FIELD INSPECTION AND TEST REPORT
FEEDER PROTECTION RELAY - SEL-751A
KAMPHAENG SAEN SUBSTATION FEEDER 9

บริษัท วัสดุภัณฑ์ธุรกิจ จำกัด

Integrity Engineering Co., Ltd.

PO NO.: PO W_SP 6809-006 **SUBSTATION:** KAMPHAENG SAEN SUBSTATION

PANEL: F.9 **FEEDER NAME:** FEEDER 9

TECHNICAL DATA

Manufacture	SEL	Rated phase current	5 A
Type	SEL-751A	Rated neutral current	5 A
Ordering number	751A12C0X0X72850100	Rated phase voltage	300 V (Max)
Serial number	3260085090	Rated residual voltage	-
Auxiliary supply	24-48 VDC		

INSTRUMENT TRANSFORMER DATA

Phase CT ratio	1/1 A	Phase VT ratio	22000/110 V
Ground CT ratio	1/1 A	Ground VT ratio	22000/110 V

VISUAL CHECKED

Equipment undamaged	☑ Normal	☐ Comment	☐ N/A
Terminal and wiring connection	☑ Normal	☐ Comment	☐ N/A
LCD Display	☑ Normal	☐ Comment	☐ N/A
Keypad	☑ Normal	☐ Comment	☐ N/A

TESTED EQUIPMENTS

FAT TEST : Type	CMC356	Identity	SN. HE487P

FUNCTIONS IN USED

☐ Phase Directional	☐ Negative-Sequece Time Overcurrent	☐
☐ Neutral Ground Directional	☐ Undervoltage	☐
☐ Power	☐ Overvoltage	☐
☐ Phase Instantaneous Overcurrent	☐ Frequency	☐
☐ Residual Ground Instantaneous Overcurrent	☐ Rate of Change of Frequency	☐
☐ Phase Time-Overcurrent	☐ Vector Shift	☐
☐ Neutral Ground Time-Overcurrent	☐ Breaker Failure	☐
☐ Residual Ground Time-Overcurrent	☑ Synchronism Check	☐

NOTE

Password = Level 1 = OTTER, Level 2 = TAIL

Responsibility	Tested	Witnessed	Accepted by
Company	NYR Engineering Co., Ltd.	INTEGRITY ENGINEERING	
Name	Mr. Anucha Tejanang	Mr. Chanuwat Boonmart	
Signature			
Date	16-Feb-2026	16-Feb-2026	

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Measurement Test

Reading on HMI

Secondary injection I=1A, V=66.4V, f=50Hz	Should be	As found
IA (A)		
IB (A)		
IC (A)		
VA (kV)	12701.71	12707.80
VB (kV)	12701.71	12710.10
VC (kV)	12701.71	12714.70
S (kVA)		
P (kW)		
Q (kVAR)		
f	50.00	50.00
PF	1.00	1.00

LEDs

LEDs	Description	Result
T01_LED	0	☑ Checked
T02_LED	25A1	☑ Checked
T03_LED	3P59 AND 27S1	☑ Checked
T04_LED	3P27 AND 27S1	☑ Checked
T05_LED	59S1 AND 3P27	☑ Checked
T06_LED	(BFT OR T06_LED) AND NOT TRGTR	☑ Checked

INPUTS

Output No.	Description	Result
IN101	Status CB	☑ Checked
IN102	Sync. Auto	☑ Checked

OUTPUTS

Output No.	Relay word bits	Description	Result
OUT101	SV01 OR SV02 OR SV03	Point Sync.	☑ Checked
OUT102	0	Spare	☑ Checked
OUT103	HALARM OR SALARM	Relay Failure	☑ Checked

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Name	Mr. Anucha Tejanang	Mr. Chanuwat Boonmart	
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Date	16-Feb-2026	16-Feb-2026	

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Synchronizing Check

Parameter setting

Setting	Description	Value	*Remark :*
E25	Synchronism Check	Y	*Enable*
25VLO	Voltage Window - Low Threshold (volts)	57.15	
25VHI	Voltage Window - High Threshold (volts)	69.85	
25SF	Maximum Slip Frequency (Hz.)	0.20	
25ANG1	Maximum Angle, Level 1 (deg.)	25.00	
SYNCPH	Synchronism Check Phase	VB	*Phase B*
27P1P	Undervoltage (xVnm)	0.2	*Dead Line*
59LP	Overvoltage (xVnm)	12.7	*Live Line*
27BP	Undervoltage (volts)	0.8	*Dead Busbar*
59BP	Overvoltage (volts)	50.8	*Live Busbar*

Sensitivity Test

Function	Should be	Position	As found		Error	
			Line	Bus	Line	Bus
Diff. Voltage	69.850	Upper	69.81 V	69.84 V	0.057%	0.014%
	57.150	Lower	57.11 V	57.09 V	0.070%	0.105%
Diff. frequency	0.200	Upper	0.18 Hz	0.18 Hz	-0.020 Hz	-0.020 Hz
		Lower	0.2 Hz	0.2 Hz	0.000 Hz	0.000 Hz
Diff. Phase Angle	25.000	Upper	25.030 deg.	25.030 deg.	0.030 deg.	0.030 deg.
		Lower	-24.970 deg.	-24.970 deg.	-0.030 deg.	-0.030 deg.

Live and Dead Voltage Sensitivity Test

Function	Test item	Should be	As found	Error
Sync. Check	Dead Line	12.7 V	12.68 V	0.173%
	Dead Busbar	12.7 V	12.69 V	0.079%
	Live Line	50.8 V	50.74 V	0.134%
	Live Busbar	50.8 V	50.71 V	0.177%

Operating time test

Function	Should be (sec.)	Sync. Operating	
		As found	Time Error
Sync.	0.000	0.0288	28.8ms

Accuracy : *Voltage* : *±1% plus ±0.5 V*
Slip Freq. : *±0.02 Hz*
Phase Angle : *±4°*

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Name	Mr. Anucha Tejanang	Mr. Chanuwat Boonmart	
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Date	16-Feb-2026	16-Feb-2026	