

DC to AC Inverters

Conformity to RoHS Directive

Connector type, Dimming, 7W, for 2 Bulbs

CXA Series CXA-M1112-VJ

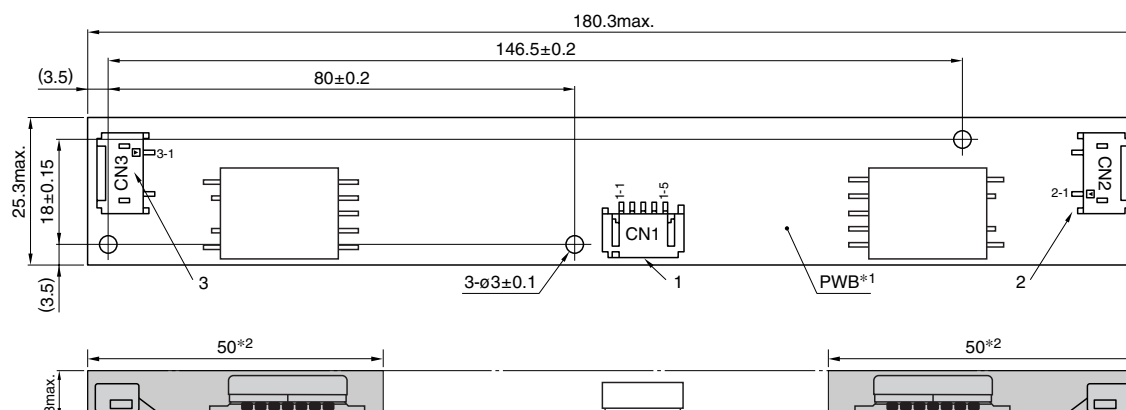
FEATURES

- The CXA-M1112-VJ is an inverter for cold cathode fluorescent lamps and features a built-in dimmer.
- Because they employ advanced output current control, fluctuations in input voltage, load, and distributed capacitance have virtually no effect on brightness.
- Output open and short circuit conditions result in no damage, heat generation, or other difficulties.
- The CXA-M1112-VJ has an overvoltage protection device and a temperature fuse built-in, thereby achieving a safety design.
- An alarm output function mounted on the CXA-M1112-VJ is useful to detect an occurrence of an error in lamps.
- Insulation is simplified due to flat backside surface of board.
- It is a product conforming to RoHS directive.

TEMPERATURE AND HUMIDITY RANGES

Temperature range (°C)	Operating	0 to +60
	Storage	-30 to +85
Humidity range(%RH)		95max. [Maximum wet-bulb temperature 38°C]

SHAPES AND DIMENSIONS



*1 Substrate (PWB: Printed wiring board): Flame retardant UL94V-0(FR-4 or CEM-3) $t=1\text{mm}$

Weight: 21g typ.

*2 : High-voltage generator (The entire surface within a range of 50mm away from the end of the base in the output)

Dimensions in mm

	Connector manufacturer's company and type	Symbol
1	Input connector Japan Solderless Terminal Co., Ltd. S5B-PH-SM4	CN1
2	Output connector Japan Solderless Terminal Co., Ltd. SM02(8.0)B-BHS-1	CN2
3	Output connector Japan Solderless Terminal Co., Ltd. SM02(8.0)B-BHS-1	CN3

TERMINAL NUMBERS AND FUNCTIONS

CN1

Terminal No.	Functions	Symbol
CN1-1	Input voltage Edc: 8 to 20V 12V[nom.]	V _{in}
CN1-2	0V	GND
CN1-3	Brightness dimmer voltage Edc: 0 to 3.4V(Maximum brightness on 0V)	V _{br}
CN1-4	Alarm output: 0V in abnormal state	V _{ST}
CN1-5	Remote voltage Edc 0V: off/5 to 7V:on	V _{rmt}

CN3

Terminal No.	Functions	Symbol
CN3-1	Output 2[High voltage] I _{rms} 2 to 5.5mA	V _{HIGH2}
CN3-2	—	N.C.
CN3-3	Output 2[Low voltage] (2V)	V _{LOW2}

CN2

Terminal No.	Functions	Symbol
CN2-1	Output 1[High voltage] I _{rms} 2 to 5.5mA	V _{HIGH1}
CN2-2	—	N.C.
CN2-3	Output 1[Low voltage] (2V)	V _{LOW1}

- 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.

- All specifications are subject to change without notice.

CXA-M1112-VJ

ELECTRICAL CHARACTERISTICS

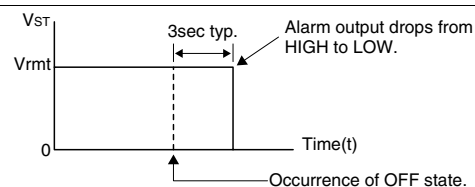
Items	Unit	Symbol	Specifications			Conditions					Brightness	
			min.	typ.	max.	Vin(V)	Vrmt(V)	Vbr(V)*1	Ta(°C)	RL1(kΩ)		RL2(kΩ)
Output current I _{rms}	mA	lout1/lout2	4.6	5.5	6.3	8 to 20	5±0.25	0	0 to 60	90 to 120	90 to 120	Maximum
		lout1/lout2	4.9	5.5	6	12±1.2	5±0.25	0	25±5	110	110	Maximum
		lout1/lout2	—	2	2.5	8 to 20	5±0.25	3.5	0 to 60	335	335	Minimum
Input current I _{dc}	A	I _{in}	—	0.71	1.37	8 to 20	5±0.25	0 to 3.5	0 to 60	90 to 120	90 to 120	
Oscillation frequency	kHz	FL	30	35	40	8 to 20	5±0.25	0	0 to 60	110	110	
Open circuit output voltage Erms	V	Vopen	1400	1500	—	8 to 20	5±0.25	0 to 3.5	0 to 60	∞	∞	
			Vrmt*0.5	Vrmt	—	8 to 20	5±0.25	0 to 3.5	0 to 60	90 to 335	90 to 335	When lamps are normally turned on
			—	0	0.5	8 to 20	5±0.25	0 to 3.5	0 to 60	∞	∞	When lamps are abnormal (OFF state)
Alarm output Edc	V	V _{ST}	—	0	0.5	8 to 20	5±0.25	0 to 3.5	0 to 60	90 to 335	∞	When lamps in one side only are turned on
			—	0	0.5	8 to 20	5±0.25	0 to 3.5	0 to 60	∞	90 to 335	When lamps in one side only are turned on
			—	0	0.5	8 to 20	5±0.25	0 to 3.5	0 to 60	∞	∞	
Alarm output delay time	sec	—	3*2	11	—	—	—	—	—	—	—	

*1 Vbr also operates as a remote function as follows:

- 0 to 3.5V: Operated
- 4.5V or higher: Operation stopped

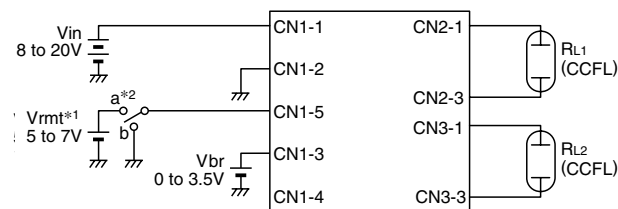
*2 An alarm output is a detection terminal for detecting an OFF state of the lamps, with a delay time from an occurrence of the OFF state (See the diagram).

For details of the alarm output, see the individual specifications.

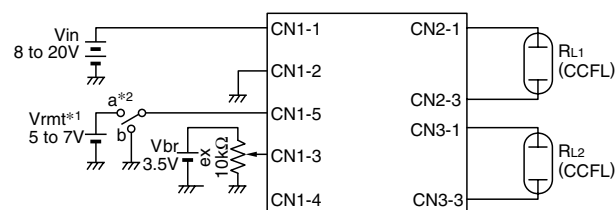


TYPICAL CONNECTIONS

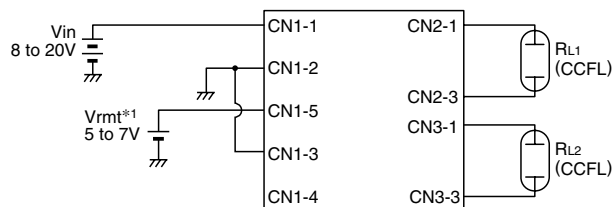
EXAMPLE OF VOLTAGE DIMMER CONTROL



EXAMPLE OF POTENTIOMETER DIMMER CONTROL



NO DIMMER CONTROL (BRIGHTNESS MAX.)



*1 Vrmt (remote voltage) shall be ON after Vin was ON.

*2 SW a:on, b:off

BRIGHTNESS DIMMER VOLTAGE-OUTPUT CURRENT CHARACTERISTICS

