



RESIDUAL CURRENT CIRCUIT BREAKER DEMONSTRATION AND USERS MANUAL

Thank you for choosing 10VTR series Residual Current Circuit Breakers. Please read this manual before installation, operation and maintenance.

OVERVIEW

Residual Current Circuit Breaker is a switch that must be used against electrical shocks occurring in the respective grid and endangering human lives or against fires resulting from the mistakes in isolation. VIKO Residual Current Circuit Breaker is produced in the following two types with its fully "electromechanical" operating principle:

- Life Protection (30 mA)
- Fire Protection (300 mA)

STANDARD AND QUALITY CERTIFICATES

For Type A: TS EN 61008-1

For Type S: IEC/EN 61008-1

Type	In (A)	I _n (mA)
10VTR2	25, 32, 40, 50, 63, 80, 100A	30 mA
10VTR4	25, 32, 40, 50, 63, 80, 100A	30 mA
10VTR2	25, 32, 40, 50, 63, 80, 100A	300 mA
10VTR4	25, 32, 40, 50, 63, 80, 100A	300 mA

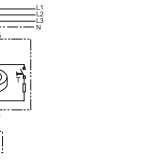
1

TECHNICAL SPECIFICATIONS

Mode	Electromagnetic
Type	A, S
Rated current I _n	25, 40, 63, 80, 100A
Poles	2P(1P+N), 4P(3P+N)
Rated voltage U _e	2P 240V~
Rated voltage U _i	4P 415V~
Insulation voltage U _i	500V
Rated frequency	50/60Hz
Rated residual operation current (I _{Δn})	30, 100, 300mA
Rated residual making and breaking capacity (I _{Δm})	630
Short-circuit current I _{nc} I _{sc}	6,000A/10,000A
SCPD fuse	← 6000A → ← 10000A →
Break time under I _{Δn}	≤ 0.1s
Rated impulse withstand voltage (1.5/50) U _{imp}	4000V
Dielectric test voltage at ind.Freq. for 1min	2.5kV
Electrical life	2,000 Cycles
Mechanical life	4,000 Cycles

EFFECTS OF RESIDUAL CURRENT

0.5 - 10 mA	→ Having pins and needles
10 mA	→ Beginning of convulsion
20 - 30 mA	→ Convulsion of diaphragm
70 - 100 mA	→ Beginning of heart trembling
100 mA ve üstü	→ Stopping of heart and death



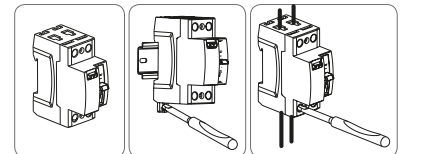
2

PRODUCT ASSEMBLY

- Product calibrating and programming are performed during manufacturing and each product is offered to sales after a thorough quality control. There are no maintenance or programming tasks that the users can perform.



- Ensure that the power is cut off before the assembly of the products.
- Connection and assembly of the electrical devices should be carried out only by the technical personnel having certificate of competency.



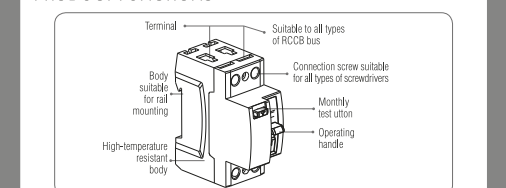
Protection degree	IP20
Terminal connection type	Cable/Pin-type busbar
Terminal size top/bottom for cable	35mm ² 18-2AWG
Terminal size top/bottom for busbar	35mm ² 18-2AWG
Tightening torque	3.0Nm 22In-lbs
Mounting	On DIN rail EN60715(35mm) by means of fast clip device
Connection	From top and bottom

3

THINGS TO CONSIDER DURING RESIDUAL CURRENT CIRCUIT BREAKER ASSEMBLY

- The nominal currents of the Residual Current Circuit Breaker should be at values in line with the size of the protected grid.
- The installation should be grounded.
- In two-pole Residual Current Circuit Breaker, two phase and one neutral, and in four-pole Residual Current Circuit Breaker, three phase and one neutral should be connected.
- To test Residual Current Circuit Breaker, "Test Monthly" button should be pressed. This test should be repeated once a month. Phase and neutral should never be bypassed to test Residual Current Circuit Breaker.
- Grounding resistance should be maximum 2160 ohm for 30 mA Residual Current Circuit Breaker and 216 ohm for 300 mA Residual Current Circuit Breaker.

PRODUCT FUNCTIONS



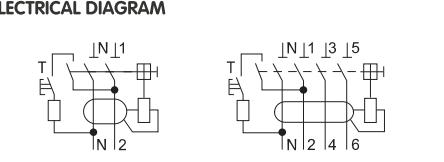
4

TRIPPING CURRENT RANGE

Type	Lagging Angle	Tripping current I _{Δn} /A	
		I _{Δn} > 0.01A	I _{Δn} ≤ 0.01A
A	0°	0.25I _n ≤ I _{Δn} ≤ 1.4I _n	0.35I _n ≤ I _{Δn} ≤ 2I _n
	90°	0.25I _n ≤ I _{Δn} ≤ 1.4I _n	0.25I _n ≤ I _{Δn} ≤ 2I _n
	135°	0.11I _n ≤ I _{Δn} ≤ 1.4I _n	0.11I _n ≤ I _{Δn} ≤ 2I _n

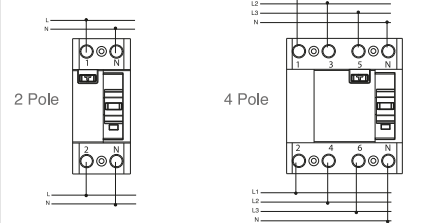
Pulsating direct current sensitive	Surge current proof
They react to AC and pulsating DC fault current which reach 0 or almost 0 within one time period of the mains frequency.	RCCB's surge capacity. Not tripping at standardized 8/20 us surge-current waves acc.to VDE 0432 Part 2 with surge current values of up to 250A.

ELECTRICAL DIAGRAM

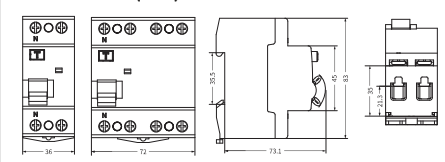


5

CONNECTION DIAGRAM



DIMENSIONS(mm)



6

WARRANTY CONDITIONS

- Warranty period starts as of the delivery date of the product and it is 2 years.
- Warranty covers the malfunctions likely to occur due to the manufacturing defects of the product and within the warranty period.
- The product including all of its parts is under warranty as a whole. If the product turns out to be defective, the consumer can use one of the following rights stipulated in Article 11 of Consumer Protection Law no. 6502;
 - a- Withdrawal from the contract
 - b- Demanding discount from sales fee
 - c- Demanding free repair,
 - d- Demanding the replacement of the sold one with a fungible one free from defects.
- In case the consumer chooses the right of free repair among those rights; the dealer is obliged to repair the product or have the product repaired without claiming any fee under the name of replaced part fee, labor cost or for any other reasons. The consumer can also use the right of free repair against the manufacturer or exporter. The dealer, manufacturer and exporter are jointly and severally liable for the usage of this right by the consumer.
- In case the consumer uses the right of free repair and if the product fails within the warranty period again and
 - the maximum period required for the repair is exceeded and
 - Authorized service station, dealer, manufacturer or exporter state that it's not possible to repair the product in a report, the consumer can demand the return of the product fee, fee discount at the ratio of the defect or the replacement with the one free of defects, if possible, from the dealer. The dealer can not reject the demand of the consumer. In case this demand is not met, the dealer, manufacturer and exporter shall jointly and severally be held responsible.

7

WARRANTY CONDITIONS

- The repair period of the product can not exceed 20 business days.
- This period starts on the notification of the failure on the product to the authorized service station or the dealer within the warranty period and from the date of delivery of the product to the authorized servicestation out of warranty period. In case of not eliminating the product malfunction within 10 business days, manufacturer or importer is obliged to dedicate another product with similar characteristics to the use of the consumer until the completion of the product repair. In case the product fails within the warranty period, elapsed time is added to the warranty period.
- Usage of the product contrary to the rules stipulated in user's manual, operating out of determined voltage, current and environmental conditions, damage on the cable connection due to the user's fault and failure of the product due to the facts arising from the fire, flood, earthquake, lightning and similar disasters are not under warranty.
- The consumer can apply to the arbitration committee for consumers or the consumer court where the consumer operations are made or in the residential area for the disputes to be occurred regarding the usage of the rights arising from the warranty.
- In case the dealer doesn't provide this certificate of warranty, the consumer can apply to the General Directorate of Consumer Protection and Market Surveillance of Ministry of Customs and Trade.

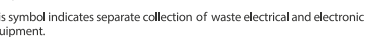
8

WARNING

- Ensure that the power is cut off before the assembly of the products
- Connection and assembly of the electrical devices should be carried out only by the technical personnel having certificate of competency.
- No responsibility is assumed for the entire of the malfunction, accident and loss arising from the assembly or interference of the persons not having the competency certificate.
- Never use alcohol, cologne, detergent or other similar chemicals for cleaning. Do not perform wet cleaning do not contact the product with water when the product is energized.
- Keep the product away from the damp or wet environment during the transportation and shipping.

PANASONIC AND ENVIROMENT

As Panasonic, we are aware of the contribution of a balanced relation established between human and nature to the sustainable life. Thanks to our continuous innovation and R&D studies, we prefer materials and technologies that are not affecting the environment in a negative way during the production and usage of the products starting from the designing phase. We take necessary measures to use energy and natural sources in a more efficient way.



This symbol indicates separate collection of waste electrical and electronic equipment.

PANASONIC CUSTOMER RELATIONS

Dear Customer,

We believe in providing quality service to your as well as offering quality products.

9



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