

DSP-DGFR(Digital Ground Fault Relay)



○ Abstraction

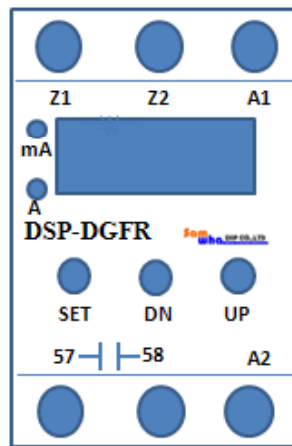
- Minimized compact size, panel mounting type
- MCU(Microprocessor Control Unit) based
- High sensitivity wide range: 20mA~4A
- Precised preset for zero phase current & time
: 3 Digit Window
- Various response : variable Eot
- π various type based on ZCT type
- *DGFR-A Type : ZCT \rightarrow 200mA/1.5mA
- *DGFR-V Type : ZCT \rightarrow 200mA/100mV
- *DGFR-N Type : NCT \rightarrow 100A/5A
- Self diagnostic function



○ Technical specification

Division		Description
Trip delay time	Eot	0.05sec, 0.1~60sec
Trip output relay		1a/3A, 250VAC, Resistive
ZCT Type	DGFR-A Type	ZCT : 200mA/1.5mA
	DGFR-V Type	ZCT : 200mA/100mV
	DGFR-N Type	NCT : 100A/5A
Environment	Temp	Operation -20°C~60°C
		Storage -30°C~80 °C
	Humidity	30~85%, Relative/Non-condensing
Allowable tollerance	Earth current	$I_0 \leq 100\text{mA} : \pm 10\text{mA}$, $100\text{mA} > I_0 : \pm 5\%$
	Operation time	$t \leq 2\text{sec} : \pm 0.1\text{sec}$, $t > 2\text{sec} : \pm 5\%$
Insulation for Case-Circuit		10MOhm or more/500VDC
Withstanding voltage	Case-Circuit	2KV/60Hz, 1min
	Contact-Contact	1KV/60hz, 1 min
Control power		85~260VAC, 50/60Hz((120~370VDC)
Consuming power		4W/max
Installation		35mm DIN Rail, Panel Mounting

○ Input-Output terminal



○ Preset mode

Mode	Description
Out/a/b	When the control power is charged initially *a:trip output relay is energized *b:trip output relay is deenergized
Ec/oFF/setting value	*OFF: Disable *adjustable : 20mA~4A
Eot/setting value	*trip delay time *adjustable : 0.05sec,0.1~60sec
rst/Hr/aut	*Hr: manual reset *aut:auto reset
a-t	Adjustable auto reset time:0.1~60sec

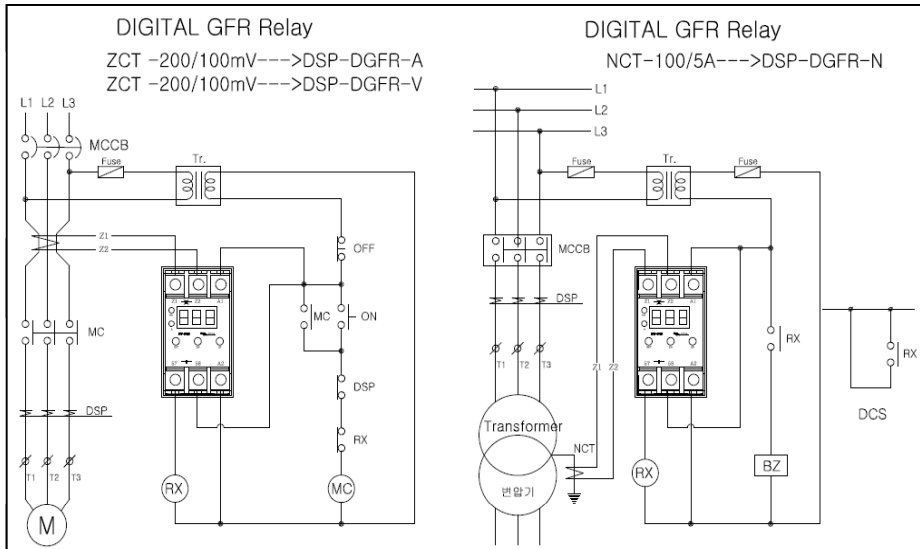
○ Key Operation

Key	Description
SET	*:SET" is appeared as pressing "SET" Key for 1sec or more *First mode and preset value is showned alternatively as releasing "SET" key
UP,DN	*to change preset value in each mode
SET	*preset is completed as pressing "SET" key for 3sec or more *Earth current value is appeared if earth current is detected
Test	*Trip output relay is energized after counting preset "Eot" as pressing both "UP","DN" key for 3sec or more *Make reset as pressing "SET" key

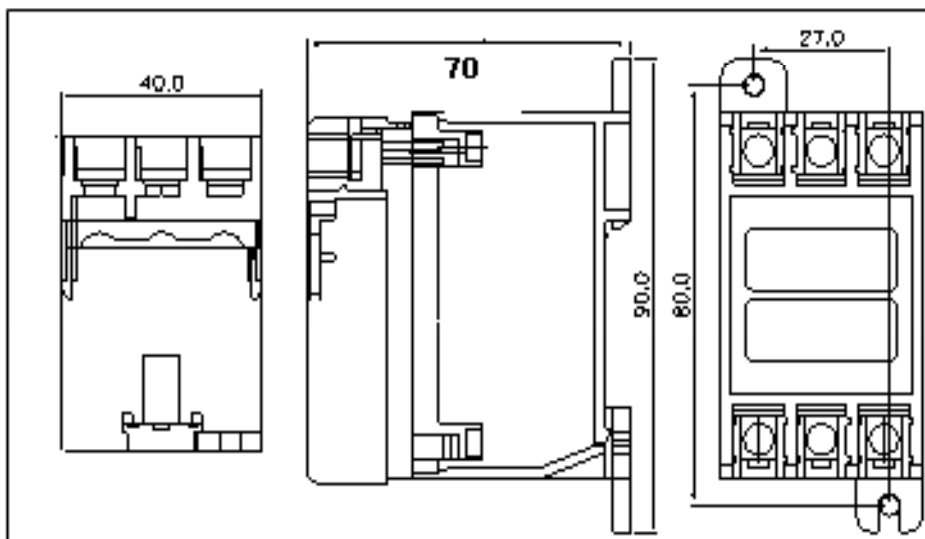
○ Trip State Indication

- Trip value is showned alternatively
- Possible to reset as pressing "SET" Key

○ Application Diagram



○ Dimension



○ Order

Model	reference	Remarks
DSP-DGFR-A	DGFR-A-Z7	Control voltage:85~260VAC, 50/60Hz((120~370VDC)
DSP-DGFR-V	DGFR-V-Z7	
DSP-DGFR-N	DGFR-N-Z7	