TDK

DC to AC Inverters
On-board type, Non-dimming, 6W, for 1 and 2 Bulbs

Conformity to RoHS Directive

CXA Series CXA-M10A-L/-M10L-L/-M10M-L

FEATURES

- The CXA-M10 series inverters for 2-cold cathode fluorescent lamps support a wide range of CCFL devices and are characterized by highly stable output current.
- Employing a resonance-type push-pull circuit, these inverters deliver sine wave output with very low noise levels.
- Through the use of four different connection methods and combinations of 1 and 2 lamps, different output currents can be selected.
- Compact, lightweight printed circuit board design.
- High efficiency (typically 80%).
- It is a product conforming to RoHS directive.

APPLICATIONS

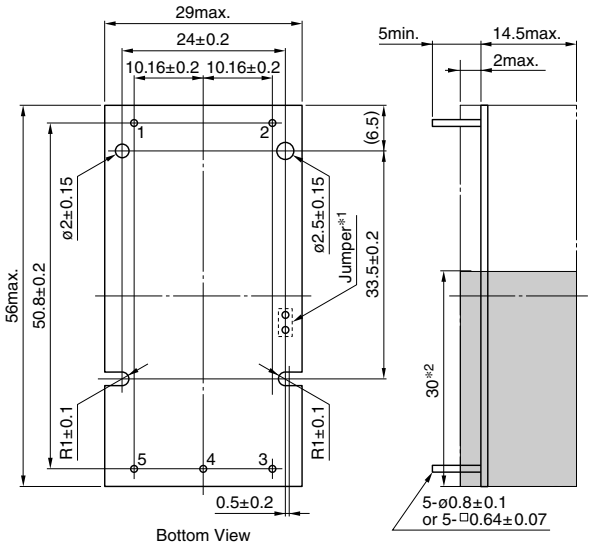
Industrial and other equipment employing LCD panels, products employing small lamps, information terminal devices.

TEMPERATURE AND HUMIDITY RANGES

Temperature range (°C)	Operating	–10 to +60
	Storage	–20 to +85
Humidity range(%)RH		95max. [Maximum wet-bulb temperature 38°C]

SHAPES AND DIMENSIONS

CXA-M10A-L/-M10L-L/-M10M-L



*1 Terminal numbers 2 and 5 are connected by the jumper. Cut this jumper to let the secondary side float with respect to the primary side.

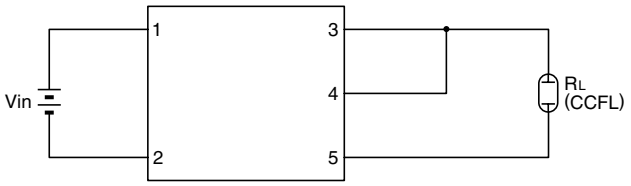
*2 ▭: High-voltage generator (The entire surface within a range of 30mm away from the end of the base in the output)

Weight: 21g typ.

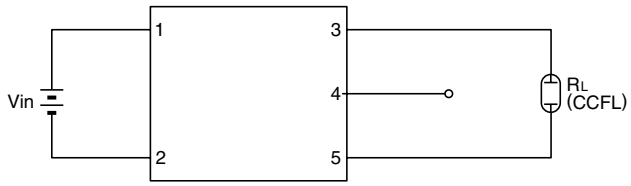
Dimensions in mm

CIRCUIT DIAGRAMS

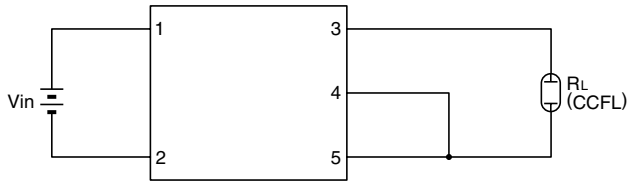
CONNECTION A



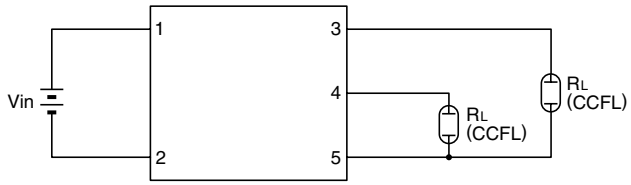
CONNECTION B



CONNECTION C



CONNECTION D



TERMINAL NUMBERS AND FUNCTIONS

Terminal No.	Functions	CXA-M10A-L	CXA-M10L-L	CXA-M10M-L	Symbol
1	Input voltage Edc	4.75 to 5.25V 5V[nom.]	11.4 to 12.6V 12V[nom.]	22.8 to 25.2V 24V[nom.]	Vin
2		0V	0V	0V	GND
3	Output 1[High voltage] Irms	5mA	5mA	5mA	V_{HIGH1}
4	Output 2[High voltage] Irms	5mA	5mA	5mA	V_{HIGH2}
5	Output[Low voltage]	0V	0V	0V	V_{LOW}

- Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.

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CXA-M10A-L

ELECTRICAL CHARACTERISTICS

5V INPUT TYPE/CXA-M10A-L

Connections	Items	Unit	Symbol	Specifications			Conditions		
				min.	typ.	max.	Vin(V)	Ta(°C)	RL(kΩ)
A	Output current Irms	mA	Iout	9	10	11	5±1%	23±5	40
				8	10	12	5±5%	–10 to +60	30 to 50
	Input current Idc	A	Iin	—	1	1.5	5±5%	–10 to +60	30 to 50
	Oscillation frequency	kHz	FL	23	28	33	5±5%	–10 to +60	30 to 50
	Open circuit output voltage Erms	V	Vopen	1000	1200	—	5±5%	–10 to +60	∞
	Output power	W	Pout	—	—	6	5±5%	–10 to +60	—
B	Output current Irms	mA	Iout	5.1	6	6.5	5±1%	23±5	67
				4.5	6	7.1	5±5%	–10 to +60	50 to 84
	Input current Idc	A	Iin	—	0.6	1	5±5%	–10 to +60	50 to 84
	Oscillation frequency	kHz	FL	27	32	37	5±5%	–10 to +60	50 to 84
	Open circuit output voltage Erms	V	Vopen	1000	1200	—	5±5%	–10 to +60	∞
	Output power	W	Pout	—	—	3.6	5±5%	–10 to +60	—
C	Output current Irms	mA	Iout	4.2	5	5.4	5±1%	23±5	80
				3.7	5	5.9	5±5%	–10 to +60	60 to 100
	Input current Idc	A	Iin	—	0.6	0.9	5±5%	–10 to +60	60 to 100
	Oscillation frequency	kHz	FL	23	28	33	5±5%	–10 to +60	60 to 100
	Open circuit output voltage Erms	V	Vopen	1000	1200	—	5±5%	–10 to +60	∞
	Output power	W	Pout	—	—	3	5±5%	–10 to +60	—
D	Output current Irms	mA	Iout1	4.5	5	5.5	5±1%	23±5	80
			Iout2	4.5	5	5.5	5±1%	23±5	80
			Iout1	4	5	6	5±5%	–10 to +60	60 to 100
			Iout2	4	5	6	5±5%	–10 to +60	60 to 100
	Input current Idc	A	Iin	—	1	1.5	5±5%	–10 to +60	60 to 100
	Oscillation frequency	kHz	FL	23	28	33	5±5%	–10 to +60	60 to 100
	Open circuit output voltage Erms	V	Vopen	1000	1200	—	5±5%	–10 to +60	∞
	Output power	W	Pout	—	—	3×2	5±5%	–10 to +60	—

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CXA-M10L-L

ELECTRICAL CHARACTERISTICS

12V INPUT TYPE/CXA-M10L-L

Connections	Items	Unit	Symbol	Specifications			Conditions		
				min.	typ.	max.	Vin(V)	Ta(°C)	RL(kΩ)
A	Output current Irms	mA	Iout	9	10	11	12±1%	23±5	40
				8	10	12	12±5%	–10 to +60	30 to 50
	Input current Idc	A	Iin	—	0.42	0.63	12±5%	–10 to +60	30 to 50
	Oscillation frequency	kHz	FL	23	28	33	12±5%	–10 to +60	30 to 50
	Open circuit output voltage Erms	V	Vopen	1000	1200	—	12±5%	–10 to +60	∞
	Output power	W	Pout	—	—	6	12±5%	–10 to +60	—
B	Output current Irms	mA	Iout	5.1	6	6.5	12±1%	23±5	67
				4.5	6	7.1	12±5%	–10 to +60	50 to 84
	Input current Idc	A	Iin	—	0.27	0.41	12±5%	–10 to +60	50 to 84
	Oscillation frequency	kHz	FL	26	31	36	12±5%	–10 to +60	50 to 84
	Open circuit output voltage Erms	V	Vopen	1000	1200	—	12±5%	–10 to +60	∞
	Output power	W	Pout	—	—	3.6	12±5%	–10 to +60	—
C	Output current Irms	mA	Iout	4.3	5	5.5	12±1%	23±5	80
				3.8	5	6	12±5%	–10 to +60	60 to 100
	Input current Idc	A	Iin	—	0.23	0.35	12±5%	–10 to +60	60 to 100
	Oscillation frequency	kHz	FL	23	28	33	12±5%	–10 to +60	60 to 100
	Open circuit output voltage Erms	V	Vopen	1000	1200	—	12±5%	–10 to +60	∞
	Output power	W	Pout	—	—	3	12±5%	–10 to +60	—
D	Output current Irms	mA	Iout1	4.5	5	5.5	12±1%	23±5	80
			Iout2	4.5	5	5.5	12±1%	23±5	80
			Iout1	4	5	6	12±5%	–10 to +60	60 to 100
			Iout2	4	5	6	12±5%	–10 to +60	60 to 100
	Input current Idc	A	Iin	—	0.42	0.63	12±5%	–10 to +60	60 to 100
	Oscillation frequency	kHz	FL	23	28	33	12±5%	–10 to +60	60 to 100
	Open circuit output voltage Erms	V	Vopen	1000	1200	—	12±5%	–10 to +60	∞
	Output power	W	Pout	—	—	3×2	12±5%	–10 to +60	—

CXA-M10M-L

ELECTRICAL CHARACTERISTICS
24V INPUT TYPE/CXA-M10M-L

Connections	Items	Unit	Symbol	Specifications			Conditions		
				min.	typ.	max.	Vin(V)	Ta(°C)	RL(kΩ)
A	Output current Irms	mA	Iout	9	10	11	24±1%	23±5	40
				8	10	12	24±5%	–10 to +60	30 to 50
	Input current Idc	A	Iin	—	0.21	0.33	24±5%	–10 to +60	30 to 50
	Oscillation frequency	kHz	FL	23	28	33	24±5%	–10 to +60	30 to 50
	Open circuit output voltage Erms	V	Vopen	1000	1200	—	24±5%	–10 to +60	∞
	Output power	W	Pout	—	—	6	24±5%	–10 to +60	—
B	Output current Irms	mA	Iout	5	6	6.4	24±1%	23±5	67
				4.4	6	7	24±5%	–10 to +60	50 to 84
	Input current Idc	A	Iin	—	0.14	0.21	24±5%	–10 to +60	50 to 84
	Oscillation frequency	kHz	FL	26	31	36	24±5%	–10 to +60	50 to 84
	Open circuit output voltage Erms	V	Vopen	1000	1200	—	24±5%	–10 to +60	∞
	Output power	W	Pout	—	—	3.6	24±5%	–10 to +60	—
C	Output current Irms	mA	Iout	4.3	5	5.5	24±1%	23±5	80
				3.8	5	6	24±5%	–10 to +60	60 to 100
	Input current Idc	A	Iin	—	0.12	0.19	24±5%	–10 to +60	60 to 100
	Oscillation frequency	kHz	FL	23	28	33	24±5%	–10 to +60	60 to 100
	Open circuit output voltage Erms	V	Vopen	1000	1200	—	24±5%	–10 to +60	∞
	Output power	W	Pout	—	—	3	24±5%	–10 to +60	—
D	Output current Irms	mA	Iout1	4.5	5	5.5	24±1%	23±5	80
			Iout2	4.5	5	5.5	24±1%	23±5	80
			Iout1	4	5	6	24±5%	–10 to +60	60 to 100
			Iout2	4	5	6	24±5%	–10 to +60	60 to 100
	Input current Idc	A	Iin	—	0.21	0.33	24±5%	–10 to +60	60 to 100
	Oscillation frequency	kHz	FL	23	28	33	24±5%	–10 to +60	60 to 100
	Open circuit output voltage Erms	V	Vopen	1000	1200	—	24±5%	–10 to +60	∞
	Output power	W	Pout	—	—	3×2	24±5%	–10 to +60	—