



AMV20K Aux Inverter

TECHNICAL INFORMATION

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2.TECHNICAL DATA 기술자료

2.1 DETAIL SPECIFICATION 상세사양

| POWER | UNIT | STANDARD | REMARK |
|--------------------------|---------|------------------------|--------|
| Rated DC link Voltage | [Vdc] | 720 | TBD |
| DC link Voltage range | [Vdc] | 538 ~ 828 | TBD |
| Output Voltage | [Vac] | 230 (60Hz) | TBD |
| Output Current (Con/Max) | [A] | 70 / 150 (5min) @ 25°C | TBD |
| Continuous Power | [kW] | 10 | |
| Peak Power | [kW] | 20 | |
| Switching Frequency | [Hz] | 8,000 | |
| Control Method | | V/F (Speed Control) | |

| 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] | | TBD |
| Size(W*D*H) (mm*mm*mm) | [-] | 300 * 400 * 170 | TBD |
| Protection Class | [-] | IP69K | |

| COOLING | UNIT | STANDARD | REMARK |
|--------------------------|----------|------------------------|--------|
| cooling method | [-] | Water cooling | |
| Required water flow rate | [ℓ/min.] | 12 | |
| Pressure | [bar] | 1 (Max 2) | |
| coolant Temp. | [°C] | 50 (30~65) | |
| coolant material | [-] | Water 50% / Glycol 50% | |
| diameter of Nipple | [Φ] | 19 | TBD |

| CONTROL | UNIT | STANDARD | REMARK |
|-------------------------------|---------|-----------------------------------|--------|
| Type of Controller | [-] | Digital | |
| Command source and type | [-] | RPM command from PCU (via CAN) | |
| Command recurrence time | [ms] | 10 | |
| Control period(sampling rate) | [kHz] | 1 | |
| Control Bandwidth | [Hz] | Over than 1,000 | |

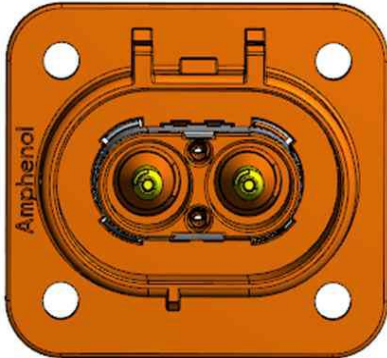
| PROTECTION | UNIT | STANDARD | REMARK |
|-----------------------------|--------|-----------|--------|
| Input Under Voltage warning | [V] | - | TBD |
| Input Under Voltage fail | [V] | Under 520 | TBD |
| Input Over Voltage warning | [V] | - | TBD |
| Input Over Voltage fail | [V] | Over 830 | TBD |
| Output Over Current | [A] | | |
| 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 INPUT CONNECTOR 입력커넥터

Vendor : Amphenol

Model No. cus-738025-2p-F(Compatible Part no cus-738026-2s-E)



2.2.2 OUTPUT CONNECTOR 출력커넥터

Vendor : YULA

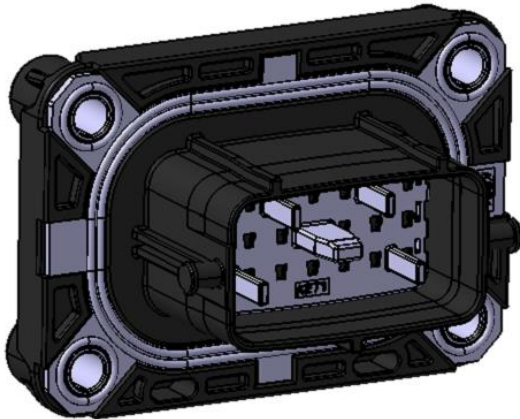
Model No. 210061 (Compatible Part no 220002)



2.2.3 COMMUNICATION CONNECTOR 통신커넥터

Vendor : KET

Model No. MG655645 (Compatible Part no MG645649)



CAN ID

Standard protocol J1939

- CAN Message -

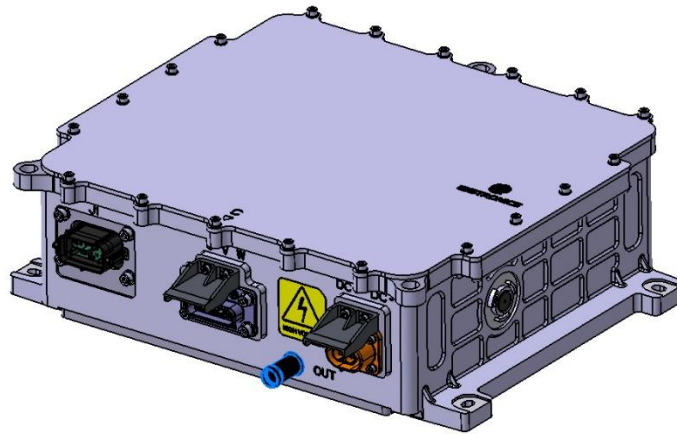
| ID | NAME | Cycle | SIGNAL | Description | Start bit | Bit Length |
|------------|--------|-------|-----------------------|--|-----------|------------|
| 0x18FF10EF | VcuInv | 100ms | InvB Enable | 0: Not 1: Enable | 1.1 | 1 |
| | | | Override Control Mode | 0: Override Disabled 1: Speed Control | 1.2 | 1 |
| | | | Speed Request | RPM Command | 2.1 | 16 |
| | | | Torque Request | Torque Command | 4.1 | 16 |

| ID | NAME | Cycle | SIGNAL | Description | Start bit | Bit Length |
|------------|--------|-------|---|--|-----------|------------|
| 0x18FF01F6 | AxuInv | 100ms | MotInvRdy (Motor Inverter Ready) | 0/1 (Not Ready/Ready) | 1.1 | 1 |
| | | | MotInv_Mode_Status (Motor Controllable) | 0/1 (Stop /Run) | 1.2 | 1 |
| | | | Mot_APU_Stats | APU Control Stats (0: Open, 1: Close) | 1.3 | 1 |
| | | | Mot_CtrMod (Motor Control Mode) | Motor Control Mode (0: None, 1: Speed mode) | 1.4 | 1 |
| | | | Motinv_Fault | 0/1 (Not Fault/ Fault) | 1.5 | 1 |
| | | | reserved | reserved | 1.6 | |
| | | | MotInv_Temp_C (Motor Inverter temperature) | -40~215[°C] 8bits(1.0°C) | 2.1 | 8 |
| | | | Inv_Battery_V (LowBattery) | '8.0 ~ 36.0[V] | 3.1 | 8 |

| | | | | | | |
|--|--|--|---|--------------------------------|-----|----|
| | | | Voltage[Control]) | 8bits(0.2V) | | |
| | | | Inv_Power_kW (Motor Inverter Power) | '0 ~ 5 [kW] 8bits(0.1kW) | 4.1 | 8 |
| | | | Mot_ActRotSpd_rpm (Actual motor rotation speed) | 0~10000[rpm] 16bit(1.0rpm) | 5.1 | 12 |
| | | | Inv_lptVol_V (Capacitor Voltage [Motor Inverter side]) | 0.0 ~1000.0[V] 16bits(0.1V) | 6.5 | 12 |
| | | | Comp_Temp_C (Air Compressor temperature) | '-50~200[°C] 8bits(1.0°C) | 8.1 | 8 |

3. MECHANICAL DATA 기구물 자료

3.1 OUTER DRAWING 외곽도면



3.2 LAYOUT 배치

