



# ACU28V3K TECHNICAL INFORMTION

[www.egtroics.co.kr](http://www.egtroics.co.kr)

EGTRONICS CO., LTD  
SUWON CITY, GYUNGGI-DO  
16675 KOREA  
[info@egtronics.co.kr](mailto:info@egtronics.co.kr)



## INDEX

1. GENERAL INFORMATION 일반사항
2. TECHNICAL DATA 기술자료
  - 2.1 DETAIL SPECIFICATION 상세사양
  - 2.2 CONNECTOR DATA 커넥터 자료
  - 2.3 CAN ID
3. MECHANICAL DATA 기구자료
  - 3.1 OUTER DRAWING 외곽형상도
  - 3.2 LAYOUT 배치
4. OTHER INFORMATION 기타사항

## 2.TECHNICAL DATA 기술자료

### 2.1 DETAIL SPECIFICATION 상세사양

POWER	UNIT	STANDARD	REMARK
Power ratings	[ kW ]	3	
Input side voltage range	[ V ]	620(450~750)	
Input side current ratings	[ A ]	5.38(4.5~7.5)	
Output side Voltage range	[ V ]	28(16~29)	
Output side current ratings	[ A ]	107.1	
Control Power	[ V ]	28(16~32)	
Structure(Type)	[ - ]	Uni-Directional	
Efficiency @ 80% Load	[ % ]	Over 96	
Efficiency @ Max Load	[ % ]	Over 95	

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

MECHANICAL	UNIT	STANDARD	REMARK
Weight	[ kg ]	Under 20	
Size(W*D*H) (mm*mm*mm)	[ - ]	350 * 195 * 90	
Vibration class(G)	[ g ]	6	
Protection Class	[ - ]	IP69	

COOLING	UNIT	STANDARD	REMARK
cooling method	[ - ]	Water cooling	
Required water flow rate	[ℓ/min.]	14	
Pressure	[bar]	1 (Max 2)	
coolant Temp.	[ °C ]	50 (30~65)	

CONTROL	UNIT	STANDARD	REMARK
Type of Controller	[ - ]	Digital/Analog	
Command source and type	[ - ]	Voltage command from PCU (via CAN)	
Command recurrence time	[ ms ]	10	
Control period(sampling rate)	[ kHz ]	1	
Control accuracy(steady state)	[ V ]	±0.1V	
Control Bandwidth	[ Hz ]	Over than 1,000	

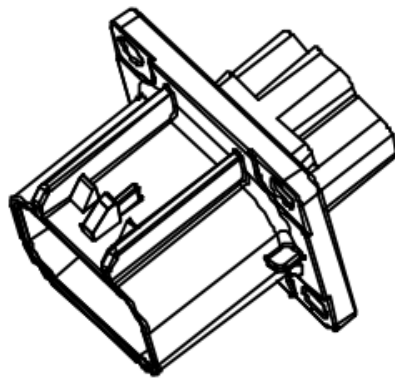
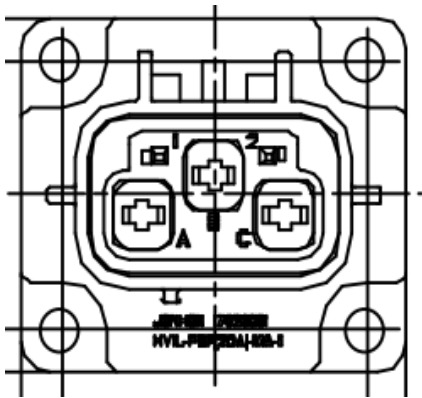
PROTECTION	UNIT	STANDARD	REMARK
Input Under Voltage warning	[ V ]	450 ~ 475	
Input Under Voltage fail	[ V ]	Under 450	
Input Over Voltage warning	[ V ]	733 ~ 750	
Input Over Voltage fail	[ V ]	Over 750	
Output Under Voltage warning	[ V ]	8 ~ 8	
Output Under Voltage fail	[ V ]	Under 8	
Output Over Voltage warning	[ V ]	15 ~ 19	
Output Over Voltage fail	[ V ]	Over 19	
Output Over Current	[ A ]	Over 108	
Peak Current	[ A ]	Over 108	
Short Current	[ A ]	Over 129.6	
Temp Power Derating range	[ °C ]	80 ~ 85	
Temp STOP	[ °C ]	85	
Temp Re-start	[ °C ]	Under 75	

## 2.2 CONNECTOR DATA 커넥터 사양

### 2.2.1 High Voltage INPUT CONNECTOR 입력커넥터

Vendor : JONHON

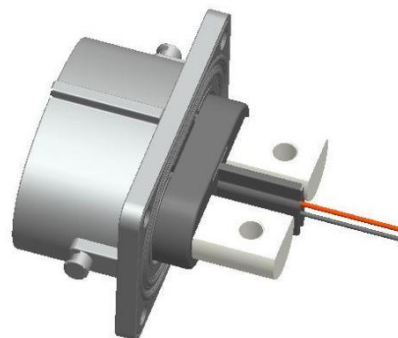
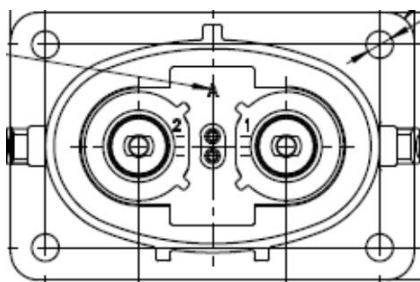
Model No. HV02-F2P(20A)-MA-1 (Compatible Part no HV02-M2S(20A)-M00A-1)



### 2.2.2 Low Voltage OUTPUT CONNECTOR 출력커넥터

Vendor : JONHON

Model No. GYHF-2-250Z-A (Compatible Part no GYHF-2-250T-A)



### 2.2.3 COMMUNICATION CONNECTOR 통신커넥터

Vendor : TYCO

Model No. 1-776276-1 (Compatible Part no 776286-1)



## CAN ID

Transmitter	Message Name	ID	Transmission Type	Period (ms)	Timeout (ms)	Receiver	Frame(s) include TP ctrl	Bit Time (us)	byte	Start Position	Length (bit)	Parameter Name	Description	Factor	Offset	Physical Value		unit	Initial Physical Value	Initial Raw Data
																Min	Max			
VCU	VCU_T o_LDC	0x18FF051A	Period	1000	10000	LDC	1	2	1	0	1	LDC_Out_Enable	0: Not 1: Enable	1	0	0	1	Flag	0	0
										1	1	Input_Volt_Supply	0: Disconnection 1: Connection	1	0	0	1	Flag	0	0
										2	1	VCU_Ready	0: Not Ready 1: Ready	1	0	0	1	Flag	0	0
										3	1	LDC_Command_Enable	0: Not 1: Enable	1	0	0	1	Flag	0	0
										8	1	Communication_TimeOut	0: Normal 1: Error	1	0	0	1	Flag	0	0
										9	2	Data_Value_Key_Status	00 : Key "Off" 01 : Key "On" 10 : Short 11: Wire Broken	1	0	0	3	Flag	0	0
										11	1	Request_Reset	0: No Reset 1: Reset	1	0	0	1	Flag	0	0
										12	1	Emergency_Stop_Command	0: Off 1: On	1	0	0	1	Flag	0	0
LDC	LDC Status	0x18FF05A1	Period	1000	10000	VCU	1	2	0~1	0	16	LDC_input_Voltage_value	DCLink Voltage	1	0	0	1000	V	0	0
									2	16	8	LDC_Output_Voltage	Vehicle Battery	0.25	0	0	31.875	V	0	0
									3~4	24	16	LDC_input_Current_value	Curent Calculate	0.1	0	0	125	A	0	0
									5~6	40	8	LDC_Output_Current_Value	Output Current Sence	1	0	0	250	A	0	0
									7	48	8	LDC_Coolant_temp	Coolant Temp	1	-40	-40	210	°C	0	0
									8	56	8	LDC_Heatsink_Temp	Heatsink Temp	1	-40	-40	210	°C	0	0
LDC	LDC_F ault	0x18FF05A2	Period	1000	10000	VCU	1	2	1	0	1	LDC_EN_FeedBack	0: Not 1: Enable	1	0	0	1	Flag	0	0
										1	2	Key_status_feedback	00 : Key "Off" 01 : Key "On" 10 : Short 11: Wire Broken	1	0	0	3	Flag	0	0
										3	2	LDC_System_RUN	00 : Disable 01 : Enable 10 : Not Available 11: Not Available	1	0	0	3	Flag	0	0
										5	1	LDC_System_RDY	0: Not 1: Enable	1	0	0	1	Flag	0	0
										6	1	LDC_Fuse_State	0: Not 1: Enable	1	0	0	1	Flag	0	0

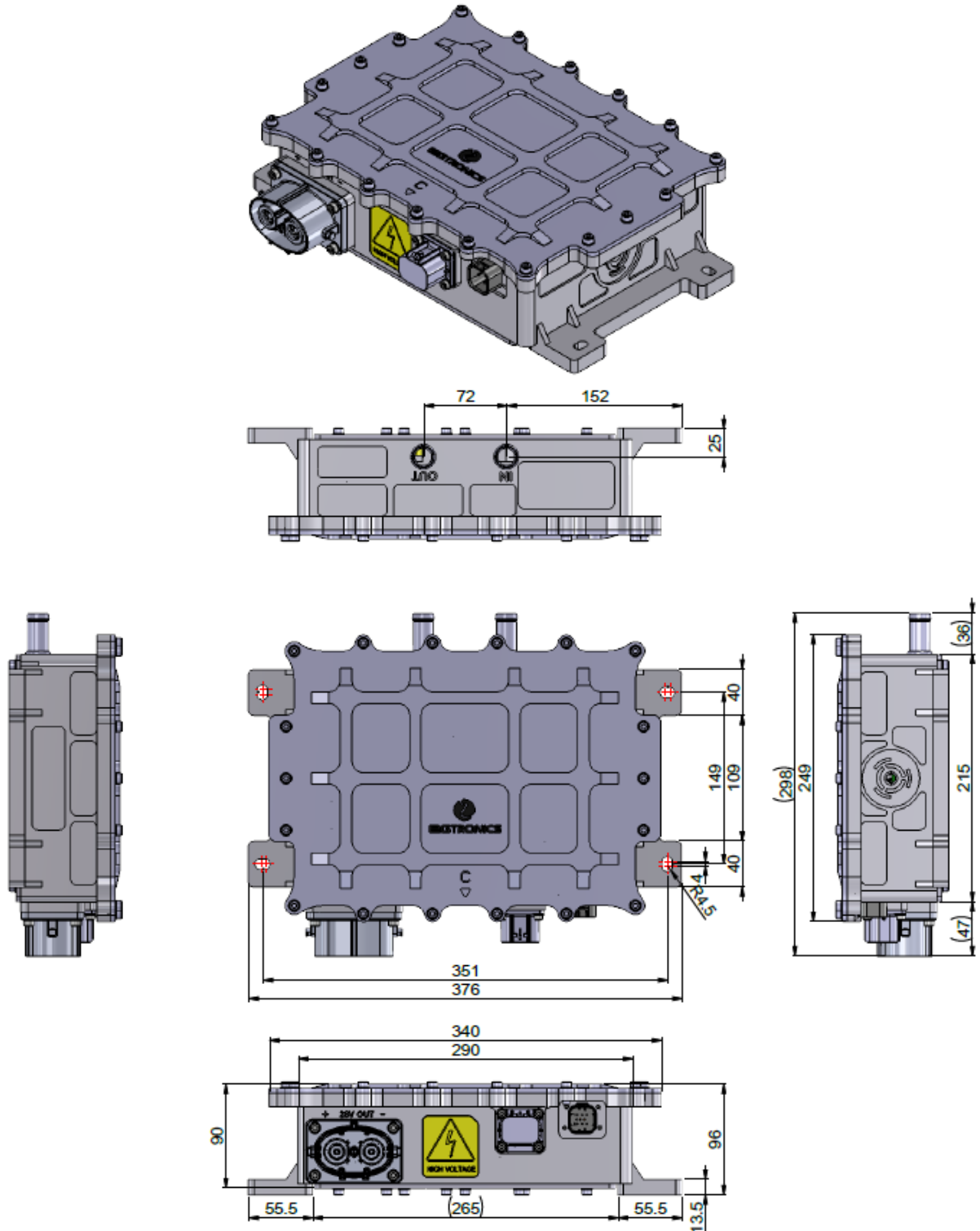


									7	1	CAN_Act_Respon	0: Not 1: Enable	1	0	0	1	Flag	0	0	
								2	8	1	Input_OV_W_Fault	0: Not Fault 1: Fault	1	0	0	1	Flag	0	0	
									9	1	Input_UV_W_Fault	0: Not Fault 1: Fault	1	0	0	1	Flag	0	0	
									10	1	Ouput_OV_W_Fault	0: Not Fault 1: Fault	1	0	0	1	Flag	0	0	
									11	1	Ouput_UV_W_Fault	0: Not Fault 1: Fault	1	0	0	1	Flag	0	0	
									12	1	Ouput_OT_W_Fault	0: Not Fault 1: Fault	1	0	0	1	Flag	0	0	
									13	1	LDC Run Warring	0: Not Fault 1: Fault	1	0	0	1	Flag	0	0	
								3	16	1	LDC Run Fail	0: Not Fault 1: Fault	1	0	0	1	Flag	0	0	
									17	1	CAN Message Error	0: Not Fault 1: Fault	1	0	0	1	Flag	0	0	
									18	1	SR Switch Check	0: Not Fault 1: Fault	1	0	0	1	Flag	0	0	
									19	1	High Voltage Connect Error	0: Not Fault 1: Fault	1	0	0	1	Flag	0	0	
									20	1	Low Voltage Connect Error	0: Not Fault 1: Fault	1	0	0	1	Flag	0	0	
									21	1	CAN Value Error	0: Not Fault 1: Fault	1	0	0	1	Flag	0	0	
								4	24	1	Input_OV_Fault	0: Not Fault 1: Fault	1	0	0	1	Flag	0	0	
									25	1	Input_UV_Fault	0: Not Fault 1: Fault	1	0	0	1	Flag	0	0	
									26	1	Ouput_OV_Fault	0: Not Fault 1: Fault	1	0	0	1	Flag	0	0	
									27	1	Ouput_UV_Fault	0: Not Fault 1: Fault	1	0	0	1	Flag	0	0	
									28	1	Ouput_OC_Fault	0: Not Fault 1: Fault	1	0	0	1	Flag	0	0	
									29	1	Temp_OT_Fault	0: Not Fault 1: Fault	1	0	0	1	Flag	0	0	
									30	1	Temp_UT_Fault	0: Not Fault 1: Fault	1	0	0	1	Flag	0	0	
								31	1	Out_Short_Fault	0: Not Fault 1: Fault	1	0	0	1	Flag	0	0		
LDC	LDC_Manu	0x18DAF5A1	Period	5000	50000	VCU	1	2	1	0	8	SW_Ver	ex) SW Version : 1.1 표기 : 0x11					value	0	0
									2	8	8	HW_Ver	ex) HW Version :1.1 표기 : 0x11					value	0	0
									3	16	8	출력 전압	ex) 출력 전압 : 24V 표기 : 0x18					value	0	0
									4	20	4	용량_H	ex) 용량 : 5K 표기 : 0x5					value	0	0
										24	4	용량_L	ex) 용량 : .8K 표기 : 0x8					value	0	0
									5	32	8	Make 날짜 Year	ex) 날짜 : 17 표기 : 0x11					value	0	0
									6	40	8	Make 날짜 Month	ex) 날짜 : 10 표기 : 0x0A					value	0	0
									7	48	8	Make 날짜 Day	ex) 날짜 : 15 표기 : 0x0F					value	0	0

									8	56	8	그달의 만들어진 번호	ex) Make num : 100 표기 : 0x64					value	0	0
--	--	--	--	--	--	--	--	--	---	----	---	-------------	------------------------------------	--	--	--	--	-------	---	---

### 3. MECHANICAL DATA 기구물 자료

#### 3.1 OUTER DRAWING 외곽도면



### 3.2 LAYOUT 배치

