

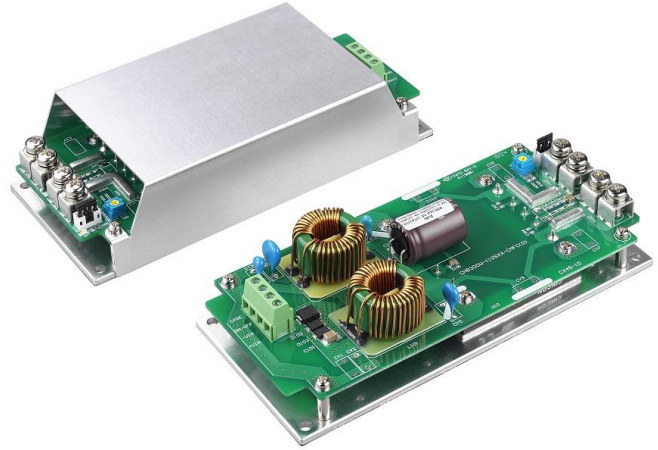


# CHASSIS MOUNT CHB200W-110S SERIES 200 WATT 4:1 INPUT DC-DC CONVERTERS



## FEATURES

- \* 200W Isolated Output
- \* Remote On/Off
- \* 4:1 Input Range
- \* Regulated Outputs
- \* Efficiency to 90.5%
- \* Fixed Switching Frequency
- \* Over Temperature Protection
- \* Over Voltage/Current Protection
- \* Low No Load Power Consumption
- \* Continuous Short Circuit Protection
- \* Shock & Vibration Meet EN50155 (EN61373)
- \* Safety Meets UL60950-1, EN60950-1, and IEC60950-1
- \* UL60950-1 2<sup>nd</sup> (Basic Insulation) Approval for DC Modules
- \* Meets EN50155:2007 for EMC, Environmental and Characteristic
- \* Build-In EMI Filter
- \* Fire & Smoke Meet EN45545-2
- \* Baseplate Cooled



MODEL NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT		INPUT CURRENT		% EFF.	CAPACITOR LOAD MAX.
			MIN.	MAX.	NO LOAD	FULL LOAD		
CHB200W-110S05□-CMFC CHB200W-110S05□-CMFD	43-160 VDC	5 VDC	0 mA	40.0A	15 mA	2077 mA	87.5	40000uF
CHB200W-110S12□-CMFC CHB200W-110S12□-CMFD	43-160 VDC	12 VDC	0 mA	16.7A	15 mA	2035 mA	90.5	16700uF
CHB200W-110S24□-CMFC CHB200W-110S24□-CMFD	43-160 VDC	24 VDC	0 mA	8.3A	15 mA	2034 mA	89	8300uF
CHB200W-110S28□-CMFC CHB200W-110S28□-CMFD	43-160 VDC	28 VDC	0 mA	7.14A	15 mA	2042 mA	89	7140uF
CHB200W-110S48□-CMFC CHB200W-110S48□-CMFD	43-160 VDC	48 VDC	0 mA	4.2A	15 mA	2025 mA	90.5	3000uF

### 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 include 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.) ..... 200Vdc max.  
 Under voltage lockout ..... 110Vin Power up ..... 42V  
   110Vin Power down ..... 39.5V  
 Positive Logic Remote On/Off (see note4&5)

## OUTPUT SPECIFICATIONS:

Voltage Accuracy .....  $\pm 1.0\%$  max.  
 Transient Response: 75%~100% Step Load Change  
     Error Band .....  $\pm 5\%$  Vout Nominal, Recovery Time ..... <250us  
 Trim Adj. Range (By VR1) .....  $\pm 10\%$   
 Ripple & Noise, 20MHz BW (note3)  
     5V ..... 60mV RMS, 120mV pk-pk max.  
     12V ..... 80mV RMS, 150mV pk-pk max.  
     24V&28V ..... 100mV RMS, 200mV pk-pk max.  
     48V ..... 150mV RMS, 300mV pk-pk max.  
 Temperature Coefficient .....  $\pm 0.02\%/^{\circ}\text{C}$  max.  
 Short Circuit Protection ..... Continuous  
 Line Regulation (note1) .....  $\pm 0.2\%$  max.  
 Load Regulation (note2) ..... 5V .....  $\pm 0.5\%$  max.  
   Others .....  $\pm 0.2\%$  max.  
 Over Voltage Protection trip Range, % Vo Nom. .... 115-140%  
 Current Limit ..... 110%-160% Nominal Output  
 Start up Time ..... 50mS typ.  
 Hold up Time ..... See Application Note

## GENERAL SPECIFICATIONS:

Efficiency ..... See Table  
 Isolation Voltage ..... Input/Output, Input/Case ..... 3000VDC min.  
   Output/Case ..... 500VAC min.  
 Isolation Resistance .....  $10^8$  ohm min.  
 Isolation Capacitance ..... 5V ..... 10000pF typ.  
   Others ..... 8000pF typ.  
 Switching Frequency ..... 300KHz typ.  
 Operating Case Temperature .....  $-40^{\circ}\text{C}$  to  $100^{\circ}\text{C}$   
 Storage Temperature .....  $-40^{\circ}\text{C}$  to  $+105^{\circ}\text{C}$   
 Thermal Shutdown, Case Temperature (DC Module) .....  $110^{\circ}\text{C}$  typ.  
 Humidity ..... 95% RH max. Non Condensing  
 MTBF ..... MIL-HDBK-217F, GB, 25°C, Full Load ..... 460Khrs typ.  
 Safety ..... Meets UL60950-1  
 EMC ..... Meets EN50155(EN50121-3-2:2008)  
   With External Output Filter Meets EN50155(EN50121-3-2:2015)  
 Shock/Vibration ..... EN50155(EN61373)  
 Environmental ..... EN50155(EN60068-2-1,2,30)  
 Case Material ... -CMFC ..... Aluminum Base  
   -CMFD ..... Aluminum Base and Aluminum Cover  
 Dimensions ..... -CMFC ..... 6.50×3.00×1.52 Inches (165.0×76.2×38.5mm)  
   -CMFD ..... 6.50×3.09×1.57 Inches (165.0×78.6×40.0mm)  
 Weight ..... -CMFC ..... 380g  
   -CMFD ..... 435g

## NOTE:

1. Measured from high line to low line.
2. Measured from full load to zero load.
3. Output ripple and noise measured with 1uF ceramic capacitor across output.
4. Logic Compatibility ..... open collector ref to -input  
     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. Input connectors PIN1~4 use DINKLE EK500V-04P series or equivalent, suitable electric wire: 24~10AWG( IEC 0.5~2.5mm<sup>2</sup>).
7. Connector CN205 wafer with TAIWAN KING PIN TERMINAL P110I series and mate with JST housing PH series or equivalent.
8. Output connectors PIN5~8 use M5 terminal screw.

## Case Dimensions:

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

