



## SST電流リレーシリーズ

### SST Electric Relay Series

- SST-201L
- SST-201LA
- SST-202L



# SSL Electric Relay

## for controlling & protecting your devices

### Overview 概要

Electric relay SST is equipped with a current transformer. By locating this current transformer on the main circuit of a motor, SST compares the isolated current value to the specified set value at high accuracy level. When SST detects the current value gets beyond the set value, it activates internal relay. This current transformer is excellent in voltage resistance (AC2KV per minute), and applicable to AC440V circuit lines. Additionally as its current capacity is 80A for 201L/201L model (300A for 202L model), it can endure against motor startup current.

### Features 特長

SST relay can detect any change in motor current load at high accuracy level, and enable to protect a motor, device and components. It is proud of excellence in:

- compact size & easy wiring,
- high accuracy
- cost performance
- longevity.

### Application 用途

SST relays detect any change in motor's electric load with a high degree of accuracy, and trigger signals. They are applicable for wide-ranged industries and applications, such as pressing machine, multistoried parking lot, conveying equipment etc.

### Other applicable cases 応用例

溶接の良否判定 Welding Testing	ポンプ空転検出 Idle Pumping Detection	刃具の消耗判別 Drilling Tool Abrasion Detector	当て止めコンベア荷物積み Stopping & Loading
フィルターつまり検出 Filter Clog Detection	砥石位置(径)検出 Grinding Position (Diameter) Detection	ヒーター断線検出 Heater Wiring Breakage Detection	

# 仕様 Specification

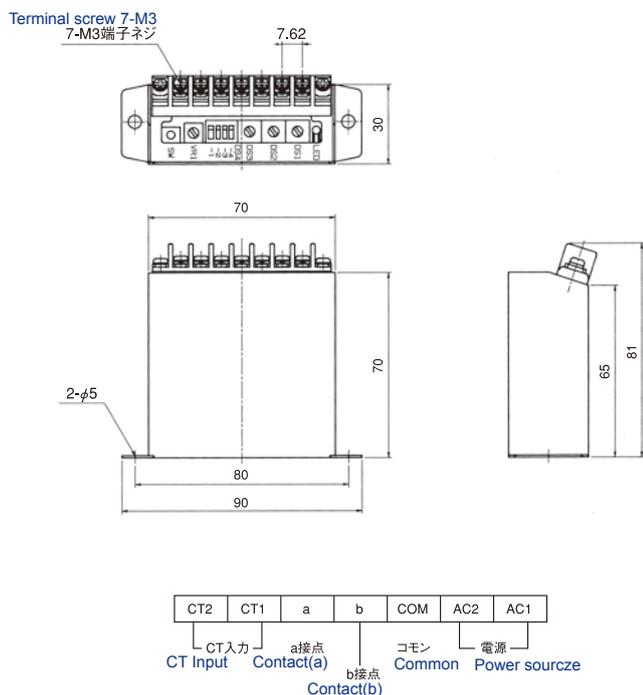
項目 Item	型式 Model	SST-201L	SST-201LA	SST-202L
電源・電圧 Current / Voltage		AC100V or AC200V±10%	AC100V or AC200V±10%	AC100V or AC200V±10%
適用モータ Motor applicable		三相、单相	3-phase, Single phase	
検出方式 Detection Method		正弦波高値の実効値換算*2 Conversion of sine wave peak value to corresponding effective value *2		
動作精度 Accuracy		約5%*1	Approx. 5% *1	
復帰値 Release value		動作値に対して約-10% Release value: Approx.-10% of Operate value		
設定電流範囲 Current range (Set value)		1.0~12.7AT	2.0~25.4AT	10~127AT
スタートキャンセルタイマー Start/Cancel timer		0~7.5sec(0.5目盛り) 0-7.5 sec (Scale unit: 0.5)		
ロードタイマー Load timer		0~1.5sec(0.5目盛り) 0-1.5 sec (Scale unit: 0.5)		
ラッチ出力機能 Latch output function		有り(入/切)	Available [ On/Off ]	
出力接点 Output contact point		1C接点(AC220V-2A)	One (1) contact (AC220V-2A)	
消費電力 Power consumption		約10VA	Approx. 10VA	
振動 Vibration resistance		10~55Hz複振幅1.5mm誤動作	Double amplitude 10-55Hz, Malfunction 1.5mm	
ノイズ耐量 Noise resistance		ノーマル、コモンモード約1000V1μsec	Approx. 1000V1μsec under Normal/Common mode	
使用周囲温度 Ambient temperature		-10~40℃		
使用周囲湿度 Ambient humidity		35~85%RH		
カレントトランス Current transformer (included in package)		AC440V 80A MAX		AC440V 300A MAX
端子台 Terminal block		7P圧着端子幅6mmMAX	7P Crimp terminal: Width 6mm Max	
定価 Catalogue price		12,000円(JPY)	14,000円(JPY)	16,000円(JPY)

\* Consumption tax is not included in any price shown above.

\* Operation accuracy may change slightly according to change in voltage of input power supply.

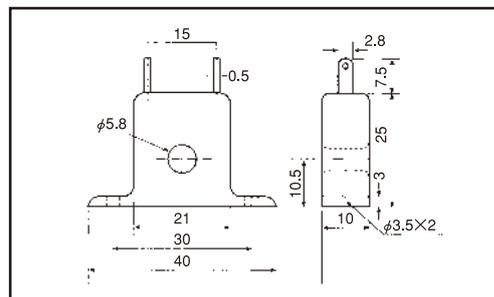
\* SST detects 50/60Hz sine wave, but not any current on phase control device (such as a thyristor drive) or an inverter.

## 製品外形図 External dimension

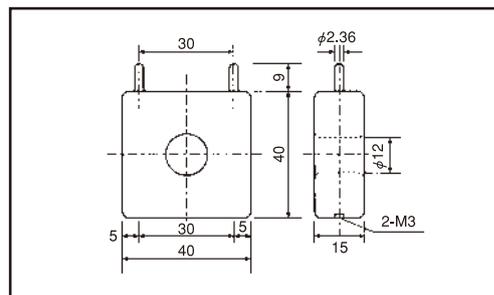


## カレントトランス外形図 Current Transformer

For SST-201



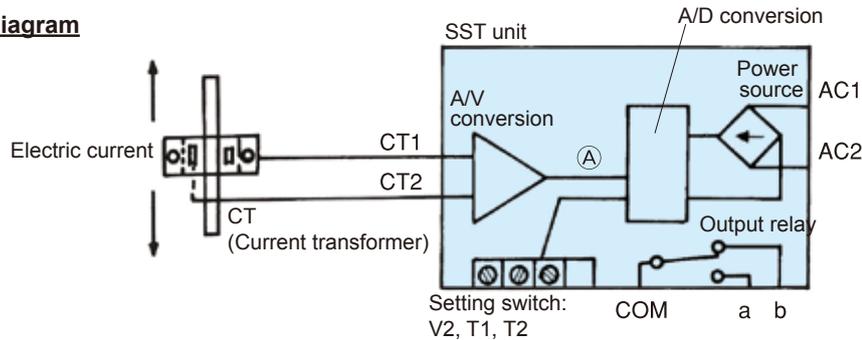
For SST-202



# Technical Information (SST-201L, 201LA, 202L)

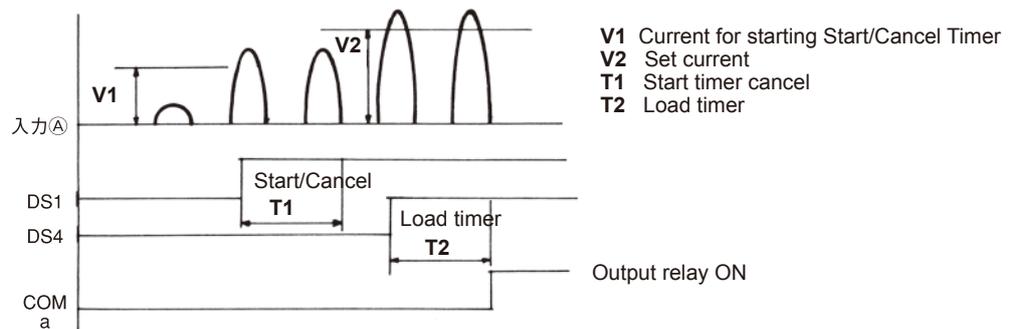
- As shown in the following diagram, SST-201L electric relay is equipped with a one-chip microcomputer. It converts main circuit current to isolated current via CT(current transformer), and then transform the current to voltage. After that it convert the analog signal to digital one via A/D converter, and compare it with the specified value to trigger as an output signal.

## Block Diagram



## 2. Operation flow

### Operation Flow



Waveform detection level is set by comparing the maximum current value converted to effective current value. Therefore it is not able to detect any current on phase control device (such as a thyristor drive) or an inverter.

SST detects only half-waves and sine wave of 50/60Hz. Start/Cancel Timer triggers its start signal when the detected current reaches level V1 (the specified current value for starting Start/Cancel Timer) : approx. 0.6A. Start/Cancel Timer will not start working when the actual current is below 0.6A, so not performing any control.

Relay output is activated when i) after Start/Cancel Timer DS1 has passed the setting value [T1] , ii) the actually detected current gets beyond the setting values[V2] of DS2 and DS3, and also iii) it has reached the setting value of DS4-2-3 Load Timer.

By setting Latch ON/OFF Switch [ DS4-1] on, it is enabled to hold on [ON] condition if the relay output has been at least once activated, even if the current value declines. By setting it off, the relay will be turned off and when the current value gets -10% of the specified value or less.

Timer T1 & T2 runs when the input wave form gets beyond the specified level [V1] and another setting level [V2] 5 or 6 times within 0.1 second, under the condition of 50Hz or 60Hz sine wave respectively. Timer T1 starts counting when it is confirmed that the input waveform gets beyond the specified level [V1] (0.6V). Timer T2 begins counting when the input waveform is greater than that (DS2, DS3) setting level was confirmed. If it is not confirmed that the input waveform gets beyond the setting levels [V1] or [V2], each timer will be reset.

As mentioned above, and considering relation with CPU scan time, SST requires 0.2sec or more to be reset. Please note this specification when configuring your circuit.