

WI - Line | SELF-POWERED PROTECTION RELAYS

WIB1 | SELF-POWERED OVERCURRENT TIME RELAY FOR COMPACT RING MAIN UNITS



COST-EFFECTIVE, RELIABLE, MAINTENANCE-FREE

The cost-conscious users have already discovered it: The **WIB1**, the digital self-powered time overcurrent relay with cost-saving potential. Pay only for what you really need for protection.

Why complicate things when it is so easy? Our **WIB1** concept: A digital self-powered overcurrent relay for compact Ring-Main-Units (RMU) in medium-voltage applications, which is reduced to the essential protection functions. Briefly: A state of the art protection relay in a well-proven quality, at a low price.

COST-SAVING-POTENTIAL

- Cost-saving-potential
- Simple projecting and setting
- Quick and easy mounting
- Only a few logistic parts
- Best price/performance ratio
- 25 years maintenance free

APPLICATION/PRINCIPLE

The self-powered protection relay **WIB1** provides reliable protection of medium-voltage grids and is especially designed for compact RMU's with integrated CB. Depending on the low primary currents of the **WIB1** the relay is applicable for small transformers.

The **WIB1** and the adapted CT's together represent a compound protection system. The linearized characteristic of the CTs permits operation in a wide primary current range. The parameter for the rated transformer current is set in the relay. The expenditure for projecting handling and stock keeping is reduced. The relay is powered by the measuring current. The trip of the CB takes place by means of a low- energy tripping coil, which must be an integral component of the CB actuator.

TWO VERSIONS

- WIB12PE - full version with CT connectors for test winding
- WIB12FE - without terminal cover and CT connectors

TECHNICAL ADVANTAGES

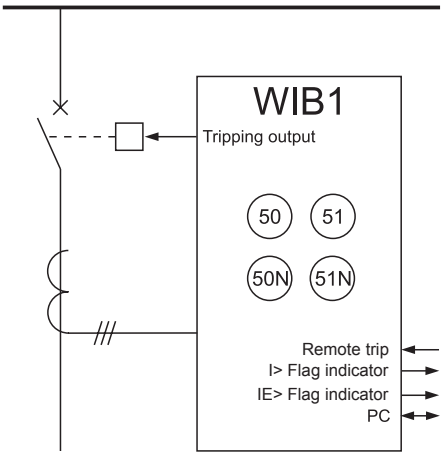
- Self-powered relay, auxiliary voltage not required
- Protection system consisting of a relay and CTs
- CT housing adapted to the RMU design
- Wide primary current range
- Designed especially for small transformer currents
- Low and high set overcurrent protection
- Inverse and definite time tripping characteristics for overcurrent and earth current available
- Low and high set earth current protection
- Protection elements separately activated
- Earth fault protection via integrated Holmgreen circuit
- Two flag indicator outputs
 - phase fault indicator
 - earth fault indicator
- Manifold setting and evaluation possibilities,
 - via communication interface and PC,
 - via integrated DIP or HEX switches
- CT connection with plug in screw terminals, alternatively with screw terminals
- Optionally integrated test sockets for a secondary test of the whole protection system, CTs + relay (WIB12PE)
- Optionally secondary test with standard 1A test sytems feasible (WIB12PE)
- Remote trip input for 115-230 V AC, $\pm 15\%$
- Fault memory read out via PC
- Insensitive to high environmental conditions
- Clear text inscription of the setting values on the relay cover
- Protected connection sector, lead sealing tab
- According to the relevant IEC-, VDE- and DIN - Standards
- Material free of halogen
- On-site diagnostic with WIC1-TU

TECHNICAL DATA

Rated current (Is), in relation to the primary side (rated CT)	8 A - 480 A
CT ranges WIB1	W1: 8 A - 15 A, W2: 16 A - 30 A, W3: 32 A - 60 A, W4: 64 A - 120 A, W5: 128 A - 240 A, W6: 256 A - 480 A
Test winding (option WIB12PE only)	1 A = 3.125 x lower rated CT current
Measuring accuracy - complete system	5% at 0° C to +50° C, 7.5% at -40° C to +85° C
Rated short circuit peak withstand current	63 kA (primary)
Rated thermal withstand current capacity	25 kA (primary)/1 s permanent 2.5 x upper rated CT current
Electric impulse output	24 V DC/0.1 Ws
Flag-indicator output	24 V DC/0.01 Ws
Protection class	Housing IP 40, Electronic components IP 65, terminals IP 20
Storage temperature range	- 40° C to +85° C
Operation temperature range	- 40° C to +85° C
Climatic conditions acc. to	IEC 60068-2
EMC according to	IEC 60255-5, IEC60255-22-1, IEC60255-22-2, IEC60255-22-3, EN61000-4-4, EN61000-4-5, EN61000-4-8, EN55011 class B
Mechanical conditions acc. to	IEC60255-1/2 class 2
Dimension relay	width = 125 mm, height = 170 mm, depth = 40 mm
Dimension CT's	according to customer specification

CHARACTERISTICS AND SETTING RANGES

	Setting range	Function
I>	0.9 x - 2.5 x Is	definite time NINV, VINV, EINV
tl>	0.1 - 2 s 0.05 - 1	
I>>	1 x - 20 x Is	definite time
tl>>	0.04 - 3 s	
IE>	0.2 x - 2.5 x Is	definite time NINV, VINV, EINV
tlE>	0.1 - 20 s 0.05 - 1	
IE>>	1 x - 7 x Is	



Principle diagram WIB1



Accessory:
On-site diagnostic with WIC1-TU
PC communication with WIC1-PC2

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