

Digital Shut Down Turn-over Relay

<DSP-SDTR-PS:Socket-Pin type>

< Voltage Indication-Motor Stop State>



Sam
Wha DSP Ltd.

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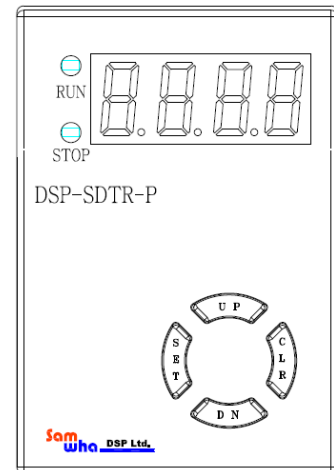
< Voltage Indication-Motor Stop State>

❑ Feature

- Compact size, Complete Digital Type based on MCU
- Panel Mounting , Socket-Pin Type
- Just restart execution under instant power-off and Voltage drop
- 3 Wire Easy Connection : not concerned with a position of ON- OFF switch in sequence wiring
- Possible to prest numerical operation time :4 Digit Window
- Shut down delay time/"S-t" mode/Adjustable time : 0.1sec ~ 5sec
- Delay on make time/"d-t" mode : 0.1sec ~ 60sec

※ Critical Note

- The contact of "ON" switch state must be self-holding by auxiliary output of the contactor
- This relay needs to wait for 3 minutue at least under no-voltage state to change sequence control voltage
- In case the sequence control power is on , then at first "v****"(version) is shown and nextly "actual voltage" is appeared. This means this relay has completed to remember a system voltage as a reference voltage, consequently this relay works after 1 min from an appearance of actual voltage.
- Once this relay remembers a reference voltage to be basis for an instant power-off state,then this reference voltage is indicated in motor stop state
- Self-diagnostic test : press "CLR" key foe 3 sec or more in motor running state,then "tESt" lickerd 3 times and and execute restarting once after "dt" as showing "RUN" → "rUn" means that the restart is done
- In order to reestablish a reference voltage, press both "UP" and "DN" key,then release them when "oPSEt" is shown
- The minimum sustained time of the system voltage signal in order for this relay to do its job shall be 25mS or more



□ Technical Specification

Technical Specification

Division			Description
Time Adjust	SDDT		Disable, 0.1sec ~5 sec
	DOMT		0.1 sec ~ 60 sec
Applicable Environment	Temp	Operation	-20°C ~ 60°C
		Storage	-30°C ~ 80 °C
	Humidity	30~85%,Relative/Non-condensing	
Allowable tolerance			t<=2sec :±0.2 sec , t>2 sec:±10%
Insulation	Circuit-Case		10MOhm /500VDC
High Voltage	Circuit-Case		2KV/60Hz. 1 min
Insulation test	Contact-Contact		1KV/60Hz, 1 min
Control Power			110/220/230/240VAC,50/60Hz
Electrostatic Discharge:IEC-61000-4-2			Air:Level 3, 8KV,Contact:Level 3, 6KV
Radiated Electromagnetic Field Disturbance: IEC-61000-4-3			Level 3, 10V/m
Electric Fast Transient Burst :IEC-61000-4-4			Power,Realy output:Level 4, 4KV
Surge Immunity test:IEC-61000-4-5			Relay output:1.2X50uS,2KV (0 ⁰ ,90 ⁰ ,180 ⁰ ,270 ⁰)
Conducted Disturbance Test:IEC-61000-4-6			10V,Level 3
Power consumption			2VA/max
Installation			35mm DIN Rail/Panel Mounting

*This relay is useful for both 110/220VAC and works based on initial voltage

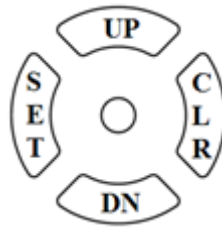
□ Applied benefit

- To compensate a production loss and/or productive process delay caused by voltage drop (:Voltage sag) or momentary power interruption(power-off) during normal motor operation.
- Neccessary minimum voltage duration time to response voltage Sag : 25ms or more
- In case the voltage drop or the zero voltage(power-off) is recovered on the normal rated voltage within preset value (0.1sec ~5 sec) in "S-t" mode, SDTR is able to command for a contactor to reclose after elapsed preset value(0.1sec ~ 60 sec) in "d-t" mode so that it may reduce a heavy starting shock to power supplied transformer

□ Preset Mode

Mode	Function	Description
S-t/Setting Value	Shut down delay time	*Adjustable : OFF(disable) , 0.1~5sec
d-t/Setting value	Make on delay time	*0.1~60 sec
OPSEt/ON/OFF	To decideto if a preset value can be changed or not during normal operation	*ON:possible to change a preset value during normal operation *OFF: not possible to change a preset value during normal operation

❑ Operation Key



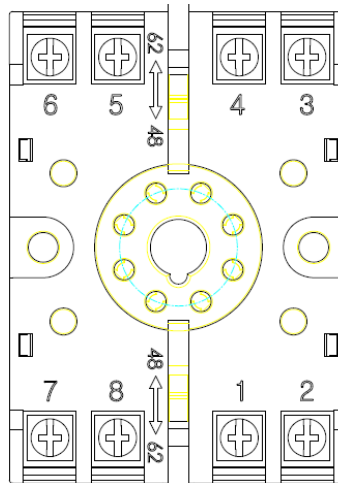
Key	Function	Description
1. SET	To enter preset state	*When the control power is loaded, "actual voltage" is displayed to show that the function for its unique job is worked *"SEt" is displayed as pressing "SET" key for 3 sec or more *Consequently the first preset mode is appeared after releasing "SET" key, then preset for required value(time) is possible
2.SET,CLR	The changed job of SET,CLR Key	*The job of SET,CLR key is changed after entering preset mode :SET key→forward to next mode :CLR key→backward to previous mode
3. UP/DN	To preset a time	*Under preset mode state →UP: to increament a value →DN:to decreament a value
4. SET	To finish preset	*Press "SET" key for 3 sec or more after completing preset, then "End" is displayed. *Consequently, preset job is finished and entered into operating state
To initialize for factory default preset value		*Press "UP", "SET" and "DN" key all together under control power "OFF", then make control power "ON" as keeping pressed state
Self diagnostic		* this function is possible only for motor working state * press "CLR" key for 3sec or more, then "tESt is flickered 3 times and execute restarting once after "dt" as showing "RUN"

❑ Operating Indication

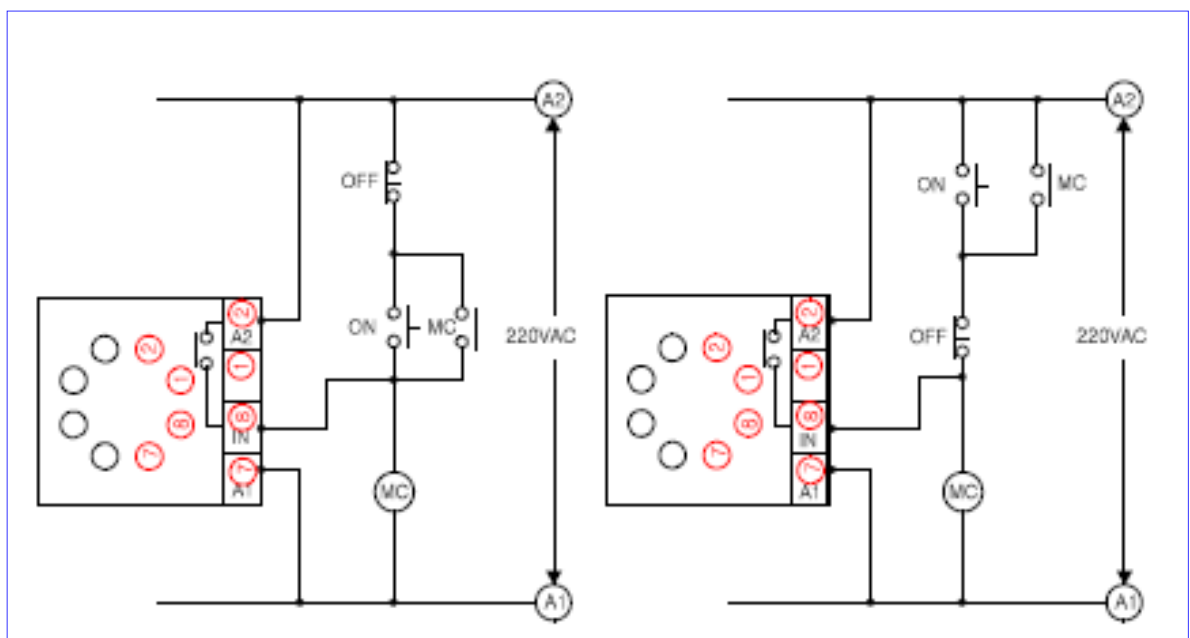
Indication	Description
Stored reference voltage	*Motor is stopped *LED is turned on and a reference voltage is shown
run	*Motor is working *SDTR is ready to response for voltage drop or power off



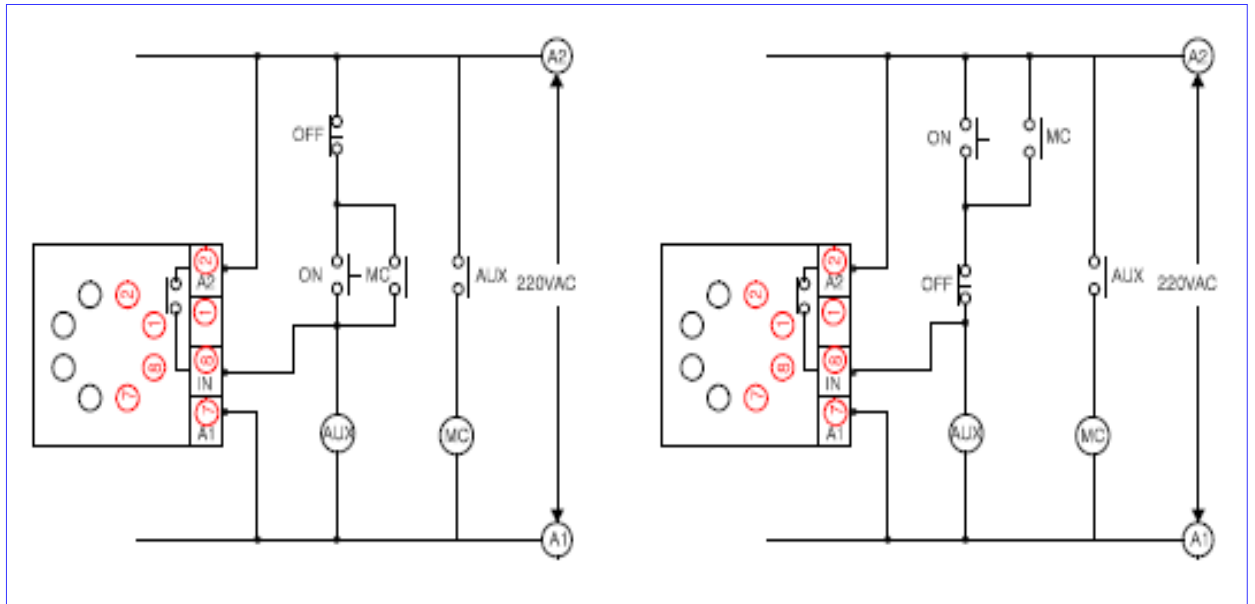
❑ Application Sequence Diagram



► Resart through MC

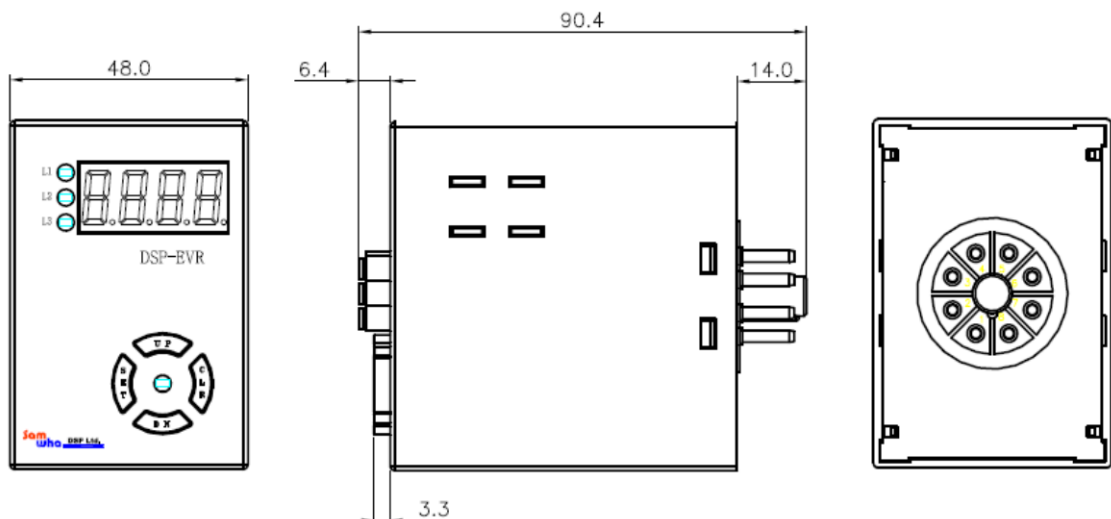


► Restart through AUX output



- ※ Possible by 3 wire connection , not concerned with a position of ON-OFF Switch
- ※ A1(#7 Pin) must be connected with an opposite side of installed ON-OFF SW to MC
- ※ It is recommended that the input from the midpoint of ON-OFF line should be through the external auxiliary relay if SDTR-PS is used for large capacity of contactor with higher starting current in contactor coil as followed
- ※ "ON" switch function must be continued by aux output of MC

□ Dimension



☐ Order Form

Item	Reference	Remarks
DSP-SDTR-P	DSP-SDTR-PS	*Control power : 110/220/230/240VAC,50/60Hz *8 Pin Socket is not included *Standard Type
	DSP-SDTR-PS-8P	*Control power : 110/220/230/240VAC,50/60Hz *8 Pin Socket is included *Optional Type
8 Pin Socket	DSP-SOCKET-8P	