Grid Solutions

MVAW 11, 13, 21

Interposing Relays

The type MVAW relay is intended for remote control of switchgear and associated equipment via long pilot wires. The relay will not operate on induced ac voltages, and its high pick-up current enables it to be used with anti-corrosion negative potential biasing devices.

This is an attracted armature relay of compact design with a positive action and a high degree of mechanical stability. It incorporates a tubular slug in the coil assembly to render the relay insensitive to ac voltages.

Operation Indicator

A mechanical hand reset operation indicator can be fitted.

Models Available

MVAW 11 or 21

– self reset contacts

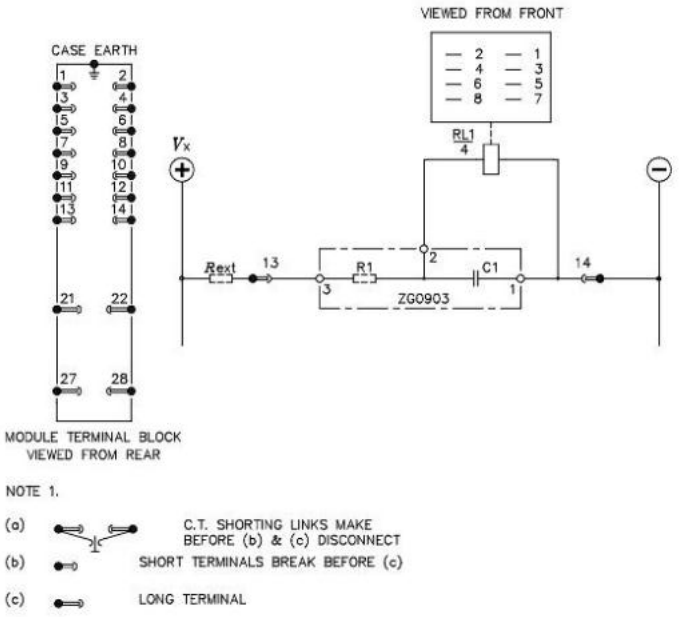
MVAW 13

– hand reset contacts

Features

- Robust attracted armature design
- Insensitive to AC
- High pick-up current

GE VERNOVA



COMBINATIONS OF OUTPUT CONTACTS		OUTPUT CONTACTS TO MODULE TERMINALS							
		1	3	5	7	2	4	6	8
4M	–	M	M	M	M				
3M	1B	M	M	B	M				
2M	2B	B	M	B	M				
2M	2Z	M	Z^+	M	Z^+				
2M	2Y	M	^+Y	M	^+Y				
2B	2Z	B	Z^+	B	Z^+				
1M 1B	2Z	M	Z^+	B	Z^+				
1M 1B	1Z 1Y	M	Z^+	B	^+Y				
2M	1Z 1Y	M	^+Y	M	Z^+				

CONTACT DESCRIPTION

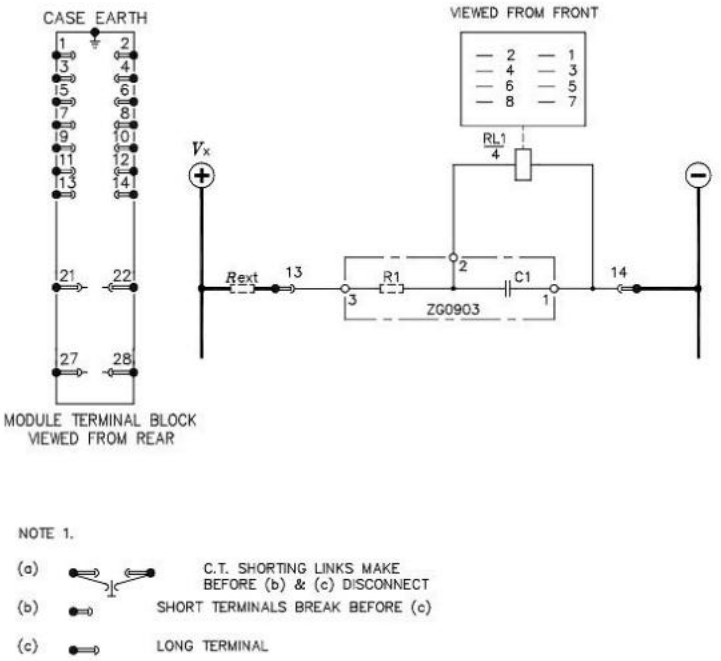
M : MAKE
B : BREAK
Z : HEAVY DUTY MAKE
Y : HEAVY DUTY BREAK

NOTE 2.
Z AND Y ARE FITTED WITH BLOWOUT MAGNETS AND ARE POLARITY CONCIOUS SEE TABLE FOR POSITIVE TERMINAL.

NOTE 3.
RESISTOR R1 FITTED ON 48/54, 110/125, 220/250V RELAYS ONLY.

NOTE 4.
EXTERNAL RESISTORS ARE FITTED ON 110/125V AND 220/250V VERSIONS ONLY.

Type MVAW 11 typical internal connection diagram



COMBINATIONS OF OUTPUT CONTACTS		OUTPUT CONTACTS TO MODULE TERMINALS							
		1	3	5	7	2	4	6	8
4M	–	M	M	M	M				
3M	1B	M	M	B	M				
2M	2B	B	M	B	M				
2B	2Z	B	Z^+	B	Z^+				

CONTACT DESCRIPTION

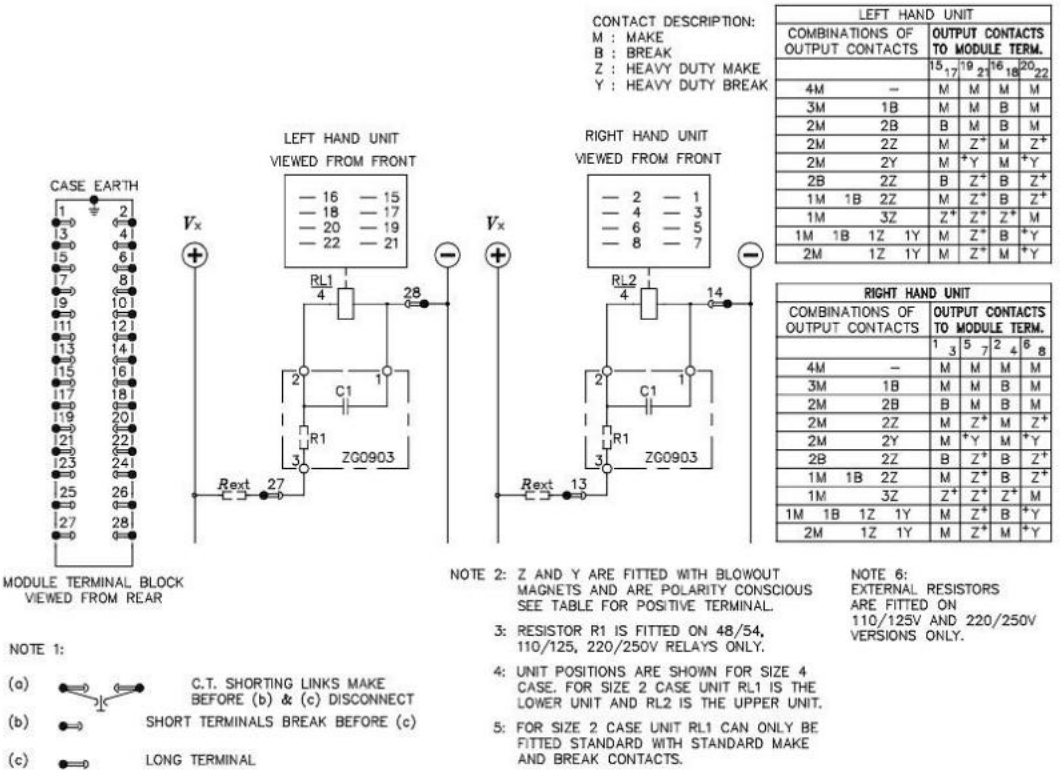
M : MAKE
B : BREAK
Z : HEAVY DUTY MAKE

Z ARE FITTED WITH BLOWOUT MAGNETS AND ARE POLARITY CONCIOUS SEE TABLE FOR POSITIVE TERMINAL.

NOTE 2.
RESISTOR R1 FITTED ON 48/54, 110/125, 220/250V RELAYS ONLY.

NOTE 3.
EXTERNAL RESISTORS ARE FITTED ON 110/125V AND 220/250V VERSIONS ONLY.

Type MVAW 13 typical internal connection diagram



Type MVAW 21 typical internal connection diagram

Technical Data

Voltage Rating	30/34V, 48/54V, 110/125V, 220/250V dc
AC Rejection	Typically up to 110V ac 50Hz for 48/54 relay
Operative Range	Typically 37.5 - 60V dc with 0 W pilot resistance; 44- 60 V dc with 200 Ω pilot resistance for 48/54 V relay

Maximum Pilot

Loop Resistance	200 Ω
Pick-up Current	Not less than 25 mA
Drop-off Current	Not less than 15 mA
Burden at 54 V	3.7 W

Operating Time	Applied volts 48	Pilot loop resistance Ω 0 200	Pick-up time ms 4 contacts typically 50 typically 80

Resetting Time	Less than 35 ms

Durability

Loaded contact	10,000 operations minimum
Unloaded contact	100,000 operations minimum

Contact Arrangements

Standard Contacts		Blow-out Contacts		AC
Make	Break	Make	Break	rejection at 50 Hz
4	-	-	-	110 V
3	1	-	-	70 V
2	2	-	-	70 V
2	-	2	-	110 V
-	2	2	-	70 V
2	-	-	2	70 V

Contact Ratings

		Make and carry continuously	Make and carry for 3 seconds	Break
Standard and changeover	ac	1250 VA with max of 5 A or 300 V	7500 VA with max of 30 A or 300 V	1250 VA with max of 5 A or 300 V
	dc	1250 W with max of 5 A or 300 V	7500 W with max of 30 A or 300 V	100 W (resistive) 50 W (inductive) with max of 5 A or 300 V
Heavy duty	dc	1250 W with max of 5 A or 300 V	7500 W with max of 30 A or 300 V	See Curves Figure next page

High Voltage Withstand	
Dielectric withstand IEC 60255-5:1977	2 kV rms for 1 minute between all terminals and case earth
	2 kV rms for 1 minute between all terminals of independent circuits, with terminals on each independent circuit connected together
	1 kV rms for 1 minute across normally open contacts
High voltage impulse IEC 60255-5:1977	Three positive and three negative impulses of 5 kV peak, 1.2/50 ms, 0.5 J between all terminals of the same circuit (except output contacts), independent circuits, and all terminals connected together and case earth

Electrical Environment	
High frequency disturbance IEC 60255-22-1:1988 Class III	2.5 kV peak between independent circuits and between independent circuits and case earth
	1.0 kV peak across terminals of the same circuit (except metallic contacts)
EMC Compliance 89/336/EEC	Compliance to the European Commission Directive on EMC is claimed via the Technical Construction File route
EN 50081-2:1994 EN 50081-2:1995	Generic Standards were used to establish conformity

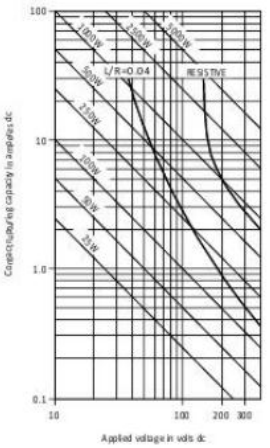
Product Safety	
73/23/EEC CE	Compliance with the European Commission Low voltage directive
EN61010-1:1993/A2:1995 EN60950:1992/A11:1997.	Compliance is demonstrated by reference to generic safety standards

Cases

Single pole type MVAW11 and MVAW 13 relays are supplied in size 2 cases and double pole type MVAW 21 relays in size 4 cases. Please refer to product manual for more details.

Atmospheric Environment	
Temperature IEC 60255-6:1998	Storage and transit -25°C to +70°C Operating -25°C to +55°C
IEC 60068-2-1:1990 IEC 60068-2-2:1974	Cold Dry Heat
Humidity IEC 60068-2-3:1969	56 days at 93% RH and 40°C
Enclosure protection IEC 60529:1989	IP50 (dust protected)

Mechanical Environment	
Vibration IEC 60255-21-1:1988	Response Class 1



Curves of breaking capacity of heavy duty blowout contacts

Information Required with your Order

- Relay Type
- Rated Voltage
- Type of contacts
- Whether optional operation indicator required

For more information, visit
gevernova.com/grid-solutions

GEA-N50068
English
250711

GE VERNOVA