

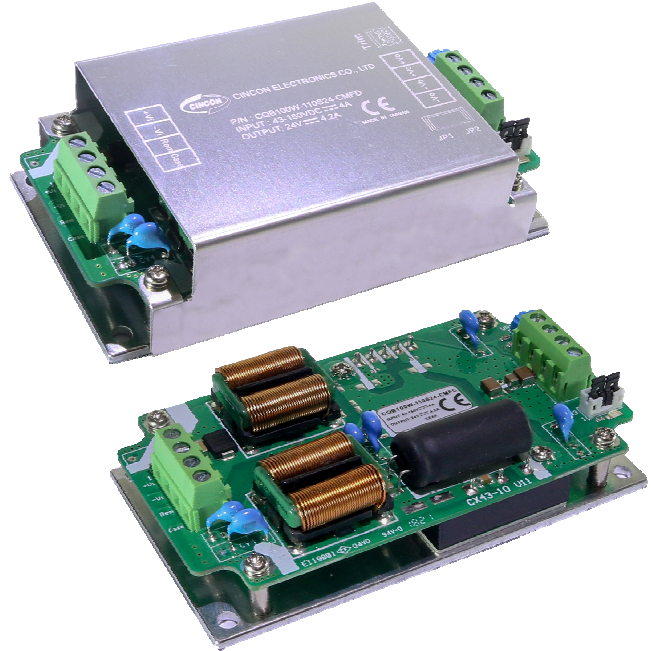


# CHASSIS MOUNT CQB100W-110S SERIES 100 WATT 4:1 INPUT DC-DC CONVERTERS



## FEATURES

- \* 100W Isolated Output
- \* Efficiency to 91%
- \* 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
- \* Build-In EMI Filter
- \* Fire & Smoke Meets EN45545-2
- \* Shock & Vibration Meets EN50155 (EN61373)
- \* Safety Meets IEC/EN/UL 62368-1
- \* UL60950-1 2<sup>nd</sup> (Basic Insulation) Approval for DC Modules
- \* EN50155:2007 for EMC, Environmental and Characteristic



MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT		INPUT CURRENT		% EFF.	CAPACITOR LOAD MAX.
			MIN.	MAX.	NO LOAD	FULL LOAD		
CQB100W-110S05□-CMFC CQB100W-110S05□-CMFD	43-160 VDC	5 VDC	0 mA	20.0 A	15 mA	1.03A	89	20000μF
CQB100W-110S12□-CMFC CQB100W-110S12□-CMFD	43-160 VDC	12 VDC	0 mA	8.4 A	15 mA	1.01A	91	8400μF
CQB100W-110S15□-CMFC CQB100W-110S15□-CMFD	43-160 VDC	15 VDC	0 mA	6.7 A	15 mA	1.01A	91	6700μF
CQB100W-110S24□-CMFC CQB100W-110S24□-CMFD	43-160 VDC	24 VDC	0 mA	4.2 A	15 mA	1.04A	88	4200μF
CQB100W-110S28□-CMFC CQB100W-110S28□-CMFD	43-160 VDC	28 VDC	0 mA	3.6 A	15 mA	1.04A	88	3600μF
CQB100W-110S48□-CMFC CQB100W-110S48□-CMFD	43-160 VDC	48 VDC	0 mA	2.1 A	15 mA	1.02A	89.5	1000μF

### NOTE:

1. Nominal Input Voltage 110VDC
2. □ = N or None.
3. VR1 is Used for Output Voltage Adjustment.
4. Refer to Application Note for Thermal Resistance and Derating Informations.
5. TVS is Included for Input Surge Voltage Protection.
6. Recommend an External Fuse for Input Reverse Polarity Protection (Shunt Diode is Included Inside).

# 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 ..... 38.5V  
 Positive Logic Remote On/Off (see note 4&5)

## OUTPUT SPECIFICATIONS:

Voltage Accuracy ..... ±1.0% max.  
 Transient Response: 25% Step Load Change ..... <250usec  
 Trim Adj. Range (By VR1) ..... 15V..... +10%,-20%  
   Others.....±10%  
 Ripple & Noise, 20MHz BW  
   5V ..... 40mV RMS, 60mV pk-pk max.  
   12V/15V ..... 40mV RMS, 100mV pk-pk max.  
   24V&28V ..... 100mV RMS, 200mV pk-pk max.  
   48V ..... 150mV RMS, 300mV pk-pk max.  
 Temperature Coefficient ..... ±0.02%/°C max.  
 Short Circuit Protection ..... Continuous  
 Line Regulation (note1) ..... ±0.2% max.  
 Load Regulation (note2) ..... 5V ..... ±0.5% max.  
   Others ..... ±0.2% max.  
 Over Voltage Protection Trip Range, % Vo nom. .... 115-140%  
 Current Limit ..... 110%-160% Nominal Output  
 Start up Time ..... 100ms typ.  
 Hold up Time ..... See Application Note

## NOTE:

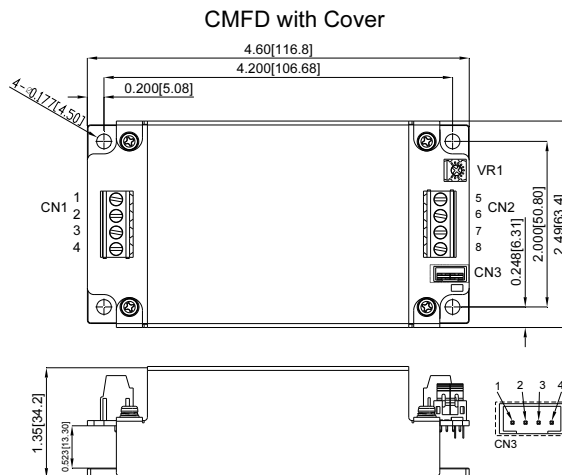
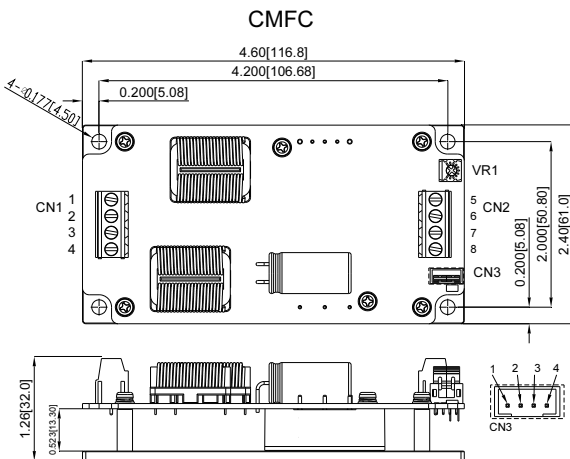
- Measured from high line to low line.
- Measured from full load to zero load.
- Output ripple and noise measured with 1uF ceramic capacitor across output.
- Logic Compatibility ..... open collector ref to -input  
   Module on ..... >3.5Vdc to 160Vdc or open circuit  
   Module off ..... 0 to< 1.2Vdc
- 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
- Output connector CN3 wafer with TAIWAN KING PIN TERMINAL P110I series and mate with JST housing PH series or equivalent.
- CN1 & CN2 connection: DINKLE EK500V-04P series or equivalent, suitable electric wire: 24~12AWG( IEC 0.5~2.5mm<sup>2</sup> ).

## Case Dimensions:

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

## 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(DC Module) ..... 1500pF typ.  
 Switching Frequency ..... 300KHz typ.  
 Operating Case Temperature ..... -40°C to +100°C  
 Storage Temperature ..... -40°C to +105°C  
 Thermal Shutdown, Case Temperature(DC Module) ..... 110°C typ.  
 Humidity ..... 95% RH max. Non Condensing  
 MTBF ..... MIL-HDBK-217F, GB, 25°C, Full Load ..... 611 Khrs typ.  
 Safety ..... Meets UL62368-1  
 EMC ..... Meets EN50155(EN50121-3-2:2008)  
   with External Output Filter Meets EN50155(EN50121-3-2:2015)  
 Shock/Vibration ..... Meets EN50155(EN61373)  
 Environmental ..... EN50155(EN60068-2-1,2,30)  
 Case Material .... -CMFC ..... Aluminum Base  
   -CMFD ..... Aluminum Base and Aluminum Cover  
 Dimensions ..... -CMFC ..... 4.60x2.40x1.26 Inches (116.8x61.0x32.0 mm)  
   -CMFD ..... 4.60x2.49x1.35 Inches (116.8x63.4x34.2 mm)  
 Weight ..... -CMFC ..... 215g  
   -CMFD ..... 300g



CN1&CN2 PIN CONNECTION

Pin	Function
1	+V Input
2	-V Input
3	Remote
4	Case
5	+V Output
6	+V Output
7	-V Output
8	-V Output

CN3 PIN CONNECTION

Pin	Function
1	-V Output
2	-Sense
3	+Sense
4	+V Output