



Analysis Comparison Report of iDrive and GD10(0.75kW)

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Background and Objective

During the process we promote GD10 series mini inverter to IMO, we encounter with Teco Idrive, in order to replace iDrive comprehensively, we made these comparison tables to analyze the difference between them, wish this report be a guidance of our GD10's market positioning.

Samples



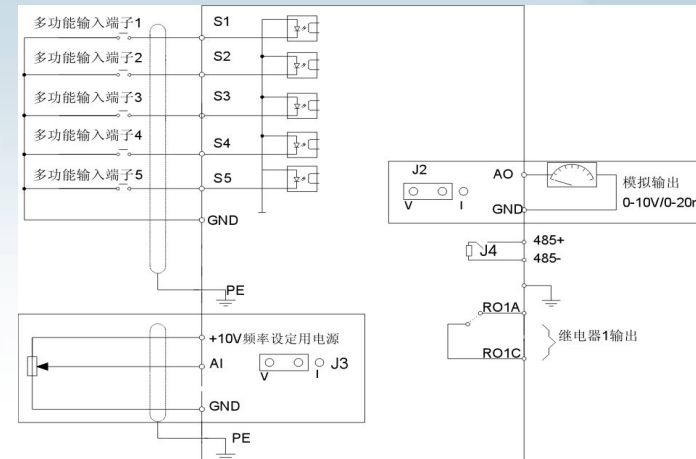
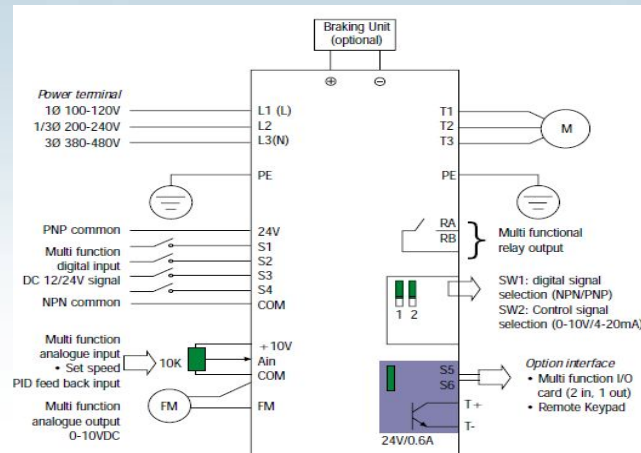
Model	EDX-075-21-E	GD10-0R7G-S2
Rated power	1AC 220V	1AC 220V
Rated current	4.2A	4.2A

Keyboard and display



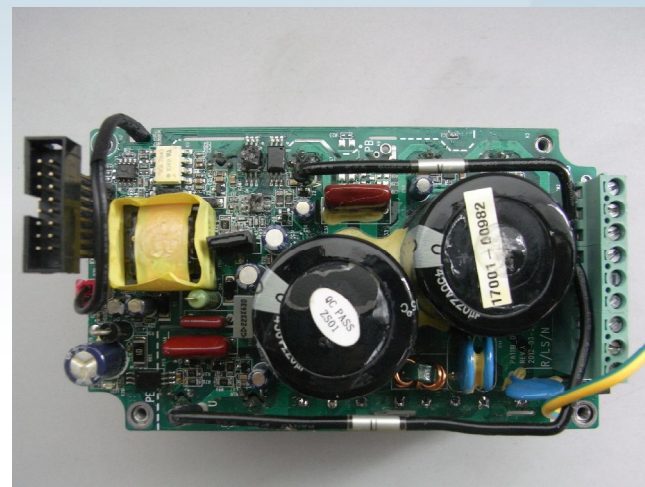
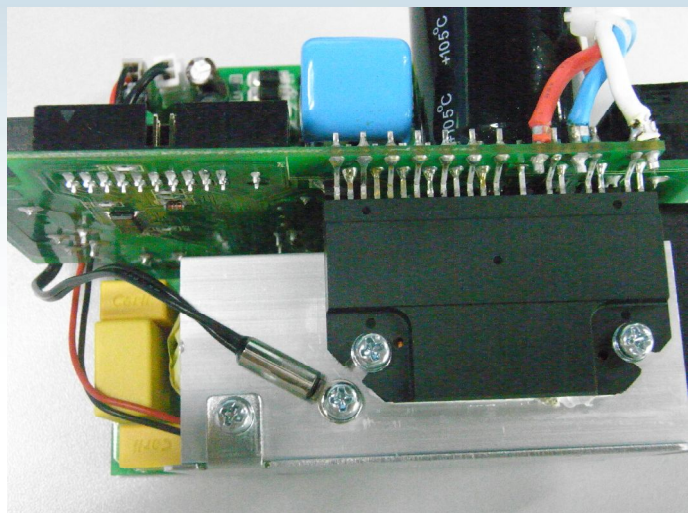
Content	EDX-075-21-E	GD10-0R7G-S2
Buttons	5	8
Detachable keyboard	Combined keypad (need optional keyboard and 485 COM port)	independent keyboard (can be detached with standard network cable)
LED	3	5
Indicator light	1 (on control board)	4(RUN/TUNE,FWD/REV,LOCAL/REMOT,TRIP)
Potentiometer	Standard configuration	Standard configuration

I/O port



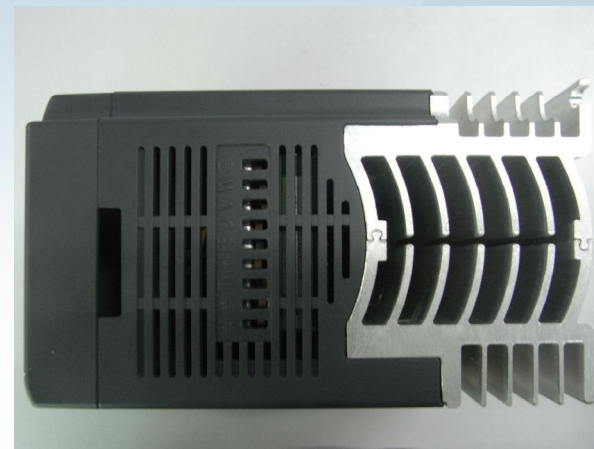
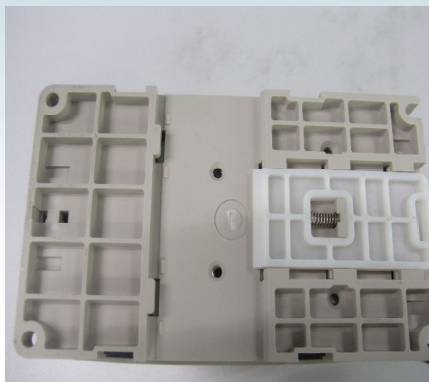
Content	EDX-075-21-E	GD10-0R7G-S2
NPN/PNP	Changeable by dip switch	NPN only
Digital port	4 (can be expanded to 6 with expansion cards and can not be used with 485 COM port at the same time)	5 (1 can be set as input or output)
Analog port	0	1 analog output
485 COM	Optional configuration (need 24V power to communication card)	Standard configuration

High voltage circuit



Content	EDX-075-21-E	GD10-0R7G-S2
Bridge Rectifiers	25A, 1500V	25A, 1000V
IGBT	IKCS17F60F2A	STGP14NC60KD
capacitance	330uF/450V*1	220uF/450V*2
Braking	no	optional

Overall application

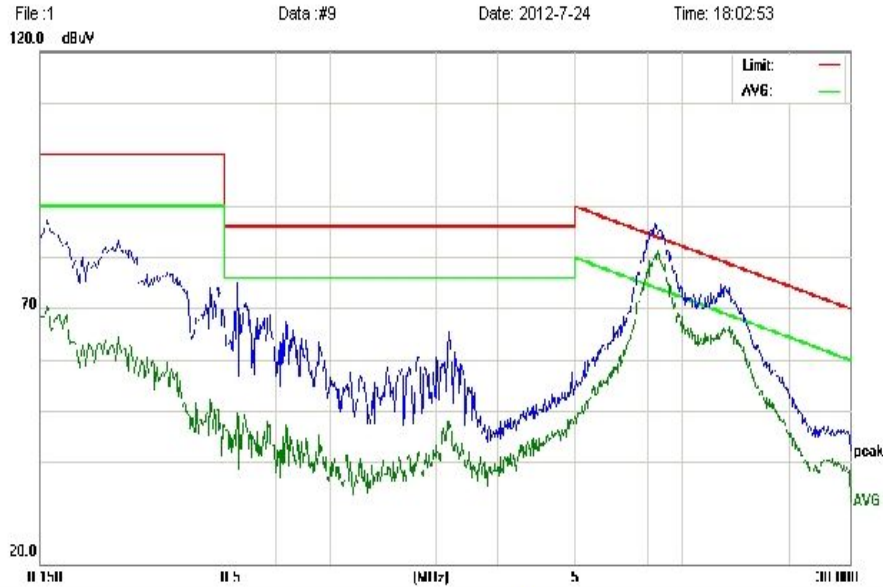


Content	EDX-075-21-E	GD10-0R7G-S2
User port	2 PE port	1 PE port
IP grade	Literally IP20, the same as GD10 in fact	Literally IP00
Cooling method	Forced cooling by fan (with restrictions of environment and service life)	Natural cooling
Installation	Floor installation and guide rail type installation	Floor installation

EMC



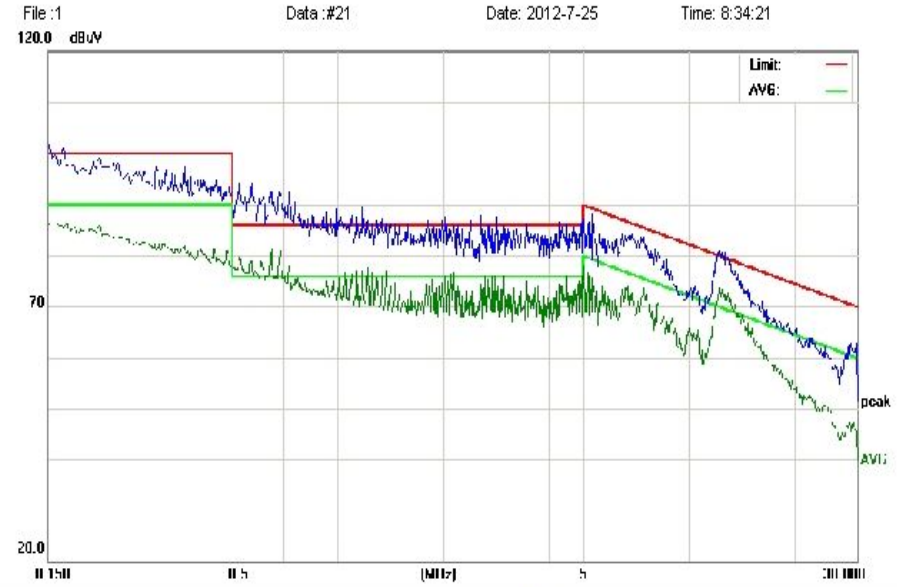
Conducted Emission Measurement



Site Chamber #1
 Limit: CE:61800-3(C3 <100A)_QP
 EUT: I M O
 M/N: 0.75KW
 Mode: 0.75KW
 Note: SIEMENS 4kw 电机空载 电机线长1.2m

Phase: **N** Temperature: 24
 Power: AC 230V/50Hz Humidity: 55 %

Conducted Emission Measurement

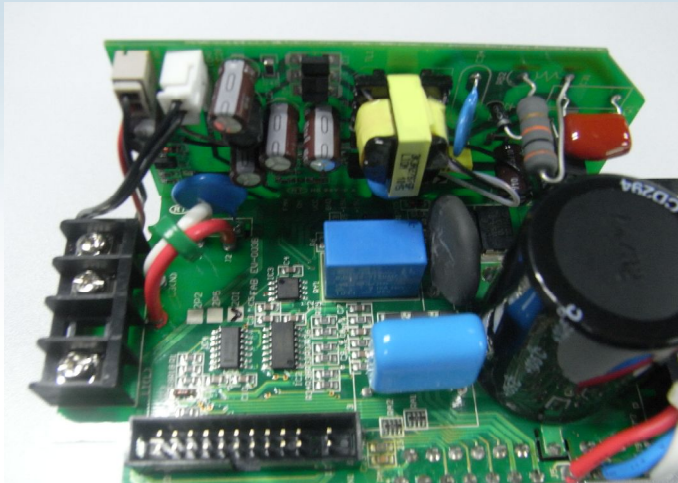


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 Note: SIEMENS 4KW电机空载 电机线长1.2m

Phase: **L1** Temperature: 24
 Power: AC 230V/50Hz Humidity: 55 %

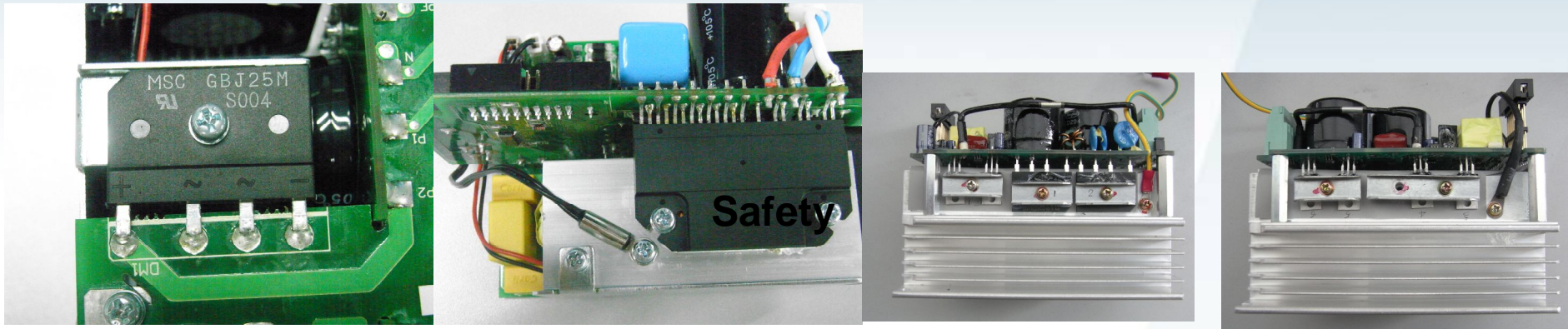
Content	EDX-075-21-E	GD10-0R7G-S2
EMC	Built-in C3 filter	C3 degree with external magnet ring
leakage current	Big leakage current with built-in filter	Little leakage current without differential mode capacitance

Safety



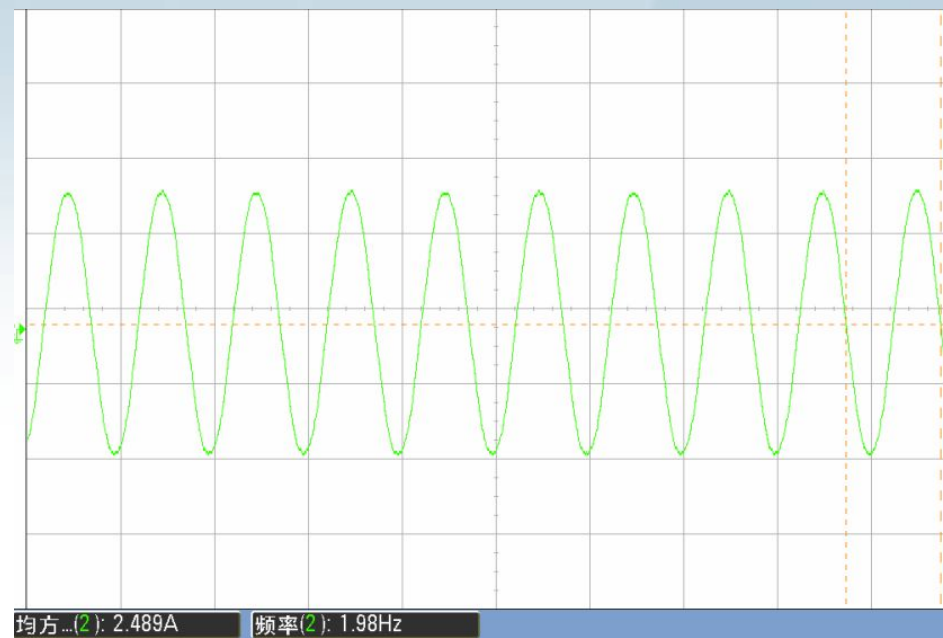
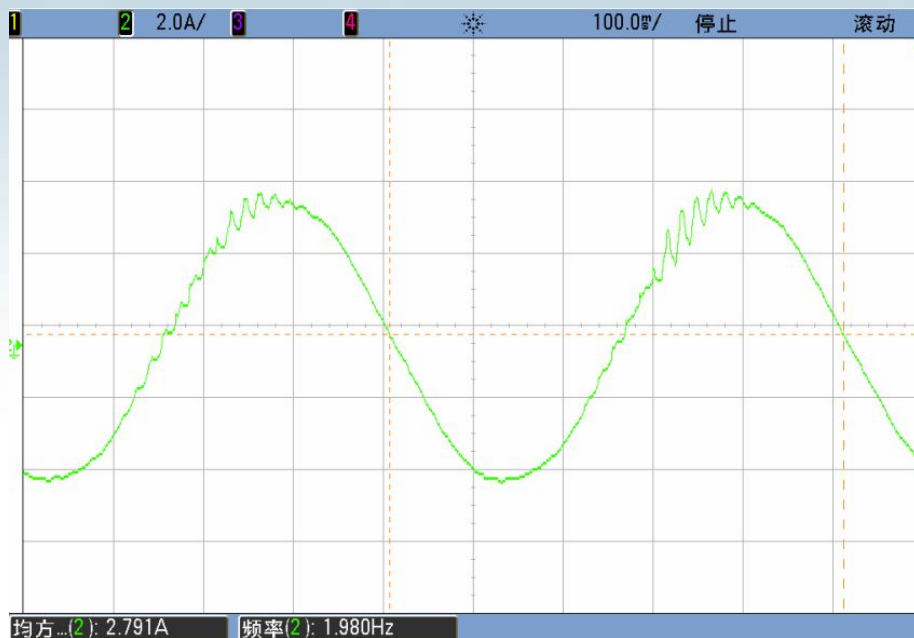
Content	EDX-075-21-E	GD10-0R7G-S2
Safety Define	Over voltage class :2 ,built-in	Over voltage class :2 ,built-in
Inside distance	Somewhere can not meet requirement	Meet IEC61800-5-1 standard
High voltage Define	Risk for user (All the user port are of high voltage and with basic isolation)	No restriction for user (All the user port are of low voltage and with strong isolation)

Overload



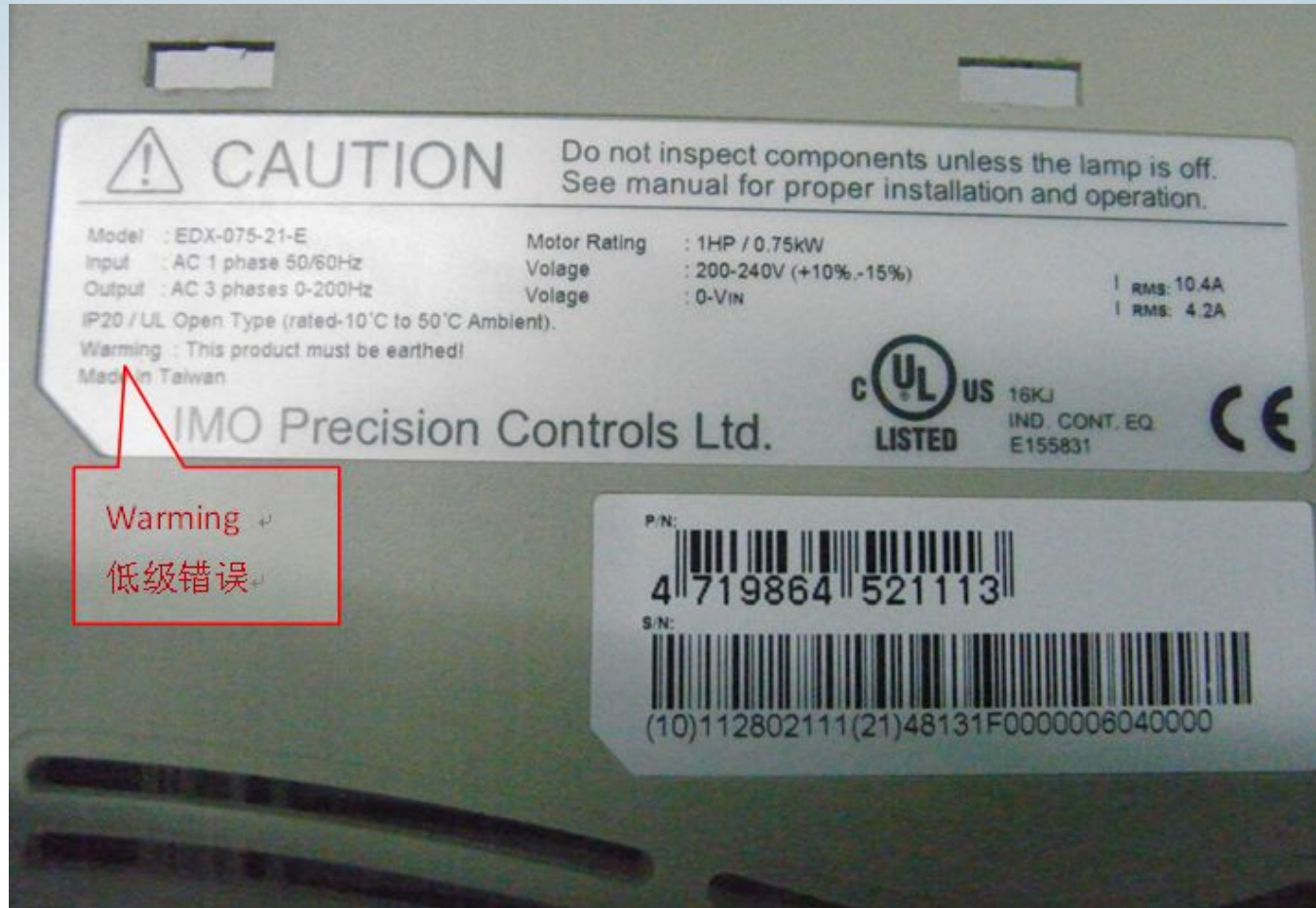
Content	EDX-075-21-E	GD10-0R7G-S2
Overload capability	20s for 4.2A then alarm	normal running for 4.2A , 20s for 1.5 times of rated current
Temperature rising	Can not meet normal running for 4.2A , temperature rising too high	normal running for 4.2A, temperature rising normal of all components

Running performance



Content	EDX-075-21-E	GD10-0R7G-S2
Slip compensation	Full load initiating with 4Hz	Full load initiating with 1Hz
Without slip compensation	Full load initiating with 8Hz	Full load initiating with 4Hz
Waveform of current	bad	good

Others



“Warning” on nameplate misspelled to “Warming”

Summary

- 1、 EXD-075-21 can not normal running with full load, GD10-0R7G-S2 can.
- 2、 Temperature rising of EXD-075-21 is too high under 4.2A (3.9A).
- 3、 After power-on, EXD-075-21 is unsafe for users.
- 4、 Periphery configures of EXD-075-21 is less than GD10-0R7G-S2's.
- 5、 EXD-075-21 can not fulfill braking function.
- 6、 EXD-075-21's Capacitor of DC bus is less than GD10-0R7G-S2's.
- 7、 Waveform of current of EXD-075-21 is worse than GD10-0R7G-S2's.
- 8、 EXD-075-21 have restrictions of using environment and service life because of its fan.
- 9、 GD10-0R7G-S2's can reach to C3 degree with external magnet ring.



Thank you!