

EM730

High Performance Compact Inverter

April 12th, 2021

一、EM730

A General Inverter

EM730 High Performance Compact Inverter

SINEE

EM730 High Performance Compact Inverter

- A general inverter applied to many industries
- **Speed open-loop control** of industrial machinery and wind, water pump energy-saving occasions

Product Specification

- 220V single/three phase: 0.4kW-2.2kW
- 380V: 0.75kW-160kW

EM730 Family

- EM730 series: drive asynchronous motor
- **EM730 permanent magnet synchronous non-standard**



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Appearance of EM730 inverter

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- The whole series inverters are in a unified style



Appearance of EM730 inverter

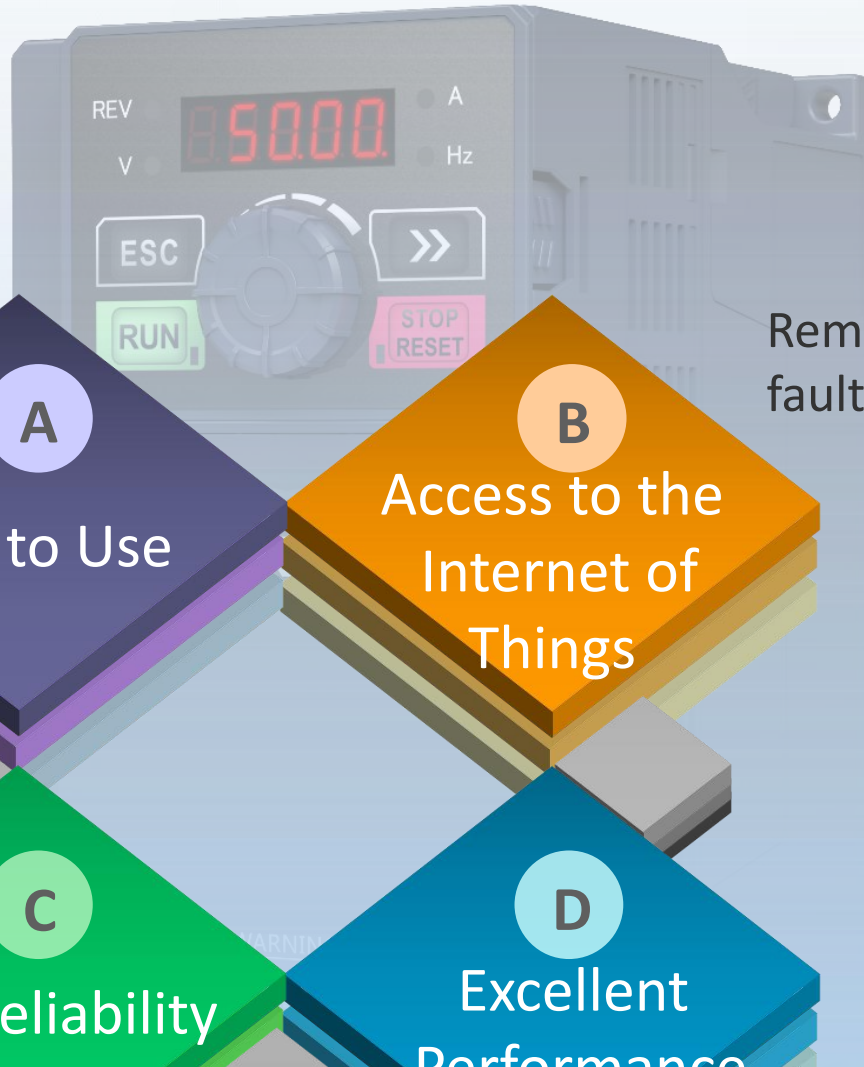
SINEE

- The whole series inverters are in a unified style



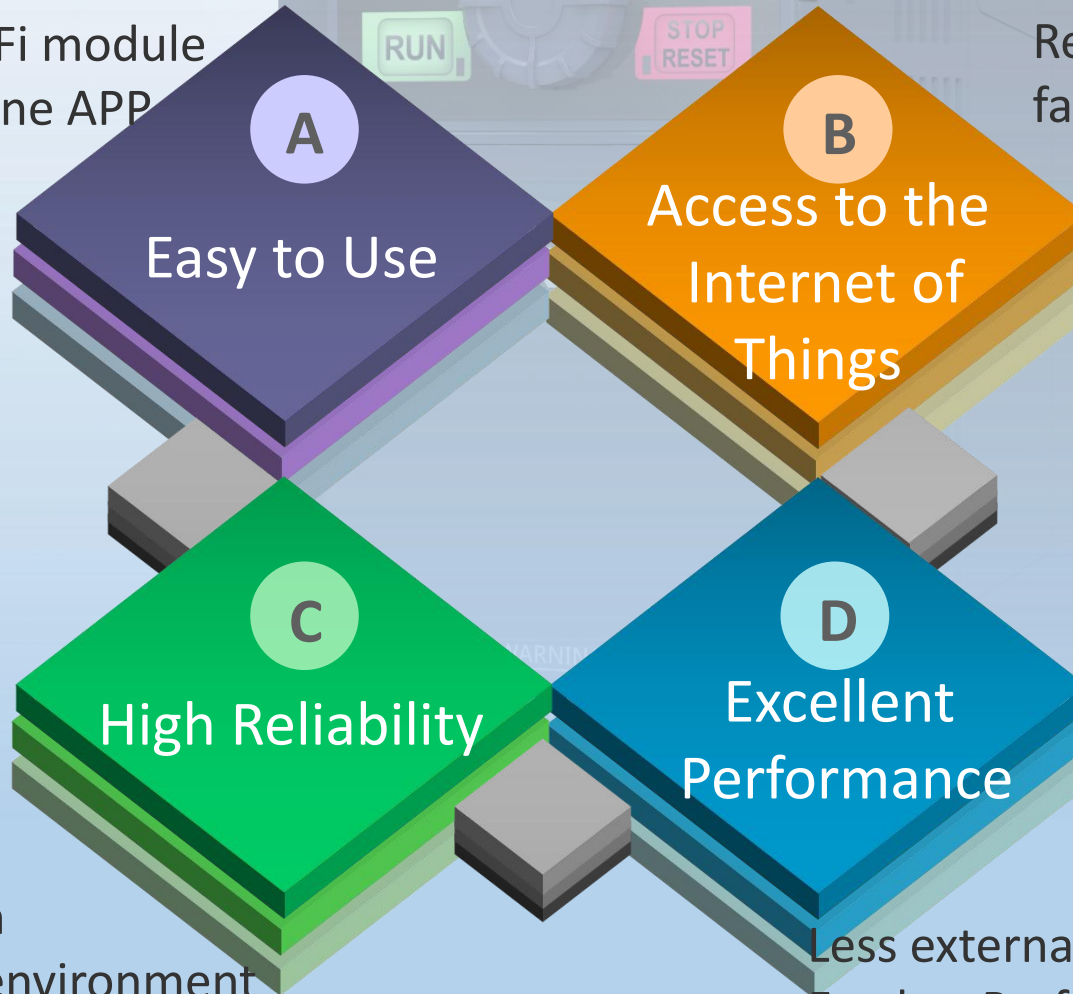
二、EM730

Product Features



Support Wi-Fi module
Support Phone APP

Remote monitoring
fault diagnosis



A
Easy to Use

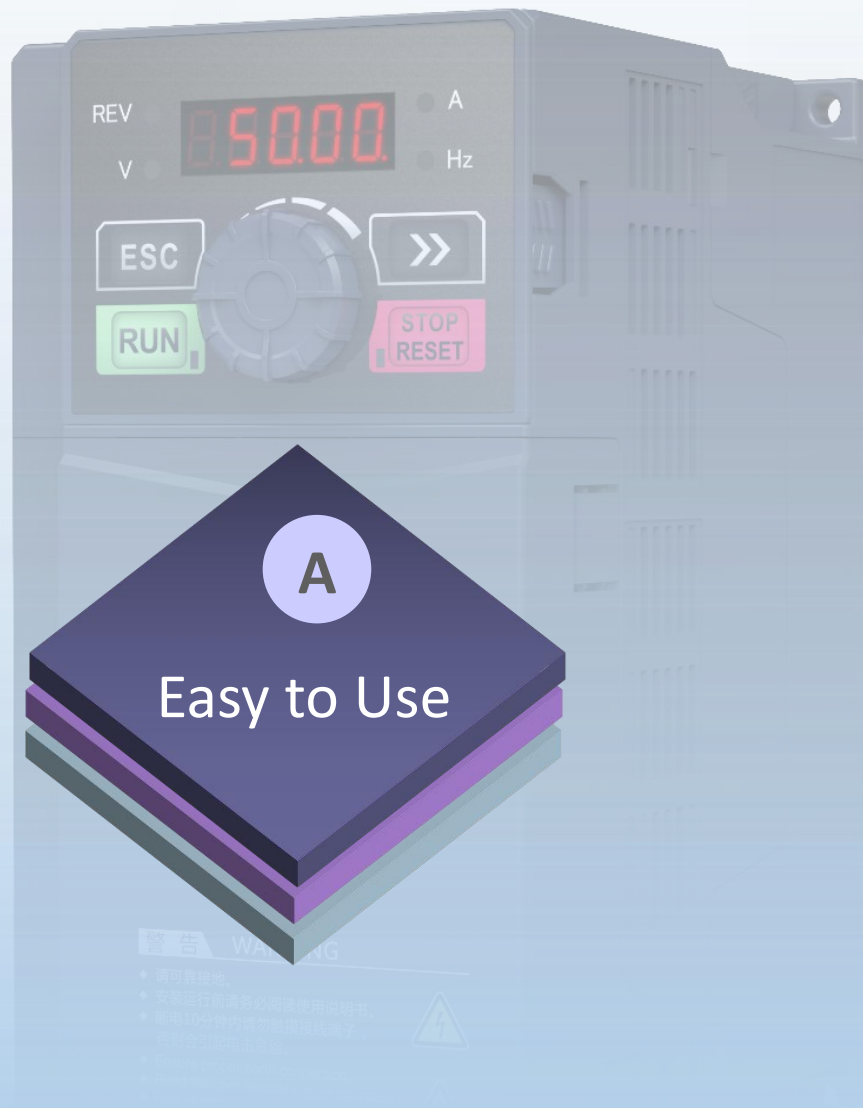
B
Access to the
Internet of
Things

C
High Reliability

D
Excellent
Performance

Multi-protection
Adapt to harsh environment

Less external interference
Further Performance optimization



Support Wi-Fi Module and Easy to Debug SINEE

■ Support Wi-Fi module and mobile Phone App

- With the setup wizard, quickly set the necessary parameters
- Quickly browse and set all function codes
- The mobile phone controls the start and stop of the VFD
- Monitor multiple health parameters simultaneously
- Users can customize the application macro,
- Support parameter upload and download



- Support PC background software and can be connected by Wi-Fi module or series port access.
- PC background software also supports parameter setting and operation control functions

Scenes of Wi-Fi module usage



Scene1: Quickly parameter setting

Through the Wi-Fi module, the mobile phone becomes the upper computer of the VFD, which is convenient for parameter setting.

Scene2: Operation and debugging

Through the Wi-Fi module, the mobile phone can control the operation of the VFD and monitor the operation status at the same time.

Scene3: Custom application macros

With the Wi-Fi module, customers no longer need to preset factory values through SINEE. Customers can customize the application of macros and achieve fast parameter copy.

Scene4: Multi-machine simple operation control and monitoring

By configuring Wi-Fi module for each VFD, operation control and status monitoring of no more than 8 VFDs can be realized

It needs to support Wi-Fi module version 2.0 for external installation

Scene5: Remote monitoring via the Internet of Things

Through the router and Wi-Fi module, the VFD can be connected to the Internet/mobile Internet

For Scene 1 to Scene 4, please refer to the application video released by SINEE

Mobile Phone App can be used as offline function sheet

SINEE

■ EM730 menu fault countermeasures of Sineedrive App.

功能码监控

连接中断 00.00

全部

F00 基本功能参数组

F01 电机1参数组

F02 输入端子功能组

F03 输出端子功能组

F04 启停控制参数组

F05 V/F 控制参数组

F06 矢量控制参数组

F07 保护功能设置组

F08 多段速和简易 PLC

F09 PID 功能组

F10 通讯功能组

F11 用户自选参数组

F12 键盘与显示功能组

功能码

关注的功能码

I/O监控

故障信息

功能码监控

连接中断 00.00

全部

F00 基本功能参数组

F00.00 保留

F00.01 电机1驱动控制方式

F00.02 命令源选择

F00.03 端子控制方式选择

F00.04 主频率源A选择

F00.05 辅助频率源B选择

F00.06 频率源选择

F00.07 数字频率给定

F00.08 主辅运算选择

F00.09 主辅运算时辅频率源B基准选择

F00.10 主频率源增益

F00.11 辅助频率源增益

功能码

关注的功能码

I/O监控

故障信息

F00.03

连接中断 00.00

功能码名称 端子控制方式选择

当前值 WiFi模块未连接

修改

最小值 0

最大值 3

默认值 0

参数说明

0: 端子RUN运行, F/R正转/反转
1: 端子RUN正转, F/R反转
2: 端子RUN正转, Xi停车, F/R反转
3: 端子RUN运行, Xi停车, F/R正转/反转

故障监控

连接中断 00.00

最近一次故障类型 E00

故障时输出频率 0.0 Hz

故障时输出电流 0.0 A

故障时母线电压 0.0 V

故障时的工作状态 0.0

故障时的工作时间 0.0 h

E06 稳态欠压

故障类型 稳态欠压

故障原因
1. 输入电源缺相。
2. 输入电源接线端子松动。
3. 输入电源电压降低太多。
4. 输入电源上的开关触点老化。

故障对策
1. 检查输入电源及接线。
2. 旋紧输入接线端子螺钉。
3. 检查空气开关、接触器。

E07 输入缺相

E08 输出缺相

One-key Shuttle, Precise control of motor speed **SINEE**

- **One-key Shuttle: Digital potentiometer supports fast and precise speed regulation**

- **Quick**

Adjustable to target frequency no more than three turns

- **Precise**

- 0.1Hz precision adjustment

- 0.01Hz accuracy can also be adjusted by the shift key

- **Using the digital potentiometer to browse/modify the function code is faster than up and down keys**

- **Digital potentiometer life is at least three times more than analog potentiometer**



■ New functions of EM730:

- **Rewind and unroll application macros** - integrated EM500 Functions
- **Support up to 3000Hz high frequency operation** -- high speed spindle
- **Sleep wake-up function** - single pump water supply
- **Analog input -10V~10V application**
- **Analog input/output, voltage/current switching**
- **Added function code options + jumpers without custom setting bias and gain**
- **Support input/output terminal NPN/PNP connection**
 - Japanese PLC is NPN; European PLC is PNP
- **It is different from the existing PLC terminal**
- **High speed pulse input function** - high speed pulse for speed set
- **The maximum input for X5 is 100kHz**

■ New functions of EM730:

- The function of acceleration/deceleration time relative to the currently set frequency
- Power ON display *P. -on*, power OFF display *P. -off*
- Power loss during operation of E06 will be recorded in fault record
- Fault-protected warning function - prompt manual/automatic intervention prior to failure
 - Inverter overload, overheating, motor overload alarm, ALEXX display, FAULT light flashing, Y1
- Power supply voltage selection function (F00.35 380V, 440V) -- overseas 440-460V
- Low carrier frequency noise suppression function - when customers are sensitive to carrier frequency noise + interference with high carrier frequency
 - At lower carrier frequency, the noise of carrier frequency can be significantly reduced

*Visually displays
the amount of electricity and electricity saved*

SINEE

- It can calculate the power saving under the same working conditions when the power frequency is applied.
- The unit price of electricity bill (F15.68) with the setting can directly show the saving of electricity bill
- Record power more accurately: within 5%



F18 group energy saving display

Powerful functions of EM730

SINEE

■ New functions of EM730:

Support without keyboard, through communication or terminal control operation

- Power on/running indicator and failure indicator
- Power/Run: Slow flicker on Power/ Green light is always on during operation/Slow flicker fast
- The red light is always on/alarm state the red light blinks slowly/the light goes off when there is no Fault



Easy to use

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- The 380V frequency converter is connected to the 220V single-phase power supply, which can be powered on to debug the parameters
- The sequence and meaning of EM730 function codes are the same as EM500 and A90 series

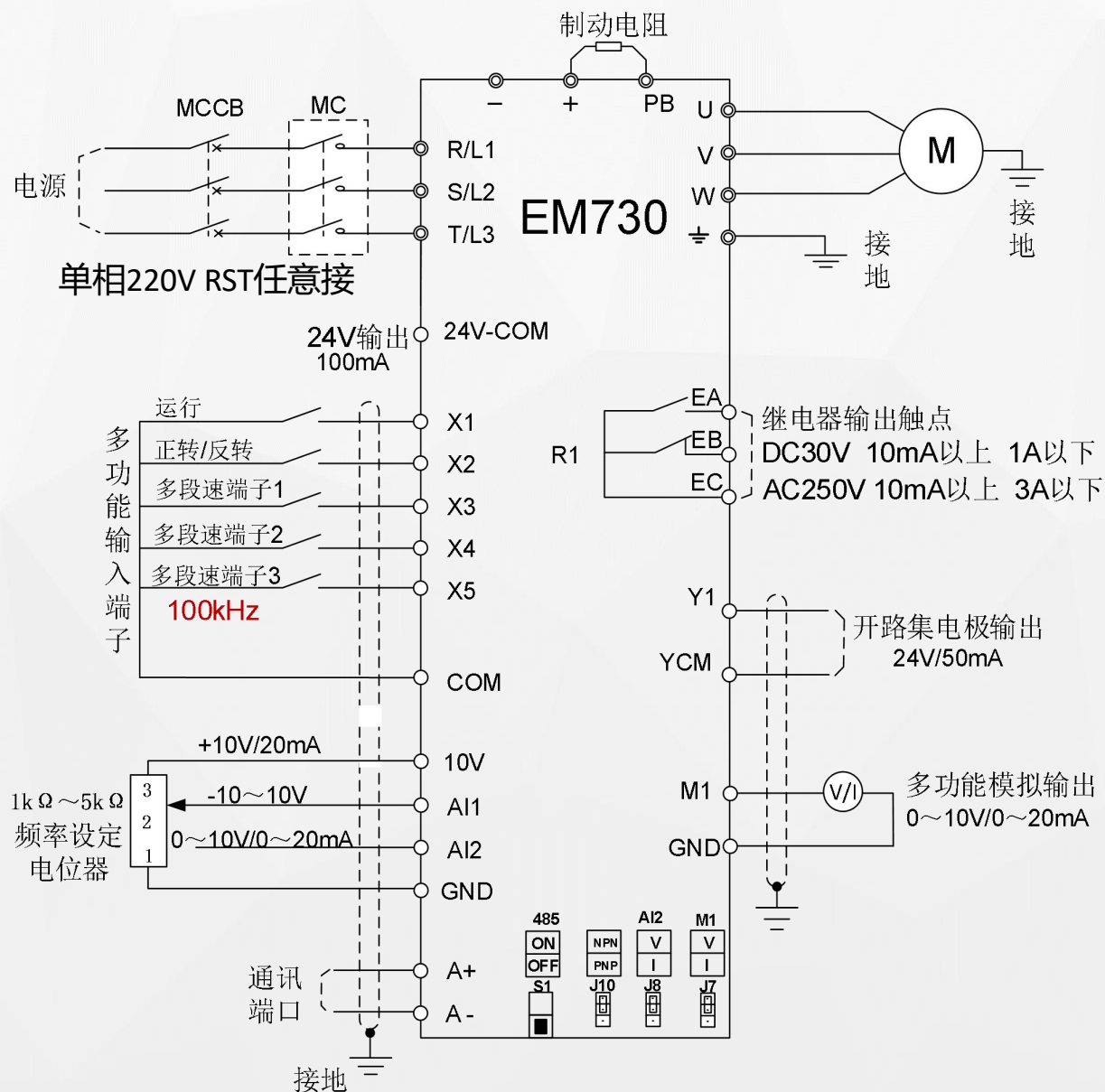
SINEE's old customers can use directly and no need to learn.

- **Wide range of built-in brake unit**
 - Standard built-in brake unit up to 22kW
 - 30KW and 37KW optional built-in brake unit.
- **Prevent the power to be connected wrong**
 - More prominent power terminal labels
 - Knock off baffle, plastic label



Rich functions of control terminals

SINEE

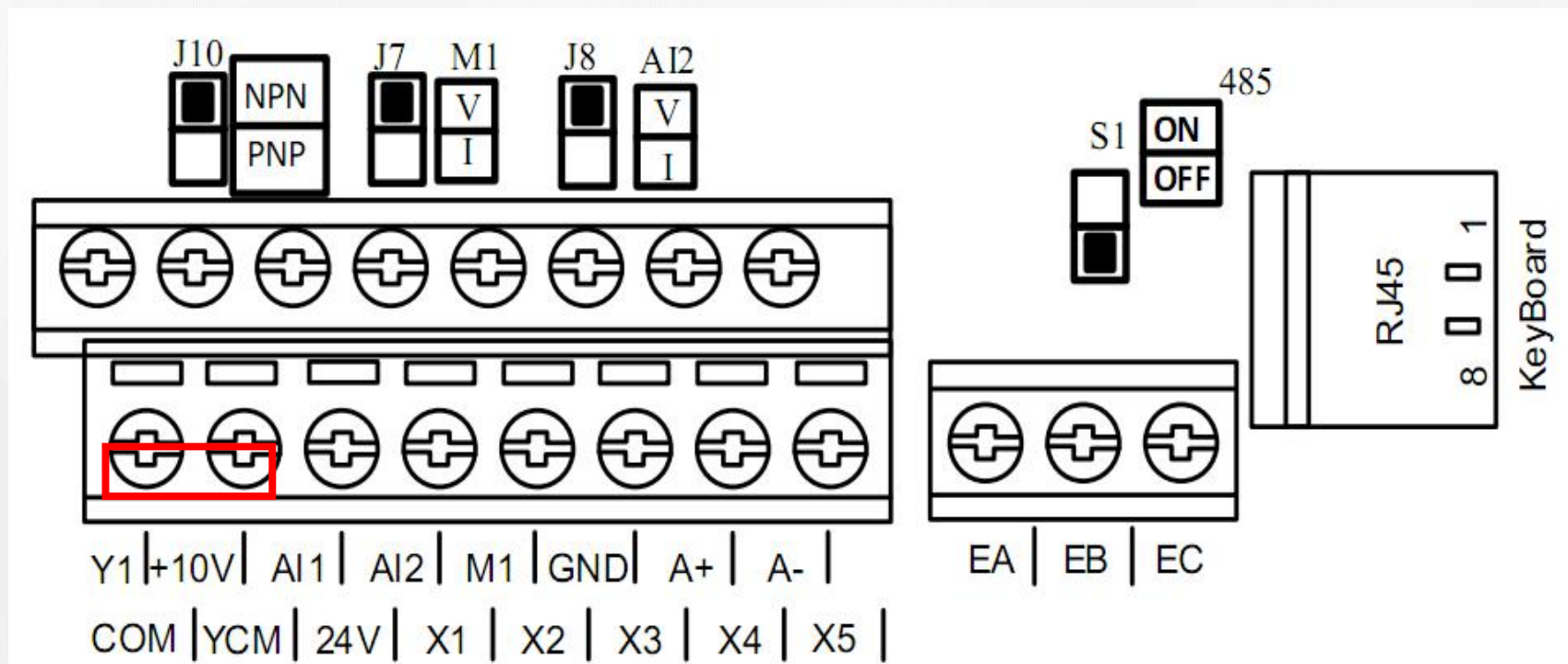


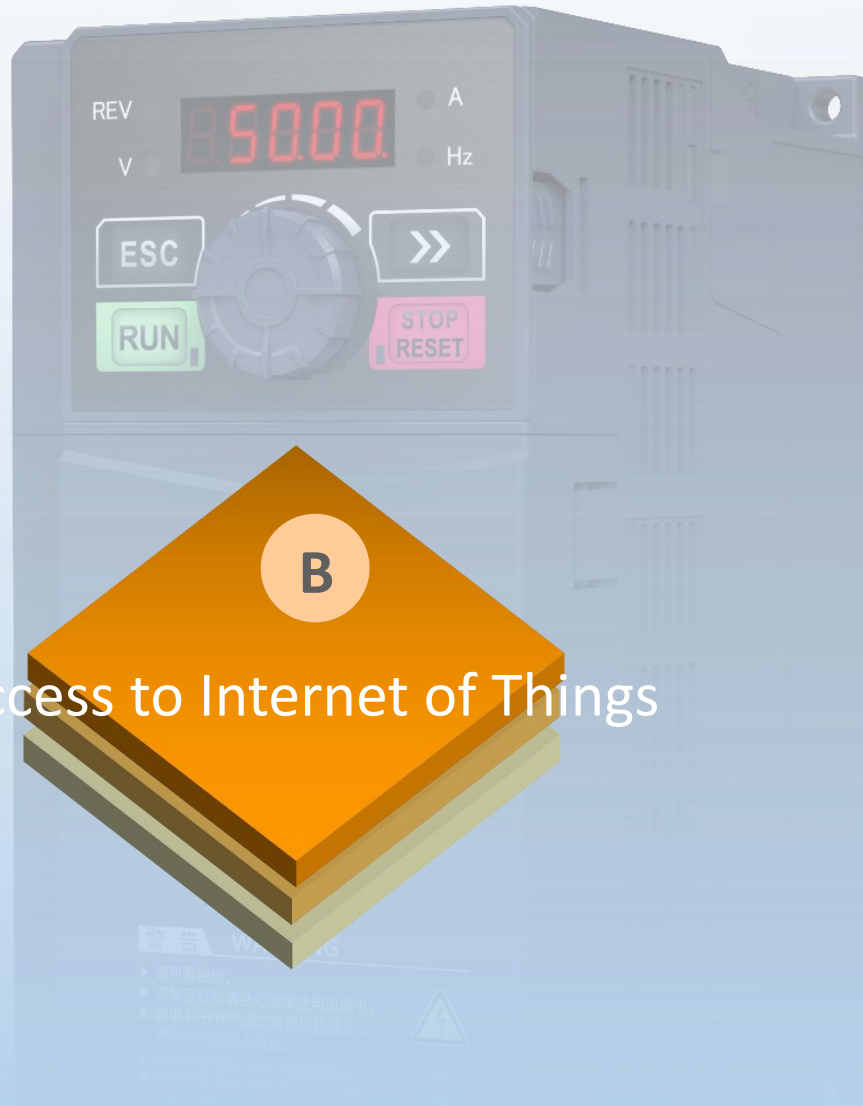
- 5 digital input terminals, support NPN/PNP input mode;
- X5 terminal supports 100kHz high frequency pulse input;
- AI1: -10V~10V voltage
- AI2: 0 to 10 v / 4-20 ma
- The analog output supports 0-10V /4-20mA
- Built-in Modbus, A+, A-
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EM730 Control Terminal

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- There are 4 jumper switches on the control board



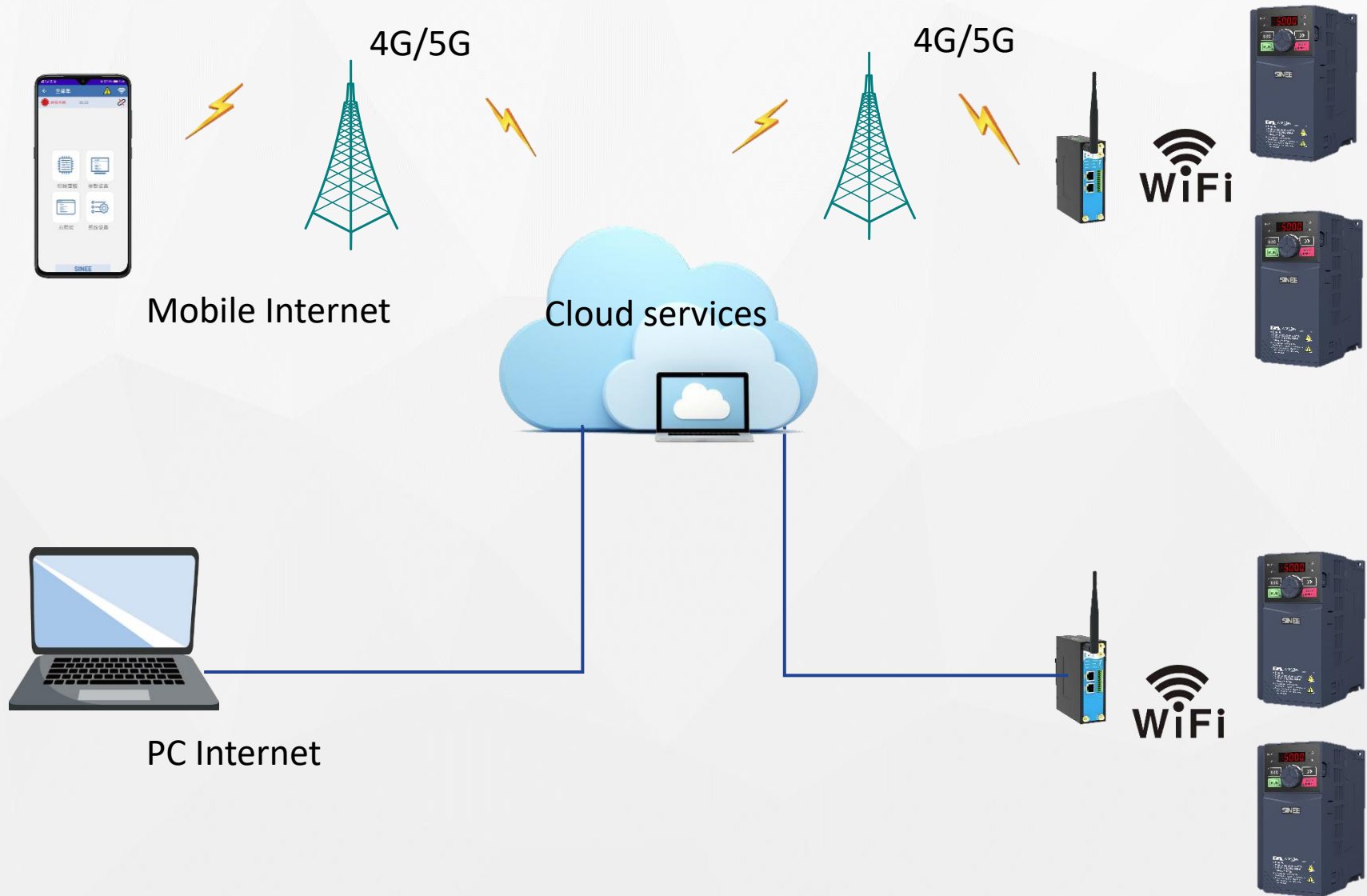


B

Access to Internet of Things

Access to the internet of things ---Remote monitoring and fault diagnosis

SINEE

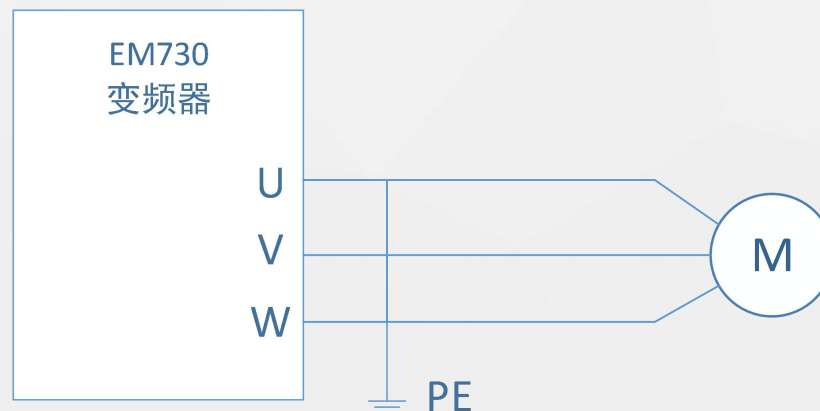




■ Multi-protection

- Output phase short circuit, over current, over voltage, overload, overheating protection
- Operating output to ground short circuit protection
- Input and output connection back protection (37KW and below)

Protection of Run output ground short circuit: the VFD runs immediately to detect the ground short circuit protection, once the motor side to ground short circuit is found, immediately stop the output, and report to ground short circuit E76 protection



High reliability of EM730

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- No need for derating at the ambient temperature of 50°C
 - More suitable for high temperature working environment, such as air compressor
- All-metal base plate
 - Adapt to the working environment with vibration, the installation is more firm.
 - Grounding is completed when it is installed on the metal distribution board to reduce the induction voltage of the motor.
- Digital input terminals are optically isolated
 - Reduce the damage of control panel caused by static electricity and improve the reliability of products.

Non-standard vibration and dust environment of EM730

SINEE

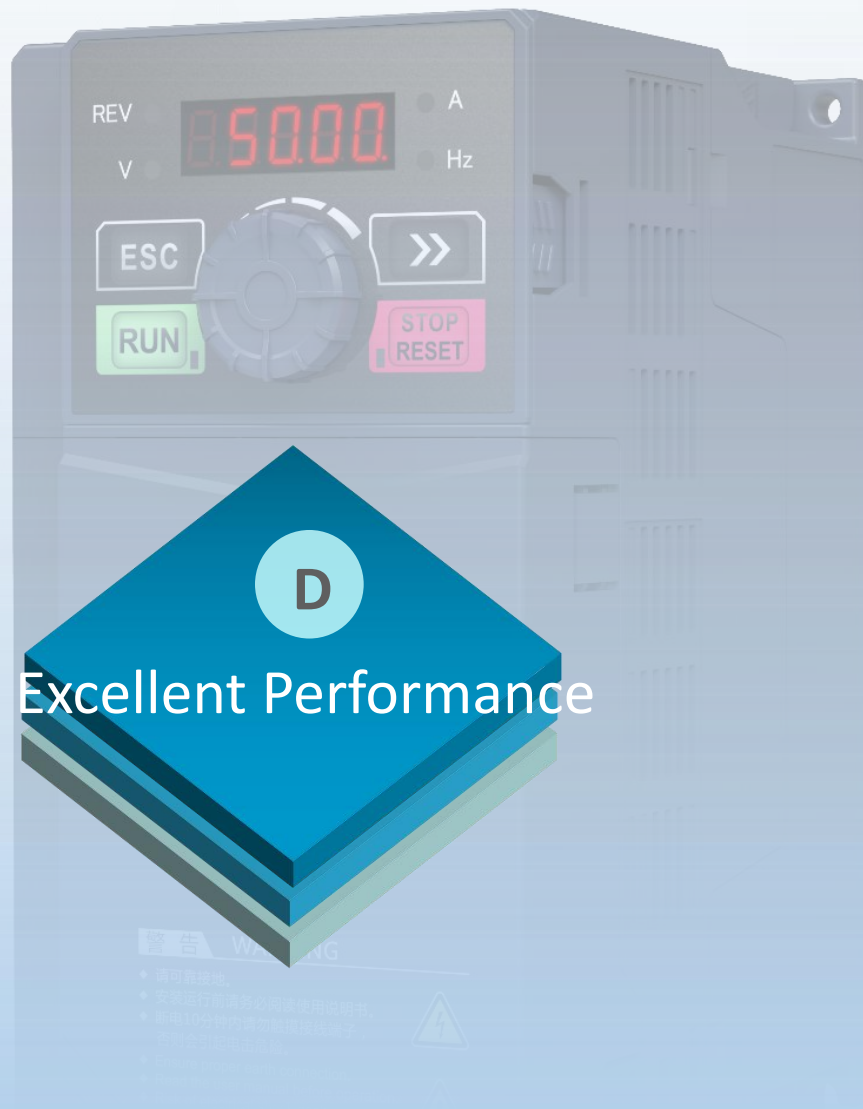
■ Applicable scene:

- Conductive dust working environment. The highest operating temperature is up to 40°C.
- Vibration working environment

The sheet metal case is equipped with wire guard ring and side light colored tape.

■ Measure: 0.75-22KW, bottom junction box + side to stick sealing tape





D

Excellent Performance

警告 WARNING

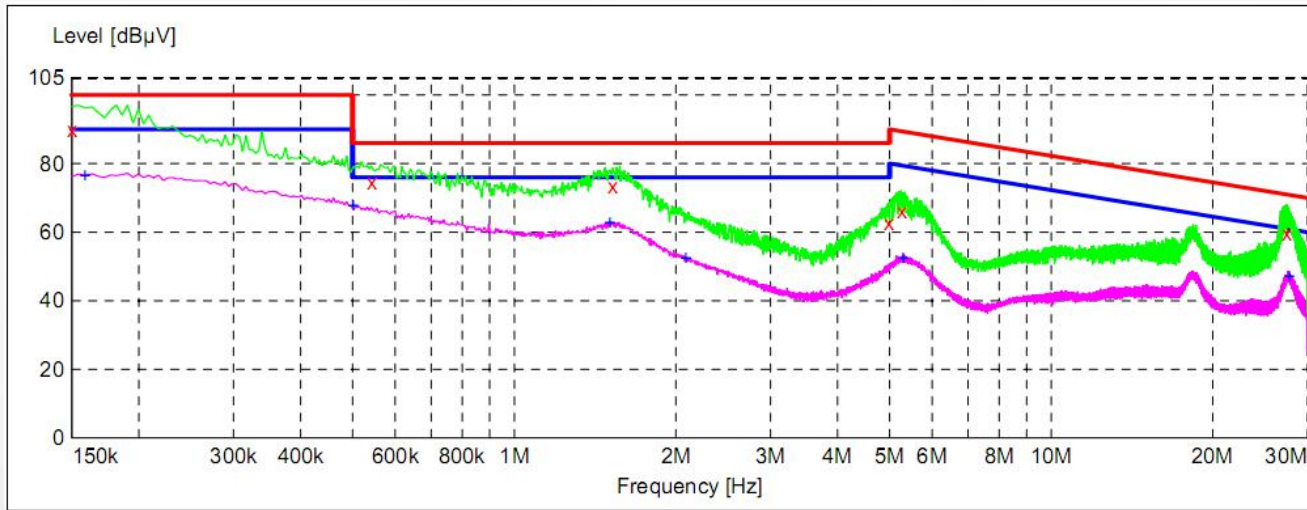
- 请可靠接地。
- 安装运行前请务必仔细阅读使用说明书。
- 断电10分钟内请勿触摸连接端子，防止触电危险。
- 请勿在通电状态下进行维护。
- 请勿在通电状态下进行接线。



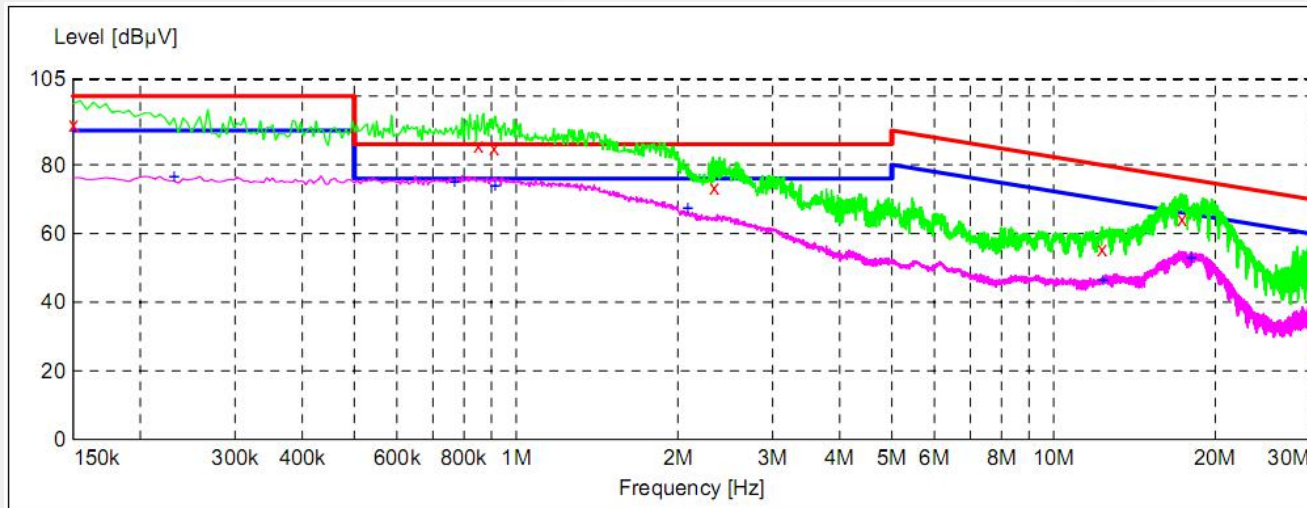
- Further performance optimization of EM730
 - High precision of speed control
 - High torque control accuracy
 - Strong Low frequency band load capacity

- Less external interference of EM730
 - Built-in filter close to C3 level, external interference greatly reduced
 - It is suitable for the scenes where the anti-jamming ability of some domestic controllers is poor

■ Comparison Figure of EM730-7.5kW Conducted Emission with Built-in Filter



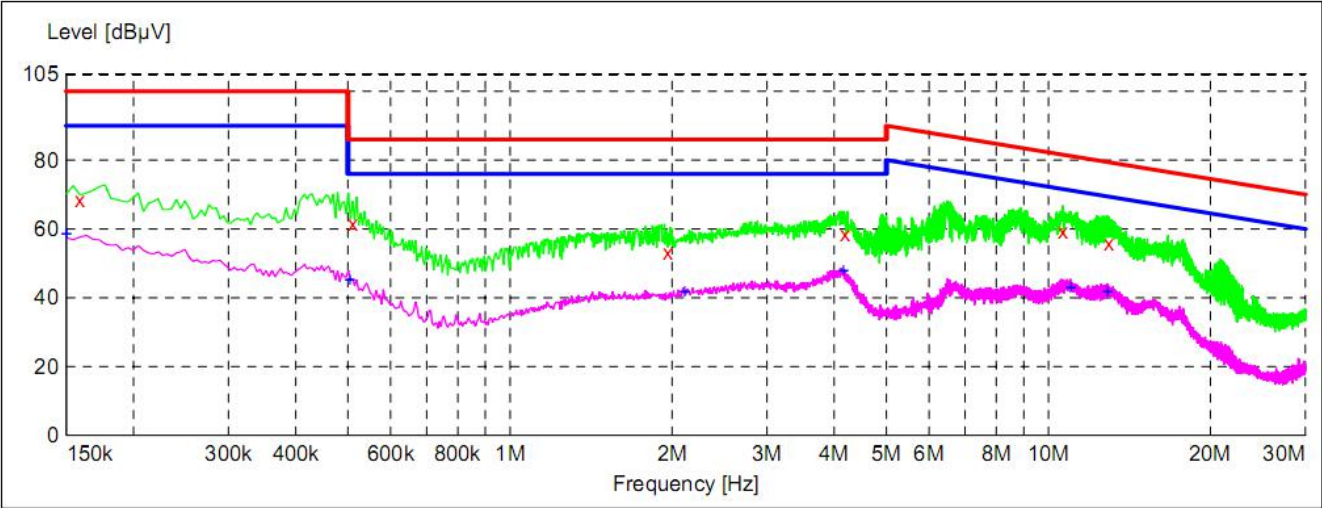
Built-in filter
Almost close to C3



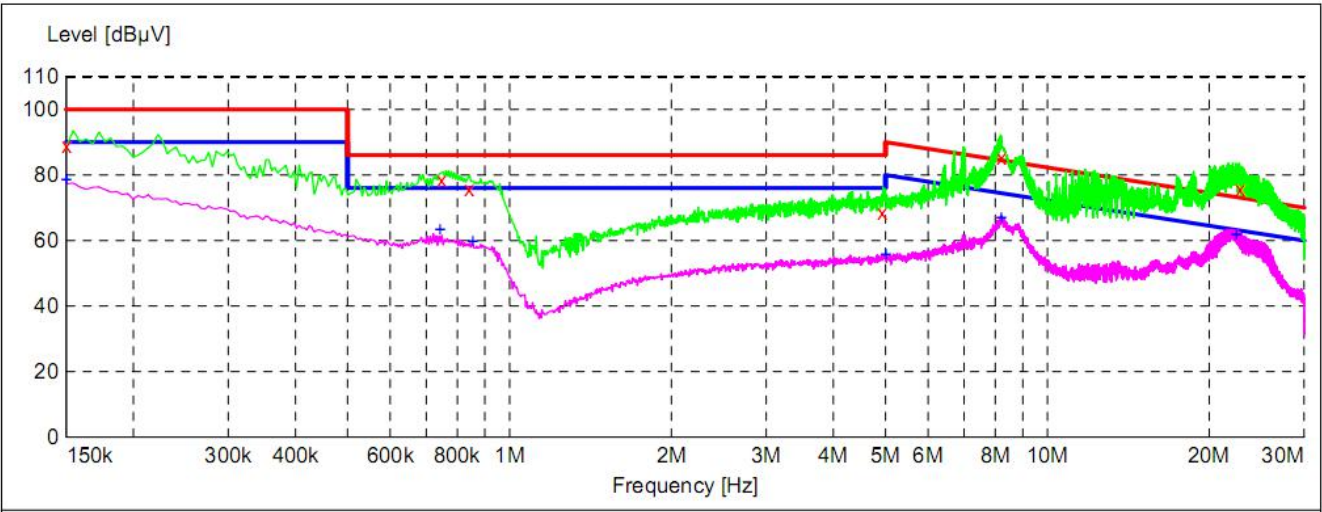
Red: Quasi-peak C3 limit
Blue: Average C3 limit
Green: Measured quasi-peak value
Purple: Measured mean value

No filter

■ **Comparison figure of EM730-45KW Conducted Emission with built-in filter.**



Built-in filter
Close to C3



No filter

Red: Quasi-peak C3 limit
Blue: Average C3 limit
Green: Measured quasi-peak value
Purple: Measured mean value

三、EM730

Product Specification

■ Rated Voltage:

- 220V:
 - Single/three phase AC current 200V-10% ~ 240V+10%
 - 0.4kW~2.2kW
- 380V:
 - Three phase AC current 340-10% ~ 460V+10%
 - 0.75kW~160kW, According to the need, 400kW can be achieved.

■ Overload Capacity:

- 150% rated current 60s, 180% rated current 10s, 200% rated current 2s

■ Applicable Motor:

- EM730: AC asynchronous motor/permanent magnet synchronous motor (permanent magnet synchronous non-standard)

Product Specification



■ Model and specification of 220V voltage grade inverter

Model	Applicable motor power (kW)	Overload rated output current (A)
EM730-0R4-2B	0.4	2.8
EM730-0R7-2B	0.75	4.8
EM730-1R5-2B	1.5	8
EM730-2R2-2B	2.2	10

Product Specification

SINEE

■ Model and specification of 380V voltage grade inverter

Model	Applicable motor power (kW)	Overload rated output current (A)
EM730-0R7-3B	0.75	2.5
EM730-1R5-3B	1.5	4.2
EM730-2R2-3B	2.2	5.6
EM730-4R0-3B	4.0	9.4
EM730-5R5-3B	5.5	13
EM730-7R5-3B	7.5	17
EM730-011-3B	11	25
EM730-015-3B	15	32
EM730-018-3B	18.5	38
EM730-022-3B	22	45
EM730-030-3 EM730-030-3B	30	60
EM730-037-3 EM730-037-3B	37	75

■ Model and specification of 380V voltage grade inverter

Model	Applicable motor power (kW)	Overload rated output current (A)
EM730-045-3	45	90
EM730-055-3	55	110
EM730-075-3	75	150
EM730-090-3	90	176
EM730-110-3	110	210
EM730-132-3	132	253
EM730-160-3	160	304

四、EM730

Applicable Industries

- The EM730 can be used in most applications of speed open-loop non-communication bus extensions
 - EM730 has built-in Modbus communication.
- Main Applicable Industries
 - Woodworking machinery, plastic machinery, air compressor, petroleum machinery, cable equipment, packaging machinery, machine tool spindle, food machinery, logistics equipment, environmental protection equipment, fan, water pump and other industries and various automatic production equipments.

五、 Compare with SINEE's other product

Comparison of EM730 with the company's open-loop inverter

SINEE

Specialty	EM730	A90	EM100	EM303B	EM500
Wi-Fi module and APP	Yes	No	No	No	No
Permanent magnet synchronous SVC	Yes	A90E	No	No	No
NPN/PNP input	NPN/PNP	NPN	NPN	NPN/PNP	NPN/PNP
High speed pulse input	100kHz	No	No	No	100kHz
-10V~10V input	Yes	No	No	No	No
Ground short circuit protection	Yes	No (Below 4Kw)	1/2	2/3	Yes
Inverse input/output connection	Can be protected	No	No	No	No
“One-key” shuttle	Yes	No	No	No	No
All-metal base plate	Yes	No	No	No	Yes
Product performance and EMC	No.1	No.3	No.5	No.4	No.2

六、 Other Information

Permanent magnet synchronous driver

SINEE

- Permanent magnet synchronous motor drives EM730 permanent magnet synchronous non-standard
 - Support SVC control of permanent magnet synchronous
 - Support V/F control of permanent magnet synchronous
 - Support V/F control of asynchronous motor
 - **It is considered to integrate with asynchronous motor drive software in the future.**
- Unsupported functions
 - SVC control of asynchronous motor
 - Application macro for rewinding and rewinding volumes
 - 3000Hz High frequency operation
- Other functions and features are the same as the EM730

External keyboard of EM730

SINEE

- The local keyboard can be external and support ordinary network cable, but without parameter copy function.
- External keyboards can also be ordered for the EM600 LED keyboard options.
 - With parameter copy function
 - For external installation, the user must also order the EM600 keyboard bracket option.
 - The EM600 keyboard bracket needs screw installation. See the drawing on the next page for dimensions

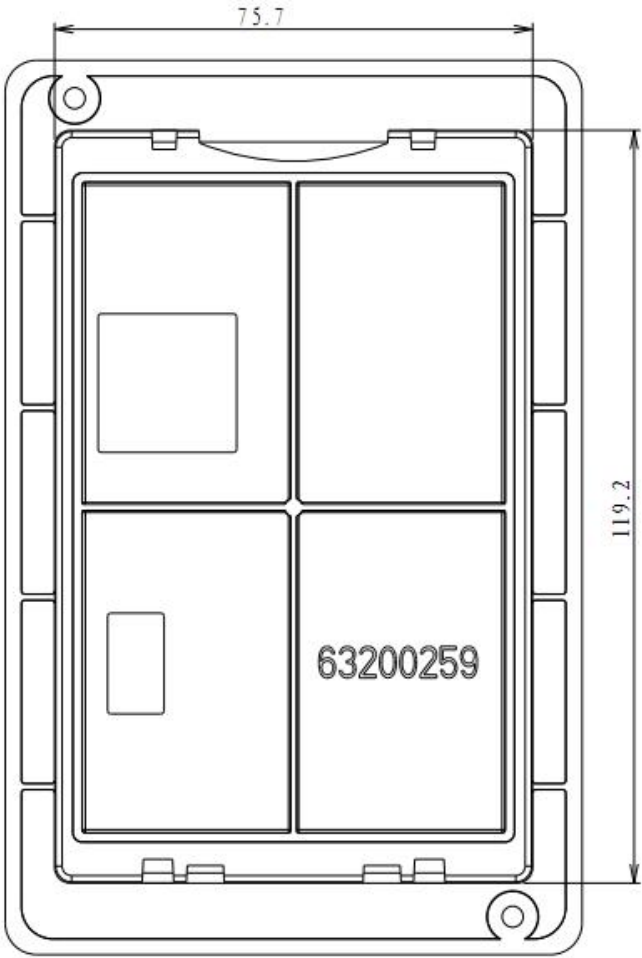
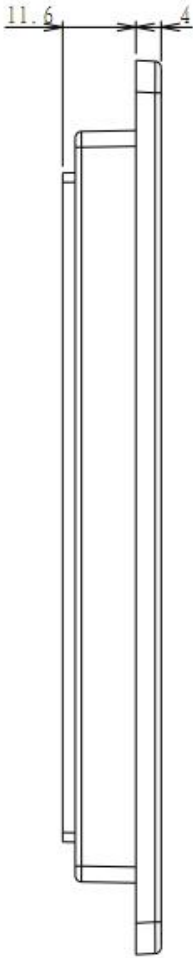
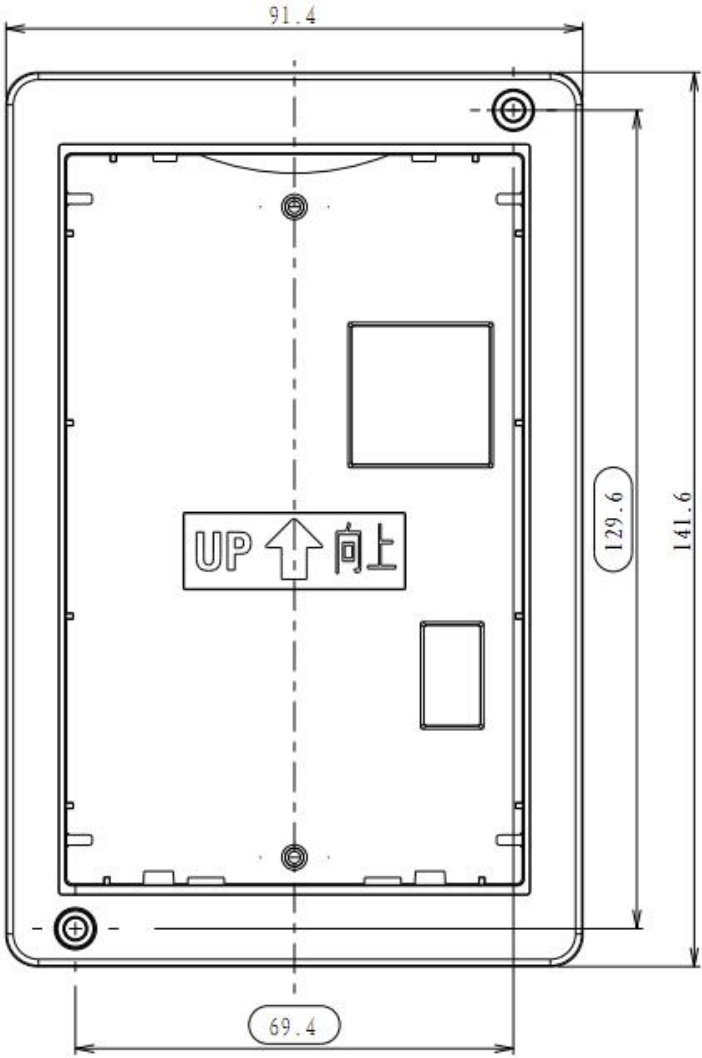


The machine of EM730 can be external keyboard without keyboard bracket, supporting buckle mounting back shrapnel mounting and screw mounting.



The EM600 keyboard can be selected, but the keyboard mounting bracket and bracket support screw mounting are required

EM730 Optional Size of External Keyboard Bracket **SINEE**



技术要求:
1. 未指明的尺寸与特

SINEE

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