ANNREN TECHNOLOGIES CO., LTD.
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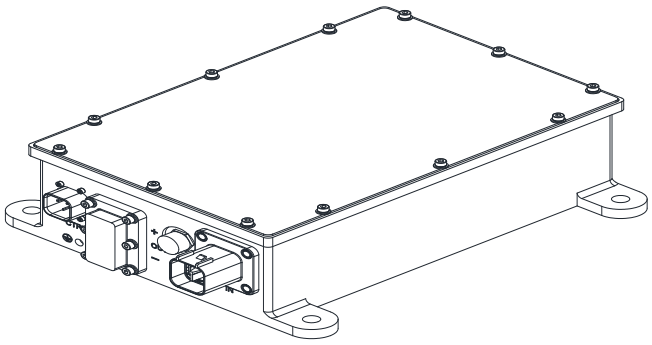
375~510V in 13.85V out 2.5KW DC/DC Converter Liquid Cooled
Model No. ATRD2K5-460S13.85W



Features

1 Output Power(KW): 2.5
2 Input Voltage Range(VDC): 375-510
Rated Input Voltage(VDC): 460
3 Output Voltage Range(VDC): 0-16
4 Rated Output Voltage(VDC): 13.85±0.35
5 Output Current Continuous(A): 178
6 Output Current Max(A): 178
7 Dimensions(mm): 359x270x100
8 Weight(KG):3.5±0.5
9 Cooling System: Liquid flow ≥6L/min
10 IP Rating: IP67
11 CAN compatibility: CAN2.0 B
12 Enclosure: Aluminum alloy
13 Isolated: Non Supported
14 Software: Digital software design
15 Online Upgrade & Fault Diagnosis: Supported

Specification

Description		Remark
Input Voltage Range (VDC)	375~510	as per requirement
Rated Input Voltage (VDC)	460	as per requirement
Output Voltage Range(VDC)	0~16	
Rated Output Voltage(VDC)	13.85±0.35	as per requirement
Output current(A) (Continuous)	178	
Output current(A) (Max)	178	
Efficiency	≥97%	Rated input voltage, load＞30%
Output Voltage Accuracy	±1%	
Communication Method	CAN 2.0 BUS	
Isolation	supported	

Operating Environment

The operating environment conditions of this assembly are as follows:

Items	Descriptions		Remark
1.	Operating Temperature(℃)	-40~85	The power will be derated when the temperature exceeds 65℃
2.	Storage Temperature(℃)	-40~95	
3.	relative humidity(%RH)	5～95	No condensation, no frost

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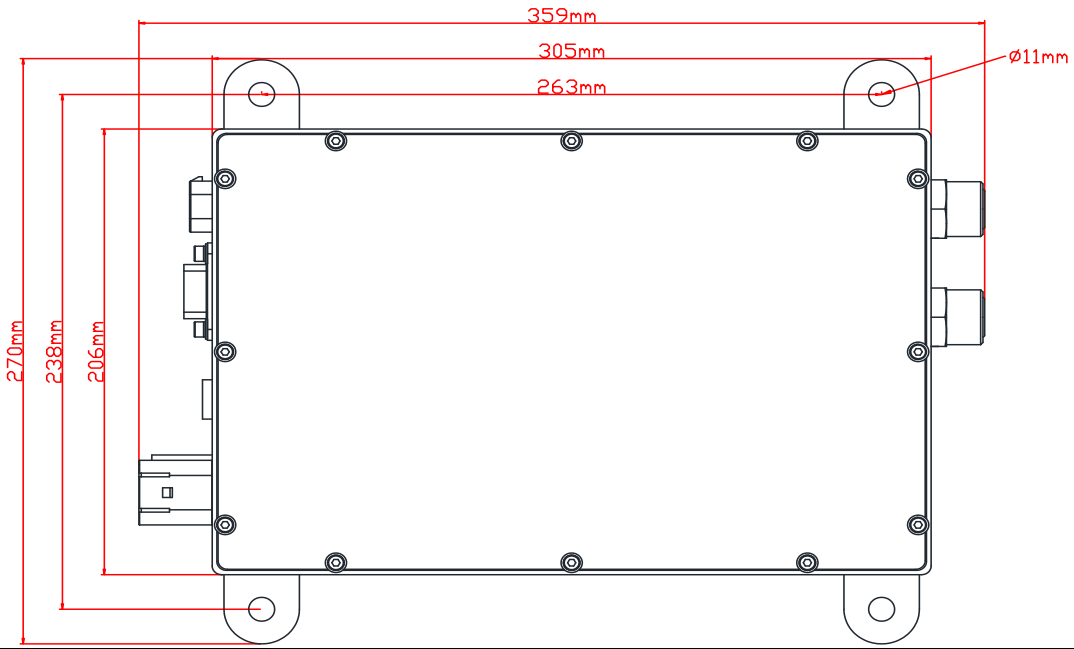
4.	Protection level	IP67	
5.	Cooling method	Liquid	
6.	Vibration level	ISO 16750-3,2012（E）	After X,Y,Z three directions of sweep frequency vibration testing, no damage for parts , no loose for fastening piece
7.	Noise level(dB)	< 60	
8.	Salt spray level	GB/T 2423.17	
9.	Altitude(M)Max	3000	GB/T16935.1-2008
10.	Fall	Wiring harness according to QC/T417.1-2001 Housing according to GB/T 2423.8-1995	Appearance, structure and performance are normal
11.	Protection Characteristics	Input OVP/UVP, output OVP/UVP, input anti-reverse connection, output short circuit protection, OCP, OTP	
12.	Electromagnetic immunity	GB/T17619-1998 chap4	
13.	Electromagnetic disturbance	GB18655-2002chap 12 chap14	

2 Dimensions and Weight

2.2 Product size

Top View



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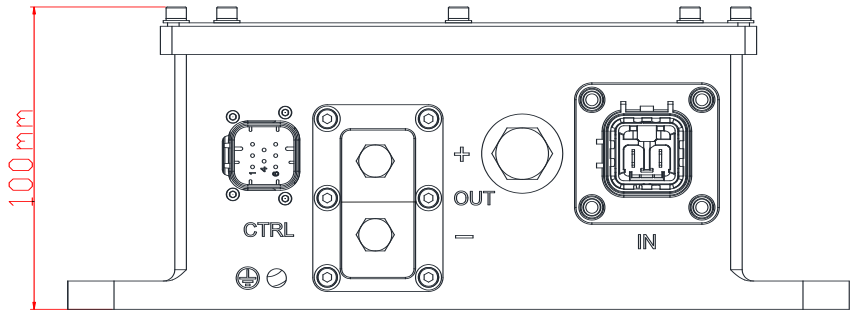
Front View

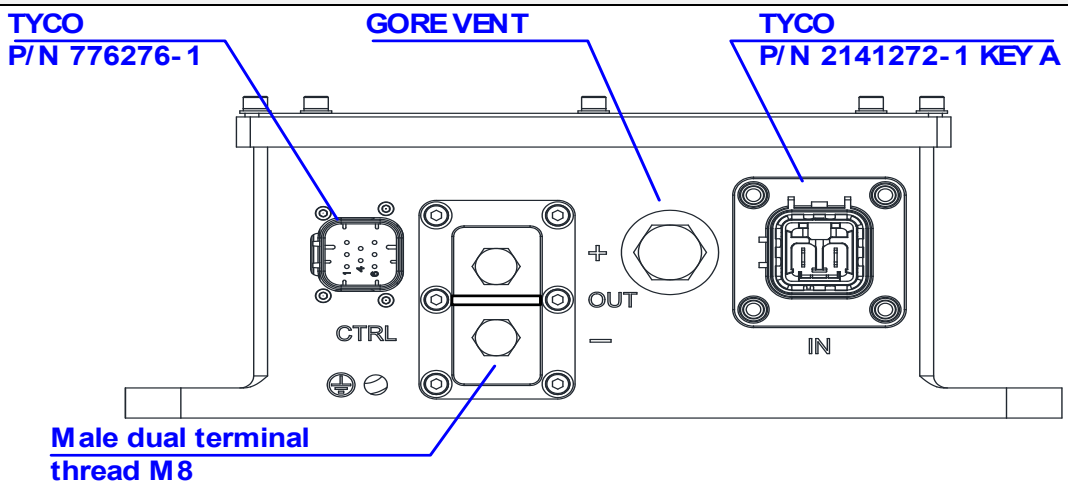


Side View

3 Define Connectors and Connection Terminals

3.2 Connectors Definition

Overview



PARAMETER	CONDITION	MANUFACTURER	MPN
Input connector(IN)	High voltage connector with HVIL function	TYCO	2141272-1; KEY A
Output connector(OUT)	Male dual terminal thread M8		
CAN BUS and signal interface(CTRL)	Panel mounted	TYCO	776276-1

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CONNECTOR	PIN	SIGNAL DESCRIPTION	Note
2141272-1	1	HV+	High Voltage Supply
	2	HV-	High Voltage Supply
	3	HVIL	HVIL Loop
	4	HVIL	HVIL Loop
776276-1	1	PS_WAKEUP	Wakeup Signal
	2	ADR0	Hardware Address 0
	3	ADR1	Hardware Address 1
	4	CAN_SPEED	CAN Speed Selection
	5	CAN_H	CANbus High
	6	CAN_L	CANbus Low
	7	SENSE+	Voltage Sense for Compensation
	8	SENSE-	Voltage Sense for Compensation

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