391.301	
Vpp:CA	0 kV, ∠0 °	good (process)	301.1501.10391.301	
Iph:A	499 A, ∠0 °	good (process)	301.1501.10391.300	
Iph:B	0 A, ∠0 °	good (process)	301.1501.10391.300	
Iph:C	0 A, ∠0 °	good (process)	301.1501.10391.300	
IN	500 A, ∠-180 °	good (process)	301.1501.10391.303	

## 1.2 Inyeccion 50% de Inominal:

### Test Module

Name:	OMICRON QuickCMC	Version:	4.00
Test Start:	02-abr.-2019 10:48:01	Test End:	02-abr.-2019 10:49:02
User Name:		Manager:	
Company:			

### Test Results

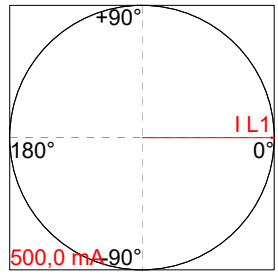
**Title: Verificacion de Medida Fase A al 50%**

**Fault Calculator:**

Table Inputmode	Parameters (All values are secondary)			
Direct	I L1	500,0 mA	0,00 °	50,000 Hz
	I L2	0,000 A	-120,00 °	50,000 Hz
	I L3	0,000 A	120,00 °	50,000 Hz

**Generator Settings**

I L1	0,500A	0,00°
I L2	0,000A	-120,00°
I L3	0,000A	120,00°



**Binary Inputs**

Name	Slope	Time
DISP. L1_52J14	0	
DISP. L2_52J14	0	
DISP.L3_52J14	0	
ENVIO DDT	0	
DISP. 50BF_ET2/0	0	
DISP A 87B	0	
Overload	0	

**Summary**

1 tests passed, 0 tests failed, 0 tests not assessed      100,00% passed  
**Test passed**

Online access ▶ SIPROTEC 5 devices connected via USB ▶ J14\_R01\_F007 (Assigned) ▶ Measurements

---

Snapshot 10.0 Reset      Show values as: primary      CSY

✔ The values are displayed from normal operation. Set/reset of statistics, functional and user-defined values is allowed.

Fundamental	Function values	Statistics	User-def. values	
Measurements	Value	Quality	Number	
▼ Fundamental				
Vph:A	0 kV, ∠0 °	good (process)	301.1501.10391.302	
Vph:B	0 kV, ∠0 °	good (process)	301.1501.10391.302	
Vph:C	0 kV, ∠0 °	good (process)	301.1501.10391.302	
Vpp:AB	0 kV, ∠0 °	good (process)	301.1501.10391.301	
Vpp:BC	0 kV, ∠0 °	good (process)	301.1501.10391.301	
Vpp:CA	0 kV, ∠0 °	good (process)	301.1501.10391.301	
Iph:A	999 A, ∠0 °	good (process)	301.1501.10391.300	
Iph:B	0 A, ∠0 °	good (process)	301.1501.10391.300	
Iph:C	0 A, ∠0 °	good (process)	301.1501.10391.300	
IN	1000 A, ∠-180 °	good (process)	301.1501.10391.303	

**1.2 Inyeccion 100% de Inominal:**

## Test Module

Name:	OMICRON QuickCMC	Version:	4.00
Test Start:	02-abr.-2019 10:49:11	Test End:	02-abr.-2019 10:50:01
User Name:		Manager:	
Company:			

## Test Results

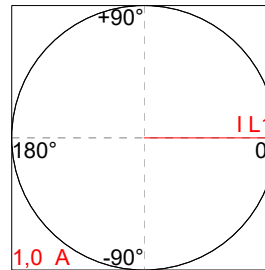
**Title: Verificacion Medida Fase A al 100%**

### Fault Calculator:

Table Inputmode	Parameters (All values are secondary)			
Direct	I L1	1,000 A	0,00 °	50,000 Hz
	I L2	0,000 A	-120,00 °	50,000 Hz
	I L3	0,000 A	120,00 °	50,000 Hz

### Generator Settings

I L1	1,000A	0,00°
I L2	0,000A	-120,00°
I L3	0,000A	120,00°



### Binary Inputs

Name	Slope	Time
DISP. L1_52J14	0	
DISP. L2_52J14	0	
DISP.L3_52J14	0	
ENVIO DDT	0	
DISP. 50BF_ET2/0	0	
DISP A 87B	0	
Overload	0	

### Summary

1 tests passed, 0 tests failed, 0 tests not assessed

100,00% passed

**Test passed**

Online access ▶ SIPROTEC 5 devices connected via USB ▶ J14\_R01\_F007 (Assigned) ▶ Measurements

Snapshot  0.0 Reset Show values as: primary

The values are displayed from normal operation. Set/reset of statistics, functional and user-defined values is allowed.

Fundamental	Function values	Statistics	User-def. values	
Measurements	Value	Quality	Number	
▼ Fundamental				
Vph:A	0 kV,	∠0 ° good (process)	301.1501.10391.302	
Vph:B	0 kV,	∠0 ° good (process)	301.1501.10391.302	
Vph:C	0 kV,	∠0 ° good (process)	301.1501.10391.302	

## Test Module

Name:	OMICRON QuickCMC	Version:	4.00
Test Start:	02-abr.-2019 10:50:13	Test End:	02-abr.-2019 10:51:11
User Name:		Manager:	
Company:			

## Test Results

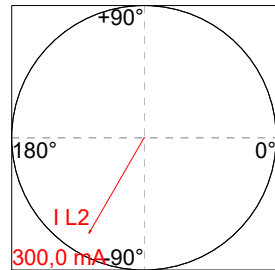
**Title: Verificacion de Medida Fase B al 25%**

### Fault Calculator:

Table Inputmode	Parameters (All values are secondary)			
Direct	I L1	0,000 A	0,00 °	50,000 Hz
	I L2	250,0 mA	-120,00 °	50,000 Hz
	I L3	0,000 A	120,00 °	50,000 Hz

### Generator Settings

I L1	0,000A	0,00°
I L2	0,250A	-120,00°
I L3	0,000A	120,00°



### Binary Inputs

Name	Slope	Time
DISP. L1_52J14	0	
DISP. L2_52J14	0	
DISP.L3_52J14	0	
ENVIO DDT	0	
DISP. 50BF_ET2/0	0	
DISP A 87B	0	
Overload	0	

### Summary

1 tests passed, 0 tests failed, 0 tests not assessed 100,00% passed  
**Test passed**

Online access ▶ SIPROTEC 5 devices connected via USB ▶ J14\_R01\_F007 (Assigned) ▶ Measurements

Snapshot  10,0 Reset Show values as: primary

The values are displayed from normal operation. Set/reset of statistics, functional and user-defined values is allowed.

Fundamental	Function values	Statistics	User-def. values	
Measurements	Value	Quality	Number	
▼ Fundamental				
Vph:A	0 kV, ∠0 °	good (process)	301.1501.10391.302	
Vph:B	0 kV, ∠0 °	good (process)	301.1501.10391.302	
Vph:C	0 kV, ∠0 °	good (process)	301.1501.10391.302	
Vpp:AB	0 kV, ∠0 °	good (process)	301.1501.10391.301	

## Test Module

Name:	OMICRON QuickCMC	Version:	4.00
Test Start:	02-abr.-2019 10:51:20	Test End:	02-abr.-2019 10:52:14
User Name:		Manager:	
Company:			

## Test Results

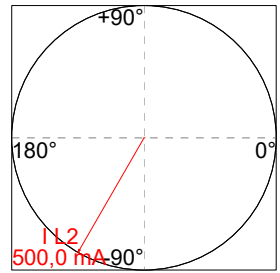
**Title: Verificacion de Medida Fase B al 50%**

### Fault Calculator:

Table Inputmode	Parameters (All values are secondary)			
Direct	I L1	0,000 A	0,00 °	50,000 Hz
	I L2	500,0 mA	-120,00 °	50,000 Hz
	I L3	0,000 A	120,00 °	50,000 Hz

### Generator Settings

I L1	0,000A	0,00°
I L2	0,500A	-120,00°
I L3	0,000A	120,00°



### Binary Inputs

Name	Slope	Time
DISP. L1_52J14	0	
DISP. L2_52J14	0	
DISP.L3_52J14	0	
ENVIO DDT	0	
DISP. 50BF_ET2/0	0	
DISP A 87B	0	
Overload	0	

### Summary

1 tests passed, 0 tests failed, 0 tests not assessed 100,00% passed  
**Test passed**

Online access ▶ SIPROTEC 5 devices connected via USB ▶ J14\_R01\_F007 (Assigned) ▶ Measurements

Snapshot  Reset Show values as:

The values are displayed from normal operation. Set/reset of statistics, functional and user-defined values is allowed.

Fundamental	Function values	Statistics	User-def. values	
Measurements	Value	Quality	Number	
▼ Fundamental				
Vph:A	0 kV, ∠0 °	good (process)	301.1501.10391.302	
Vph:B	0 kV, ∠0 °	good (process)	301.1501.10391.302	
Vph:C	0 kV, ∠0 °	good (process)	301.1501.10391.302	
Vpp:AB	0 kV, ∠0 °	good (process)	301.1501.10391.301	
Vpp:BC	0 kV, ∠0 °	good (process)	301.1501.10391.301	
Vpp:CA	0 kV, ∠0 °	good (process)	301.1501.10391.301	
Iph:A	0 A, ∠0 °	good (process)	301.1501.10391.300	
Iph:B	1000 A, ∠0 °	good (process)	301.1501.10391.300	



## 2.3 Inyeccion 100% de Inominal:

### Test Module

Name:	OMICRON QuickCMC	Version:	4.00
Test Start:	02-abr.-2019 10:53:22	Test End:	02-abr.-2019 10:53:33
User Name:		Manager:	
Company:			

### Test Results

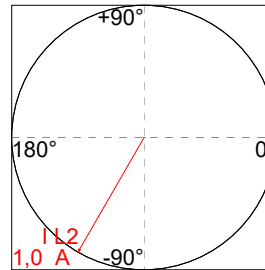
Title: Verificacion de Medida Fase B al 100%

#### Fault Calculator:

Table Inputmode	Parameters (All values are secondary)			
Direct	I L1	0,000 A	0,00 °	50,000 Hz
	I L2	1,000 A	-120,00 °	50,000 Hz
	I L3	0,000 A	120,00 °	50,000 Hz

#### Generator Settings

I L1	0,000A	0,00°
I L2	1,000A	-120,00°
I L3	0,000A	120,00°



#### Binary Inputs

Name	Slope	Time
DISP. L1_52J14	0	
DISP. L2_52J14	0	
DISP.L3_52J14	0	
ENVIO DDT	0	
DISP. 50BF_ET2/0	0	
DISP A 87B	0	
Overload	0	

#### Summary

1 tests passed, 0 tests failed, 0 tests not assessed

100,00% passed

Test passed

Online access ▶ SIPROTEC 5 devices connected via USB ▶ J14\_R01\_F007 (Assigned) ▶ Measurements

Snapshot 40.0 Reset Show values as: primary CSV

✓ The values are displayed from normal operation. Set/reset of statistics, functional and user-defined values is allowed.

Fundamental	Function values	Statistics	User-def. values	
Measurements	Value	Quality	Number	
▼ Fundamental				
Vph:A	0 kV, ∠0 °	good (process)	301.1501.10391.302	
Vph:B	0 kV, ∠0 °	good (process)	301.1501.10391.302	
Vph:C	0 kV, ∠0 °	good (process)	301.1501.10391.302	
Vpp:AB	0 kV, ∠0 °	good (process)	301.1501.10391.301	
Vpp:BC	0 kV, ∠0 °	good (process)	301.1501.10391.301	
Vpp:CA	0 kV, ∠0 °	good (process)	301.1501.10391.301	



-----Group end:2. Verificacion Medida Fase L2-----

-----Group:3. Verificacion Medida Fase L3-----

### 3.1 Inyeccion 25% de Inominal:

#### Test Module

Name:	OMICRON QuickCMC	Version:	4.00
Test Start:	02-abr.-2019 10:53:46	Test End:	02-abr.-2019 10:54:35
User Name:		Manager:	
Company:			

#### Test Results

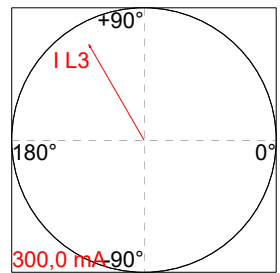
Title: Verificacion de Medida Fase C al 25%

#### Fault Calculator:

Table Inputmode	Parameters (All values are secondary)			
Direct	I L1	0,000 A	0,00 °	50,000 Hz
	I L2	0,000 A	-120,00 °	50,000 Hz
	I L3	250,0 mA	120,00 °	50,000 Hz

#### Generator Settings

I L1	0,000A	0,00°
I L2	0,000A	-120,00°
I L3	0,250A	120,00°



#### Binary Inputs

Name	Slope	Time
DISP. L1_52J14	0	
DISP. L2_52J14	0	
DISP.L3_52J14	0	
ENVIO DDT	0	
DISP. 50BF_ET2/0	0	
DISP A 87B	0	
Overload	0	

#### Summary

1 tests passed, 0 tests failed, 0 tests not assessed

100,00% passed

Test passed

Online access ▶ SIPROTEC 5 devices connected via USB ▶ J14\_R01\_F007 (Assigned) ▶ Measurements

Snapshot 10.0 Reset Show values as: primary [v] CSV

✓ The values are displayed from normal operation. Set/reset of statistics, functional and user-defined values is allowed.

Fundamental Function values Statistics User-def. values

## Test Module

Name:	OMICRON QuickCMC	Version:	4.00
Test Start:	02-abr.-2019 10:54:44	Test End:	02-abr.-2019 10:55:33
User Name:		Manager:	
Company:			

## Test Results

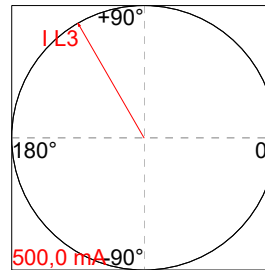
**Title: Verificacion Medida Fase C al 50%**

### Fault Calculator:

Table Inputmode	Parameters (All values are secondary)			
Direct	I L1	0,000 A	0,00 °	50,000 Hz
	I L2	0,000 A	-120,00 °	50,000 Hz
	I L3	500,0 mA	120,00 °	50,000 Hz

### Generator Settings

I L1	0,000A	0,00°
I L2	0,000A	-120,00°
I L3	0,500A	120,00°



### Binary Inputs

Name	Slope	Time
DISP. L1_52J14	0	
DISP. L2_52J14	0	
DISP.L3_52J14	0	
ENVIO DDT	0	
DISP. 50BF_ET2/0	0	
DISP A 87B	0	
Overload	0	

### Summary

1 tests passed, 0 tests failed, 0 tests not assessed

100,00% passed

**Test passed**

Online access ▶ SIPROTEC 5 devices connected via USB ▶ J14\_R01\_F007 (Assigned) ▶ Measurements

Snapshot 10.0 Reset Show values as: primary CSV

✓ The values are displayed from normal operation. Set/reset of statistics, functional and user-defined values is allowed.

Fundamental	Function values	Statistics	User-def. values	
Measurements	Value	Quality	Number	
▼ Fundamental				
Vph:A	0 kV,	∠0°	good (process)	301.1501.10391.302
Vph:B	0 kV,	∠0°	good (process)	301.1501.10391.302
Vph:C	0 kV,	∠0°	good (process)	301.1501.10391.302

## Test Module

Name:	OMICRON QuickCMC	Version:	4.00
Test Start:	02-abr.-2019 10:55:44	Test End:	02-abr.-2019 10:56:36
User Name:		Manager:	
Company:			

## Test Results

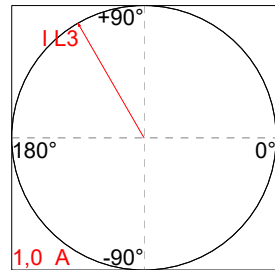
**Title: Verificacion Msedida Fase C al 100%**

### Fault Calculator:

Table Inputmode	Parameters (All values are secondary)			
Direct	I L1	0,000 A	0,00 °	50,000 Hz
	I L2	0,000 A	-120,00 °	50,000 Hz
	I L3	1,000 A	120,00 °	50,000 Hz

### Generator Settings

I L1	0,000A	0,00°
I L2	0,000A	-120,00°
I L3	1,000A	120,00°



### Binary Inputs

Name	Slope	Time
DISP. L1_52J14	0	
DISP. L2_52J14	0	
DISP.L3_52J14	0	
ENVIO DDT	0	
DISP. 50BF_ET2/0	0	
DISP A 87B	0	
Overload	0	

### Summary

1 tests passed, 0 tests failed, 0 tests not assessed 100,00% passed  
**Test passed**

Online access ▶ SIPROTEC 5 devices connected via USB ▶ J14\_R01\_F007 (Assigned) ▶ Measurements

Snapshot 10.0 Reset Show values as: primary CSV

✓ The values are displayed from normal operation. Set/reset of statistics, functional and user-defined values is allowed.

Fundamental	Function values	Statistics	User-def. values	
Measurements	Value	Quality	Number	
▼ Fundamental				
Vph:A	0 kV, ∠0°	good (process)	301.1501.10391.302	
Vph:B	0 kV, ∠0°	good (process)	301.1501.10391.302	
Vph:C	0 kV, ∠0°	good (process)	301.1501.10391.302	
Vpp:AB	0 kV, ∠0°	good (process)	301.1501.10391.301	
Vpp:BC	0 kV, ∠0°	good (process)	301.1501.10391.301	
Vpp:CA	0 kV, ∠0°	good (process)	301.1501.10391.301	
Iph:A	0 A, ∠0°	good (process)	301.1501.10391.300	

-----Group end:3. Verificacion Medida Fase L3-----

-----Group:4. Verificacion Medida Fases L123-----

## 4.1 Inyeccion 25% de Inominal:

### Test Module

Name:	OMICRON QuickCMC	Version:	4.00
Test Start:	02-abr.-2019 10:56:48	Test End:	02-abr.-2019 10:57:36
User Name:		Manager:	
Company:			

### Test Results

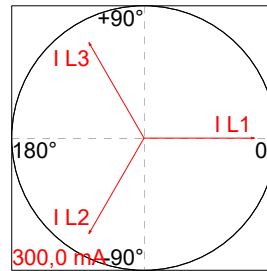
Title: Verificacion Medida Fases ABC al 25%

#### Fault Calculator:

Table Inputmode	Parameters (All values are secondary)			
Direct	I L1	250,0 mA	0,00 °	50,000 Hz
	I L2	250,0 mA	-120,00 °	50,000 Hz
	I L3	250,0 mA	120,00 °	50,000 Hz

#### Generator Settings

I L1	0,250A	0,00°
I L2	0,250A	-120,00°
I L3	0,250A	120,00°



#### Binary Inputs

Name	Slope	Time
DISP. L1_52J14	0	
DISP. L2_52J14	0	
DISP.L3_52J14	0	
ENVIO DDT	0	
DISP. 50BF_ET2/0	0	
DISP A 87B	0	
Overload	0	

#### Summary

1 tests passed, 0 tests failed, 0 tests not assessed

100,00% passed

Test passed

Online access ▶ SIPROTEC 5 devices connected via USB ▶ J14\_R01\_F007 (Assigned) ▶ Measurements

Snapshot  Reset Show values as: primary

The values are displayed from normal operation. Set/reset of statistics, functional and user-defined values is allowed.

Fundamental Function values Statistics User-def. values

## Test Module

Name:	OMICRON QuickCMC	Version:	4.00
Test Start:	02-abr.-2019 10:57:45	Test End:	02-abr.-2019 10:58:36
User Name:		Manager:	
Company:			

## Test Results

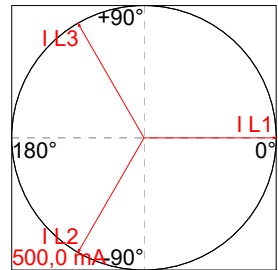
**Title: Verificacion Medida Fases ABC al 50%**

### Fault Calculator:

Table Inputmode	Parameters (All values are secondary)			
Direct	I L1	500,0 mA	0,00 °	50,000 Hz
	I L2	500,0 mA	-120,00 °	50,000 Hz
	I L3	500,0 mA	120,00 °	50,000 Hz

### Generator Settings

I L1	0,500A	0,00°
I L2	0,500A	-120,00°
I L3	0,500A	120,00°



### Binary Inputs

Name	Slope	Time
DISP. L1_52J14	0	
DISP. L2_52J14	0	
DISP.L3_52J14	0	
ENVIO DDT	0	
DISP. 50BF_ET2/0	0	
DISP A 87B	0	
Overload	0	

### Summary

1 tests passed, 0 tests failed, 0 tests not assessed

100,00% passed

**Test passed**

Online access ▶ SIPROTEC 5 devices connected via USB ▶ J14\_R01\_F007 (Assigned) ▶ Measurements

Snapshot 4.0.0 Reset Show values as: primary CSV

✓ The values are displayed from normal operation. Set/reset of statistics, functional and user-defined values is allowed.

Fundamental	Function values	Statistics	User-def. values	
Measurements	Value	Quality	Number	
▼ Fundamental				
Vph:A	0 kV,	∠0 °	good (process)	301.1501.10391.302
Vph:B	0 kV,	∠0 °	good (process)	301.1501.10391.302
Vph:C	0 kV,	∠0 °	good (process)	301.1501.10391.302

## Test Module

Name:	OMICRON QuickCMC	Version:	4.00
Test Start:	02-abr.-2019 10:58:48	Test End:	02-abr.-2019 10:59:45
User Name:		Manager:	
Company:			

## Test Results

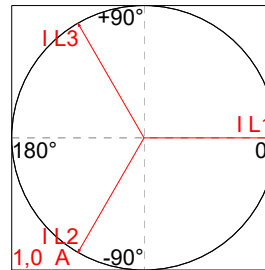
**Title: Verificacion Medida Fases ABC al 100%**

### Fault Calculator:

Table Inputmode	Parameters (All values are secondary)			
Direct	I L1	1,000 A	0,00 °	50,000 Hz
	I L2	1,000 A	-120,00 °	50,000 Hz
	I L3	1,000 A	120,00 °	50,000 Hz

### Generator Settings

I L1	1,000A	0,00°
I L2	1,000A	-120,00°
I L3	1,000A	120,00°



### Binary Inputs

Name	Slope	Time
DISP. L1_52J14	0	
DISP. L2_52J14	0	
DISP.L3_52J14	0	
ENVIO DDT	0	
DISP. 50BF_ET2/0	0	
DISP A 87B	0	
Overload	0	

### Summary

1 tests passed, 0 tests failed, 0 tests not assessed 100,00% passed  
**Test passed**

Online access ▶ SIPROTEC 5 devices connected via USB ▶ J14\_R01\_F007 (Assigned) ▶ Measurements

Snapshot  Reset Show values as:

The values are displayed from normal operation. Set/reset of statistics, functional and user-defined values is allowed.

Fundamental	Function values	Statistics	User-def. values	
Measurements	Value	Quality	Number	
▼ Fundamental				
Vph:A	0 kV,	∠0 °	good (process)	301.1501.10391.302
Vph:B	0 kV,	∠0 °	good (process)	301.1501.10391.302
Vph:C	0 kV,	∠0 °	good (process)	301.1501.10391.302
Vpp:AB	0 kV,	∠0 °	good (process)	301.1501.10391.301
Vpp:BC	0 kV,	∠0 °	good (process)	301.1501.10391.301
Vpp:CA	0 kV,	∠0 °	good (process)	301.1501.10391.301
Iph:A	1997 A,	∠0 °	good (process)	301.1501.10391.300
Iph:B	1987 A,	∠120 °	good (process)	301.1501.10391.300

## 5.1 Pickup con Arranque Fase L1:

### Test Settings

#### General

No. of ramp states: 1  
 Total steps per test: 26  
 Total time per test: 7,800 s  
 No. of test executions: 1

Input Mode: Direct  
 Fault Type:

#### Ramped Quantities

I L1 / Magnitude

#### Ramp States

Ramp	Ramp 1
I L1	1,180 A 0,00 ° 50,000 Hz
I L2	0,000 A -120,00 ° 50,000 Hz
I L3	0,000 A 120,00 ° 50,000 Hz
Force abs. Phases	No
Sig 1 From	1,180 A
Sig 1 To	1,205 A
Sig 1 Delta	1,000 mA
Sig 1 d/dt	3,333 mA/s
ARRANQ_L1	1
ARRANQ. L2	0
ARRANQ. L3	0
ARRANQ. L1L2L3	0
dt per Step	300,0 ms
Ramp Steps	26
Ramp Time	7,800s
Trigger	Bin
Trigger Logic	OR
DISP. L1_52J14	1
DISP. L2_52J14	X
DISP.L3_52J14	X
ENVIO DDT	X
DISP. 50BF_ET2/0	X
DISP A 87B	X
Step back	No
Delay Time	100,0 ms

#### Test Module

Name: OMICRON Ramping  
 Test Start: 02-abr.-2019 12:37:23  
 User Name:

Version: 4.00  
 Test End: 02-abr.-2019 12:37:27  
 Manager:



Company:

## Assessment Results

Name/ Exec.	Ramp	Condition	Sig	Nom.	Act.	Tol.-	Tol.+	Dev.	Assess	Tact
Pickup 50BF_L1	Ramp 1	DISP. L1_52J14 0->1	I L1	1,180 A	1,182 A	300,0 mA	300,0 mA	2,000 mA	+	179,9 ms

Assess: + .. Passed x .. Failed o .. Not assessed

### Test State:

Test passed

## 5.2 Pickup sin Arranque Fase L1:

### Test Settings

#### General

No. of ramp states: 1  
 Total steps per test: 121  
 Total time per test: 36,300 s  
 No. of test executions: 1

Input Mode: Direct  
 Fault Type:

#### Ramped Quantities

I L1 / Magnitude

#### Ramp States

Ramp	Ramp 1
I L1	1,180 A 0,00 ° 50,000 Hz
I L2	0,000 A -120,00 ° 50,000 Hz
I L3	0,000 A 120,00 ° 50,000 Hz
Force abs. Phases	No
Sig 1 From	1,180 A
Sig 1 To	1,300 A
Sig 1 Delta	1,000 mA
Sig 1 d/dt	3,333 mA/s
ARRANQ. L1	0
ARRANQ. L2	0
ARRANQ. L3	0
ARRANQ. L1L2L3	0
dt per Step	300,0 ms
Ramp Steps	121
Ramp Time	36,300s
Trigger	Bin
Trigger Logic	OR
DISP. L1_52J14	1
DISP. L2_52J14	X
DISP. L3_52J14	X
ENVIO DDT	X
DISP. 50BF_ET2/0	X
DISP A 87B	X

<b>Step back</b>	Yes
<b>Delay Time</b>	100,0 ms

## Test Module

Name: OMICRON Ramping Version: 4.00  
 Test Start: 02-abr.-2019 12:40:35 Test End: 02-abr.-2019 12:41:13  
 User Name: Manager:  
 Company:

## Assessment Results

Name/ Exec.	Ramp	Condition	Sig	Nom.	Act.	Tol.-	Tol.+	Dev.	Assess	Tact
-------------	------	-----------	-----	------	------	-------	-------	------	--------	------

Assess: + .. Passed x .. Failed o .. Not assessed

**Test State:**  
**Test passed**

-----Group end:5. Verificacion Pickup 50BF Fase L1-----

-----Group:6. Verificacion Pickup 50BF Fase L2-----

## 6.1 Pickup con Arranque Fase L2:

### Test Settings

#### General

No. of ramp states: 1  
 Total steps per test: 121  
 Total time per test: 36,300 s  
 No. of test executions: 1

Input Mode: Direct  
 Fault Type:

#### Ramped Quantities

I L2 / Magnitude

#### Ramp States

Ramp	Ramp 1
I L1	0,000 A 0,00 ° 50,000 Hz
I L2	1,180 A -120,00 ° 50,000 Hz
I L3	0,000 A 120,00 ° 50,000 Hz
<b>Force abs. Phases</b>	No
<b>Sig 1 From</b>	1,180 A
<b>Sig 1 To</b>	1,300 A
<b>Sig 1 Delta</b>	1,000 mA
<b>Sig 1 d/dt</b>	3,333 mA/s
<b>ARRANQ. L1</b>	0
<b>ARRANQ. L2</b>	1
<b>ARRANQ. L3</b>	0
<b>ARRANQ. L1L2L3</b>	0
<b>dt per Step</b>	300,0 ms
<b>Ramp Steps</b>	121

<b>Ramp Time</b>	36,300s
<b>Trigger</b>	Bin
<b>Trigger Logic</b>	OR
<b>DISP. L1_52J14</b>	X
<b>DISP. L2_52J14</b>	1
<b>DISP.L3_52J14</b>	X
<b>ENVIO DDT</b>	X
<b>DISP. 50BF_ET2/0</b>	X
<b>DISP A 87B</b>	X
<b>Step back</b>	Yes
<b>Delay Time</b>	20,00 ms

## Test Module

Name: OMICRON Ramping Version: 4.00  
 Test Start: 02-abr.-2019 12:44:06 Test End: 02-abr.-2019 12:44:09  
 User Name: Manager:  
 Company:

## Assessment Results

Name/ Exec.	Ramp	Condition	Sig	Nom.	Act.	Tol.-	Tol.+	Dev.	Assess	Tact
Pickup_Fase L2	Ramp 1	DISP. L2_52J14 0->1	I L2	1,180 A	1,182 A	300,0 mA	300,0 mA	2,000 mA	+	66,50 ms

Assess: + .. Passed x .. Failed o .. Not assessed

**Test State:**  
**Test passed**

## 6.2 Pickup sin Arranque Fase L2:

### Test Settings

#### General

No. of ramp states: 1  
 Total steps per test: 121  
 Total time per test: 36,300 s  
 No. of test executions: 1

Input Mode: Direct  
 Fault Type:

#### Ramped Quantities

I L2 / Magnitude

#### Ramp States

Ramp	Ramp 1
I L1	0,000 A 0,00 ° 50,000 Hz
I L2	<u>1,180 A</u> -120,00 ° 50,000 Hz
I L3	0,000 A 120,00 ° 50,000 Hz
<b>Force abs. Phases</b>	No
<b>Sig 1 From</b>	1,180 A
<b>Sig 1 To</b>	1,300 A
<b>Sig 1 Delta</b>	1,000 mA

<b>Sig 1 d/dt</b>	3,333 mA/s
<b>ARRANQ_L1</b>	0
<b>ARRANQ_L2</b>	0
<b>ARRANQ_L3</b>	0
<b>ARRANQ_L1L2L3</b>	0
<b>dt per Step</b>	300,0 ms
<b>Ramp Steps</b>	121
<b>Ramp Time</b>	36,300s
<b>Trigger</b>	Bin
<b>Trigger Logic</b>	OR
<b>DISP. L1_52J14</b>	X
<b>DISP. L2_52J14</b>	1
<b>DISP.L3_52J14</b>	X
<b>ENVIO DDT</b>	X
<b>DISP. 50BF_ET2/0</b>	X
<b>Step back</b>	No
<b>Delay Time</b>	0,000 s

## Test Module

Name: OMICRON Ramping      Version: 4.00  
 Test Start: 02-abr.-2019 12:45:21      Test End: 02-abr.-2019 12:45:59  
 User Name:      Manager:  
 Company:

## Assessment Results

Name/ Exec.	Ramp	Condition	Sig	Nom.	Act.	Tol.-	Tol.+	Dev.	Assess	Tact
-------------	------	-----------	-----	------	------	-------	-------	------	--------	------

Assess: + .. Passed    x .. Failed    o .. Not assessed

**Test State:**  
**Test passed**

-----Group end:6. Verificacion Pickup 50BF Fase L2-----

-----Group:7. Verificacion Pickup 50BF Fase L3-----

## 7.1 Pickup con Arranque Fase L3:

### Test Settings

#### General

No. of ramp states: 1  
 Total steps per test: 25  
 Total time per test: 7,500 s  
 No. of test executions: 1

Input Mode: Direct  
 Fault Type:

#### Ramped Quantities

I L3 / Magnitude

#### Ramp States

Ramp	Ramp 1
I L1	0,000 A 0,00 ° 50,000 Hz
I L2	0,000 A -120,00 ° 50,000 Hz

I L3	1,180 A 120,00 ° 50,000 Hz
Force abs. Phases	No
Sig 1 From	1,180 A
Sig 1 To	1,300 A
Sig 1 Delta	5,000 mA
Sig 1 d/dt	16,67 mA/s
ARRANQ. L1	0
ARRANQ. L2	0
ARRANQ. L3	1
ARRANQ. L1L2L3	0
dt per Step	300,0 ms
Ramp Steps	25
Ramp Time	7,500s
Trigger	Bin
Trigger Logic	OR
DISP. L1_52J14	X
DISP. L2_52J14	X
DISP.L3_52J14	1
ENVIO DDT	X
DISP. 50BF_ET2/0	X
DISP A 87B	X
Step back	Yes
Delay Time	20,00 ms

## Test Module

Name:	OMICRON Ramping	Version:	4.00
Test Start:	02-abr.-2019 12:52:08	Test End:	02-abr.-2019 12:52:11
User Name:		Manager:	
Company:			

## Assessment Results

Name/ Exec.	Ramp	Condition	Sig	Nom.	Act.	Tol.-	Tol.+	Dev.	Assess	Tact
Pickup_Fase L2	Ramp 1	DISP.L3_52 J14 0->1	I L3	1,180 A	1,185 A	300,0 mA	300,0 mA	5,000 mA	+	65,50 ms

Assess: + .. Passed x .. Failed o .. Not assessed

**Test State:**  
Test passed

## 7.2 Pickup sin Arranque Fase L3:

### Test Settings

#### General

No. of ramp states: 1  
Total steps per test: 121  
Total time per test: 36,300 s  
No. of test executions: 1

Input Mode: Direct  
Fault Type:

#### Ramped Quantities

I L3 / Magnitude

## Ramp States

Ramp	Ramp 1
I L1	0,000 A 0,00 ° 50,000 Hz
I L2	0,000 A -120,00 ° 50,000 Hz
I L3	<u>1,180 A</u> 120,00 ° 50,000 Hz
Force abs. Phases	No
Sig 1 From	1,180 A
Sig 1 To	1,300 A
Sig 1 Delta	1,000 mA
Sig 1 d/dt	3,333 mA/s
ARRANQ. L1	0
ARRANQ. L2	0
ARRANQ. L3	0
ARRANQ. L1L2L3	0
dt per Step	300,0 ms
Ramp Steps	121
Ramp Time	36,300s
Trigger	Bin
Trigger Logic	OR
DISP. L1_52J14	X
DISP. L2_52J14	X
DISP.L3_52J14	1
ENVIO DDT	X
DISP. 50BF_ET2/0	X
DISP A 87B	X
Step back	No
Delay Time	0,000 s

## Test Module

Name:	OMICRON Ramping	Version:	4.00
Test Start:	02-abr.-2019 12:52:41	Test End:	02-abr.-2019 12:53:20
User Name:		Manager:	
Company:			

## Assessment Results

Name/ Exec.	Ramp	Condition	Sig	Nom.	Act.	Tol.-	Tol.+	Dev.	Assess	Tact
-------------	------	-----------	-----	------	------	-------	-------	------	--------	------

Assess: + .. Passed x .. Failed o .. Not assessed

**Test State:**  
**Test passed**

-----Group end:7. Verificacion Pickup 50BF Fase L3-----

-----Group:8. Verificacion Pickup 50BF Fases L123-----

## 8.1 Pickup con Arranque Fases L123:

## Test Settings

## General

No. of ramp states: 1  
Total steps per test: 121  
Total time per test: 36,300 s  
No. of test executions: 1

Input Mode: Direct  
Fault Type:

## Ramped Quantities

I L1; L2; L3 / Magnitude

## Ramp States

Ramp	Ramp 1
I L1	<u>1,180 A</u> 0,00 ° 50,000 Hz
I L2	<u>1,180 A</u> -120,00 ° 50,000 Hz
I L3	<u>1,180 A</u> 120,00 ° 50,000 Hz
Force abs. Phases	No
Sig 1 From	1,180 A
Sig 1 To	1,300 A
Sig 1 Delta	1,000 mA
Sig 1 d/dt	3,333 mA/s
ARRANQ_L1	0
ARRANQ_L2	0
ARRANQ_L3	0
ARRANQ_L1L2L3	1
dt per Step	300,0 ms
Ramp Steps	121
Ramp Time	36,300s
Trigger	Bin
Trigger Logic	AND
DISP. L1_52J14	1
DISP. L2_52J14	1
DISP.L3_52J14	1
ENVIO DDT	X
DISP. 50BF_ET2/0	X
DISP A 87B	X
Step back	Yes
Delay Time	20,00 ms

## Test Module

Name: OMICRON Ramping  
Test Start: 02-abr.-2019 13:02:47  
User Name:  
Company:

Version: 4.00  
Test End: 02-abr.-2019 13:02:51  
Manager:



## Assessment Results

Name/ Exec.	Ramp	Condition	Sig	Nom.	Act.	Tol.-	Tol.+	Dev.	Assess	Tact
Pickup_Fase L123	Ramp 1	DISP.L3_52 J14 0->1 and DISP. L1_52J14 0->1 and DISP. L2_52J14 0->1	I L1; L2; L3	1,180 A	1,182 A	300,0 mA	300,0 mA	2,000 mA	+	75,10 ms

Assess: + .. Passed x .. Failed o .. Not assessed

### Test State:

Test passed

## 8.2 Pickup sin Arranque Fases L123:

### Test Settings

#### General

No. of ramp states: 1  
 Total steps per test: 121  
 Total time per test: 36,300 s  
 No. of test executions: 1

Input Mode: Direct  
 Fault Type:

#### Ramped Quantities

I L1; L2; L3 / Magnitude

#### Ramp States

Ramp	Ramp 1
I L1	1,180 A 0,00 ° 50,000 Hz
I L2	1,180 A -120,00 ° 50,000 Hz
I L3	1,180 A 120,00 ° 50,000 Hz
Force abs. Phases	No
Sig 1 From	1,180 A
Sig 1 To	1,300 A
Sig 1 Delta	1,000 mA
Sig 1 d/dt	3,333 mA/s
ARRANQ_L1	0
ARRANQ. L2	0
ARRANQ. L3	0
ARRANQ. L1L2L3	0
dt per Step	300,0 ms
Ramp Steps	121
Ramp Time	36,300s
Trigger	Bin
Trigger Logic	OR
DISP. L1_52J14	1
DISP. L2_52J14	1
DISP.L3_52J14	1

ENVIO DDT	X
DISP. 50BF_ET2/0	X
Step back	No
Delay Time	0,000 s

## Test Module

Name: OMICRON Ramping Version: 4.00  
 Test Start: 02-abr.-2019 13:03:24 Test End: 02-abr.-2019 13:04:03  
 User Name: Manager:  
 Company:

## Assessment Results

Name/ Exec.	Ramp	Condition	Sig	Nom.	Act.	Tol.-	Tol.+	Dev.	Assess	Tact
-------------	------	-----------	-----	------	------	-------	-------	------	--------	------

Assess: + .. Passed x .. Failed o .. Not assessed

**Test State:**  
**Test passed**

----- Group end:8. Verificacion Pickup 50BF Fases L123-----

----- Group:9. Operacion 50BF\_K2 (T1)-----

## 9.1 Operacion 50BF\_Fase L1 :

### Test Settings

State	Prefalla	Pickup IL1+S/Arr anque 50BF	Post Falla 1	Pickup IL1+C/Arr anque 50BF_L1	Post- Falla 3
I L1	800,0 mA 0,00 ° 50,000 Hz	1,300 A 0,00 ° 50,000 Hz	0,000 A 0,00 ° 50,000 Hz	1,300 A 0,00 ° 50,000 Hz	0,000 A 0,00 ° 50,000 Hz
I L2	0,000 A -120,00 ° 50,000 Hz	0,000 A -120,00 ° 50,000 Hz	0,000 A -120,00 ° 50,000 Hz	0,000 A -120,00 ° 50,000 Hz	0,000 A -120,00 ° 50,000 Hz
I L3	0,000 A 120,00 ° 50,000 Hz	0,000 A 120,00 ° 50,000 Hz	0,000 A 120,00 ° 50,000 Hz	0,000 A 120,00 ° 50,000 Hz	0,000 A 120,00 ° 50,000 Hz

## Test Module

Name: OMICRON State Sequencer Version: 4.00  
 Test Start: 02-abr.-2019 13:10:14 Test End: 02-abr.-2019 13:10:23  
 User Name: Manager:  
 Company:

## Test Results

### Time Assessment

Name	Ignore before	Start	Stop	Tnom	Tdev-	Tdev+	Tact	Tdev	Assess
Retrip 50BF (T1)	Pickup IL1+C/Arr anque 50BF_L1	Pickup IL1+C/Arr anque 50BF_L1	DISP. L1_52J14 0>1	50,00 ms	30,00 ms	30,00 ms	74,30 ms	24,30 ms	+

Assess: + .. Passed x .. Failed o .. Not assessed

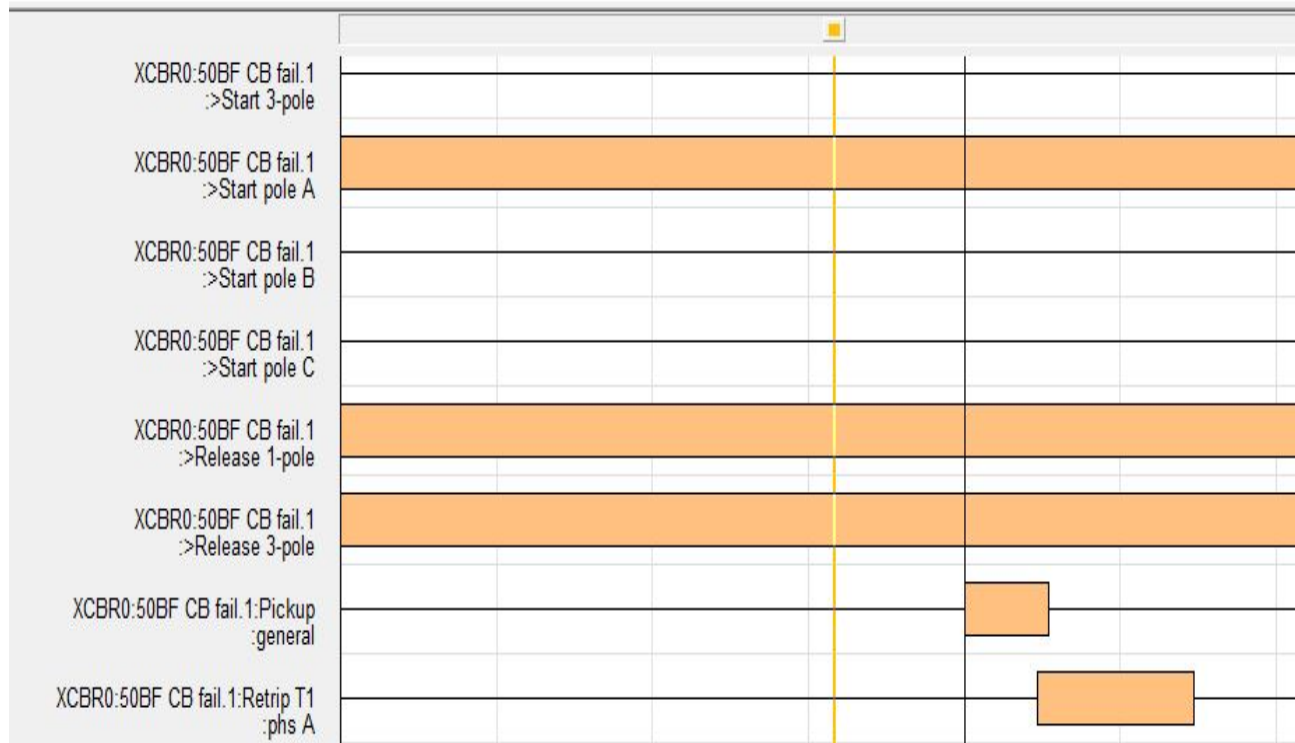
### State Assessment

	Prefalla	Pickup IL1+S/Arr anque 50BF	Post Falla 1	Pickup IL1+C/Arr anque 50BF_L1	Post- Falla 3
Assess	+	+	+	+	+
Tolerance	0,000 s	0,000 s	0,000 s	300,0 ms	200,0 ms
DISP. L1_52J14	0	0	0	1	0
DISP. L2_52J14	0	0	0	0	0
DISP.L3_52J14	0	0	0	0	0
ENVIO DDT	0	0	0	0	0
DISP. 50BF_ET2/0	0	0	0	0	0
DISP A 87B	0	0	0	0	0

Assess: + .. Passed x .. Failed o .. Not assessed

### Test State: Test passed

	Time	Measuring Signal	Value	Name:	J14_R01_F007
Cursor 1	-83,0970 ms	(None)		File path:	C:\Users\laguil\AppData\Local\Temp\7344242-1096\0e37d7a-32
Cursor 2	233,903 ms	(None)		Start time:	02-04-2019 / 12:32:05.801
C2 - C1	317,000 ms			Sample rate:	2000 Hz
				Value representation:	Secondary
				Record Type:	Comtrade



## 9.2 Operacion 50BF\_Fase L2 :

### Test Settings

State	Prefalla	Pickup IL2+S/Arr anque 50BF	Post Falla 1	Pickup IL2+C/Arr anque 50BF_L2	Post- Falla 2
IL1	0,000 A 0,00 ° 50,000 Hz	0,000 A 0,00 ° 50,000 Hz	0,000 A 0,00 ° 50,000 Hz	0,000 A 0,00 ° 50,000 Hz	0,000 A 0,00 ° 50,000 Hz

<b>I L2</b>	800,0 mA -120,00 ° 50,000 Hz	1,300 A -120,00 ° 50,000 Hz	0,000 A -120,00 ° 50,000 Hz	1,300 A -120,00 ° 50,000 Hz	0,000 A -120,00 ° 50,000 Hz
<b>I L3</b>	0,000 A 120,00 ° 50,000 Hz	0,000 A 120,00 ° 50,000 Hz	0,000 A 120,00 ° 50,000 Hz	0,000 A 120,00 ° 50,000 Hz	0,000 A 120,00 ° 50,000 Hz

## Test Module

Name: OMICRON State Sequencer      Version: 4.00  
 Test Start: 02-abr.-2019 13:12:01      Test End: 02-abr.-2019 13:12:10  
 User Name:      Manager:  
 Company:

## Test Results

### Time Assessment

Name	Ignore before	Start	Stop	Tnom	Tdev-	Tdev+	Tact	Tdev	Assess
Retrip 50BF (T1)	Pickup IL2+C/Arraque 50BF_L2	Pickup IL2+C/Arraque 50BF_L2	DISP. L2_52J14 0>1	50,00 ms	30,00 ms	30,00 ms	76,50 ms	26,50 ms	+

Assess: + .. Passed   x .. Failed   o .. Not assessed

### State Assessment

	Prefalla	Pickup IL2+S/Arraque 50BF	Post Falla 1	Pickup IL2+C/Arraque 50BF_L2	Post-Falla 2
<b>Assess</b>	+	+	+	+	+
<b>Tolerance</b>	0,000 s	0,000 s	0,000 s	300,0 ms	200,0 ms
DISP. L1_52J14	0	0	0	0	0
DISP. L2_52J14	0	0	0	1	0
DISP.L3_52J14	0	0	0	0	0
ENVIO DDT	0	0	0	0	0
DISP. 50BF_ET2/0	0	0	0	0	0
DISP A 87B	0	0	0	0	0

Assess: + .. Passed   x .. Failed   o .. Not assessed

### Test State:

Test passed

Online access > SIPROTEC 5 devices connected via USB > J14\_R01\_F007 (Assigned) > Process data > Records > Fault Records (Process)

Read records   Download   Start fault record   COMTRADE 1999

Record list   02.04.2019 12:37:04.642-8\_1...   02.04.2019 12:43:36.804-12\_...

	Time	Measuring Signal	Value	Name:	J14_R01_F007
Cursor 1	-80,7417 ms	(None)		File path:	C:\Users\aguit\AppData\Local\Temp\7344242-1096\0e37df7a-32
Cursor 2	238,592 ms	(None)		Start time:	02-04-2019 / 12:43:36.404
C2 - C1	319,333 ms			Sample rate:	2000 Hz
				Value representation:	Secondary
				Record Type:	Comtrade

XCBR0:50BF CB fail.1  
->Start 3-pole

XCBR0:50BF CB fail.1  
->Start pole A

## Test Settings

State	Prefalla	Pickup IL3+S/Arr anque 50BF	Post Falla 1	Pickup IL3+C/Arr anque 50BF_L3	Post- Falla 2
I L1	0,000 A 0,00 ° 50,000 Hz	0,000 A 0,00 ° 50,000 Hz	0,000 A 0,00 ° 50,000 Hz	0,000 A 0,00 ° 50,000 Hz	0,000 A 0,00 ° 50,000 Hz
I L2	0,000 A -120,00 ° 50,000 Hz	0,000 A -120,00 ° 50,000 Hz	0,000 A -120,00 ° 50,000 Hz	0,000 A -120,00 ° 50,000 Hz	0,000 A -120,00 ° 50,000 Hz
I L3	800,0 mA 120,00 ° 50,000 Hz	1,300 A 120,00 ° 50,000 Hz	0,000 A 120,00 ° 50,000 Hz	1,300 A 120,00 ° 50,000 Hz	0,000 A 120,00 ° 50,000 Hz

## Test Module

Name: OMICRON State Sequencer      Version: 4.00  
 Test Start: 02-abr.-2019 13:14:53      Test End: 02-abr.-2019 13:15:01  
 User Name:      Manager:  
 Company:

## Test Results

### Time Assessment

Name	Ignore before	Start	Stop	Tnom	Tdev-	Tdev+	Tact	Tdev	Assess
Retrip 50BF (T1)	Pickup IL3+C/Arr anque 50BF_L3	Pickup IL3+C/Arr anque 50BF_L3	DISP.L3_52J14 0>1	50,00 ms	30,00 ms	30,00 ms	74,40 ms	24,40 ms	+

Assess: + .. Passed    x .. Failed    o .. Not assessed

### State Assessment

	Prefalla	Pickup IL3+S/Arr anque 50BF	Post Falla 1	Pickup IL3+C/Arr anque 50BF_L3	Post- Falla 2
<b>Assess</b>	+	+	+	+	+
<b>Tolerance</b>	0,000 s	0,000 s	0,000 s	300,0 ms	200,0 ms
DISP. L1_52J14	0	0	0	1	0
DISP. L2_52J14	0	0	0	0	0
DISP.L3_52J14	0	0	0	0	0
ENVIO DDT	0	0	0	0	0
DISP. 50BF_ET2/0	0	0	0	0	0

Assess: + .. Passed    x .. Failed    o .. Not assessed

## Test State: Test passed

Online access ▶ SIPROTEC 5 devices connected via USB ▶ J14\_R01\_F007 (Assigned) ▶ Process data ▶ Records ▶ Fault Records (Process)

Read records Download Start fault record COMTRADE 1999 X

Record list	02.04.2019 12:37:04.642-8-1...	02.04.2019 12:43:36.804-12-...	02.04.2019 12:44:12.284-13-...
-------------	--------------------------------	--------------------------------	--------------------------------

	Time	Measuring Signal	Value	Name:	J14_R01_F007
Cursor 1	-48,2037 ms	(None)		File path:	C:\Users\laguil\AppData\LocalTemp\7344242-1096\0e37df7a-3...
Cursor 2	303,630 ms	(None)		Start time:	02-04-2019 / 12:52:14.017
C2 - C1	351,833 ms			Sample rate:	2000 Hz
				Value representation:	Secondary
				Record Type:	Comtrade

XCBR0:50BF CB fail.1  
->Start 3-pole

## 9.4 Operacion 50BF\_Fase L123:

### Test Settings

State	Prefalla	Pickup IL123+S/ Arranque 50BF	Post Falla 1	Pickup IL123+C/ Arranque 50BF_L1 23	Post- Falla 2
I L1	800,0 mA 0,00 ° 50,000 Hz	1,300 A 0,00 ° 50,000 Hz	0,000 A 0,00 ° 50,000 Hz	1,200 A 0,00 ° 50,000 Hz	0,000 A 0,00 ° 50,000 Hz
I L2	800,0 mA -120,00 ° 50,000 Hz	1,300 A -120,00 ° 50,000 Hz	0,000 A -120,00 ° 50,000 Hz	1,200 A -120,00 ° 50,000 Hz	0,000 A -120,00 ° 50,000 Hz
I L3	800,0 mA 120,00 ° 50,000 Hz	1,300 A 120,00 ° 50,000 Hz	0,000 A 120,00 ° 50,000 Hz	1,200 A 120,00 ° 50,000 Hz	0,000 A 120,00 ° 50,000 Hz

### Test Module

Name: OMICRON State Sequencer      Version: 4.00  
 Test Start: 02-abr.-2019 13:06:05      Test End: 02-abr.-2019 13:06:13  
 User Name:      Manager:  
 Company:

### Test Results

#### Time Assessment

Name	Ignore before	Start	Stop	Tnom	Tdev-	Tdev+	Tact	Tdev	Assess
Retrip 50BF (T1)	Pickup IL123+C/ Arranque 50BF_L12 3	Pickup IL123+C/ Arranque 50BF_L12 3	DISP. L1_52J14 0>1	50,00 ms	30,00 ms	30,00 ms	72,50 ms	22,50 ms	+

Assess: + .. Passed    x .. Failed    o .. Not assessed

#### State Assessment

	Prefalla	Pickup IL123+S/ Arranque 50BF	Post Falla 1	Pickup IL123+C/ Arranque 50BF_L1 23	Post- Falla 2
Assess	+	+	+	+	+
Tolerance	0,000 s	0,000 s	0,000 s	300,0 ms	200,0 ms
DISP. L1_52J14	0	0	0	1	0
DISP. L2_52J14	0	0	0	1	0
DISP.L3_52J14	0	0	0	1	0
ENVIO DDT	0	0	0	0	0
DISP. 50BF_ET2/0	0	0	0	0	0
DISP A 87B	0	0	0	0	0

Assess: + .. Passed    x .. Failed    o .. Not assessed

Test State:  
 Test passed

## 9.4 Operacion 50BF\_Fase L123\_BOB 2:

## Test Settings

State	Prefalla	Pickup IL123+S/ Arranque 50BF	Post Falla 1	Pickup IL123+C/ Arranque 50BF_L1 23	Post- Falla 2
I L1	800,0 mA 0,00 ° 50,000 Hz	1,300 A 0,00 ° 50,000 Hz	0,000 A 0,00 ° 50,000 Hz	1,200 A 0,00 ° 50,000 Hz	0,000 A 0,00 ° 50,000 Hz
I L2	800,0 mA -120,00 ° 50,000 Hz	1,300 A -120,00 ° 50,000 Hz	0,000 A -120,00 ° 50,000 Hz	1,200 A -120,00 ° 50,000 Hz	0,000 A -120,00 ° 50,000 Hz
I L3	800,0 mA 120,00 ° 50,000 Hz	1,300 A 120,00 ° 50,000 Hz	0,000 A 120,00 ° 50,000 Hz	1,200 A 120,00 ° 50,000 Hz	0,000 A 120,00 ° 50,000 Hz

## Test Module

Name: OMICRON State Sequencer Version: 4.00  
 Test Start: 02-abr.-2019 14:32:10 Test End: 02-abr.-2019 14:32:19  
 User Name: Manager:  
 Company:

## Test Results

### Time Assessment

Name	Ignore before	Start	Stop	Tnom	Tdev-	Tdev+	Tact	Tdev	Assess
Retrip 50BF (T1)	Pickup IL123+C/ Arranque 50BF_L12 3	Pickup IL123+C/ Arranque 50BF_L12 3	DSIP.L3_ 52J14 BOB2 0>1	50,00 ms	30,00 ms	30,00 ms	79,10 ms	29,10 ms	+

Assess: + .. Passed x .. Failed o .. Not assessed

### State Assessment

	Prefalla	Pickup IL123+S/ Arranque 50BF	Post Falla 1	Pickup IL123+C/ Arranque 50BF_L1 23	Post- Falla 2
<b>Assess</b>	+	+	+	+	+
<b>Tolerance</b>	0,000 s	0,000 s	0,000 s	300,0 ms	200,0 ms
DISP. L1_52J14	0	0	0	1	0
DISP. L2_52J14	0	0	0	1	0
DISP.L3_52J14	0	0	0	1	0
ENVIO DDT	0	0	0	0	0
DISP. 50BF_ET2/0	0	0	0	0	0
DISP A 87B	0	0	0	0	0
DSIP.L1_52J14 BOB2	0	0	0	1	0
DSIP.L2_52J14 BOB2	0	0	0	1	0
DSIP.L3_52J14 BOB2	0	0	0	1	0

Assess: + .. Passed x .. Failed o .. Not assessed



**Test State:**  
Test passed

----- Group end:9. Operacion 50BF\_K2 (T1)-----

----- Group:10. Operacion 50BF\_K2 (T1 and T2)-----

## 10.1 Operacion 50BF\_Fase L1 :

### Test Settings

State	Prefalla	Pickup IL1+S/Arranque 50BF_L1	Post Falla 1	Pickup IL1+C/Arranque 50BF_L1 (1)	Pickup IL1+C/Arranque 50BF_L1 (2)	Post- Falla 2
I L1	800,0 mA 0,00 ° 50,000 Hz	1,300 A 0,00 ° 50,000 Hz	0,000 A 0,00 ° 50,000 Hz	1,300 A 0,00 ° 50,000 Hz	1,300 A 0,00 ° 50,000 Hz	0,000 A 0,00 ° 50,000 Hz
I L2	0,000 A -120,00 ° 50,000 Hz	0,000 A -120,00 ° 50,000 Hz	0,000 A -120,00 ° 50,000 Hz	0,000 A -120,00 ° 50,000 Hz	0,000 A -120,00 ° 50,000 Hz	0,000 A -120,00 ° 50,000 Hz
I L3	0,000 A 120,00 ° 50,000 Hz	0,000 A 120,00 ° 50,000 Hz	0,000 A 120,00 ° 50,000 Hz	0,000 A 120,00 ° 50,000 Hz	0,000 A 120,00 ° 50,000 Hz	0,000 A 120,00 ° 50,000 Hz

### Test Module

Name: OMICRON State Sequencer      Version: 4.00  
 Test Start: 02-abr.-2019 13:21:05      Test End: 02-abr.-2019 13:21:14  
 User Name:      Manager:  
 Company:

### Test Results

#### Time Assessment

Name	Ignore before	Start	Stop	Tnom	Tdev-	Tdev+	Tact	Tdev	Assess
Retrip 50BF (T1)	Pickup IL1+C/Arranque 50BF_L1 (1)	Pickup IL1+C/Arranque 50BF_L1 (1)	DISP. L1_52J14 0>1	50,00 ms	30,00 ms	30,00 ms	75,70 ms	25,70 ms	+
Disp. 50BF_Eta pa 2	Pickup IL1+C/Arranque 50BF_L1 (1)	Pickup IL1+C/Arranque 50BF_L1 (2)	DISP. 50BF_ET 2/0 0>1	220,0 ms	30,00 ms	30,00 ms	224,6 ms	4,600 ms	+

Assess: + .. Passed x .. Failed o .. Not assessed

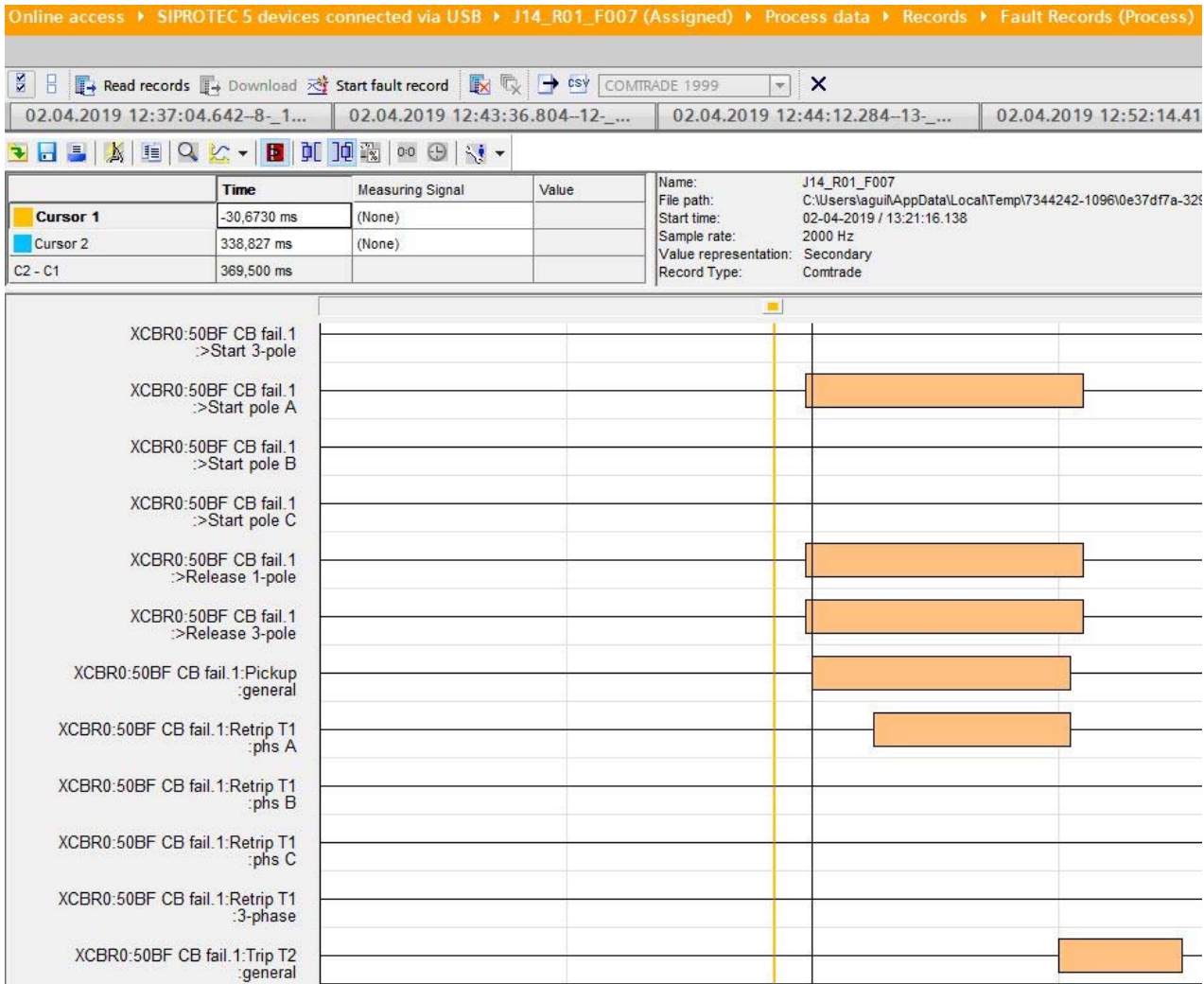
#### State Assessment

	Prefalla	Pickup IL1+S/Arranque 50BF_L1	Post Falla 1	Pickup IL1+C/Arranque 50BF_L1 (1)	Pickup IL1+C/Arranque 50BF_L1 (2)	Post- Falla 2
Assess	+	+	+	+	+	+
Tolerance	0,000 s	0,000 s	0,000 s	300,0 ms	500,0 ms	200,0 ms

DISP. L1_52J14	0	0	0	1	0	0
DISP. L2_52J14	0	0	0	0	0	0
DISP.L3_52J14	0	0	0	0	0	0
ENVIO DDT	0	0	0	0	1	0
DISP. 50BF_ET2/0	0	0	0	0	1	0
DISP A 87B	0	0	0	0	0	0

Assess: + .. Passed x .. Failed o .. Not assessed

**Test State:**  
Test passed



## 10.2 Operacion 50BF\_Fase L2:

### Test Settings

State	Prefalla	Pickup IL2+S/Arranque 50BF_L2	Post Falla 1	Pickup IL2+C/Arranque 50BF_L2	Pickup IL2+C/Arranque 50BF_L2	Post-Falla 2
IL1	0,00 A 0,00 ° 50,000 Hz	0,000 A 0,00 ° 50,000 Hz	0,000 A 0,00 ° 50,000 Hz	0,000 A 0,00 ° 50,000 Hz	0,000 A 0,00 ° 50,000 Hz	0,000 A 0,00 ° 50,000 Hz

IL2	800,0 mA	1,300 A	0,000 A	1,300 A	1,300 A	0,000 A
	-120,00 °	-120,00 °	-120,00 °	-120,00 °	-120,00 °	-120,00 °
	50,000 Hz	50,000 Hz	50,000 Hz	50,000 Hz	50,000 Hz	50,000 Hz
IL3	0,000 A	0,000 A	0,000 A	0,000 A	0,000 A	0,000 A
	120,00 °	120,00 °	120,00 °	120,00 °	120,00 °	120,00 °
	50,000 Hz	50,000 Hz	50,000 Hz	50,000 Hz	50,000 Hz	50,000 Hz

## Test Module

Name: OMICRON State Sequencer Version: 4.00  
 Test Start: 02-abr.-2019 13:27:41 Test End: 02-abr.-2019 13:27:50  
 User Name: Manager:  
 Company:

## Test Results

### Time Assessment

Name	Ignore before	Start	Stop	Tnom	Tdev-	Tdev+	Tact	Tdev	Assess
Retrip 50BF (T1)	Pickup IL2+C/Arraque 50BF_L2	Pickup IL2+C/Arraque 50BF_L2	DISP. L2_52J14 0>1	50,00 ms	30,00 ms	30,00 ms	77,20 ms	27,20 ms	+
Disp. 50BF_Eta pa 2	Pickup IL2+C/Arraque 50BF_L2	Pickup IL2+C/Arraque 50BF_L2	DISP. 50BF_ET 2/0 0>1	200,0 ms	30,00 ms	30,00 ms	226,9 ms	26,90 ms	+

Assess: + .. Passed x .. Failed o .. Not assessed

### State Assessment

	Prefalla	Pickup IL2+S/Arraque 50BF_L2	Post Falla 1	Pickup IL2+C/Arraque 50BF_L2	Pickup IL2+C/Arraque 50BF_L2	Post-Falla 2
Assess	+	+	+	+	+	+
Tolerance	0,000 s	0,000 s	0,000 s	300,0 ms	300,0 ms	200,0 ms
DISP. L2_52J14	0	0	0	1	0	0
DISP.L3_52J14	0	0	0	0	0	0
ENVIO DDT	0	0	0	0	1	0
DISP. 50BF_ET2/0	0	0	0	0	1	0

Assess: + .. Passed x .. Failed o .. Not assessed

## Test State: Test passed

Online access ▶ SIPROTEC 5 devices connected via USB ▶ J14\_R01\_F007 (Assigned) ▶ Process data ▶ Records ▶ Fault Records (Process)

Read records Download Start fault record COMTRADE 1999 X

02.04.2019 12:52:14.417-14\_1... 02.04.2019 13:21:16.538-32\_... 02.04.2019 13:27:27.370-34\_... 02.04.2019 13:29:54.63

	Time	Measuring Signal	Value	Name:	J14_R01_F007
Cursor 1	-31,2840 ms	(None)		File path:	C:\Users\lagui\AppData\LocalTemp\7344242-1096\0e37df7a-329
Cursor 2	337,716 ms	(None)		Start time:	02-04-2019 / 13:27:52.310
C2 - C1	369,000 ms			Sample rate:	2000 Hz
				Value representation:	Secondary
				Record Type:	Comtrade

XCBR0:50BF CB fail.1  
->Start 3-pole

XCBR0:50BF CB fail.1  
->Start pole A

XCBR0:50BF CB fail.1  
->Start pole B

XCBR0:50BF CB fail.1  
->Start pole C

## 10.3 Operacion 50BF\_Fase L3:

### Test Settings

State	Prefalla	Pickup IL3+S/Arranque 50BF_L3	Post Falla 1	Pickup IL3+C/Arranque 50BF_L3	Pickup IL3+C/Arranque 50BF_L3	Post-Falla 3
IL1	0,000 A 0,00 ° 50,000 Hz	0,000 A 0,00 ° 50,000 Hz	0,000 A 0,00 ° 50,000 Hz	0,000 A 0,00 ° 50,000 Hz	0,000 A 0,00 ° 50,000 Hz	0,000 A 0,00 ° 50,000 Hz
IL2	0,000 A -120,00 ° 50,000 Hz	0,000 A -120,00 ° 50,000 Hz	0,000 A -120,00 ° 50,000 Hz	0,000 A -120,00 ° 50,000 Hz	0,000 A -120,00 ° 50,000 Hz	0,000 A -120,00 ° 50,000 Hz
IL3	800,0 mA 120,00 ° 50,000 Hz	1,300 A 120,00 ° 50,000 Hz	0,000 A 120,00 ° 50,000 Hz	1,300 A 120,00 ° 50,000 Hz	1,300 A 120,00 ° 50,000 Hz	0,000 A 120,00 ° 50,000 Hz

### Test Module

Name: OMICRON State Sequencer Version: 4.00  
 Test Start: 02-abr.-2019 13:28:40 Test End: 02-abr.-2019 13:28:49  
 User Name: Manager:  
 Company:

### Test Results

#### Time Assessment

Name	Ignore before	Start	Stop	Tnom	Tdev-	Tdev+	Tact	Tdev	Assess
Retrip 50BF (T1)	Pickup IL3+C/Arranque 50BF_L3	Pickup IL3+C/Arranque 50BF_L3	DISP.L3_52J14 0>1	50,00 ms	30,00 ms	30,00 ms	74,70 ms	24,70 ms	+
Disp. 50BF_Eta pa 2	Pickup IL3+C/Arranque 50BF_L3	Pickup IL3+C/Arranque 50BF_L3	DISP. 50BF_ET 2/0 0>1	200,0 ms	30,00 ms	30,00 ms	224,4 ms	24,40 ms	+

Assess: + .. Passed x .. Failed o .. Not assessed

#### State Assessment

	Prefalla	Pickup IL3+S/Arranque 50BF_L3	Post Falla 1	Pickup IL3+C/Arranque 50BF_L3	Pickup IL3+C/Arranque 50BF_L3	Post-Falla 3
Assess	+	+	+	+	+	+
Tolerance	0,000 s	0,000 s	0,000 s	300,0 ms	300,0 ms	200,0 ms
DISP. L1_52J14	0	0	0	0	0	0
DISP. L2_52J14	0	0	0	0	0	0
DISP.L3_52J14	0	0	0	1	0	0
ENVIO DDT	0	0	0	0	1	0
DISP. 50BF_ET2/0	0	0	0	0	1	0
DISP A 87B	0	0	0	0	0	0

Assess: + .. Passed x .. Failed o .. Not assessed

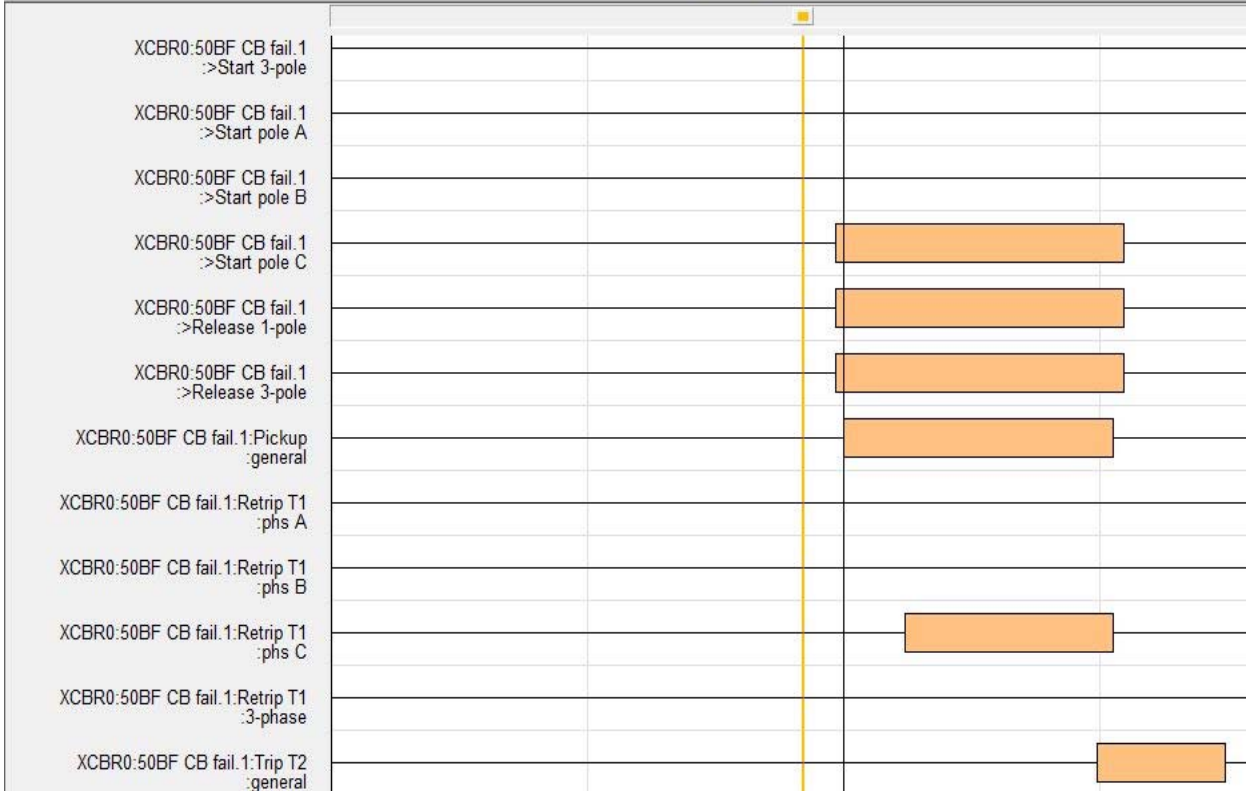
### Test State: Test passed

02.04.2019 13:27:52.710 ...	35	Fault log	
02.04.2019 13:27:53.2...	00:00:00:00.548	19	XCBR0: Circuit break. Definitive trip
02.04.2019 13:27:53.0...	00:00:00:00.298	18	XCBR0: 50BF CB fail.1 Trip T2
02.04.2019 13:27:52.9...	00:00:00:00.211	17	XCBR0: Circuit break. Trip/open cmd. 3-pole
02.04.2019 13:27:52.9...	00:00:00:00.210	16	XCBR0: 50BF CB fail.1 CB failure pole

Read records Download Start fault record csy COMTRADE 1999 X

02.04.2019 13:21:16.538-32-... 02.04.2019 13:27:27.370-34-... 02.04.2019 13:29:54.630-37-... 02.04.2019 13:27:52.710

Cursor 1	-31,5957 ms	(None)		Name: J14_R01_F007
Cursor 2	337,238 ms	(None)		File path: C:\Users\agui\AppData\Local\Temp\7344242-1096\0e37df7a-329
C2 - C1	368,833 ms			Start time: 02-04-2019 / 13:28:50.950
				Sample rate: 2000 Hz
				Value representation: Secondary
				Record Type: Comtrade



## 10.4 Operacion 50BF\_Fase L123:

### Test Settings

State	Prefalla	Pickup IL123+S/ Arranque 50BF_L1 23	Post Falla 1	Pickup IL2+C/Arranque 50BF_L1 23	Pickup IL123+C/ Arranque 50BF_L1 23	Post-Falla 2
I L1	800,0 mA 0,00 ° 50,000 Hz	1,300 A 0,00 ° 50,000 Hz	0,000 A 0,00 ° 50,000 Hz	1,300 A 0,00 ° 50,000 Hz	1,300 A 0,00 ° 50,000 Hz	0,000 A 0,00 ° 50,000 Hz
I L2	800,0 mA -120,00 ° 50,000 Hz	1,300 A -120,00 ° 50,000 Hz	0,000 A -120,00 ° 50,000 Hz	1,300 A -120,00 ° 50,000 Hz	1,300 A -120,00 ° 50,000 Hz	0,000 A -120,00 ° 50,000 Hz
I L3	800,0 mA 120,00 ° 50,000 Hz	1,300 A 120,00 ° 50,000 Hz	0,000 A 120,00 ° 50,000 Hz	1,300 A 120,00 ° 50,000 Hz	1,300 A 120,00 ° 50,000 Hz	0,000 A 120,00 ° 50,000 Hz

### Test Module

Name: OMICRON State Sequencer  
 Test Start: 02-abr.-2019 13:29:43  
 User Name:  
 Company:

Version: 4.00  
 Test End: 02-abr.-2019 13:29:52  
 Manager:

## Test Results

### Time Assessment

Name	Ignore before	Start	Stop	Tnom	Tdev-	Tdev+	Tact	Tdev	Assess
Retrip 50BF (T1)	Pickup IL2+C/Arranque 50BF_L123	Pickup IL2+C/Arranque 50BF_L123	DISP. L1_52J14 0>1	50,00 ms	30,00 ms	30,00 ms	74,50 ms	24,50 ms	+
Disp. 50BF_Eta pa 2	Pickup IL2+C/Arranque 50BF_L123	Pickup IL2+C/Arranque 50BF_L123	DISP. 50BF_ET 2/0 0>1	200,0 ms	30,00 ms	30,00 ms	223,9 ms	23,90 ms	+

Assess: + .. Passed x .. Failed o .. Not assessed

### State Assessment

	Prefalla	Pickup IL123+S/Arranque 50BF_L123	Post Falla 1	Pickup IL2+C/Arranque 50BF_L123	Pickup IL123+C/Arranque 50BF_L123	Post-Falla 2
<b>Assess</b>	+	+	+	+	+	+
<b>Tolerance</b>	0,000 s	0,000 s	0,000 s	300,0 ms	300,0 ms	200,0 ms
DISP. L1_52J14	0	0	0	1	0	0
DISP. L2_52J14	0	0	0	1	0	0
DISP.L3_52J14	0	0	0	1	0	0
ENVIO DDT	0	0	0	0	1	0
DISP. 50BF_ET2/0	0	0	0	0	1	0
DISP A 87B	0	0	0	0	0	0

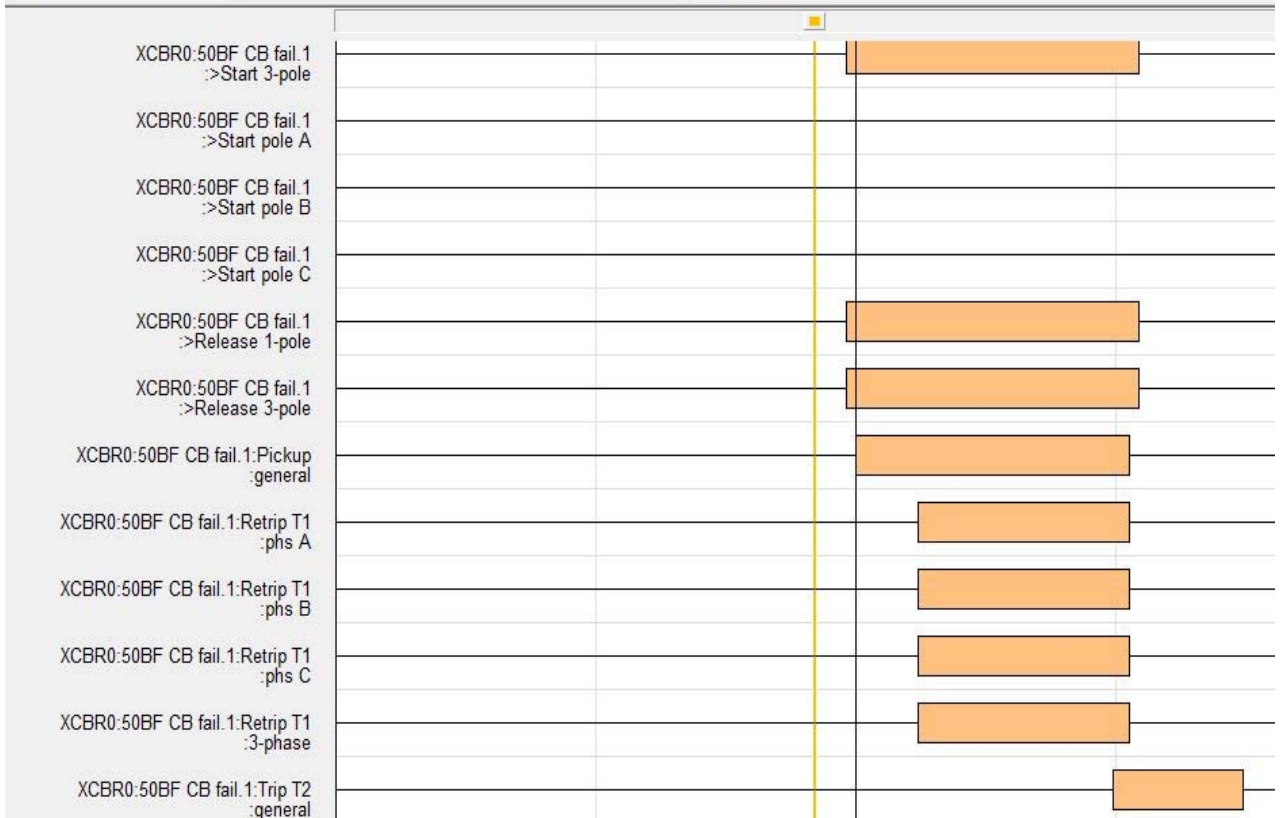
Assess: + .. Passed x .. Failed o .. Not assessed

**Test State:**  
**Test passed**

Read records Download Start fault record CSY COMTRADE 1999 X

02.04.2019 12:44:12.284-13-... 02.04.2019 12:52:14.417-14-1... 02.04.2019 13:21:16.538-32-... 02.04.2019 13:27:27.370

	Time	Measuring Signal	Value	Name:	J14_R01_F007
Cursor 1	-31,2127 ms	(None)		File path:	C:\Users\laguil\AppData\Local\Temp\7344242-1096\0e37df7a-3295
Cursor 2	337,621 ms	(None)		Start time:	02-04-2019 / 13:29:54.230
C2 - C1	368,833 ms			Sample rate:	2000 Hz
				Value representation:	Secondary
				Record Type:	Comtrade



### 10.4 Operacion 50BF\_Fase L123 BOB2:

#### Test Settings

State	Prefalla	Pickup IL123+S/Arranque 50BF_L1 23	Post Falla 1	Pickup IL2+C/Arranque 50BF_L1 23	Pickup IL123+C/Arranque 50BF_L1 23	Post-Falla 2
I L1	800,0 mA 0,00 ° 50,000 Hz	1,300 A 0,00 ° 50,000 Hz	0,000 A 0,00 ° 50,000 Hz	1,300 A 0,00 ° 50,000 Hz	1,300 A 0,00 ° 50,000 Hz	0,000 A 0,00 ° 50,000 Hz
I L2	800,0 mA -120,00 ° 50,000 Hz	1,300 A -120,00 ° 50,000 Hz	0,000 A -120,00 ° 50,000 Hz	1,300 A -120,00 ° 50,000 Hz	1,300 A -120,00 ° 50,000 Hz	0,000 A -120,00 ° 50,000 Hz
I L3	800,0 mA 120,00 ° 50,000 Hz	1,300 A 120,00 ° 50,000 Hz	0,000 A 120,00 ° 50,000 Hz	1,300 A 120,00 ° 50,000 Hz	1,300 A 120,00 ° 50,000 Hz	0,000 A 120,00 ° 50,000 Hz

#### Test Module



Name:  
 Test Start:  
 User Name:  
 Company:

OMICRON State Sequencer  
 02-abr.-2019 14:35:41

Version:  
 Test End:  
 Manager:

4.00  
 02-abr.-2019 14:35:49

## Test Results

### Time Assessment

Name	Ignore before	Start	Stop	Tnom	Tdev-	Tdev+	Tact	Tdev	Assess
Retrip 50BF (T1)	Pickup IL2+C/Arranque 50BF_L123	Pickup IL2+C/Arranque 50BF_L123	DISP. L1_52J14 0>1	50,00 ms	30,00 ms	30,00 ms	76,00 ms	26,00 ms	+
Disp. 50BF_Eta pa 2	Pickup IL2+C/Arranque 50BF_L123	Pickup IL2+C/Arranque 50BF_L123	DISP. 50BF_ET 2/0 0>1	200,0 ms	30,00 ms	30,00 ms	224,9 ms	24,90 ms	+

Assess: + .. Passed x .. Failed o .. Not assessed

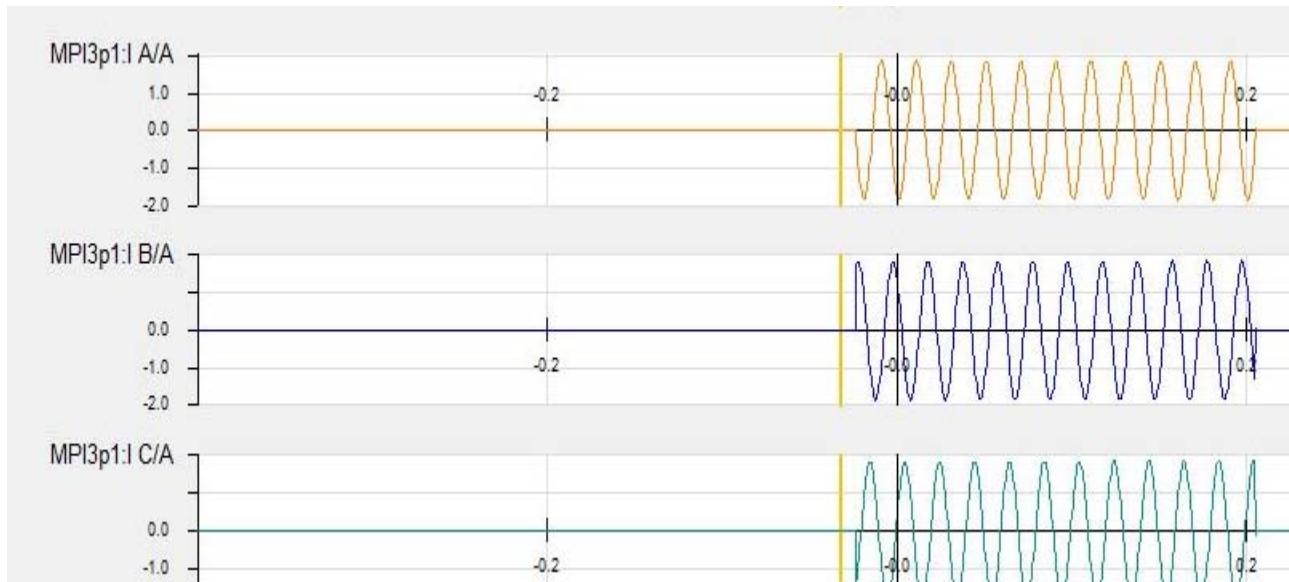
### State Assessment

	Prefalla	Pickup IL123+S/Arranque 50BF_L123	Post Falla 1	Pickup IL2+C/Arranque 50BF_L123	Pickup IL123+C/Arranque 50BF_L123	Post-Falla 2
<b>Assess</b>	+	+	+	+	+	+
<b>Tolerance</b>	0,000 s	0,000 s	0,000 s	300,0 ms	300,0 ms	200,0 ms
DISP. L1_52J14	0	0	0	1	0	0
DISP. L2_52J14	0	0	0	1	0	0
DISP. L3_52J14	0	0	0	1	0	0
ENVIO DDT	0	0	0	0	1	0
DISP. 50BF_ET2/0	0	0	0	0	1	0
DISP A 87B	0	0	0	0	1	0
DSIP.L1_52J14 BOB2	0	0	0	1	0	0
DSIP.L2_52J14 BOB2	0	0	0	1	0	0
DSIP.L3_52J14 BOB2	0	0	0	1	0	0

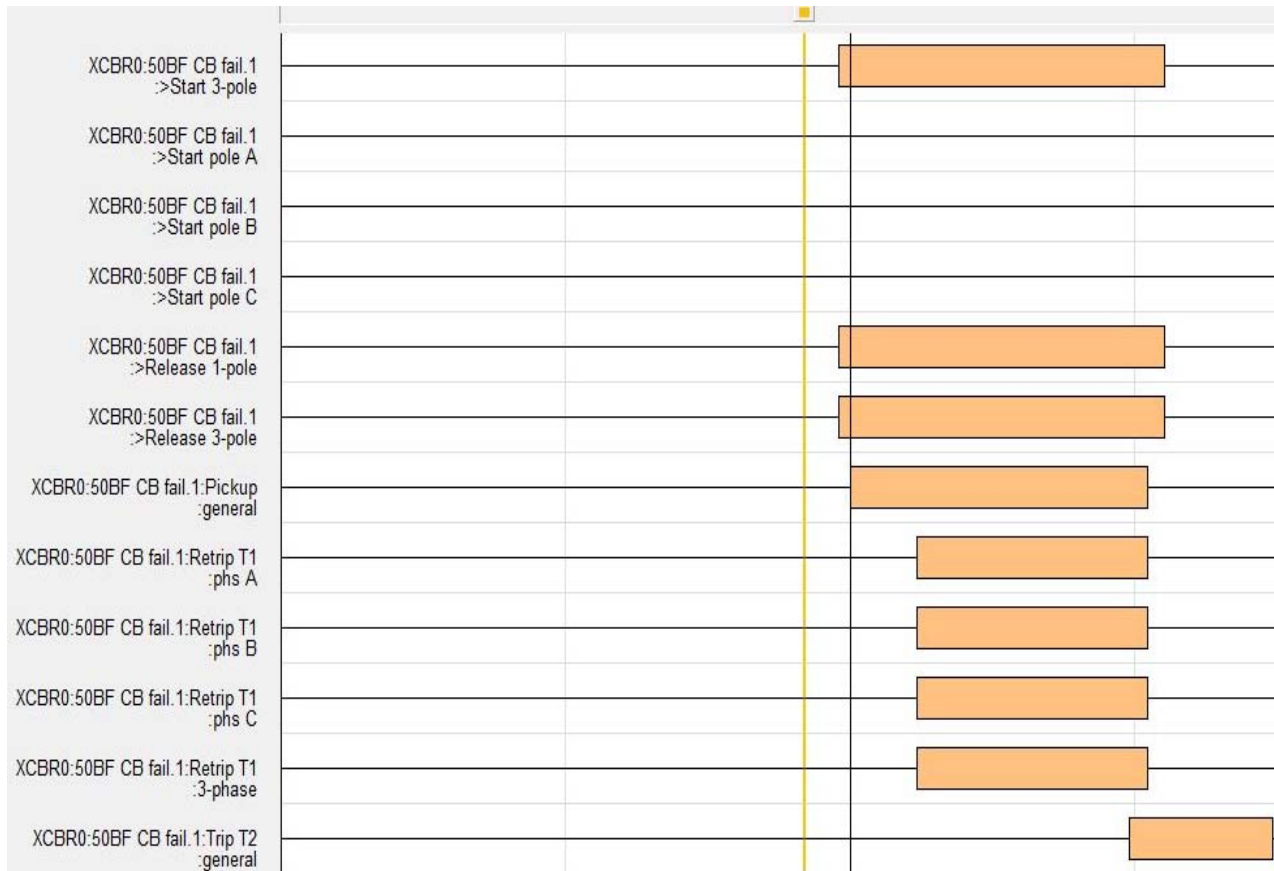
Assess: + .. Passed x .. Failed o .. Not assessed

### Test State:

Test passed







-----Group end:10. Operacion 50BF\_K2 (T1 and T2)-----

-----Group:11. Operacion End Fault\_50BF E0-----

## Hardware

### Test Equipment

Type	Serial Number
CMC356	HE295P

### Hardware Check

Performed At	Result	Details
02-04-2019 13:30:08	Passed	

-----Group:11.1 Verificacion Pickup-----

## 11.1.1 Pickup Fase L1 End Fault:

### Test Settings

#### General

No. of ramp states: 1  
 Total steps per test: 81  
 Total time per test: 24,300 s  
 No. of test executions: 1

Input Mode: Direct  
 Fault Type:

### Ramped Quantities

I L1 / Magnitude

## Ramp States

Ramp	Ramp 1
I L1	800,0 mA 0,00 ° 50,000 Hz
I L2	0,000 A -120,00 ° 50,000 Hz
I L3	0,000 A 120,00 ° 50,000 Hz
Force abs. Phases	No
Sig 1 From	800,0 mA
Sig 1 To	1,200 A
Sig 1 Delta	5,000 mA
Sig 1 d/dt	16,67 mA/s
52K2_Open	1
52K2_Close	0
dt per Step	300,0 ms
Ramp Steps	81
Ramp Time	24,300s
Trigger	Bin
Trigger Logic	AND
Disp.L1_52K2	X
Disp.L3_52K2	X
Disp. 50BF_ET2	X
ENVIO DDT	1
DISP. Etapa 0	1
Step back	No
Delay Time	0,000 s

## Test Module

Name: OMICRON Ramping  
 Test Start:  
 User Name:  
 Company:

Version: 4.00  
 Test End:  
 Manager:

## Assessment Results

Name/ Exec.	Ramp	Condition	Sig	Nom.	Act.	Tol.-	Tol.+	Dev.	Assess	Tact
-------------	------	-----------	-----	------	------	-------	-------	------	--------	------

Assess: + .. Passed x .. Failed o .. Not assessed

### Test State:

**No results available!**

## 11.1.2 Pickup Fase L2 End Fault:

## Test Settings

### General

No. of ramp states: 1  
 Total steps per test: 81  
 Total time per test: 24,300 s  
 No. of test executions: 1

Input Mode: Direct  
 Fault Type:

## Ramped Quantities

I L2 / Magnitude

### Ramp States

Ramp	Ramp 1
I L1	0,000 A 0,00 ° 50,000 Hz
I L2	800,0 mA -120,00 ° 50,000 Hz
I L3	0,000 A 120,00 ° 50,000 Hz
Force abs. Phases	No
Sig 1 From	800,0 mA
Sig 1 To	1,200 A
Sig 1 Delta	5,000 mA
Sig 1 d/dt	16,67 mA/s
52K2_Open	1
52K2_Close	0
dt per Step	300,0 ms
Ramp Steps	81
Ramp Time	24,300s
Trigger	Bin
Trigger Logic	AND
Disp.L1_52K2	X
Disp.L2_52K2	X
Disp.L3_52K2	X
Disp. 50BF_ET2	X
ENVIO DDT	1
DISP. Etapa 0	1
Step back	No
Delay Time	0,000 s

## Test Module

Name: OMICRON Ramping  
Test Start:  
User Name:  
Company:

Version: 4.00  
Test End:  
Manager:

## Assessment Results

Name/ Exec.	Ramp	Condition	Sig	Nom.	Act.	Tol.-	Tol.+	Dev.	Assess	Tact
-------------	------	-----------	-----	------	------	-------	-------	------	--------	------

Assess: + .. Passed x .. Failed o .. Not assessed

### Test State:

**No results available!**

## 11.1.3 Pickup Fase L3 End Fault:

## Test Settings

## General

No. of ramp states: 1  
Total steps per test: 81  
Total time per test: 24,300 s  
No. of test executions: 1

Input Mode: Direct  
Fault Type:

## Ramped Quantities

I L3 / Magnitude

## Ramp States

Ramp	Ramp 1
I L1	0,000 A 0,00 ° 50,000 Hz
I L2	0,000 A -120,00 ° 50,000 Hz
I L3	800,0 mA 120,00 ° 50,000 Hz
Force abs. Phases	No
Sig 1 From	800,0 mA
Sig 1 To	1,200 A
Sig 1 Delta	5,000 mA
Sig 1 d/dt	16,67 mA/s
52K2_Open	1
52K2_Close	0
dt per Step	300,0 ms
Ramp Steps	81
Ramp Time	24,300s
Trigger	Bin
Trigger Logic	AND
Disp.L1_52K2	X
Disp.L2_52K2	X
Disp.L3_52K2	X
Disp. 50BF_ET2	X
ENVIO DDT	1
DISP. Etapa 0	1
Step back	No
Delay Time	0,000 s

## Test Module

Name: OMICRON Ramping Version: 4.00  
Test Start: Test End:  
User Name: Manager:  
Company:

## Assessment Results

Name/ Exec.	Ramp	Condition	Sig	Nom.	Act.	Tol.-	Tol.+	Dev.	Assess	Tact
-------------	------	-----------	-----	------	------	-------	-------	------	--------	------

Assess: + .. Passed x .. Failed o .. Not assessed

## Test State:

**No results available!**

## 11.1.4 Pickup Fase L123 End Fault:

## Test Settings

### General

No. of ramp states: 1  
 Total steps per test: 81  
 Total time per test: 24,300 s  
 No. of test executions: 1

Input Mode: Direct  
 Fault Type:

### Ramped Quantities

I L1; L2; L3 / Magnitude

### Ramp States

Ramp	Ramp 1
I L1	800,0 mA 0,00 ° 50,000 Hz
I L2	800,0 mA -120,00 ° 50,000 Hz
I L3	800,0 mA 120,00 ° 50,000 Hz
Force abs. Phases	No
Sig 1 From	800,0 mA
Sig 1 To	1,200 A
Sig 1 Delta	5,000 mA
Sig 1 d/dt	16,67 mA/s
52K2_Open	1
52K2_Close	0
dt per Step	300,0 ms
Ramp Steps	81
Ramp Time	24,300s
Trigger	Bin
Trigger Logic	AND
Disp.L1_52K2	X
Disp.L2_52K2	X
Disp.L3_52K2	X
Disp. 50BF_ET2	X
ENVIO DDT	1
DISP. Etapa 0	1
Step back	No
Delay Time	0,000 s

## Test Module

Name: OMICRON Ramping  
 Test Start:  
 User Name:  
 Company:

Version: 4.00  
 Test End:  
 Manager:

## Assessment Results

Name/ Exec.	Ramp	Condition	Sig	Nom.	Act.	Tol.-	Tol.+	Dev.	Assess	Tact
-------------	------	-----------	-----	------	------	-------	-------	------	--------	------

Assess: + .. Passed x .. Failed o .. Not assessed

**Test State:**  
**No results available!**

----- Group end:11.1 Verificacion Pickup -----

----- Group:11.2 Operacion End Fault -----

## 11.2.1 Operacion End Fault\_L1:

### Test Settings

State	Prefalla	Falla L1+52K2 Open	Post Falla
I L1	800,0 mA 0,00 ° 50,000 Hz	1,300 A 0,00 ° 50,000 Hz	0,000 A 0,00 ° 50,000 Hz
I L2	0,000 A -120,00 ° 50,000 Hz	0,000 A -120,00 ° 50,000 Hz	0,000 A -120,00 ° 50,000 Hz
I L3	0,000 A 120,00 ° 50,000 Hz	0,000 A 120,00 ° 50,000 Hz	0,000 A 120,00 ° 50,000 Hz

### Test Module

Name:	OMICRON State Sequencer	Version:	4.00
Test Start:		Test End:	
User Name:		Manager:	
Company:			

### Test Results

#### Time Assessment

Name	Ignore before	Start	Stop	Tnom	Tdev-	Tdev+	Tact	Tdev	Assess
Disp. End Faults	Falla L1+52K2 Open	Falla L1+52K2 Open	DISP. Etapa 0 0>1	50,00 ms	30,00 ms	30,00 ms			o

Assess: + .. Passed x .. Failed o .. Not assessed

#### State Assessment

	Prefalla	Falla L1+52K2 Open	Post Falla
<b>Assess</b>	o	o	o
<b>Tolerance</b>	0,000 s	100,0 ms	200,0 ms
Disp.L1_52K2	0	0	0
Disp.L2_52K2	0	0	0
Disp.L3_52K2	0	0	0
Disp. 50BF_ET2	0	0	0
ENVIO DDT	0	1	0
DISP. Etapa 0	0	1	0

Assess: + .. Passed x .. Failed o .. Not assessed

**Test State:**  
**No results available!**

## 11.2.2 Operacion End Fault\_L2:

## Test Settings

State	Prefalla	Falla L2+52K2 Open	Post Falla
I L1	0,000 A 0,00 ° 50,000 Hz	0,000 A 0,00 ° 50,000 Hz	0,000 A 0,00 ° 50,000 Hz
I L2	800,0 mA -120,00 ° 50,000 Hz	1,300 A -120,00 ° 50,000 Hz	0,000 A -120,00 ° 50,000 Hz
I L3	0,000 A 120,00 ° 50,000 Hz	0,000 A 120,00 ° 50,000 Hz	0,000 A 120,00 ° 50,000 Hz

## Test Module

Name: OMICRON State Sequencer      Version: 4.00  
 Test Start:      Test End:  
 User Name:      Manager:  
 Company:

## Test Results

### Time Assessment

Name	Ignore before	Start	Stop	Tnom	Tdev-	Tdev+	Tact	Tdev	Assess
Disp. End Faults	Falla L2+52K2 Open	Falla L2+52K2 Open	DISP. Etapa 0 0>1	50,00 ms	30,00 ms	30,00 ms			o

Assess: + .. Passed    x .. Failed    o .. Not assessed

### State Assessment

	Prefalla	Falla L2+52K2 Open	Post Falla
<b>Assess</b>	o	o	o
<b>Tolerance</b>	0,000 s	100,0 ms	200,0 ms
Disp.L1_52K2	0	0	0
Disp.L2_52K2	0	0	0
Disp.L3_52K2	0	0	0
Disp. 50BF_ET2	0	0	0
ENVIO DDT	0	1	0
DISP. Etapa 0	0	1	0

Assess: + .. Passed    x .. Failed    o .. Not assessed

### Test State:

**No results available!**

## 11.2.3 Operacion End Fault\_L3:

## Test Settings

State	Prefalla	Falla L3+52K2 Open	Post Falla
I L1	0,000 A 0,00 ° 50,000 Hz	0,000 A 0,00 ° 50,000 Hz	0,000 A 0,00 ° 50,000 Hz
I L2	0,000 A -120,00 ° 50,000 Hz	0,000 A -120,00 ° 50,000 Hz	0,000 A -120,00 ° 50,000 Hz
I L3	800,0 mA 120,00 ° 50,000 Hz	1,300 A 120,00 ° 50,000 Hz	0,000 A 120,00 ° 50,000 Hz

## Test Module

Name: OMICRON State Sequencer      Version: 4.00  
 Test Start:      Test End:  
 User Name:      Manager:  
 Company:

## Test Results

### Time Assessment

Name	Ignore before	Start	Stop	Tnom	Tdev-	Tdev+	Tact	Tdev	Assess
Disp. End Faults	Falla L3+52K2 Open	Falla L3+52K2 Open	DISP. Etapa 0 0>1	50,00 ms	30,00 ms	30,00 ms			o

Assess: + .. Passed    x .. Failed    o .. Not assessed

### State Assessment

	Prefalla	Falla L3+52K2 Open	Post Falla
<b>Assess</b>	o	o	o
<b>Tolerance</b>	0,000 s	100,0 ms	200,0 ms
Disp.L1_52K2	0	0	0
Disp.L2_52K2	0	0	0
Disp.L3_52K2	0	0	0
Disp. 50BF_ET2	0	0	0
ENVIO DDT	0	1	0
DISP. Etapa 0	0	1	0

Assess: + .. Passed    x .. Failed    o .. Not assessed

### Test State:

**No results available!**

## 11.2.4 Operacion End Fault\_L123:



## Test Settings

State	Prefalla	Falla L123+52 K2 Open	Post Falla
I L1	800,0 mA 0,00 ° 50,000 Hz	1,300 A 0,00 ° 50,000 Hz	0,000 A 0,00 ° 50,000 Hz
I L2	800,0 mA -120,00 ° 50,000 Hz	1,300 A -120,00 ° 50,000 Hz	0,000 A -120,00 ° 50,000 Hz
I L3	800,0 mA 120,00 ° 50,000 Hz	1,300 A 120,00 ° 50,000 Hz	0,000 A 120,00 ° 50,000 Hz

## Test Module

Name: OMICRON State Sequencer      Version: 4.00  
 Test Start:      Test End:  
 User Name:      Manager:  
 Company:

## Test Results

### Time Assessment

Name	Ignore before	Start	Stop	Tnom	Tdev-	Tdev+	Tact	Tdev	Assess
Disp. End Faults	Falla L123+52K 2 Open	Falla L123+52K 2 Open	DISP. Etapa 0 0>1	50,00 ms	30,00 ms	30,00 ms			o

Assess: + .. Passed    x .. Failed    o .. Not assessed

### State Assessment

	Prefalla	Falla L123+52 K2 Open	Post Falla
<b>Assess</b>	o	o	o
<b>Tolerance</b>	0,000 s	100,0 ms	200,0 ms
Disp.L1_52K2	0	0	0
Disp.L2_52K2	0	0	0
Disp.L3_52K2	0	0	0
Disp. 50BF_ET2	0	0	0
ENVIO DDT	0	1	0
DISP. Etapa 0	0	1	0

Assess: + .. Passed    x .. Failed    o .. Not assessed

### Test State:

**No results available!**

----- Group end:11.2 Operacion End Fault-----

----- Group end:11. Operacion End Fault\_50BF E0-----