



**50 Watt, 16,8 – 160VDC Wide Input  
DC/DC Converters  
Series DV5010-72QCHAL ( Chassis Mount )**



**Features**

- 30-50 Watt Isolated Output
- Regulated Outputs
- 10 : 1 Wide Input Range
- Fixed Switching Frequency
- Remote ON/OFF
- Shock & Vibration: EN50155 (EN61373)
- Safety Meets UL/EN/IEC60950-1
- Meets UL60950-1 2<sup>nd</sup> (Basic Insulation)
- Fire & Smoke Meets EN45545-2
- Efficiency to 89%
- Continuous Short Circuit Protection
- Over Temperature Protection
- Over Voltage / Current Protection
- Low No Load Power Consumption
- EMC: EN50155:2007, Environmental and Characteristic
- Baseplate Cooled

MODEL NUMBER	INPUT VOLTAGE [ VDC ]	OUTPUT VOLTAGE [ VDC ]	OUTPUT CURRENT [ A ]	INPUT CURRENT NO LOAD [ mA ]	INPUT CURRENT FULL LOAD [ A ]	EFF. [ % ]	CAP. LOAD Max. [ μF ]	CASE
DV16,8-160-05SA6QCHAL	16,8 – 160	5	6	8	530	83	1000	Alu-Base
DV16,8-160-12SA4,2QCHAL		12	4,2	8	810	87	6800	
DV16,8-160-24SA2,1QCHAL		24	2,1	8	800	89	3300	
DV16,8-160-48SA1,05QCHAL		48	1,05	12	810	88	680	
DV16,8-160-05SA6QCHAL-C	16,8 – 160	5	6	8	530	83	1000	Alu-Base With Cover
DV16,8-160-12SA4,2QCHAL-C		12	4,2	8	810	87	6800	
DV16,8-160-24SA2,1QCHAL-C		24	2,1	8	800	89	3300	
DV16,8-160-48SA1,05QCHAL-C		48	1,05	12	810	88	680	

NOTE:

1. Nominal Input Voltage 72 Vdc
2. Positive Logic Remote ON/OFF:
  - Logic Compatibility ..... Open Collector Ref. to -Input
  - Module ON ..... >3,5Vdc to 160Vdc or Open Circuit
  - Module OFF ..... 0 to < 1,2Vdc
3. Suffix "N" to the Model Number with Negative Logic Remote ON/OFF ( for Example DV16,8-160-05SA6QCHALN )
  - Module ON ..... 0 to < 1,2Vdc
  - Module OFF ..... >4,0Vdc to 160Vdc or Open Circuit
4. VR1 is used for Output Voltage Adjustment.
5. Refer to application note for thermal resistance and derating informations.
6. TVS is included for input surge voltage protection.
7. Recommend an external fuse for input reverse polarity protection (shunt diode is include inside).
8. Output ripple and noise measured with 1uF ceramic capacitor across output.
9. Output connector CN3 wafer with TAIWAN KING PIN TERMINAL P110I series and mate with JST housing PH series or equivalent.
10. CN1 & CN2 connection: DINKLE EK500V-04P series or equivalent, suitable electric wire: 24~12AWG(IEC 0.5~2.5mm<sup>2</sup>).

**INPUT SPECIFICATIONS:**

Input Voltage Range.....	72V	16,8-160V
Input Surge Voltage (100ms max.) .....		200Vdc max.
Undervoltage lockout:.....	power up	14,6 V
	power down	12,6 V
Positive Logic Remote ON/OFF.....		see note 2 & 3

**OUTPUT SPECIFICATION:**

Output Current Min.....		0 mA
Voltage Accuracy .....		±1,0%max.
Transient Response: 25% Step Load Change .....		<250µ sec.
Trim Adj. Range (By VR1) .....		-20%, +10%
Ripple and Noise, 20 MHz BW ( Note 10 ).....		40mV RMS / 100mV pk-pk max.
Temperature Coefficient.....		±0,02%/°C max.
Short Circuit Protection.....		Continuous
Line Regulation ( From High Line to Low Line ).....		±0,2% max.
Load Regulation ( From Full Load to Zero Load ) .....		±0,2% max.
Over Voltage Protection trip Range, % Vo nom .....		115-140%
Current Limit.....		110-220% Nominal Output
Start up Time.....		30ms typ.
Hold up Time.....		See Application Note

**GENERAL SPECIFICATIONS:**

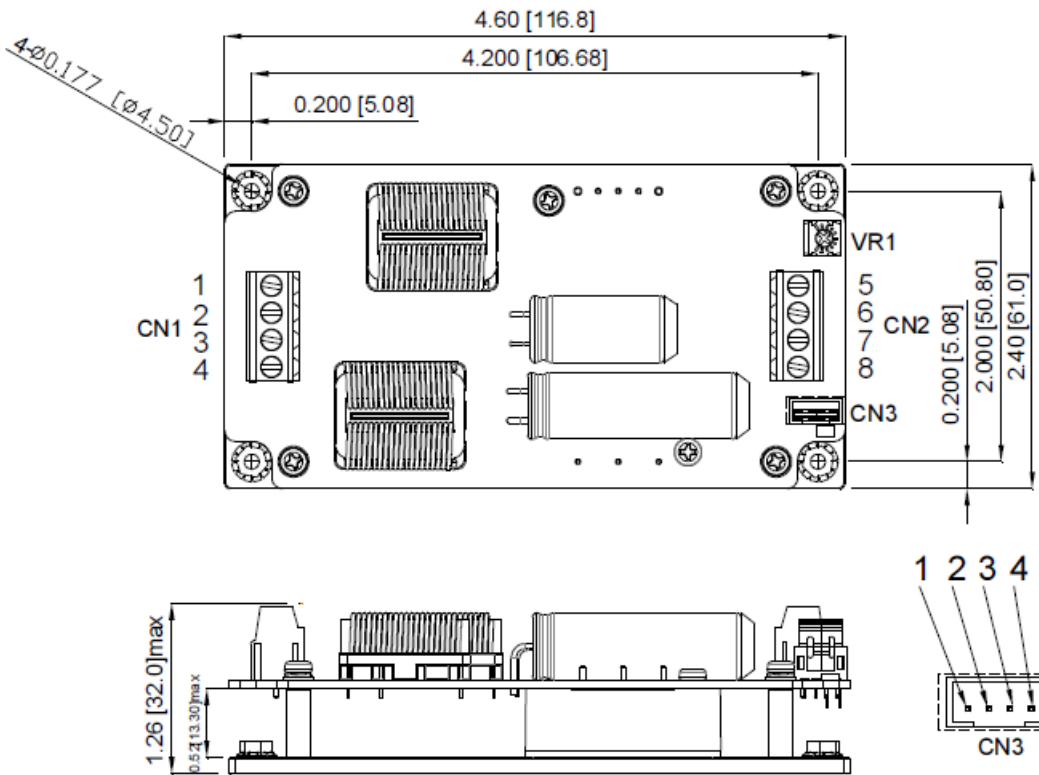
Efficiency.....		See Table
Isolation Voltage.....	Input/Output.....	3000 VDC min.
	Input/Case.....	2500 VDC min.
	Output/Case.....	500 VAC min.
Isolation Resistance .....		2x10 <sup>8</sup> Ohm min.
Isolation Capacitance (DC Module) .....		3000pF typ.
Switching Frequency.....		240 KHz typ.
Operating Case Temperature Range.....		-40°C to +100°C
Storage Temperature Range.....		-40°C to +105°C
Thermal Shutdown, Case Temp (DC Module) .....		110°C typ.
Humidity.....		95% RH max. Non condensing
MTBF 25°C ( MIL-HDBK-217F, GB, Full Load).....		500Khrs typ.
Safety Meet .....		UL60950-1
EMC Meet .....	EN50155 ( EN50121-3-2:2008 ) / with External Output Filter EN50155 ( EN50121-3-2:2015 )	
Shock/Vibration Meet .....	EN50155 ( EN61373 )	
Environmental Meet .....	EN50155 ( EN60068-2-1,2,30 )	
Dimensions .....	CHAL.....	116,8 x 61,0 x 32,0 mm
	CHAL-C.....	116,8 x 63,4 x 34,2 mm
Material .....	CHAL.....	Aluminum Base
	CHAL-C.....	Aluminum Base and Aluminum Cover
Weight.....	CHAL.....	210g
	CHAL-C.....	300g

All Specifications Typical at Nominal Line, Full Load and 25°C.

# Case Dimensions CHAL

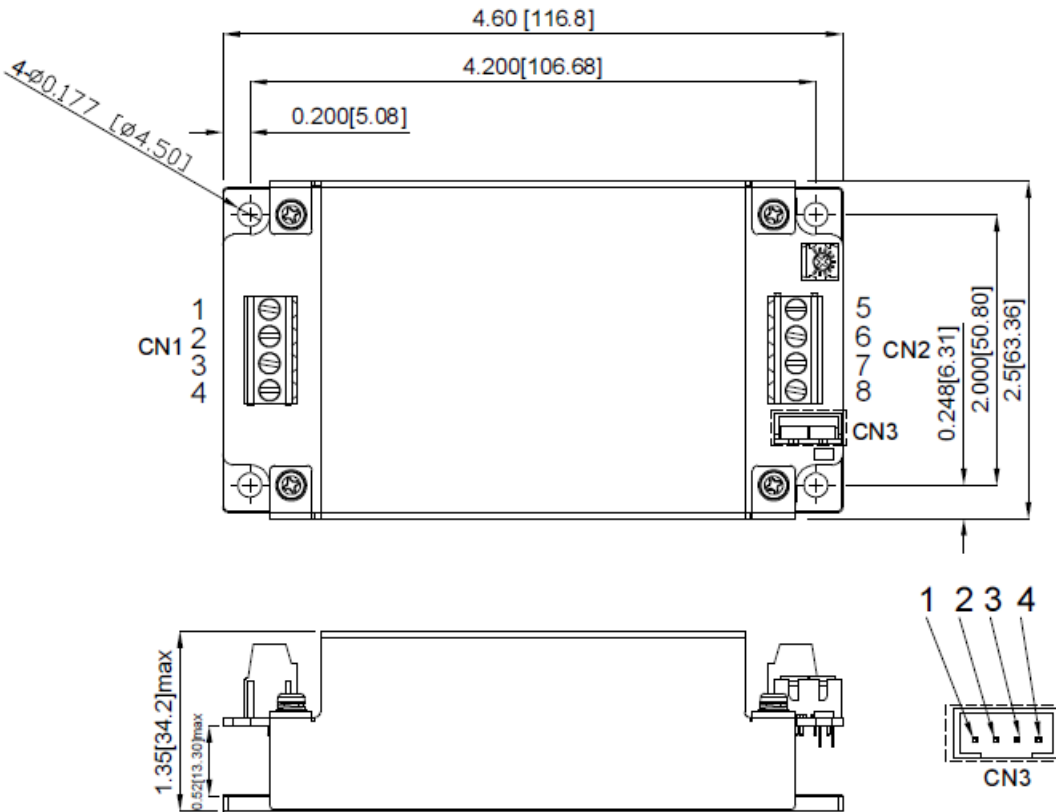
# Series DV5010-72QCHAL

All Dimensions in Inches (mm)  
 Tolerance Inches x.xx±0.02 x.xxx±0.010  
 Millimeters x.xx±0.5 x.xx±0.25



CN1 & CN2 PIN CONNECTION	
Pin	Function
1	+V Input
2	-V Input
3	Remote
4	Case
5	+Vout
6	+Vout
7	-Vout
8	-Vout

## CHAL-C : With Cover



CN3 PIN CONNECTION	
Pin	Function
1	-Vout
2	-Sense
3	+Sense
4	+Vout