



ACU28V5K6(L) TECHNICAL INFORMTION

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1. TECHNICAL DATA 기술자료

1.1 DETAIL SPECIFICATION 상세사양

POWER	UNIT	STANDARD	REMARK
Power ratings	[kW]	5.6	
Input side voltage range	[V]	400(300~500)	
Input side current ratings	[A]	15.6(12.5~20.8)	
Output side Voltage range	[V]	28(17~30)	
Output side current ratings	[A]	200	
Control Power	[V]	24(16~32)	
Structure(Type)	[-]	Uni-Directional Phase shift Full Bridge converter	
Efficiency	[%]	Over 96	

OPERATING CONDITION	UNIT	STANDARD	REMARK
Location	[-]	in Case	
Environ. Temp.(operating)	[°C]	-30 ~ 85	
Environ. Temp(storage)	[°C]	-40 ~ 105	

MECHANICAL	UNIT	STANDARD	REMARK
Weight	[kg]	Under 12	
Size(W*D*H) (mm*mm*mm)	[-]	380*233*93	
Vibration class(G)	[-]	CE & E-MARK	
Protection Class	[-]	IP69K	

COOLING	UNIT	STANDARD	REMARK
Cooling method	[-]	Water cooling	
Required water flow rate	[ℓ/min.]	5 ~ 14	
Pressure	[bar]	1 ~ 2	
Coolant Temp range	[°C]	45 (30~55)	

CONTROL	UNIT	STANDARD	REMARK
Type of Controller	[-]	Digital/Analog	
Command source and type	[-]	Voltage command from PCU (via CAN)	
Command recurrence time	[ms]	100	
Control period(sampling rate)	[kHz]	1	
Control accuracy(steady state)	[V]	±0.1V	
Control Bandwidth	[Hz]	Over than 1,000	

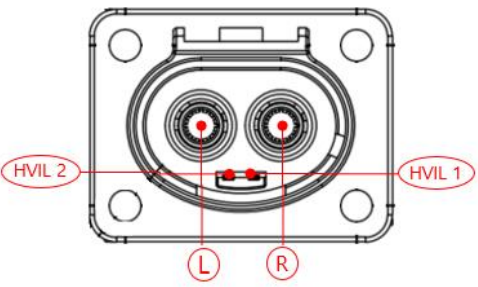
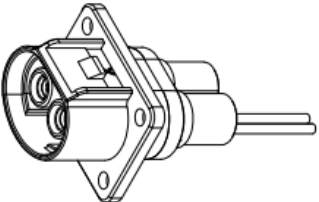
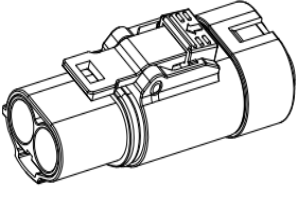
PROTECTION	UNIT	STANDARD	REMARK
Input Under Voltage warning	[V]	300~320	
Input Under Voltage fail	[V]	Under 300	
Input Under Voltage Recover	[V]	Over 320	
Input Over Voltage warning	[V]	480~500	
Input Over Voltage fail	[V]	Over 500	
Input Over Voltage Recover	[V]	Under 480	
Output Under Voltage warning	[V]	17~20	
Output Under Voltage fail	[V]	Under 17	
Output Under Voltage Recover	[V]	Over 20	
Output Over Voltage warning	[V]	29~30	
Output Over Voltage fail	[V]	Over 30	
Output Over Current	[A]	200	
Peak Current	[A]	200	
Short Current	[A]	240	
Temp Warning	[°C]	80~85	
Temp STOP	[°C]	85	
Temp Re-start	[°C]	Under 75	

1.2 CONNECTOR DATA 커넥터 사양

1.2.1 High Voltage INPUT CONNECTOR 입력커넥터

Vendor : Amphenol

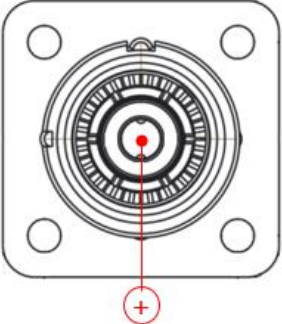
Model No. PL082X-61-6 (Compatible Part no. PL182X-61-6)

Detailed Contents							
			Receptacle(Unit SIDE) 		Plug(Wiring SIDE) 		
Manufacturer		Amphenol					
PIN ARRANGEMENT (PART NO.)	Unit SIDE	PL082X-61-6	Pin NO	I/O	Signal Name	Description	Note
	Wiring SIDE	PL182X-61-6	Left	I	HV_DC (-)	High Voltage -	
Pin info	Voltage	1,000VDC	Right	I	HV_DC (+)	High Voltage +	
	Current	60A / HVIL 5A	HVIL 1	I	HVIL 1		Detect Connection
	Wire	6SQ	HVIL 2	I	HVIL 2		

1.2.2 Low Voltage OUTPUT CONNECTOR 출력커넥터

Vendor : Amphenol

Model No. C10-763882-0100 (Compatible Part no. C10-730190-0500)

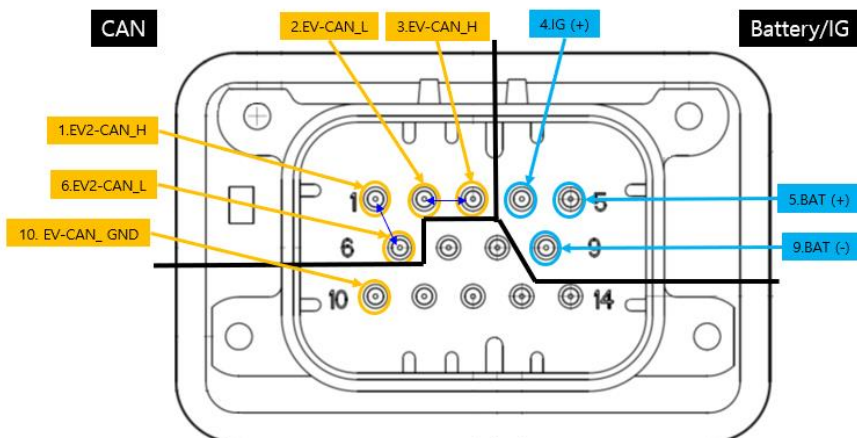
Detailed Contents							
			Receptacle(Unit SIDE)		Plug(Wiring SIDE)		
Model #		C10-763882-0100					
Manufacturer		Amphenol					
PIN ARRANGEMENT (PART NO.)	Unit SIDE	C10-763882-0100					
	Wiring SIDE	C10-730190-0500					
Pin info	Voltage	1,000VDC	Pin NO	I/O	Signal Name	Description	Note
	Current	200A	+	O	LV_DC(+)	Low Voltage +	
	Wire	50SQ	-	O	LV_DC(-)	Low Voltage -	Chassis Ground

1.2.3 COMMUNICATION CONNECTOR 통신커넥터

Vendor : TYCO AMP

Model No. 1-776262-1 (14Pin) (Compatible Part no 776273-1)

Detailed Contents								
PIN NO.	I/O	Signal Name	Electric Spec		Description	Wiring Path	Note	
			V	A				
1	I/O	EV2-CAN_H	5	0.1	EV2 CAN High (LDC Backup)	-	LDC	
2	I/O	EV-CAN_L	5	0.1	EV CAN Low (LDC Main)	-	LDC	
3	I/O	EV-CAN_H	5	0.1	EV CAN High (LDC Main)	-	LDC	
4	I	IG(+)	24	0.1	IG ON Signal	Vehicle	KEY ON	
5	I	BAT(+)	24	1.2	+24V [VDC]	Battery	BATT ON	
6	I/O	EV2-CAN_L	5	0.1	EV2 CAN Low (LDC Backup)	-	LDC	
7								
Model #		776262-1	8					
Manufacturer		TYCO	9	I	BAT(-)	-	24V [Ground]	GND
PIN ARRANGEMENT (PART NO.)	Unit SIDE	776262-1	10	I	CAN-GND	-	CAN [Ground]	CAN GND
	Wiring SIDE	776273-1	11					
Pin info	Voltage	< 60V	12					
	Current	< 17A	13					
	Wire	0.5 ~ 1.25SQ	14					



1.3 CAN Protocol 통신 프로토콜

1.3.1 Network Specification 네트워크 설정

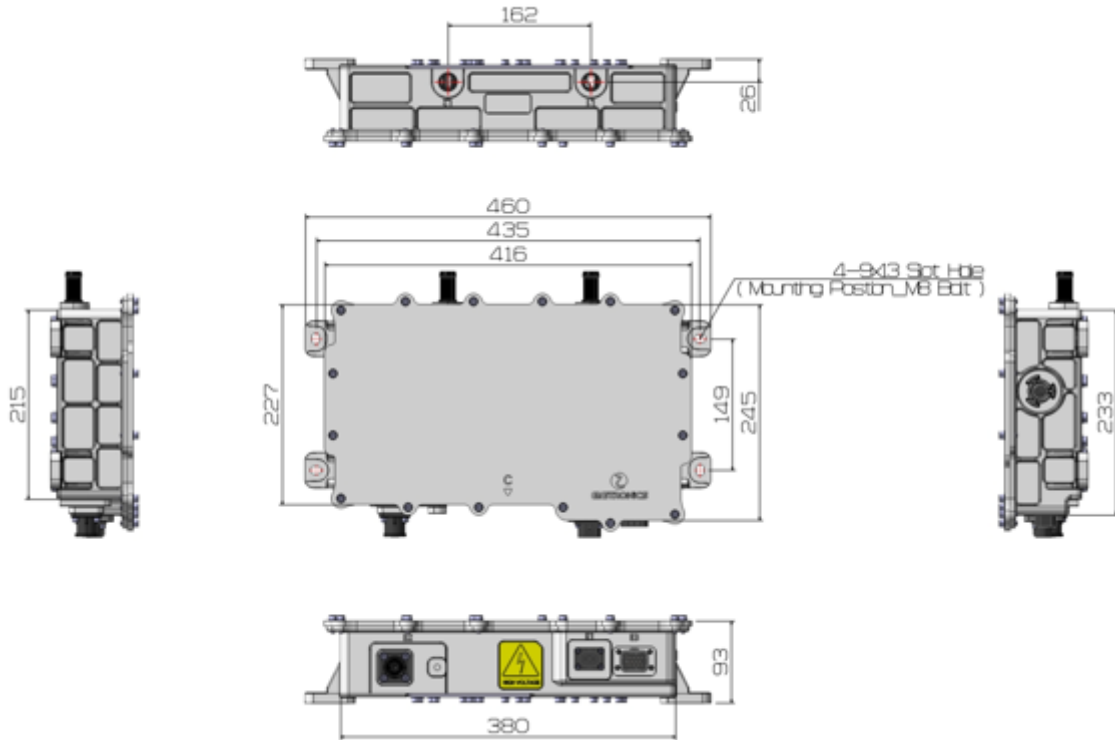
Network Specification		
Layer	Specification	
Physical Layer	Network Type	Bus Type
	Bus Wire Medium	Twisted Pair Wires
	Data Rate	500kbps (2.0B)
	ID type	Extended
	Bit Timing	80%

1.3.2 CAN ID Definition CAN ID 정의

CAN Identifier Definition					
Definition	Cycle Time	CAN ID	Send Type	Sender(ECU)	Receiver(ECU)
DC/DC Convertor Control ID	100	0x18FF31EF	Period	Vehicle Control Unit	DCDC Converter
DC/DC Convertor Status ID	100	0x18FF041A	Period	DCDC Converter	Vehicle Control Unit
DC/DC Convertor Fault ID	100	0x18FF051A	Period	DCDC Converter	Vehicle Control Unit
DC/DC Converter DM1 ID	1000	0x18FECA1A	Cycle	DCDC Converter	Cluster
TPCM	0	0X18ECFF1A	NoMsgSendType	DCDC Converter	Cluster
TPDT	0	0X18EBFF1A	NoMsgSendType	DCDC Converter	Cluster
DCDC UDS Protocol (Send)	0	0X18DAF91A	NoMsgSendType	DCDC Converter	Diagnostic Module
DCDC UDS Protocol (Receive)	0	0X18DA1AF9	NoMsgSendType	Diagnostic Module	DCDC Converter

2. MECHANICAL SPECIFICATION 기구적 사양

2.1 DIMENSION 기구 치수 및 형상



2.2 COOLING NIPPLE SPECIFICATION 냉각수 니플 사양

Vendor : EGTronics

