MESSRS:

PRODUCT DRAWING

CUSTOMER'S PRODUCT NAME:

DC/AC INVERTER UNIT TDK PRODUCT NAME: CXA-P10A-P



TDK Corporation

Corporate Headquarters 13-1,Nihonbashi 1-chome,Chuo-ku, Tokyo 103, JAPAN

Telephone: 03-3278-5111

2-15-7, Higashi-Ohwada, Ichika wa-shi,

Chiba,272-8558 JAPAN Telephone : 047-378-9671

Fax: 047-378-9673

PREPARED BY	APPROVED BY	AUTHORIZED BY
Sep. 11 , 2005	Sep. 11 , 2005	Sep. 11 , 2005
H.Mitsumoto	E.Takahashi	K.Hanabusa

DWG.No.	CTR-0745-B

Precautionary Notes Regarding the Use of This Inverter

When using this product, give due consideration to the precautionary notes described below and ensure a safe design. Inappropriate use may result in electric shock, injury or fire.

<u>/</u> Warning

4

This product is subject to high voltage. Do not touch it while the power is on. Failing to do so may result in electric shock.

$\overline{\mathbb{M}}$

Caution

This product is designed for the lighting of a Cold Cathode Fluorescent Lamp.

Do not use it with anyother load.

Store this product under the conditions defined in the specification document.

Do not store this product in an environment where dust, dirt or corrosive gæ(salt,acid,base, etc.) is present.

This product is subject to high voltage. If there is a possibility thatthe user may touch the product, provide a proper indication in order to draw the user's attention.

This product is designed for use with general electronic equipment.

If it is to be used with medical equipment that directly affects human life or for the control of

transportation equipment to which passengers entrust their lives, provide thorough fail-safe measures.

Avoid using this product under high temperatures or high humidity or in an environment in which dust, dirt or any corrosive gas (salt,acid,base, etc.) is present.

Also, be careful not to allow the formation of dew condensation. It may result in damage or electric shock.

If the product does not have a built-in protective circuit (crcuit breaker, fuse, etc.),

it is recommended that a fuse be used at the input stage to prevent the generation of smoke or fire in the event of a malfunction.

Even when the product has a built-in protective circuit (circuit breaker, fuse, etc.),

the circuit may not function properly due to inappropriate operating conditions or power-supply capacity.

It is recommended that an appropriate protective circuit (circuit breaker, fuse, etc.)

be provided separately from the built-in circuit.

Use the product only within the specified input voltage, output power, output voltage and operating temperature ranges. Exceeding these values may result in damage, etc.

Provide a measure for the prevention of surge voltage due to lightning, etc.

Abnormal voltage may result in damage, etc.

To prevent problems arising from short-circuiting of the high-voltage section,

provide appropriate measures to prevent the entry of foreign substances following installation.

This product is not designed to provide resistance to radiation.

Ripples could be superimposed on the voltage and the current in the input source connected to the inverter depending on the impedance in the input source, wiring, etc.

When you select an input source, please check waveforms, etc on the final set.

Handling Precautions

This product uses thin wires. Observe the following precautions and handle it with care so as not to cause wire breakage. Broken wire may result in damage, etc.

- Do not stack multiple products on top of one another.
- ·Do not allow the product to come in contact with tools, etc.

Do not apply excessive stress during installation.

It may cause chipping and cracking, resulting in damage, etc.

Provide a clearance of 2 mm or more between the high-voltage section of this product and the frame body on which the product is installed and also the conductor section (pattern, pad etc.).

Please do not use the product, when dropping it, since there is a possibility of the parts damage.

Please confirm abnormality is not found in the product enough when using it by any chance.

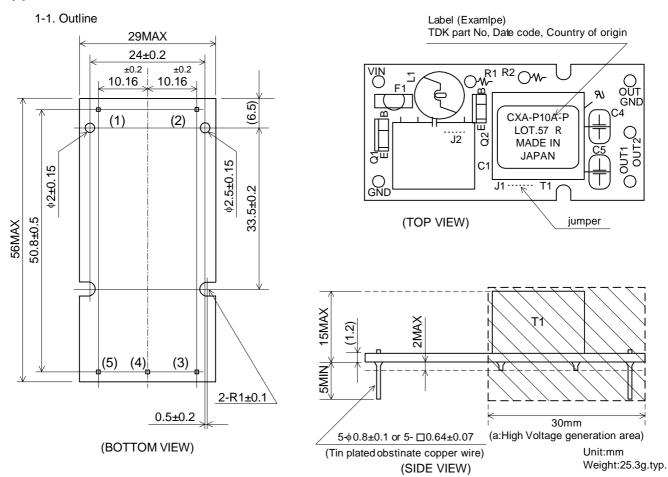
		No.	MATERIALS NAME	QU	MATERIAL	REMARK			
		PRODUCT NAME or MODEL, TITLE							
		DC-AC INVERTER UNIT CXA-P10A-P							
			NAME OF DRAWING		DRAWING N	0.	PAGE		
TDK CORPORATION		PRODUCT DRAWING		CTR-0745-E	3	1			

- ·The specifications may be changed without any notice.
- When placing orders, please confirm "Specifications" or "Product Drawing" through TDK sales or distributors.

Features

- ·This inverter is for one or two lamps. (changed by the connection.)
- ·This inverter is the mount board.
- ·This product is conformity to RoHS directive.*
- *: Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, hexavalent chromium, and specific bromine-based fl ame retardants, PBB and PBDE, have not been used, except for exempted applications.

[1]Outline



^{*}Please secure theair clearance of 2mm or more from the high voltage generation area up and down and right and left. Please refer to Note1-4. for details.

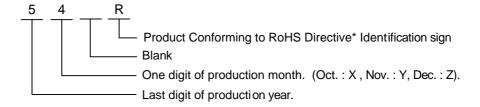
1-2. Connector configuration

Pin No.	Conn	Notes			
FIII NO.	Symbols	ymbols Rating			
(1)	Vin	5V			
(2)	GND	0V			
(3)	VHIGH1	400mArms/5mArms			
(4)	VHIGH2	400mArms/5mArms			
(5)	VLow	0V			

	No. MATERIALS NAME QU MATERIAL R		REM	IARK				
	PRODUCT NAME or MODEL,TITLE							
	DC-AC INVERTER UNIT CXA-P10A-P							
TRU CORRODATION		NAME OF DRAWING		DRAWING N	0.	PAGE		
TDK CORPORATION		PRODUCT DRAWING		CTR-0745-B	3	2		

Note1-1. Marking of TDK part No, Date code, Country of origin.

- 1) TDK part No., Date code, Country of origin, is marked on the side of transformer.
- 2) Date code example. (ex. APR. 2005)



- 3) Country of origin code example. (ex. JAPAN. CHINA).
- *: Conformity to RoHS Directive:This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, hexavalent chromium, and specific bromi ne-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.
- Note2. For circuit connection, prefer to test circuit diagram [4].
- Note3. For operation in floating mode, please remove the jumper(J1) on top side of PCB that pin2 and pin 5.
- Note4. Please use minimum of 2mm clearance (all directions) between inverter high voltage area and any conductors. Please refer to mechanical drawing for marking of high voltage area.
- Note5. To prevent electrical discharge from high voltage area, please use non-conductive fastener in U mounting hole.
- Note6. Open voltage (strike voltage) is measured across the transformer secondary winding at no load as the reading at the output connector would be less than the actual value.
- Note7. If the start up voltage falls below Cold Cathode Tube strike voltage, the CCFL will not light up easily specially at lower ambient temperature. Please review mounting instruction to avoid any abnormal operation due to coupling/leakage capacitance of inverter high voltage area to any surrounding conductor.
- Note8. For proper operation of circuit protection (fuse or ic protector), Please use minimu m of 5A capacity for input power supply.

[2] Absolute maximum ratings

Items	Symbols	Specification	Unit	Notes
Input Voltage	Vin	0~6	VDC	
Output Power	Pout	9	W	
Operating Temp. range	Та	-10~60	°C	
Storage Temp. range	Ts	-20~85	°C	
Humidity range	RH	95	%RH	A maximum wet ball temperature is 38°C

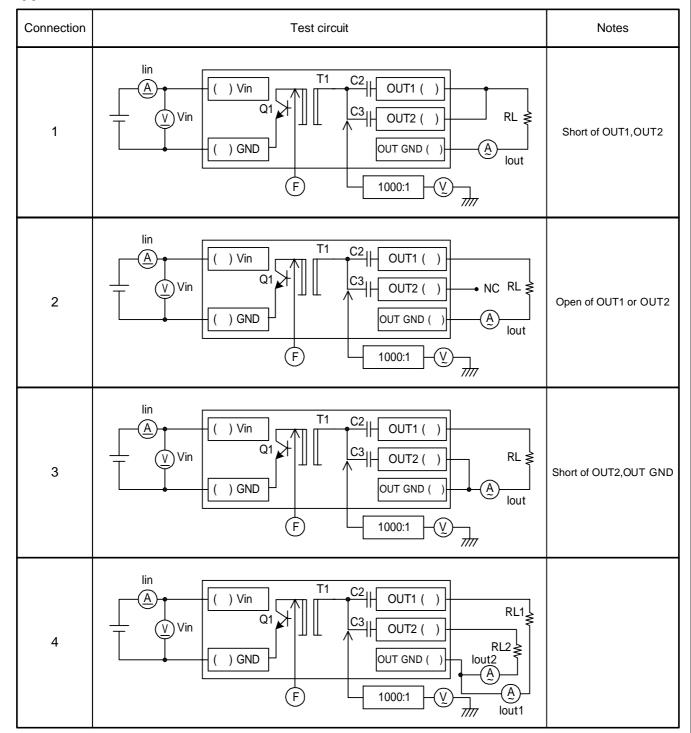
	No.	MATERIALS NAME	QU	MATERIAL	L REMARK			
	PRODUCT NAME or MODEL,TITLE							
	DC-AC INVERTER UNIT CXA-P10A-P							
TDK CORPORATION		NAME OF DRAWING		DRAWING N	0.	PAGE		
		PRODUCT DRAWING	CTR-0745-B	3	3			

[3] Electrical specifications

Items	Symbols		Condition	ıs	Connection Specification			Unit	
Items	Symbols	Vin [V]	Ta [°C]	RL [kΩ]	Connection	MIN.	TYP.	MAX.	Offic
Output Current	lout	5±0.05	23±5	60		9	10	11	mArms
Output Current	lout					8	10	12	IIIAIIIS
Input Current	lin			50~70	1	-	1.56	2.34	ADC
Frequency	F	5±0.25	-10~60		'	32	37	42	kHz
Open Circuit Voltage	Vopen			∞		1300	1500	-	Vrms
Output Current	lout	5±0.05	23±5	100		5.1	6	6.5	mArms
Output Current	lout					4.5	6	7.1	IIIAIIIIS
Input Current	lin			80~120	2	-	0.92	1.35	ADC
Frequency	F	5±0.25	-10~60		2	37	42	47	kHz
Open Circuit Voltage	Vopen			∞		1300	1500	-	Vrms
Outrat Ourse	lat	5±0.05 23±5	120		4.3	5	5.5	^	
Output Current	lout					3.8	5	6.0	mArms
Input Current	lin			100~140	3	-	0.86	1.28	ADC
Frequency	F	5±0.25	-10~60		3	32	37	42	kHz
Open Circuit Voltage	Vopen			∞		1300	1500	-	Vrms
Output Current	lout1,lout2	5±0.05	23±5	RL1=RL2=120		4.5/4.5	5/5	5.5/5.5	m Arms
Output Current	IOULT,IOULZ					4/4	5/5	6/6	mArms
Input Current	lin			100~140	4	-	1.47	2.21	ADC
Frequency	F	5±0.25	-10~60		4	32	37	42	kHz
Open Circuit Voltage	Vopen			∞		1300	1500	-	Vrms

	No. MATERIALS NAME QU MATERIAL RE		REM	ARK					
	PRODUCT NAME or MODEL, TITLE								
		DC-AC INVERTER UNIT CXA-P10A-P							
TDK CORPORATION		NAME OF DRAWING		DRAWING N	0.	PAGE			
		PRODUCT DRAWING		CTR-0745-B	3	4			

[4] Test circuit



Note4-1.Test Equipments

- Digital Multiple Meter(ADVA NTEST R6451A or equivalent)
- A DC Current Meter(ADVANTEST R6451A or equivalent)
- F Frequency Countor(ADVANTES T R6452A or equivalent)
- True RMS Meter(KEITHLEY 2001 or equivalent.)
- A High Frequency CurrentMete r(KEITHLEY 2001 or equivalent)

1000:1 High Voltage Probe (Tektronix P3000 or equivalent)

3 3 3 3 4 4 7								
	No. MATERIALS N	AME QU	MATERIAL	REMAI	RK			
	PRODUCT NAME or MODEL, TITLE							
	DC-AC INVERTER UNIT CXA-P10A-P							
TRU CORRODATION	NAME OF DRA	WING	DRAWING N	0.	PAGE			
TDK CORPORATION	PRODUCT DRA	WING	CTR-0745-B	3	5			

[5] Reliability test

Following test items are assured.

Items	Conditions	Judgement
Low Temp.Non operational	-40°C 96h	
Low Temp.operational	-10°C 96h Load cond.:TYP	
High Temp.Non operational	85°C 96h	
High Temp.operational	60°C 96h Load cond.:TYP	
Heat shock	The following 5 cycles,Load cond.:TYP 60°C 20°C -10°C 2h/div	Electrical and apperrance should be in the
Humidity (Non operational)	40°C 90~95%RH 96h	spec.
Vibration	10~55Hz Amplitude 0.35mm or 5G Sweep:1min 30min each axis X,Y,Z	
Shock	60G 6ms Harf-sine pulse 1 time each axis ±X,Y,Z	
Terminal strength	Tensile:1kgf 10sec	
Heatresistance of solderling	260°C±5°C 10sec 350°C±10°C 3sec	
State of soldering	230°C±5°C 5sec	Electrical and apperrance should be in the spec. Thing that lead wire which solders and is extinguished is covered with new solder.

	No.	MATERIALS NAME	QU	MATERIAL	REMARK		
		PRODUCT NAME or MODEL, TITLE					
		DC-AC INVERTER UNIT CXA-P10A-P					
TRU CORRODATION		NAME OF DRAWING		DRAWING N	0.	PAGE	
TDK CORPORATION		PRODUCT DRAWING CTR-0745-B					

[6] Packing and Marking

A shipping box is packaged to avoid from damage. Following items are printed on the box.

6-1. TDK part No. CXA-P10A-P

6-2. Manufacture TDK

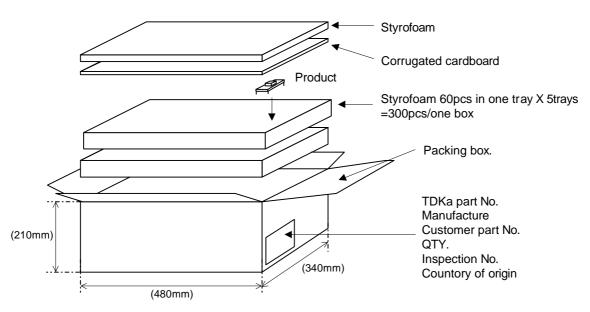
6-3. Customer part No.

6-4. QTY.

6-5. Inspection No.

6-6. Country of origin

Packing style as under Fig. (300 going in with a standard.)



[7] Others

7-1.Test cond.

A normal test condition: Temperature (20±15°C), Humidity (65±20%RH).

7-2.Std warrantry

One year after shipment. This covers any defects in material or workmanship. Defective units will be replaces at no charge.

7-3. Others

TDK and customer are to discuss changes, problems, and modifications and etc, when needed.

	No.	MATERIALS NAME	QU	MATERIAL	REMARK	
	PRODUCT NAME or MODEL,TITLE DC-AC INVERTER UNIT CXA-P10A-P					
TDK CORPORATION	NAME OF DRAWING			DRAWING N	0.	PAGE
	PRODUCT DRAWING			CTR-0745-E	3	7