



# CQB150W-110S SERIES

## 150 WATT 4:1 INPUT

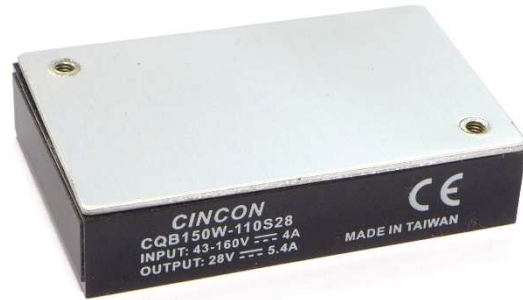
## DC-DC CONVERTERS

## SINGLE OUTPUT



### FEATURES

- \* 150W Isolated Output
- \* Efficiency to 92%
- \* Fixed Switching Frequency
- \* 4:1 Input Range
- \* Regulated Outputs
- \* Remote On/Off
- \* Low No Load Power Consumption
- \* Over Temperature Protection
- \* Over Voltage/Current Protection
- \* Continuous Short Circuit Protection
- \* Quarter Brick Size Meet Industrial Standard
- \* CE Mark Meets 2014/30/EU
- \* UL60950-1 2<sup>nd</sup> (Basic Insulation) Approval
- \* Meets EN50155 with External Circuits
- \* Shock & Vibration Meets EN50155 (EN61373)
- \* Fire & Smoke Meets EN45545-2
- \* 3000m Operating Altitude



MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT		INPUT CURRENT		% EFF.	CAPACITIVE LOAD MAX.
			MIN.	MAX.	NO LOAD	FULL LOAD		
CQB150W-110S05	43-160 VDC	5.0 VDC	0 mA	30 A	10mA	1.50A	91	30000 $\mu$ F
CQB150W-110S12	43-160 VDC	12 VDC	0 mA	12.5 A	10mA	1.48A	92	12500 $\mu$ F
CQB150W-110S24	43-160 VDC	24 VDC	0 mA	6.3 A	10mA	1.54A	89	6300 $\mu$ F
CQB150W-110S28	43-160 VDC	28 VDC	0 mA	5.4 A	10mA	1.54A	89	5400 $\mu$ F
CQB150W-110S48	43-160 VDC	48 VDC	0 mA	3.2 A	10mA	1.54A	90.5	1000 $\mu$ F

NOTE: 1. Nominal Input Voltage 110VDC

# SPECIFICATIONS

All Specifications Typical At Nominal Line, Full Load, and 25°C Unless Otherwise Noted

## INPUT SPECIFICATIONS:

Input Voltage Range .....	110V .....	43-160V
Input Surge Voltage (100ms max.) .....	110V.....	200Vdc max.
Under voltage lockout .....	110Vin power up .....	41.5V
	110Vin power down .....	38V
Positive Logic Remote On/Off (see note 4 & 5)		
Input Filter .....		PI Type

## OUTPUT SPECIFICATIONS:

Voltage Accuracy .....	±1.0% max.
Transient Response: 25% Step Load Change .....	<250us
External Trim Adj. Range .....	±10%
Ripple & Noise, 20MHz BW (note3)	
5V .....	40mV RMS, 100mV pk-pk max.
12V .....	60mV RMS, 150mV pk-pk max.
24V&28V.....	100mV RMS, 280mV pk-pk max.
48V .....	200mV RMS, 480mV pk-pk max.
Temperature Coefficient .....	±0.02%/°C max.
Short Circuit Protection .....	Continuous
Line Regulation (note1) .....	±0.2% max.
Load Regulation (note2) .....	±0.2% max.
Over Voltage Protection trip Range, % Vo nom. ....	115-140%
Current Limit .....	110%-160% Nominal Output
Start up Time .....	60ms typ.

## GENERAL SPECIFICATIONS:

Efficiency .....	See Table	
Isolation Voltage		
Input/Output .....	3000VDC min.	
Input/Case.....	2250VDC min.	
Output/Case .....	500VAC min	
Isolation Resistance .....	10 <sup>8</sup> ohm min.	
Isolation Capacitance .....	1500pF typ.	
Switching Frequency .....	300KHz typ.	
Operating Case Temperature .....	-40°C to +105°C	
Storage Temperature .....	-55°C to +125°C	
Thermal Shutdown, Case Temperature .....	110°C typ.	
Humidity .....	95% RH max. Non condensing	
MTBF ... MIL-HDBK-217F, GB, 25°C, Full Load ... 5V/12V .....	720Khrs typ.	
	Others .....	.840Khrs typ.
Dimensions .....	2.28×1.45×0.50 inches (57.9x36.8×12.7 mm)	
Safety .....	UL60950-1 2 <sup>nd</sup> (Basic Insulation)	
EMC (note8) .....	EN50155(EN50121-3-2) with External Filter	
Shock/Vibration .....	EN50155(EN61373)	
Environmental .....	EN50155(EN60068-2-1)	
Case Material .....	Aluminum Base Plate with Plastic Case	
Weight .....	68g	

## NOTE:

1. Measured from high line to low line.
2. Measured from full load to zero load
3. Output ripple and noise measured with 10uF aluminum and 1uF ceramic capacitor across output for 48Vout and with 10uF tantalum and 1uF ceramic capacitor for others.
4. Logic compatibility .....

  - Module on .....

    - >3.5Vdc to 160Vdc or open circuit

  - Module off .....

    - 0 to < 1.2Vdc

5. Suffix "N" to the model number with negative logic remote on/off

  - Module on .....

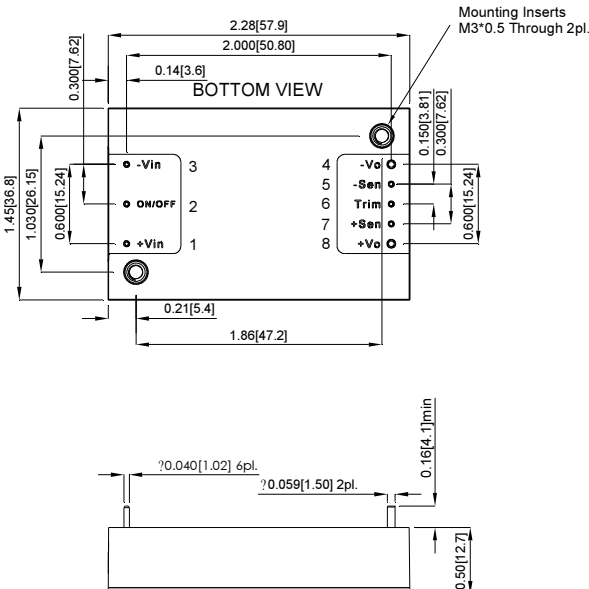
    - 0 to < 1.2Vdc

  - Module off .....

    - >3.5Vdc to 160Vdc or open circuit

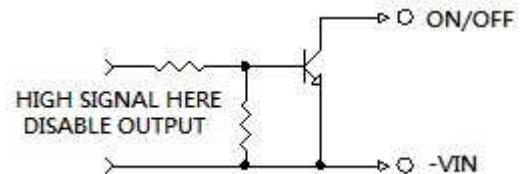
6. Suffix "-C" to the model number with clear mounting insert (3.2mm DIA.)
7. An external input capacitor 220uF for all models are recommended to reduce input ripple voltage
8. For information about EN50155 and RIA12, refer to application note.

All Dimensions In Inches(mm)  
 Tolerances    Inches: X.XX= ±0.02, X.XXX= ±0.010  
                   Millimeters: X.X= ±0.5, X.XX=±0.25



PIN CONNECTION	
PIN	Function
1	+V Input
2	On/Off
3	-V Input
4	-V Output
5	-Sense
6	Trim
7	+Sense
8	+V Output

## REMOTE ON/OFF CONTROL



## EXTERNAL OUTPUT TRIM

