

# SWT100 INSTRUCTION MANUAL

DWG.NO.: CA704-04-01E

## SPECIFICATIONS

ITEMS	MODEL	SWT100-522			SWT100-525			SWT100-5FF			REV	
		CH1	CH2	CH3	CH1	CH2	CH3	CH1	CH2	CH3		
1	NOMINAL OUTPUT VOLTAGE	V	+5	12	-12	+5	+12	-5	+5	+15	-15	
2	MIN. OUTPUT CURRENT	A	0.5	0	0	0.5	0	0	0.5	0	0	
3	MAX. OUTPUT CURRENT	A	8	4	0.8	8	4	0.8	8	3.2	0.8	
4	PEAK OUTPUT CURRENT	A	-	-	-	-	-	-	-	-	-	
5	MAX. OUTPUT POWER	W	97.6			92			100			
6	EFFICIENCY (TYP) (* 1)	-	74%									
7	INPUT VOLTAGE RANGE (* 2)	-	AC85~265V (Continuously), 47~63 HZ /110~340VDC									D
8	INPUT CURRENT (TYP) (* 1)	-	2.9A(Vin=100VAC) / 1.9A (Vin=200VAC)									
9	INRUSH CURRENT (TYP) (*10)	-	15A / 100VAC 30A / 200VAC (Ta=25°C)									
10	OUTPUT VOLTAGE	-	CH1 +5V fixed, CH2.3 fixed Shipment condition: CH1: ±1%, CH2: ±3%, CH3: ±5%									
11	MAX. RIPPLE & NOISE (* 3)	-	±5V: 120mV; ±12V: 150mV; ±15V: 150 mV									
12	MAX. LINE REGULATION (*3,4)	-	CH1:1%, CH2: 2%, CH3: 1%									
13	MAX. LOAD REGULATION (*3,5)	-	CH1:2%, CH2: 4%, CH3: 2%									
14	MAX. TEMPERATURE DRIFT (*3,6)	-	0.04%/°C									
15	OVER CURRENT PROTECTION (* 7)	-	Automatic recovery, O.C.P point: 105% ~									
16	OVER VOLTAGE PROTECTION (* 8)	-	6V ~ ( CH1 only )									
17	HOLD - UP TIME (TYP) (* 1)	-	17ms (Input 100VAC)									
18	OPERATING TEMPERATURE (* 9)	-	Convection cooling 0 ~ 50°C:100% load; 60°C:70% load									
19	OPERATING HUMIDITY	-	30% ~ 90%RH									
20	STORAGE TEMPERATURE	-	-20°C ~ +85°C									
21	STORAGE HUMIDITY	-	10% ~ 95%RH									
22	COOLING	-	Convection cooling									
23	EMI	-	Conform to FCC-B, VCCI-2, EN55022B									
24	WITHSTAND VOLTAGE	-	I/P-O/P:3kVAC(20mA),I/P-FG:2.5kVAC(20mA),O/P-FG:500VAC(100mA) for 1min									E
25	ISOLATION RESISTANCE	-	More than 100MΩ at Ta=25°C and 70%RH, Output - FG 500VDC									
26	VIBRATION	-	10 ~ 55Hz Amplitude ( sweep 1min ) Less than 19.6m/s <sup>2</sup> X,Y,Z 1Hr each									E
27	SHOCK	-	less than 196.1m/s <sup>2</sup>									E
28	OUTPUT GROUNDING	-	All channels common ground (3 terminals)									
29	SAFETY	-	Conform to UL1950, CSA950, EN60950, DENTORI									
30	WEIGHT	-	600g									
31	SIZE (W*D*H)	m/m	108.0 x 196.9 x 45.0									
		inch	4.25 x 7.75 x 1.77 (3.75 x 7.25 mounting hole ø3.5mm)									

### NOTES:

- \*1. At 100VAC, 200VAC and MAX. OUTPUT POWER (Convection cooling), Ta=25°C.
- \*2. For cases where conformance to various safety specs (UL,CSA, EN) are required to be described as 100~120VAC, 200~240VAC, 50/60 Hz on name plate.
- \*3. Please refer to Fig A for measurement determination of line & load regulation and output ripple voltage.
- \*4. From 85~132VAC / 170~265VAC, constant load.
- \*5. From Min. load - Full load ( Maximum power ), constant input voltage.
- \*6. From 0°C ~ +50°C, constant input voltage and load.
- \*7. Current limiting with automatic recovery. Avoid to operate over load or dead short for more than 30 seconds.
- \*8. Over voltage clamping by zener diode.
- \*9. At standard mounting method, Fig B.
- \*10. When resuming operation in less than 5sec. after power failure, soft start circuit will not limit the in-rush current at turn-on.

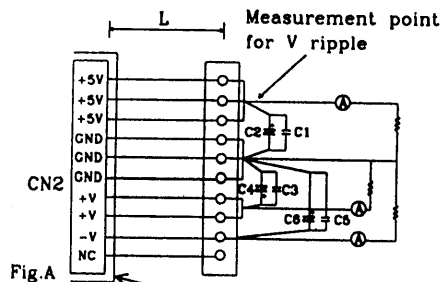


Fig.A  
L: 150mm AWG#18  
C1,C3,C5:Film Cap 0.1μF  
C2,C4,C6:Elec.Cap 100μF  
Measurement point for Vo Load/Line regulation

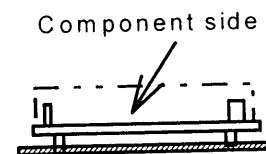
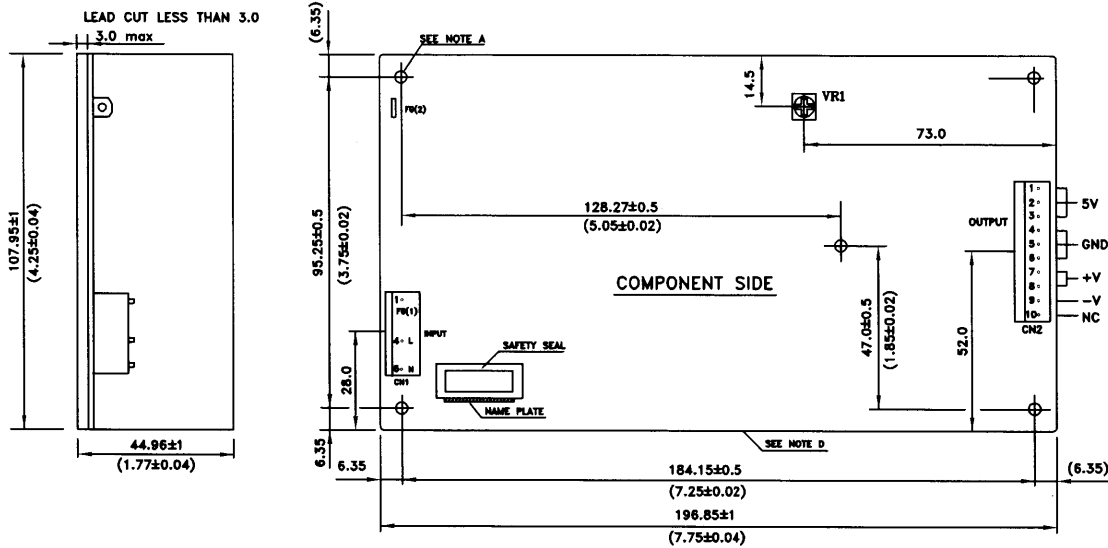


Fig B

# SWT100 INSTRUCTION MANUAL

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## 1.OUTLINE AND CONNECTION



### CONNECTORS USED

PART DESCRIPTION	CATALOG NO.	MANUFACTURER	QTY
PIN HEADER (INPUT SIDE CN1)	5414-30B	MOLEX	1
PIN HEADER(OUTPUT SIDE CN2)	5273-10A	MOLEX	1

### RECOMMENDED HOUSING & TERMINAL PIN.

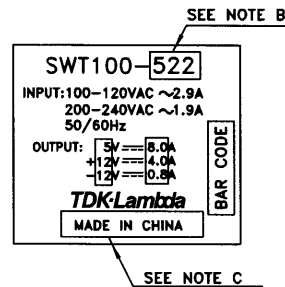
\* NOT INCLUDED WITH THE PRODUCT

SOCKET HOUSING (CN1)*1	5195-06	MOLEX	1
SOCKET HOUSING (CN2)*1	5195-10	MOLEX	1
TERMINAL PINS (CN1, 2)	5194PBT	MOLEX	13

HAND CRIMPING TOOL: 11-26-0058

MANUFACTURER: MOLEX

### NAME PLATE



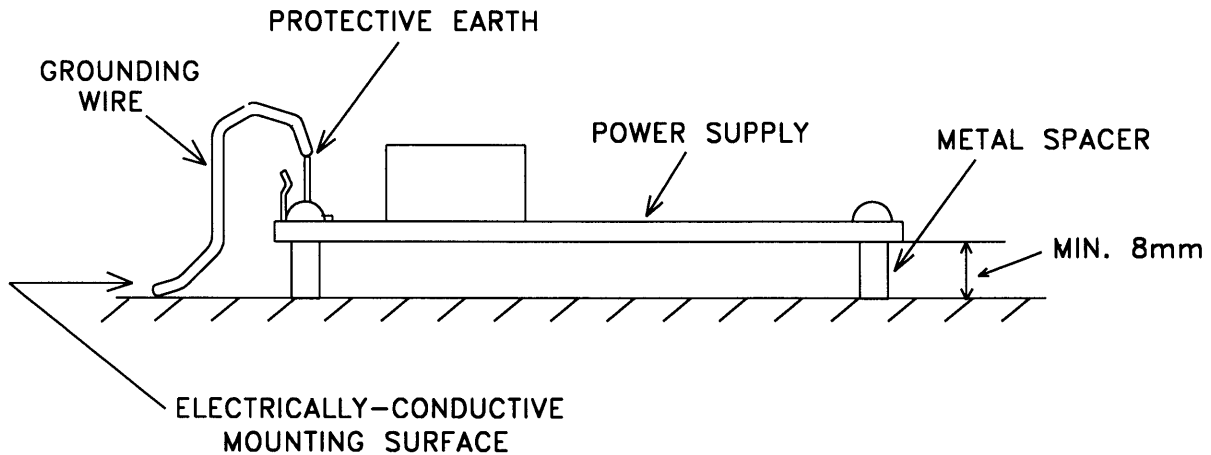
### NOTES:

- A :THE 4  $\varnothing$ 3.5mm HOLES ARE CUSTOMER CHASSIS MOUNTING HOLES. ALL MUST BE SCREWED IN ORDER TO CONFORM TO THE EMI NOISE AND VIBRATION SPEC.. WASHERS ETC. USED MUST NOT EXCEED  $\varnothing$ 6mm.
- B :MODEL NAME, NOMINAL OUTPUT VOLTAGE, MAXIMUM OUTPUT CURRENT ARE SHOWN HERE IN ACCORDANCE WITH THE SPECIFICATIONS.
- C :COUNTRY OF MANUFACTURE WILL BE SHOWN HERE.
- D :MINIMUM 4mm SPACING BETWEEN PCB EDGE, TOP OF POWER SUPPLY AND CUSTOMER CHASSIS.
- E :INPUT TERMINALS  
 N - NEUTRAL  
 L - LIVE(CONNECTED TO INTERNAL FUSE)  
 $\oplus$  - GROUND (FOR PROTECTIVE EARTH CONNECTION)
- F :OUTPUT TERMINALS  
 +5V :CH1 OUTPUT TERMINAL  
 +V :CH2 OUTPUT TERMINAL  
 -V :CH3 OUTPUT TERMINAL  
 GND :CH1,CH2,CH3 GROUND TERMINAL
- G :VR1 IS THE VOLUME FOR ADJUSTING OUTPUT VOLTAGE OF CH1. CH1 IS ADJUSTED TO 5V (FIXED) DURING MASS PRODUCTION. DO NOT ADJUST UNNECESSARILY.
- H :FG(1) OR FG(2) IS FOR SAFETY GROUND CONNECTION. CAN USE ALTERNATIVE ONE.

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## INSTALLATION:



2. TO MEET SAFETY REQUIREMENTS, THE POWER SUPPLY TERMINALS MUST NOT BE USED DIRECTLY AS THE EXTERNAL TERMINATIONS OF ANY EQUIPMENT.

Recommended screw torque is 5kg.cm.

THIS PRODUCT MUST BE INSTALLED IN A RESTRICTED ACCESS LOCATION, ACCESSIBLE TO AUTHORISED COMPETENT PERSONNEL ONLY.

WHERE CSA APPROVED, CSA APPROVAL IS TO LEVEL 3.

### 3. PROTECTIVE EARTHING:

- 3.1 FOR SAFETY, ENSURE SECURE CONNECTION OF THE  $\oplus$  TERMINAL TO THE GROUND TERMINAL OF THE EQUIPMENT AS THE PROTECTIVE EARTH CONNECTION. SCREWS AND WASHERS USED MUST BE OF SUITABLE MATERIAL AS IN ANNEX J IN EN60950 STANDARD.

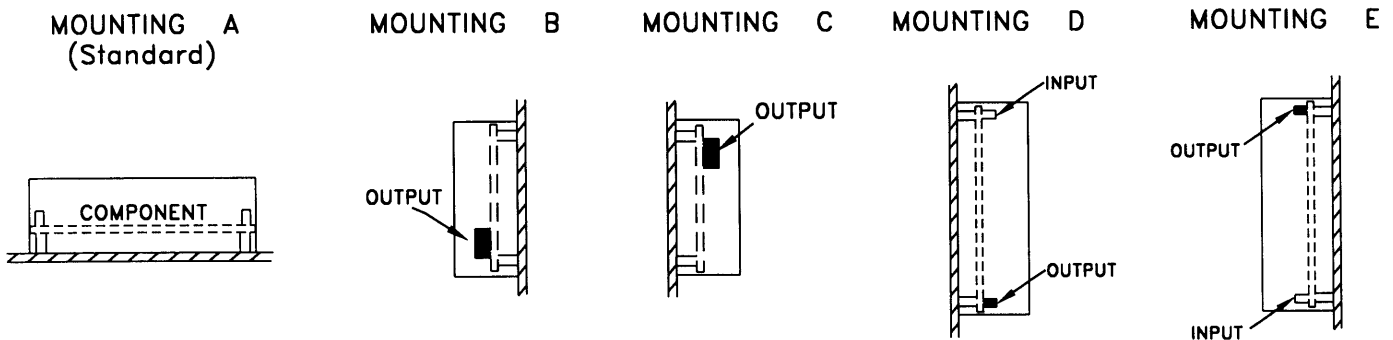
### 4. MOUNTING

- 4.1 FOR OPTIMUM NOISE PERFORMANCE, MOUNT THE POWER SUPPLY UNIT (PSU) ON AN ELECTRICALLY-CONDUCTIVE SURFACE
- 4.2 IF SPACER HEIGHT IS LESS THAN 8mm, BASIC INSULATION MUST BE PROVIDED BETWEEN THE PSU AND THE GROUNDED MOUNTING SURFACE.
- 4.3 EXCEPT FOR THE SOLDER SIDE OF THE PSU, A MINIMUM SPACING OF 4mm MUST BE MAINTAINED BETWEEN THE PSU AND EQUIPMENT CHASSIS.
- 4.4 THE PSU MUST BE INSTALLED WHERE EQUIPMENT VENTILATION ENSURE FREE CONVECTION COOLING.
- 4.5 AWG #24~#18 WIRES SHOULD BE USED FOR INPUT AND OUTPUT CONVECTION. TO IMPROVE NOISE PERFORMANCE, INPUT AND OUTPUT WIRES SHOULD BE WELL SEPARATED, BUT EACH PAIR SHOULD BE TWISTED TOGETHER.
- 4.6 RECOMMENDED SCREWS TORQUE IS 5Kg.cm.

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## 5. MOUNTING POSITION AND OUTPUT DERATING



### OUTPUT DERATING

T <sub>a</sub> (°C)	LOADING CONDITION (%)				
	MOUNTING A	MOUNTING B	MOUNTING C	MOUNTING D	MOUNTING E
0	100	100	100	100	100
20	100	100	100	100	100
40	100	100	100	100	75
50	100	75	75	75	75
60	70	50	50	50	50

### FUSE:F1

RATING :250V T5AH

TYPE :TIME-LAG

AVOID USING FAST-BLOW TYPE.

FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE AND RATING OF FUSE.

CAUTION: CHANGE OF FUSE IS TO BE DONE BY AUTHORISED PERSONNEL ONLY.

VORSICHT: UBERLASSEN SIE WARTUNGSARBEITEN STETS DEM VON ZUGELASSENEN FACHMANN.

DO NOT TOUCH THE POWER SUPPLY HEATSINKS. THESE HEATSINKS MAY CARRY HAZARDOUS VOLTAGE WHEN THE POWER SUPPLY IS SWITCHED ON.

### CE MARKING:

CE MARKING, WHEN APPLIED TO THE UNIT, INDICATES COMPLIANCE WITH THE LOW VOLTAGE DIRECTIVE (73/23/EEC). AS MODIFIED BY THE CE MARKING DIRECTIVE (93/68/EEC) IN THAT, IT COMPLIES WITH EN60950.