

SIA-B

Overcurrent and Earth Fault Protection Relay for Secondary Distribution

Dual & Self Powered



Main characteristics

- The SIA-B is a Dual & Self powered overcurrent protection relay using the operating current through three specific current transformers fitted on the lines. These transformers are also used to obtain current measurements. Optionally, SIAB relay can be used with auxiliary power supply (24 Vdc, 110 Vac or 230 Vac). The equipment can be occasionally supplied by an external battery portable kit (KITCOM).
- 50P, 50/51P, 50N, 50/51N protection functions.
- Trip block for switch disconnector + 49T + 49 as optional.
- Its compact size makes SIA-B really easy to install and its light weight helps the customer to save costs in transport.
- Low power consumption (0.5 W, 24 Vdc).
- Non-volatile RAM memory in order to store up to 100 events.
- USB connection on the front (Modbus RTU communication protocol).
- There are bistable magnetic indicators which indicate the trip cause, maintaining their position even though the relay loses the supply (flags).
- In self powered modes, SIA-B starts-up from 0.4 Is of primary three phase current using specific CTs.



Low Power switchgear

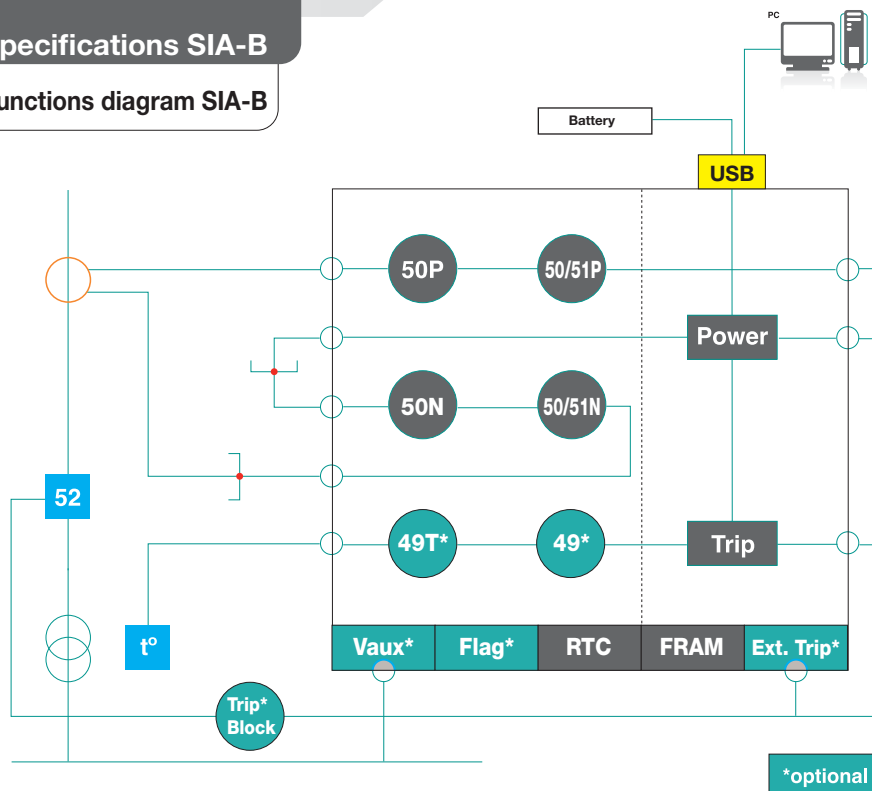
This CT is suitable for Fanox SIA-B Protection relay.

Special CTs		
Type	Range	Class
CT08-5	8-28 A	5P80
CT16-5	16-56 A	5P80
CT16-10	16-56 A	10P80
CT32-5	32-112 A	5P80
CT64-5	64-224 A	5P80
CT128-5	128-448 A	5P80

Technical specifications and dimensions of this CT in page 22-23.

Technical specifications SIA-B

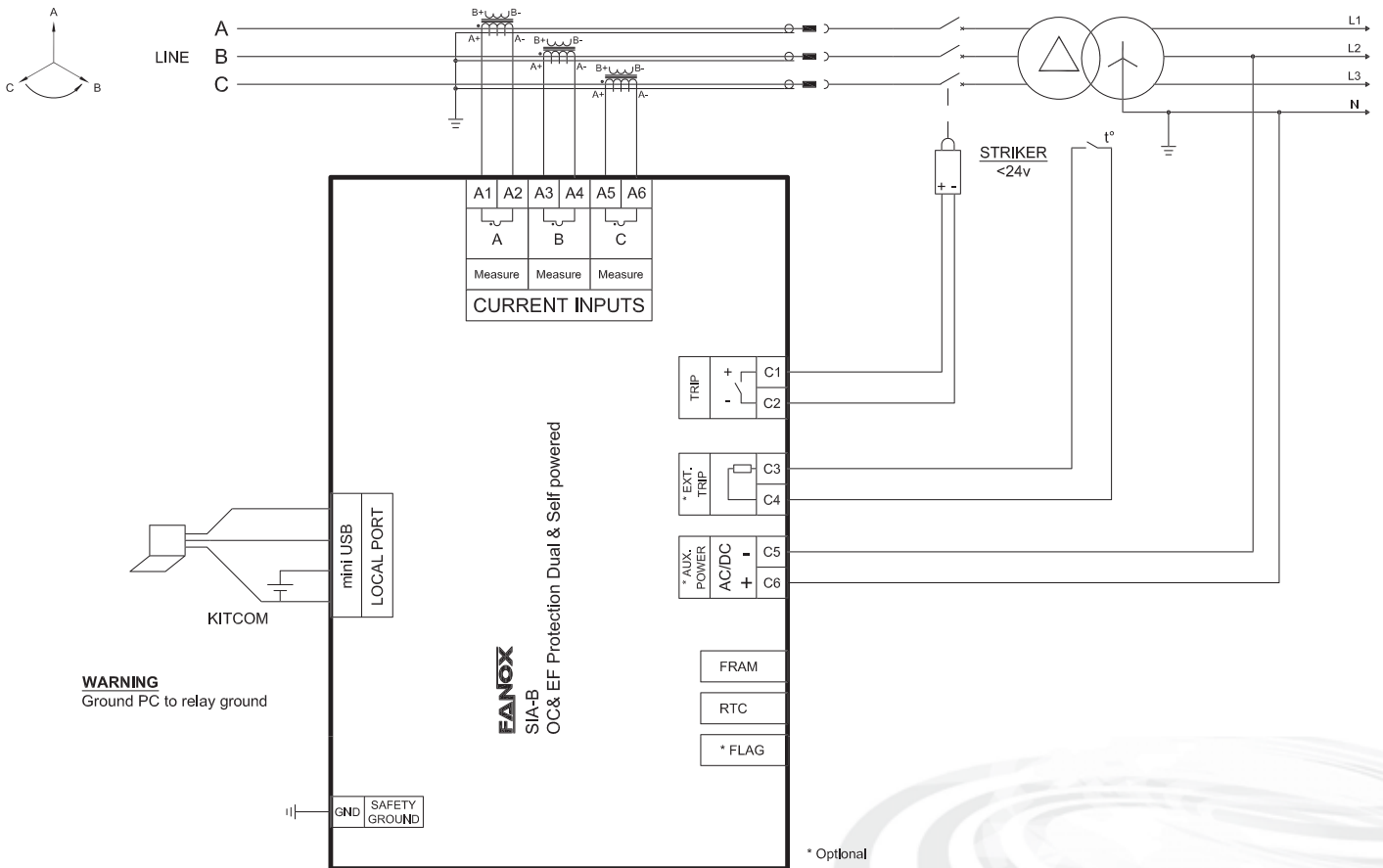
Functions diagram SIA-B



- 3 CT power supply-measurement Striker

Technical specifications SIA-B

Connections diagram SIA-B



Technical parameters SIA-B

Function 50P	Permission: yes/no
	Operating range: 0.20 to 20 x Is (step 0.01)
	Operating time: 0.02 to 300 s (step 0.01 s)
	Activation level 100%
	Deactivation level 90%
	Instantaneous deactivation
	Timing accuracy: $\pm 0.5\%$ or ± 30 ms (greater of both)
Function 50N	Permission: yes/no
	Operating range: 0.20 to 20 x Is (step 0.01)
	Operating time: 0.05 to 300 s (step 0.01s)
	Activation level 100%
	Deactivation level 90%
	Instantaneous deactivation
	Timing accuracy: $\pm 0.5\%$ or ± 30 ms (greater of both)
Function 50/51P	Permission: yes/no
	Operating range: 0.20 to 7 x Is (step 0.01)
	Curves: IEC 60255-151
	Operating time: inverse curve, very inverse curve, extremely inverse curve. Defined time: 0.02 to 300 s (step 0.01 s)
	Dial: 0.05 to 1.25 (step 0.01)
	Curve, activation level 110%
	Curve, deactivation level 100%
	Defined time, activation level 100%
	Defined time, deactivation level 90%
	Instantaneous deactivation
	Timing accuracy: $\pm 5\%$ or ± 30 ms (greater of both)
Function 50/51N	Permission: yes/no
	Operating range: 0.20 to 7 x Is (step 0.01)
	Curves: IEC 60255-151
	Operating time: inverse curve, very inverse curve, extremely inverse curve. Defined time: 0,05 to 300 s (step 0.01 s)
	Dial: 0.05 to 1.25 (step 0.01)
	Curve, activation level 110%
	Curve, deactivation level 100%
	Defined time, activation level 100%
	Defined time, deactivation level 90%
	Instantaneous deactivation
	Timing accuracy: $\pm 5\%$ or ± 30 ms (greater of both)
Function 49T (*)	Charging time 10 s (optional)

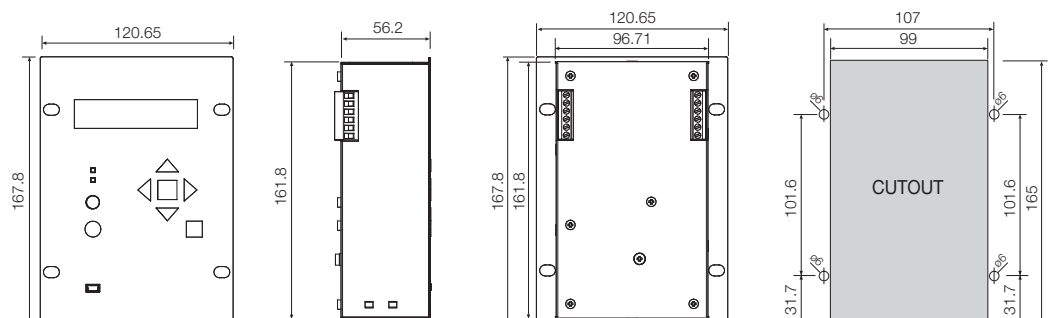
Function 49 (*)	Function permission : yes/no
	Tap: 0.10 a 2.40 Is (step 0.01)
	ζ heating: 3 a 600 minutes (step 1 min)
	ζ cooling: 1 a 6 x ζ heating (step 1)
	Alarm level: 20 a 99% (step 1 %)
	Trip level: 100%
	Trip reset: 95% of alarm level
Trip Block (*)	Timing accuracy: $\pm 5\%$ regarding theoretical value
	Blocking: Yes/no
Trip Block (*)	Blocking limit: 1.5 to 20 x In (step 0.01)
	Trip output
Frequency	50/60Hz
Current measure	True RMS
	Sampling: 16 samples/cycle
Fault reports	Four fault reports
Communication	USB port: Modbus RTU
Auxiliary supply	230 Vac, $\pm 20\%$
	110 Vac, $\pm 20\%$
	24 Vdc, $\pm 20\%$
Battery supply	With USB KITCOM adapter
Self-power from current	Three phase self-power level: $I > 0,4 \times I_s$ min
	Environment
Transformers	Power supply and measurement specific CTs
Mechanical features	Metallic box
	Panel Mounting
	$\frac{1}{4}$ Rack-4U
	IP-54 panel mounted

Technical parameters CT SIA-B

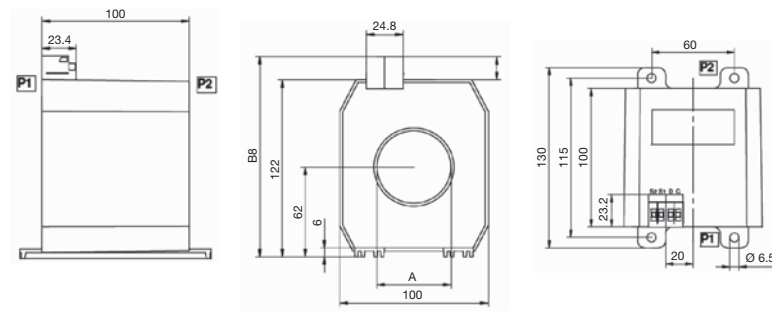
Application	Indoor Use
Class of insulation	Class E
Frequency	50-60 Hz
Primary Conductor	Cable max. $\varnothing 50$ mm
Material	PU & PA6.6
Sec. wire diameter	6 mm ² solid / 4 mm ² strand
Test winding	0,288 A Nominal
Burden	0,1 VA

(*) Optional depending on the model

Dimensions and cutout SIA-B



Dimensions CT SIA-B



Selection & Ordering data SIA-B

SIA-B										PROTECTION FUNCTIONS
0										50P + 50/51P + 50N + 50/ 51N
	0									PHASE MEASUREMENT Defined by General Settings
		0								NEUTRAL MEASUREMENT Internal measurement
			0							NET FREQUENCY Defined by General Settings
				0 1 2 3						POWER SUPPLY Self powered Self powered + 230 Vac (Dual) Self powered + 110 Vac (Dual) Self powered + 24 Vdc (Dual)
					0 1 B					ADDITIONAL FUNCTIONS - + 49 + Trip Block for switch disconnecter
						0				COMMUNICATIONS USB frontal
							0 1			INPUTS-OUTPUTS 2 led's + trip output (striker) + External trip input (49T) + 1 FLAG
								0		MECHANICAL ASSEMBLY -
									A B C D	LANGUAGE English, Spanish and German English, Spanish and Turkish English , Spanish and French English , Spanish and Russian
									A	ADAPTATION -

Example of ordering code:

SIA B	0	0	0	0	1	0	1	0	B	A	<i>SIAB 0 0 0 0 1 0 1 0 B A</i>
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Note: Accessories, page 60-61.