

RESIDUAL CURRENT MONITOR 5SV8

- Intended for monitoring of leakage current (residual/ fault current) and fire protection due to deterioration of isolation or sneak current for example.
- Optional setting of residual current $I_{\Delta n}$ and limiting inactivity time $t_{\Delta n}$.
- Mounting on "U" rail.
- Measuring using external summing current transformer.
- Circuit breaker tripping by shunt trip or undervoltage release.
- Detailed information can be found on page F51.

Analog residual current monitor

Type	Order code	Description	Number of modules	Weight [kg]	Package [pcs]
5SV8000-6KK	OEZ:42658	Analog, setting $I_{\Delta n}$ and $t_{\Delta n}$	2	0.180	1

Detailed information can be found on page F51.

Digital residual current monitor

Type	Order code	Description	Number of modules	Weight [kg]	Package [pcs]
5SV8001-6KK	OEZ:42659	Digital, setting $I_{\Delta n}$ and $t_{\Delta n}$	3	0.260	1
5SV8200-6KK	OEZ:42660	Digital, setting $I_{\Delta n}$ and $t_{\Delta n}$ 4-channel thermostat	3	0.260	1

Detailed information can be found on page F52 and F53.

Current transformers for residual current monitor

Type	Order code	Description	Weight [kg]	Package [pcs]
5SV8700-0KK	OEZ:42661	Internal diameter 20 mm, including holder on "U" rail according to EN 60715 wide 35 mm	0.090	1
5SV8701-0KK	OEZ:42662	Internal diameter 30 mm, including holder on "U" rail according to EN 60715 wide 35 mm	0.110	1
5SV8702-0KK	OEZ:42663	Internal diameter 35 mm including holder on the panel	0.200	1
5SV8703-0KK	OEZ:42664	Internal diameter 70 mm including holder on the panel	0.310	1
5SV8704-0KK	OEZ:42665	Internal diameter 105 mm including holder on the panel	0.600	1
5SV8705-0KK	OEZ:42666	Internal diameter 140 mm including holder on the panel	1.350	1
5SV8706-0KK	OEZ:42667	Internal diameter 210 mm including holder on the panel	2.250	1

Detailed information can be found on page F55.

Accessories to current transformers

Type	Order code	Description	Weight [kg]	Package [pcs]
5SV8900-1KK	OEZ:42668	Holder on "U" rail according to EN 60715 wide 35 mm for current transformers with internal diameter up to and including 105 mm	0.010	2



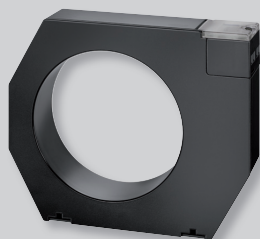
5SV8000-6KK



5SV8001-6KK



5SV8701-0KK



5SV8702-0KK



5SV8900-1KK

MONITORING RELAY MMR, 5SV8



5SV8000-6KK

Analog residual current monitor 5SV8000-6KK

- Designed for monitoring of leakage current (residual/fault current) and protection against fire e.g. due to worsened insulation or sneak currents.
- Possibility of setting of residual current I_{dn} and setting of limit time of inactivity of I_{dn} (see specifications) by means of rotary switches.
- Mounting on "U" rail.
- Measurement by means of external summation current transformer.
- Circuit breaker switching off by means of shunt trip or undervoltage release.

Local signalling

- First LED signals functionality of the relay and current transformer:
 LED is lighting - the relay is in order
 LED does not light - the relay is not supplied
 LED is blinking - interrupted connection between the relay and the transformer, or broken secondary winding.
- The second LED signals magnitude of the passing current:
 LED is lighting - signalling reach of 100 % residual current
 LED is blinking - blinking period increases with increasing residual current.

Remote signalling

- By means of make-and-break contact (CO).
- Serves for signalling of reach of the set value of I_{dn} and/or for circuit breaker switching off via undervoltage release or shunt trip.

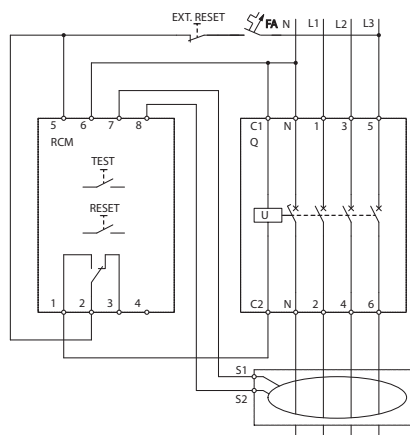
Control

- The TEST push-button serves for testing of the function of both the relay and circuit breaker - disconnects the circuit.
- If the relay trips (switches the circuit breaker off) it is necessary to reset it by the „RESET“ push-button, or interrupt its supply and thus perform the remote reset.
- The setting can be sealed.

Type	Order code	Description	Number of modules	Weight [kg]	Package [pcs]
5SV8000-6KK	OEZ:42658	Analog, setting I_{dn} and t_{dn}	2	0.196	1

Diagram

Wiring diagram with a shunt trip



Wiring diagram with an undervoltage release

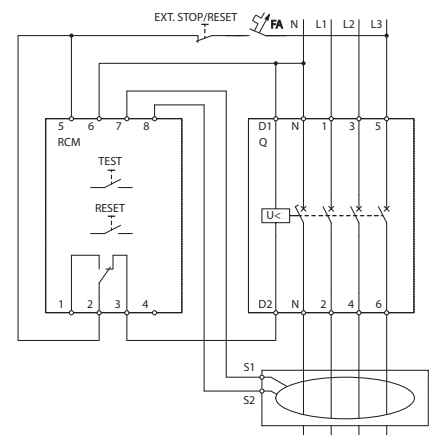


Diagram description

Symbol	Description
Q	miniature circuit breaker
RCM	monitoring relay
TEST	test push-button of the relay
RESET	local reset push-button
EXT. RESET	remote reset push-button
EXT. STOP/RESET	remote reset push-button or STOP push-button ¹⁾
S1,S2	terminals of current transformer
FA	protection of relay LTS-2C-1

¹⁾ STOP push-button only in combination with an undervoltage release

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5SV8001-6KK

Digital residual current monitor 5SV8001-6KK

- Designed for monitoring of leakage current (residual/fault current) and protection against fire e.g. due to worsened insulation or sneak currents.
- Possibility of setting of residual current I_{dn} and setting of maximum inactivity time t_{dn} by means of push-buttons and the display (see table).
- Presentation of cause of trip and of current value of residual current on the display.

- Mounting on "U" rail.
- Measurement by means of external transformer.
- Circuit breaker switching off by means of shunt trip or undervoltage release.
- Possibility of setting of characteristic S - selective.

Local signalling

- The first LED signals functionality of the relay and trip in reach of the set residual current:
LED gives a green light - the relay is supplied
LED gives a red light - signalling of reach of 100 % residual current
- The second LED signals reach of relative low set value:
LED gives a yellow light - signalling of reach of the set value.

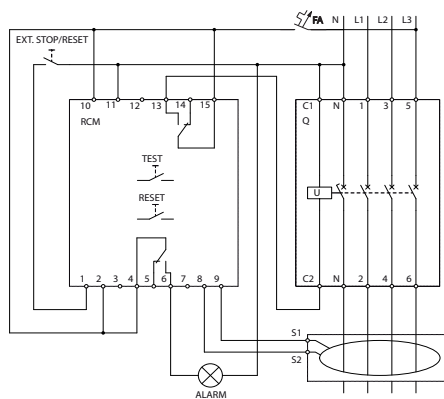
Remote signalling

- By means of make-and-break contact (CO).
- Serves for signalling of reach of the set value of I_{dn} and/or for circuit breaker switching off via undervoltage release or shunt trip.
- Possibility of remote switching off by applying voltage AC/DC $110 \div 230V$ on potential free terminals number 1 and 2.
- The TEST push-button serves for testing of the function of both the relay and circuit breaker - disconnects the circuit.
- If the relay trips (switches the circuit breaker off) it is necessary to reset it by the „RESET“ push-button, or interrupt its supply and thus perform the remote reset.
- The setting can be sealed.

Type	Order code	Description	Number of modules	Weight [kg]	Package [pcs]
5SV8001-6KK	OEZ:42659	Digital, setting I_{dn} and t_{dn}	3	0.269	1

Diagram

Wiring diagram with a shunt trip



Wiring diagram with an undervoltage release

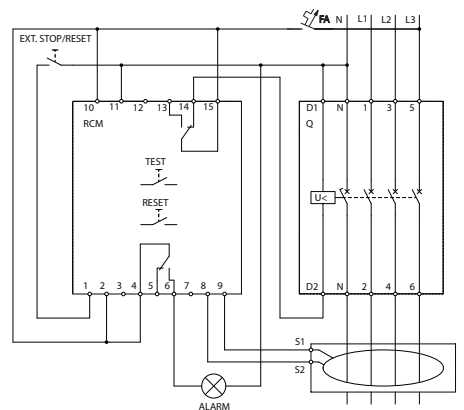


Diagram description

Symbol	Description
Q	miniature circuit breaker
RCM	monitoring relay
TEST	test push-button of the relay
RESET	local reset push-button
EXT. STOP/RESET	remote reset push-button or STOP push-button
S1, S2	terminals of current transformer
ALARM	signalling of I_{dn} adjusted value reaching
FA	protection of relay LTS-2C-1

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5SV8200-6KK

Digital residual current monitor 5SV8200-6KK

- Designed for monitoring of leakage current (residual/fault current) and protection against fire e.g. due to worsened insulation or sneak currents.
- Possibility of setting of residual current $I_{\Delta n}$ and setting of maximum inactivity time $t_{\Delta t}$ by means of push-buttons and the display (see table).

- Presentation of cause of trip and of current value of residual current on the display.
- Mounting on "U" rail.
- Measurement by means of external transformer, it is possible to connect up to 4 transformers.
- Circuit breaker switching off by shunt trip.
- Possibility of setting of characteristic S - selective.

Local signalling

- The first LED signals functionality of the relay and trip in reach of the set residual current:
LED gives a green light - the relay is supplied
LED gives a red light - signalling of reach of 100 % residual current
- The second LED signals reach of relative low set value:
LED gives a yellow light - signalling of reach of the set value.

Remote signalling

- By means of make-and-break contact (CO).
- Serves for signalling of reach of the set value of $I_{\Delta n}$ and/or for circuit breaker switching off via undervoltage release or shunt trip.
- Possibility of remote switching off by applying voltage AC/DC 110 ÷ 230 V on potential free terminal number 12.
- The TEST push-button serves for testing of the function of both the relay and circuit breaker - disconnects the circuit.
- If the relay trips (switches the circuit breaker off) it is necessary to reset it by the „RESET“ push-button, or interrupt its supply and thus perform the remote reset.
- The setting can be sealed.

Type	Order code	Description	Number of modules	Weight [kg]	Package [pcs]
5SV8200-6KK	OEZ:42660	Digital, setting $I_{\Delta n}$ and $t_{\Delta n}$, 4-channel thermostat	3	0.295	1

Diagram

Wiring diagram with a shunt trip

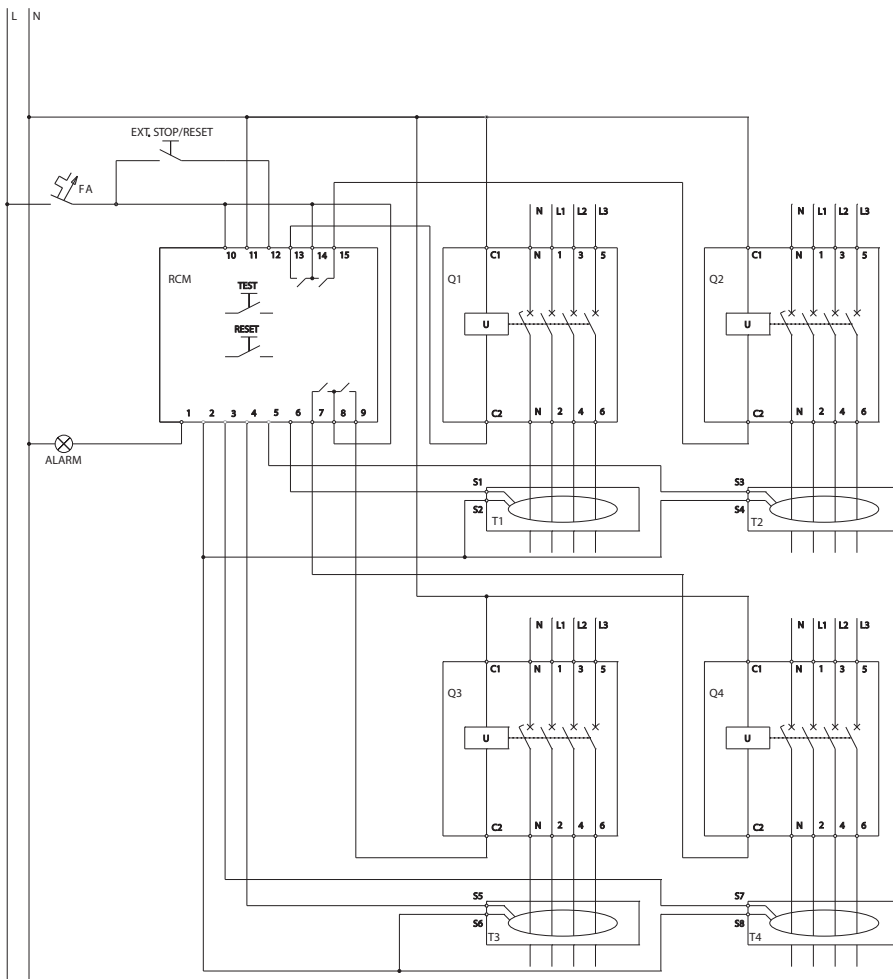


Diagram description

Symbol	Description
EXT. STOP/RESET	remote reset push-button or STOP push-button
RCM	monitoring relay
Q1	circuit breaker 1
FA	protection of relay LTN-2C-1
TEST	test push-button of the relay
RESET	local reset push-button
ALARM	signalling of adjusted value reaching
Q1	circuit breaker 1
Q2	circuit breaker 2
Q3	circuit breaker 3
Q4	circuit breaker 4
T1	circuit breaker current transformer 1
T2	circuit breaker current transformer 2
T3	circuit breaker current transformer 3
T4	circuit breaker current transformer 4
S1, S2	terminals of current transformer 1
S3, S4	terminals of current transformer 2
S5, S6	terminals of current transformer 3
S7, S8	terminals of current transformer 4

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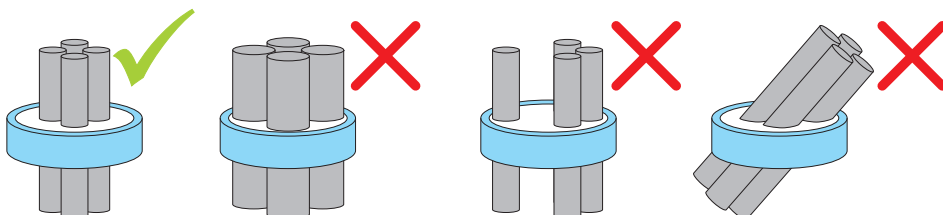
Specifications

Type	5SV8 000-6KK	5SV8 001-6KK	5SV8 200-6KK
Standards	EN 62020 IEC 62020	EN 62020 IEC 62020	EN 62020 IEC 62020
Approval marks	CE	CE	CE
Number of independent circuits	1	1	4
Rated residual current	0.03 ÷ 5 A	0.03 ÷ 30 A	0.03 ÷ 30 A
Maximum inactivity time	0.02 ÷ 5 s	0.02 ÷ 10 s	0.02 ÷ 10 s
Type	A (up to $I_{dn} = 3A$) AC (I_{dn} from 3 up to 5 A)	A (up to $I_{dn} = 3A$) AC (I_{dn} from 3 up to 30 A)	A (up to $I_{dn} = 3A$) AC (I_{dn} from 3 up to 30 A)
Rated operating voltage U_e	AC 230 V	AC 230 V	AC 230 V
Operating voltage range	AC 164 ÷ 284 V	AC 164 ÷ 284 V	AC 164 ÷ 284 V
Rated frequency f_n	50 Hz	50 Hz	50 Hz
Input power	3 VA	6 VA	6 VA
Mounting on "U" rail according to EN 60715 - type	TH 35	TH 35	TH 35
Degree of protection - on the front panel	IP41	IP41	IP41
Degree of protection - of conductors terminal	IP20	IP20	IP20
Other specifications			
External remote trip/reset	-/yes	yes/yes	yes/yes
Local signalling reaching of relative low value I_{dn} (ALARM)	yes	yes	yes
Remote signalling reaching of relative low value I_{dn} (ALARM)	-	yes	yes
Local signalling:			
supply	yes	yes	yes
ALARM	yes	yes	yes
Failure	yes	yes	yes
value I_{dn}	yes	yes	yes
Display	-	yes	yes
Sealing of control panel setting	yes	yes	yes
Transformer internal diameter	30 ÷ 210 mm	30 ÷ 210 mm	30 ÷ 210 mm
Max. length of conductors to the transformer (screened conductor)	10 m	10 m	10 m
Control circuit (inputs - external switching off / reset)			
Rated operating voltage U_c	-	AC/DC 110 ÷ 230 V	AC 230 V
Operating voltage range	-	AC/DC 110 ÷ 284 V	AC 230 ÷ 284 V
Input power	-	0.7 W	0.7 W
Control circuit (outputs)			
Arrangement of contacts ¹⁾	001	002	40
Rated operating voltage U_e	AC 230 V	AC 230 V	AC 230 V
Rated current I_e	6 A	6 A	6 A
Max. switched power - AC-1	1 500 VA	1 500 VA	1 500 VA
Electrical endurance	10x 106 operating cycles	10x 106 operating cycles	10x 106 operating cycles
Rated frequency	50 Hz	50 Hz	50 Hz
Connection			
Connection - conductor Cu - rigid (solid, stranded) ¹⁾	0.2 ÷ 2 mm ²	0.2 ÷ 2 mm ²	0.2 ÷ 2 mm ²
Torque	0.5 ÷ 0.6 Nm	0.5 ÷ 0.6 Nm	0.5 ÷ 0.6 Nm
Operating conditions			
Ambient temperature °C	-10 ÷ +50 °C	-10 ÷ +50 °C	-10 ÷ +50 °C
Relative humidity	5 ÷ 95 %	5 ÷ 95 %	5 ÷ 95 %
Max. sea level	2 000 m	2 000 m	2 000 m

¹⁾ Each digit indicates successively the number of make, break and break-make contacts.

NOTICE

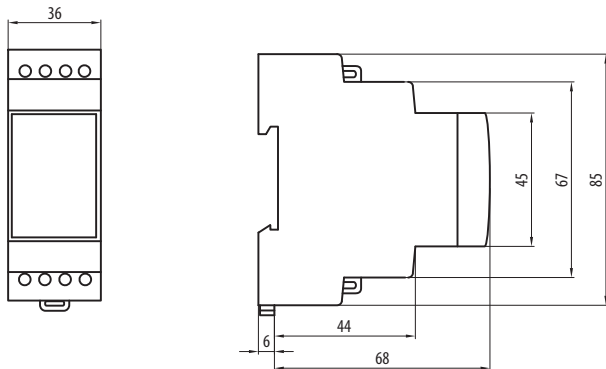
- All active conductors (including N conductor) must be led through the summation transformer.
- Cables, which are not led through the summation transformer, must be led 20 cm from the summation transformer as a minimum.
- The transformer must have internal diameter 1.5 larger than the external diameter of the conductors going through it.



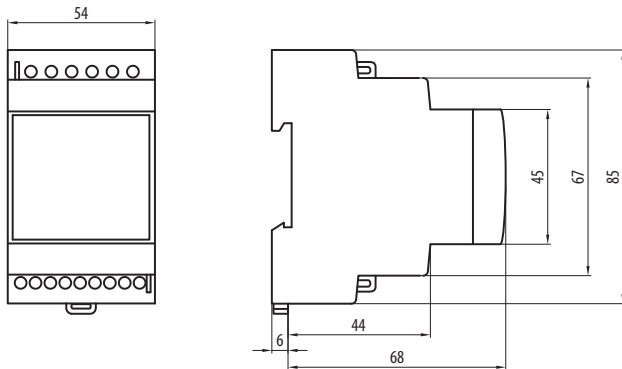
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Dimensions

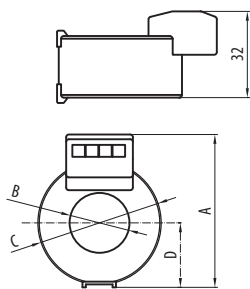
Residual current monitor 5SV8000-6KK



Residual current monitor 5SV8001-6KK, 5SV8200-6KK



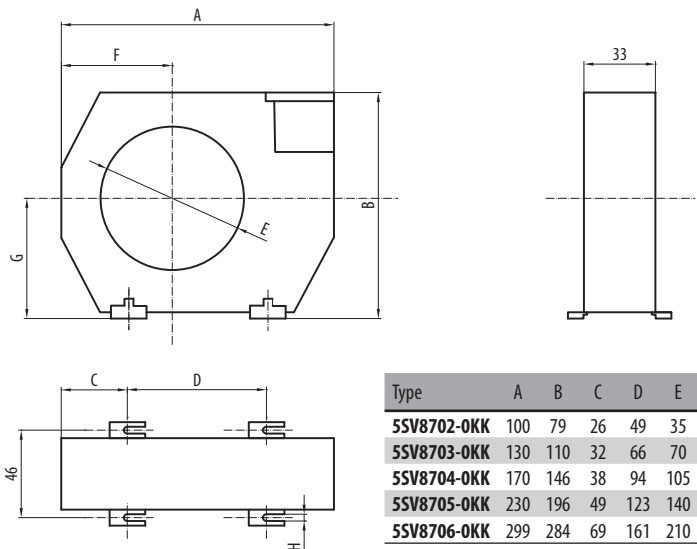
Measuring current transformers 5SV8700-0KK, 5SV8701-0KK



Type	A	B	C	D
5SV8700-0KK	60	20	46	24
5SV8701-0KK	70	30	59	30

Type	Rated current	Max. current, max. 2 s
5SV8700-0KK	≤ 40 A	240 A
5SV8701-0KK	≤ 63 A	380 A

Measuring current transformers 5SV87...-0KK



Type	A	B	C	D	E	F	G	H
5SV8702-0KK	100	79	26	49	35	35	43	6.5
5SV8703-0KK	130	110	32	66	70	52	57	6.5
5SV8704-0KK	170	146	38	94	105	72	73	6.5
5SV8705-0KK	230	196	49	123	140	97	98	6.5
5SV8706-0KK	299	284	69	161	210	141	142	6.5

Type	Rated current	Max. current, max. 2 s
5SV8702-0KK	≤ 80 A	480 A
5SV8703-0KK	≤ 200 A	1200 A
5SV8704-0KK	≤ 250 A	1500 A
5SV8705-0KK	≤ 500 A	3000 A
5SV8706-0KK	≤ 600 A	3600 A

For full specification of the measuring transformers see page C26.