

## • *DSP-ES: Economic solid state & wire terminal Type*

### Abstraction

- Compact size/Energy save type/wire terminal type
- Current range of each type : 0.5~6A, 3~30A, 5~60A
- Unified timer : trip delay and starting delay
- Free voltage control power
- Operating indication & checking actual working current  
: LED/turned on red
- Stable operation in working environment
- Reset : Manual(instant)/Power-off
- Standard type : de-energized in case control power is on  
(optional type : energized)



### Usage

- Over current protection relay for low voltage induction motor
- Mechanical shock detection
- Current relay job to check a fault
- Possible to replace existing protection relay

### Function

- Over current : trip after preset o-time
- Phase loss : trip after preset o-time by over current
- Locked rotor : trip after preset o-time by over current
- To check actual current : LED
- Green LED : control power, operation
- Red LED : trip, over current state

### How to preset

Division	Preset	Description
Over current Trip delay time	O-TIME	<p>*Preset necessary o-time to stop a motor in case of over current condition as turning knob</p> <p>*User should consider both factor of trip delay time and starting delay time for preset o-time</p> <p>*Adjustable o-time : 0.2~30 sec</p>
<ol style="list-style-type: none"> <li>1. Start a motor after positioning current knob to maximum value position</li> <li>2. Slowly turn the knob anti-clockwisely in operating state, then positioned value of knob that red LED flickers is a point of actual load current(100%).</li> <li>3. Nextly turn the knob clockwisely a bit of angle right untill red LED is turned off, then fix its position</li> <li>4. Finally this position is matched with 110~120% of actual load current</li> </ol>		

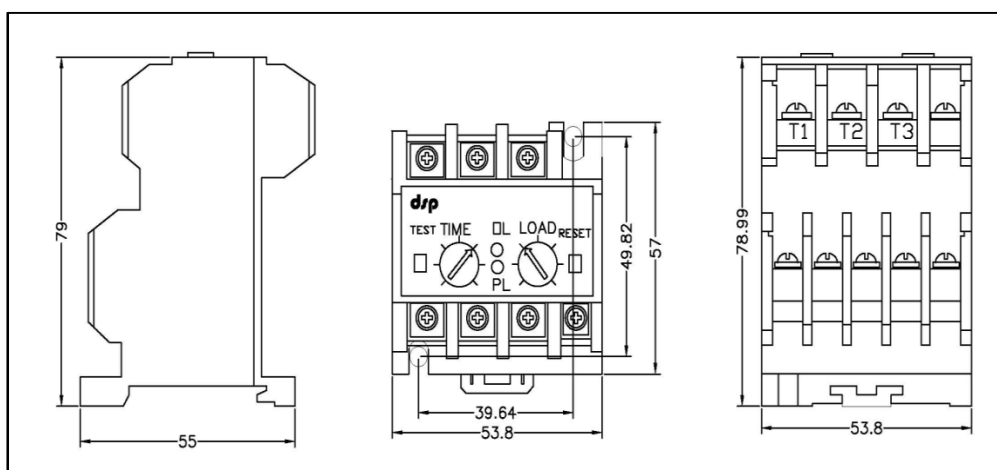
### Self-diagnostics

- Keep physically pressing state for TEST button untill preset o-time has elapsed while the control power is on and motor is stopped, then LED to indicate over current state(OL) will be turned on and trip output is energized as if it trips under motor working state due to over current
- Press Reset button to make reset after test trip, then LED is turned off and return to initial state

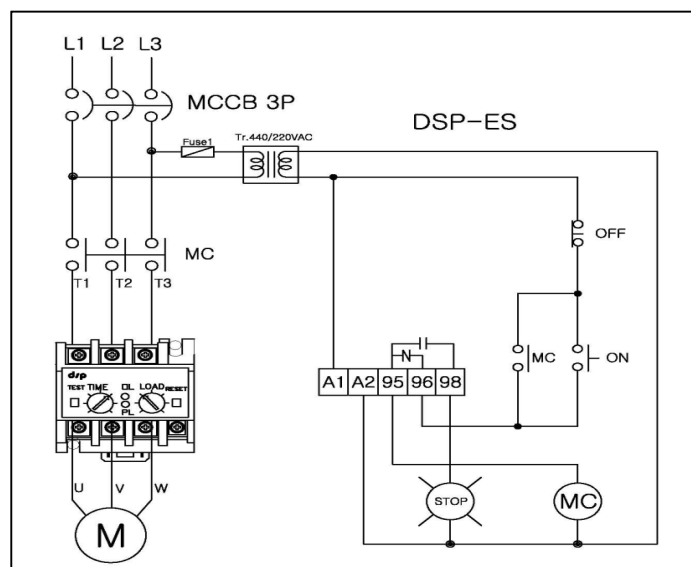
### Technical specification

3IV		Description
Load Current range	06 Type	0.5A~6A or external CT
	30 Type	3A~30A
	60 Type	5A~60A
Time preset	over current trip delay time(ot)	*0.2~30sec/def.
Reset		*Manual(instant):reset sw *Power off:remote *Auto : instant
Allowable error	Time	±15%
	Current	±15%
Control power	24	*24VAC/DC
	220	*90V ~ 260VAC,50/60Hz
	440	*380V ~260VAC,50/60Hz
Trip output relay	Main : 95-96-98	1c(1-SPDT),3A/Resistive
Application environment	temperature	Operation -25OC~+70OC
		Storage -40OC~+80OC
	Humidity 30~85%,non-condensing	
Insulation Resistance		50 Mohm or more/500VDC, circuit-case
Withstanding Voltage		*circuit-case:AC 2000V,60Hz, 1 min
		*contact-contact:AC1000V,60Hz,1min
Installation		35mm DIN rail, screw
Power consumption		0.5W Max

## Dimension



## Application Sequence Diagram



## Order form

- DSP-1(Type)-2(Rating current)-3(Control Power)-4(Initial output state) 5(Auto Reset)

Item	Reference Code	Remarks
DSP-ES	DSP-ES-06-24-R	0.5~6A,24VAC/DC,de-energized initial output
	DSP-ES-06-220-R	0.5~6A,90~260VAC,de-energized initial output
	DSP-ES-06-420-R	0.5~6A,380~440VAC,de-energized initial output
	DSP-ES-06-24-N	0.5~6A,24VAC/DC,energized initial output
	DSP-ES-06-220-N	0.5~6A,90~260VAC,energized initial output
	DSP-ES-06-440-N	0.5~6A,380~440VAC,energized initial output
	DSP-ES-30-24-R	3~30A,24VAC/DC,de-energized initial output
	DSP-ES-30-220-R	3~30A,90~260VAC,de-energized initial output
	DSP-ES-30-420-R	3~30A,380~440VAC,de-energized initial output
	DSP-ES-30-24-N	3~30A,24VAC/DC,energized initial output
	DSP-ES-30-220-N	3~30A,90~260VAC,energized initial output
	DSP-ES-30-440-N	3~30A,380~440VAC,,energized initial output
	DSP-ES-60-24-R	5~60A,24VAC/DC,de-energized initial output
	DSP-ES-60-220-R	5~60A,90~260VAC,de-energized initial output
	DSP-ES-60-420-R	5~60A,380~440VAC,de-energized initial output
	DSP-ES-60-24-N	5~60A,24VAC/DC,energized initial output
	DSP-ES-60-220-N	5~60A,90~260VAC,energized initial output
	DSP-ES-60-440-N	5~60A,380~440VAC,energized initial output

Auto reset type

\* Reference code : Basic code + A(suffix code)