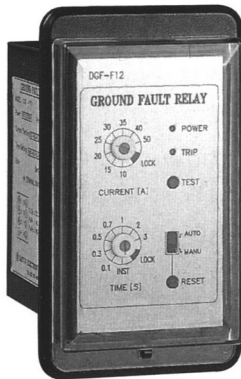
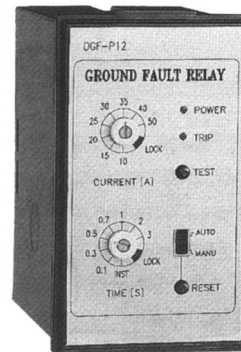


GROUND FAULT RELAY-1C



Flush mounted type



Socket type

Specification

Part	Model No	DGF-P11(Socket type)	DGF-P12(Socket type)
		DGF-F11(Flush mounted)	DGF-F12(Flush mounted)
Auxiliary power	AC 110/220V common(DC110/220V Option)		
Frequency	50/60Hz common		
Operating current setting	0.1-0.3-0.5-1-3-5-7-10-Lock		10-15-20-25-30-35-40-50-Lock
Operating time setting	INST-0.1-0.3-0.5-0.7-1-2-3-Lock		INST-0.1-0.3-0.5-0.7-1-2-3-Lock
Operation Indicator	LED lamp (red color)		
Reset	Auto / Manual		
Extent of supply voltage	85~115% of rated voltage		
Ambient temperature	-10°C~+50°C		
Power consumption	3VA		
Insulation resistane	DC 500V, less than 100MΩ		
Dielectric strength	primary-case ; AC 2,000V, Secondary-case : AC500V / 1minute		
Contact capacity	AC 125V 5A / DC 30V 5A		
Weight	0.6kg		
Case	ABS Resin/Black N1.5		
ZCT(Input)	ZCT Rating 200mA/100mV(DZR, ZR, ZS, ZB type 사용)		

Features

The static GFR with a sensor(Toroidal CT) is for ground fault current detection and has an output contact for a fault circuit trip. The relay is combined with a sensor which is calibrated as a set. The operating current in the specification means 1ry current of the CT. While the 1ry current is reached at set value, the output of the relay is closed.

Since the 2ry output of the sensor is connected to the input of the relay, it is recommended that the relay with a sensing CT has to be ordered as a set. Model. “-F□□” is for semi-flush mounting type and “-P□□” is for pin type with a base socket. Refer to the drawings in the instruction for more information.

Application

The GFR may be applied where fault circuits should be cut off detecting current, I_o and unbalanced current, I_c in the non-grounding network. Capacitive components existing in the bus side from ZCT is balanced between earth and three phase conductors at the normal condition. The balanced capacitive components of three phases are broken as soon as for one of three phases being grounded. And then the capacitive current becomes to flow thru the ZCT. The fault current($I_o + I_c$) can be set by rotary switches on the front plate of the relay. Time delay function is selected by the time switch as well. By turning to <LOCK> of the rotary switches for operating current and/or operating time, the function(s) can be disabled. Reset function for output contact can be selected either on Manual or on Auto.

Setting, Testing, and Operation

1. Current Set : There is a 9 step switch on the front plate for current set. One of 8 step(0.1, 0.3, 0.5, 1, 3, 5, 7, 10(A)) and lock, can be selected.
2. Time Set : There is a 9 step switch on the front plate for time set, a Instant set, 7 steps of delay time and a Lock set.
3. Power LED(Green) is lighted while aux. power is ON.
4. Trip LED(Red) is Lighted when any fault occurs and the output contact(terminal Ta and Tc) is closed at a same time.
5. Manual/Auto switch can be selected either Manual or Auto for reset. "Manual" means for manual reset of output contact by pressing reset button and "Auto" means for automatic reset of output contact as soon as the fault current cleared.
6. Reset button is used for resetting TRIP LED and an output contact when Manual/ Auto switch has been turned to Manual.
7. Test button is used for self-circuit test. If the button is pressed manually, the output contact(a) is closed and TRIP LED is lighted simultaneously.

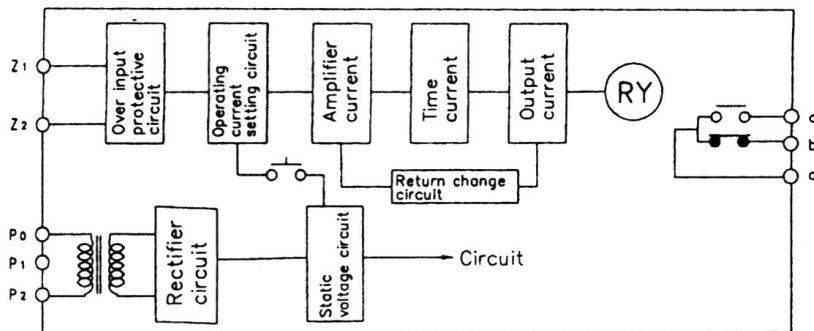
Note:Do not press the <Test> button during in service. Main CB may be opened

Test Procedure (Refer to the figure)

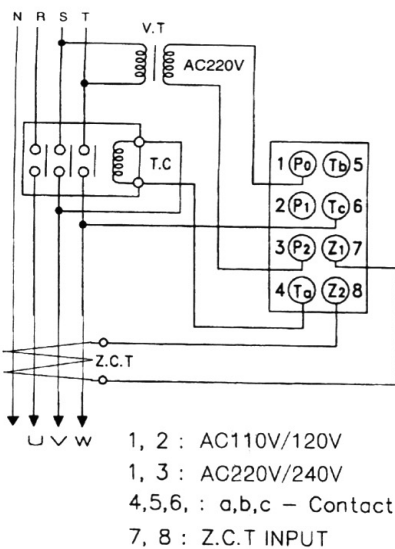
1. 2ry of sensor(k & l) and GFR(Terminal 7 & 8) are connected with wire.
2. Terminal 1 & 3 for AC 220V or terminal 1 & 2 for AC 110 aux. power is connected to a source.
3. One line with an A-meter from current source is installed through the sensor CT.
4. GFR is set at 10A tap with current dial and 0.1 sec. tap with time dial on the front plate.
5. Aux. power switch is "ON" . Then the power LED on the front plate may be lighted.
6. Current through the sensor CT is set 12A (120% of set value) using current source.
7. Switch current source instantaneously and watch through-current on A-meter whether 120% of set value is flowed. Then, confirm time on the time counter if it is counted $0.1 \pm 10\%$ sec. ($\pm 10\%$ of time set value) and if the trip LED is lighted.
8. Press RESET button for reset. If Reset selection is turned to Auto, the output contact will reset automatically, but the trip LED shall be reset manually like doing at Manual.
9. Other ranges can be tested same as the above procedure.

GROUND FAULT RELAY-1C

Internal block diagram

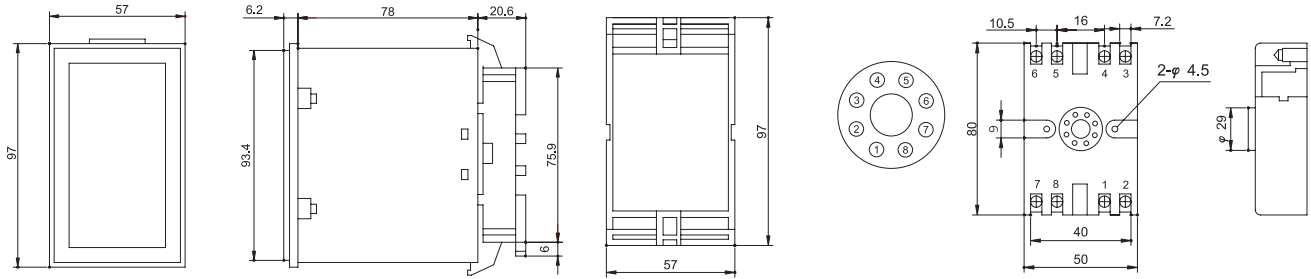


External wiring diagram



Dimension

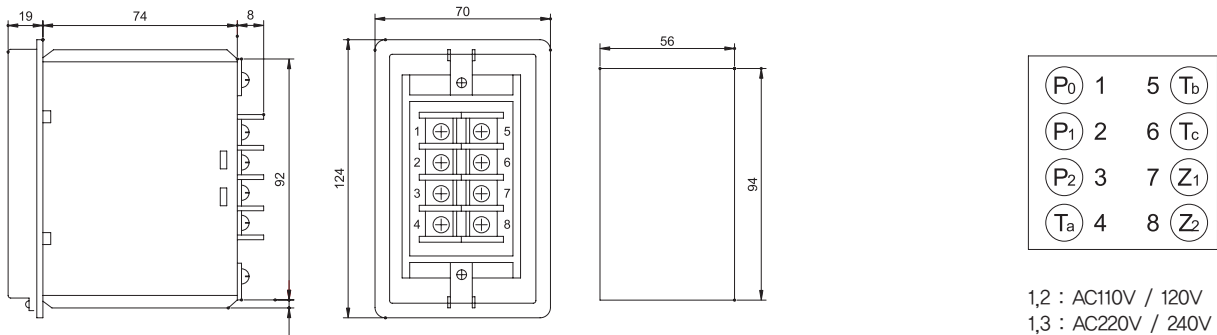
• Socket Type



MODEL : DGF-P11, DGF-P12, DER-P03, P11, P12

1,2 : AC110V / 120V
 1,3 : AC220V / 240V
 4,5,6 : a,b,c – Contact
 7,8 : Z,C,T Input

• Flush mounted type



MODEL : DGF-F11, F12, DER-F11, F12

Cutting Size : 56x94mm

1,2 : AC110V / 120V
 1,3 : AC220V / 240V
 4,5,6 : a,b,c – Contact
 7,8 : Z,C,T Input

External dimension

GFR-M10/M05, ELR M10/M05, ELR-A10/A05

Cutting Size: 122 X 165mm

