SCREW AIR COMPRESSOR CONTROLLER

MAM6080

USER

MANUAL

VOTE OF THANKS

Thank you for your trustworthy and select of PLOT air compressor controller !

Shenzhen Plot Electronic Co., Ltd specializes on the manufacture and R&D of air compressor controller. We are devoted to win customer trust through our high quality products and service.

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Please feel free to contact our after-sale service center if you encounter any

⚠ NOTICE

⚠ **Please read all the operation manual before operating the set and keep this manual for further reference.**

⚠ **Installation of MAM—6080 compressor controller can be performed only by professional technicians.**

⚠ **Installation position shall be considered carefully in order to ensure good ventilation and reduce electromagnetic interference.**

⚠ **Wiring shall be performed respectively according to regulations for heavy and weak current to reduce electromagnetic interference.**

⚠ **RC snubber must be connected to the two terminals of coil (such as AC contactor ,valve, etc),which are controlled by relay output.**

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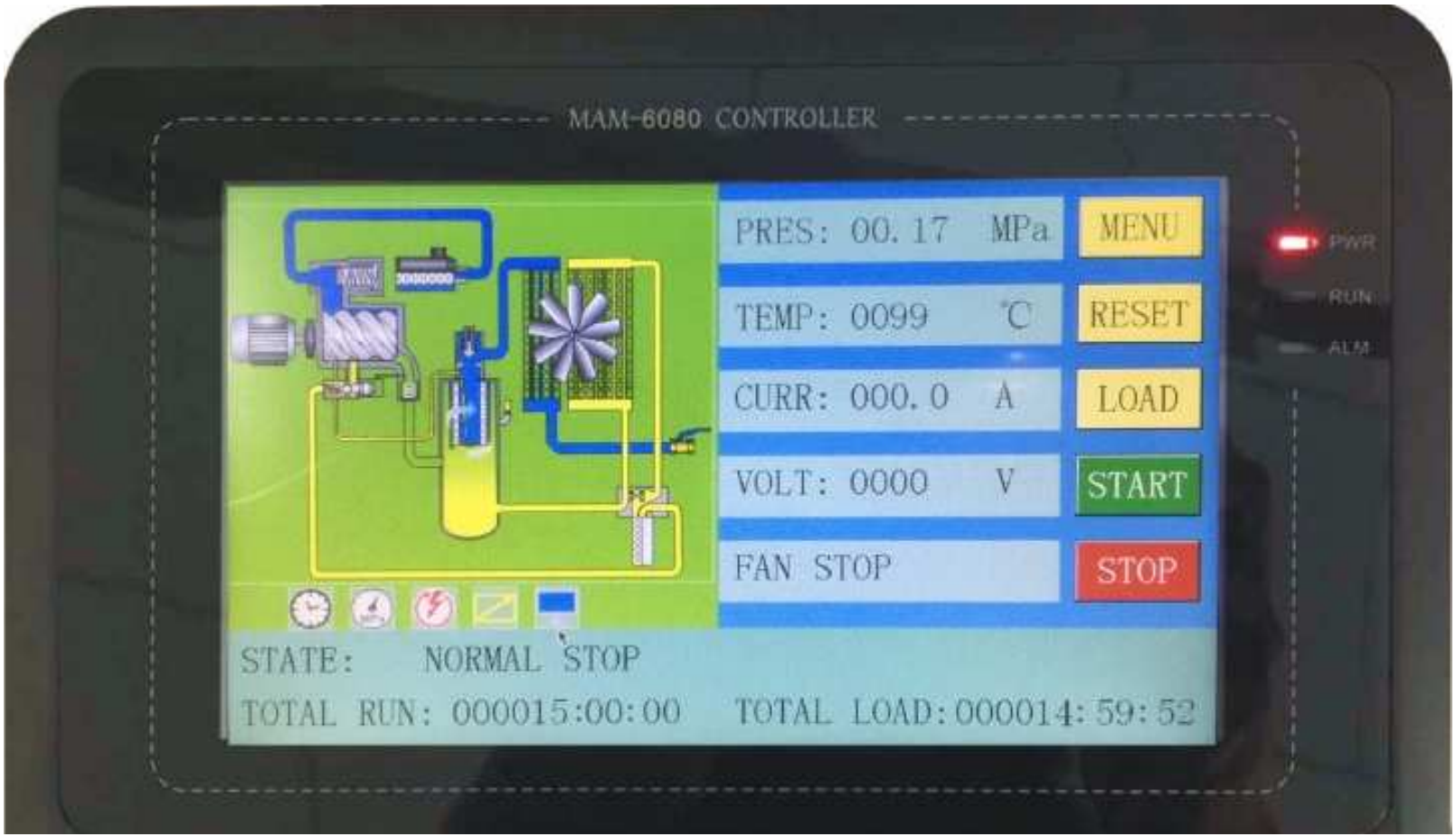
1,Basic operation

1.1 Button explanation



 ——Start Button:

- When compressor is at stop status, press this button to start the compressor.
- When compressor is set as master (No.1) in block status ,press this button to start the compressor and activate block mode function at the same time.

 ——Stop Button：

- When the compressor is at running status, press this button to stop the compressor；
- When compressor is set as master (No.1) in block status, press this button to stop compressor and block function as well;

 ——Set Button; Load / unload Button:

- When the compressor is at running status ,press this button to load or unload ;
- When modifying data in textbox, press this button to save data and exist modification status
- When cursor is at any page icon, press this button to execute the corresponding function.

 ——Return button / Reset button:

- When the controller is at alarm and stop status, press this button for 5s to reset.
- When modifying data, press this button to exist data setting mode;
- When viewing the menu, press this button to return to previous menu;

- When the current page is at run parameter, press this button to swift to the precious page

1.2 Indicator explanation

——Power：

Indicator is alight when controller is powered on

——Run：

Indicator is alight when motor is running

——Alarm：

Indicator is blinking when controller is alarming;

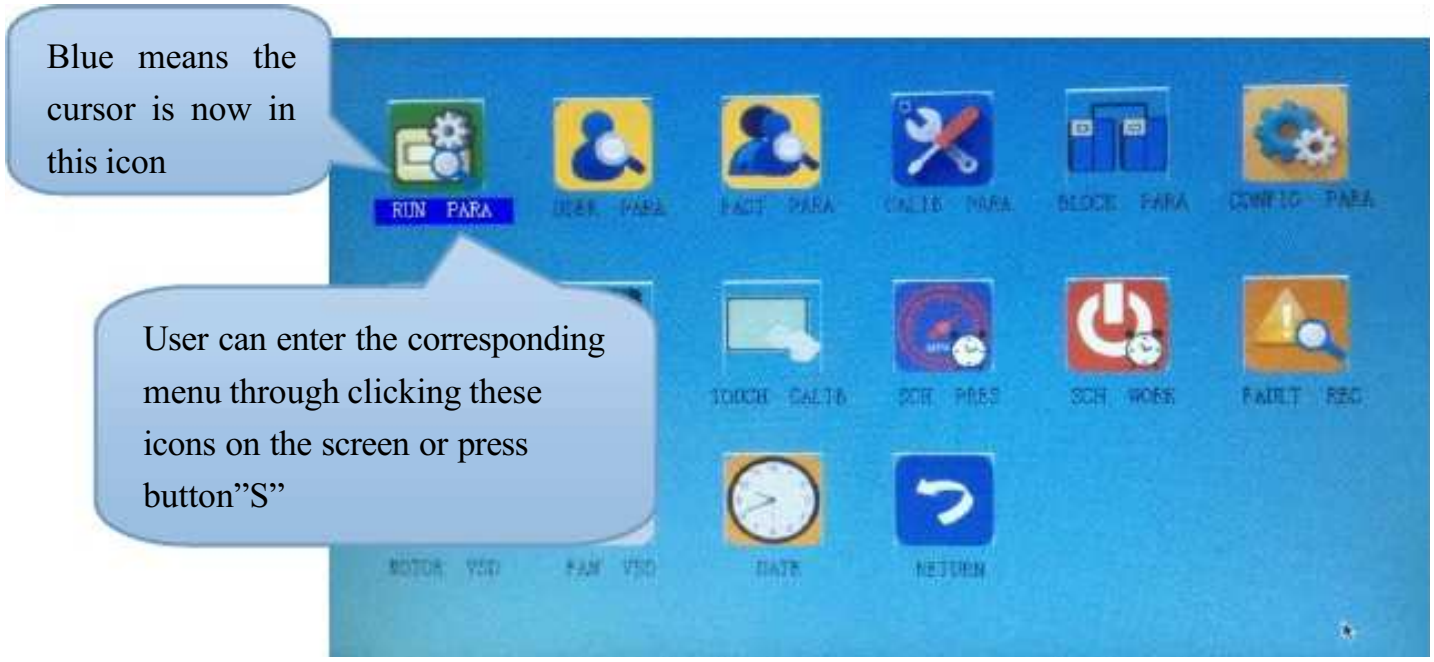
Indicator is alight when compressor is alarm and stop；

Indicator is off after error is cleared and reset.

1.3, Status Display and Operation

The display screen will show as below after power on and display “MAM-6080 ”for a while：

User can enter the below menu through clicking MENU icons on the screen or press button”  ”



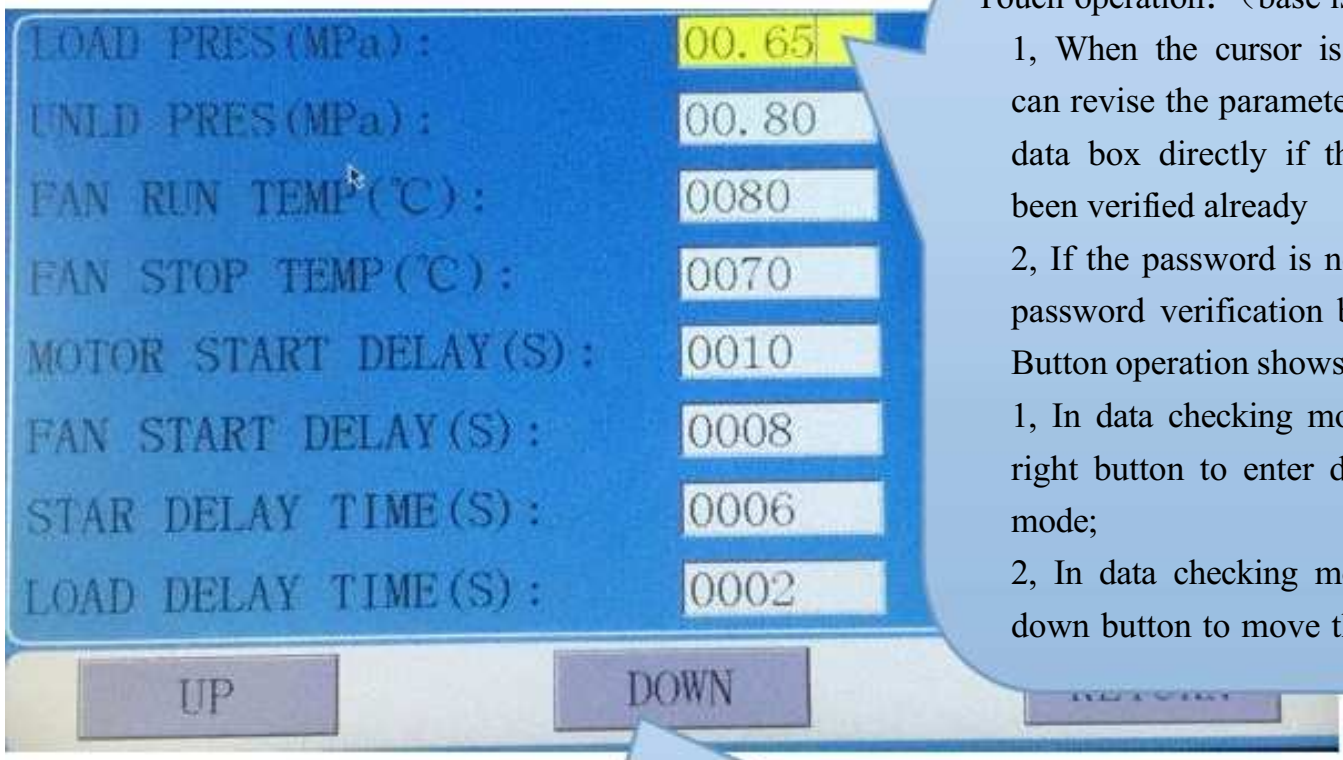
1.4 Run parameter

Click“RUN PARAMETER”to check the relative data and set below

Menu	Preset Data	Function
OIL FILTER	0020H	Record total running time of oil filter.

MOTOR THIS POWER CONSUMPTION	0000000.0 Kw.H	Display the accumulative this power consumption based on the motor inverter real time output power
MOTOR TOTAL POWER CONSUMPTION	0000000.0 Kw.H	Display the accumulative total power consumption based on the motor inverter real time output power
PREESSURE	00.00MPa	
INT COEF	00.00	
MOTOR STATE DISCRIPTION	0000	Display in the controller motor status area based on the running status register data reads from motor inverter
ERROR DISCRIPTION	0000	Display in the controller error area based on the running error register data read from motor inverter
WRITE FREQUENCY	000.0	Display the motor frequency based on PID calculation
FAN SPEED	0000 RPM	Display the fan real time speed based on the fan frequency read
FAN OUTPUT FREQUENCY	000.0 Hz	Display the output frequency of current fan inverter
FAN OUTPUT CURRENT	000.0 A	Display the output current of current fan inverter
FAN OUTPUT VOLTAGE	000.0 V	Display output voltage of current fan inverter
FAN OUTPUT		

INPUT STATE	1 2 3 4 5 6 7 8 9 10 ● ● ● ● ● ● ● ● ● ● 1:In accordance with No.5 digital input state; 2:In accordance with No.6 digital input state; 3:In accordance with No.7 digital input state; 4:In accordance with No.8 digital input state; 5:In accordance with No.9 digital input state; 6:In accordance with No.10 digital input state; Red circle of input state means terminal is connected; Orange circle of input state means terminal is disconnected	
OUTPUT STATE	1 2 3 4 5 6 7 8 9 10 ● ● ● ● ● ● ● ● ● ● 1: In accordance with No.17 digital output state; 2: In accordance with No.16 digital output state; 3: In accordance with No.15 digital output state; 4: In accordance with No.14 digital output state; 5: In accordance with No.13 digital output state; 6: In accordance with No.12 digital output state; Red circle of input state means terminal is connected; Orange circle of input state means terminal is disconnected	
PF MOTOR ∠ UI	000000.0Kw	Display the product of motor real-time current and voltage detected by controller



Touch operation：（base is yellow）

1, When the cursor is fixed here ,you can revise the parameter by clicking the data box directly if the password has been verified already

2, If the password is not verified yet, a password verification box will prompt.

Button operation shows as below:

1, In data checking mode, press left or right button to enter data modification mode;

2, In data checking mode, press up or down button to move the cursor to next

When the cursor is in page icon, press “S” to execute corresponding function

Main function is below：

STOP DELAY（S）:	0010	For NORMAL STOP operation, compressor will stop after it continuously unloads over this set time
RESTART DELAY（S）:	0100	Machine can start only over this set time at any case(after normal stop, standby or alarm &stop)
DRAIN OPEN TIME（S）:	0002	Auto drain control, continuously drain time
DRAIN CLOSE TIME（M）:	0060	Auto drain control, continuously drain interval time
SOFT START DELAY（S）:	0006	Controller starts LOAD DELAY TIME after SOFT-START DELAY (this data is only available in SOFT START mode)
LOAD MODE:	MANUAL/AUTOMATIC	MANUAL : only when the pressure is above UNLD P, compressor will unload automatically .For any other case ,the Load/Unload function can only be executed by pressing "load/unload" key. AUTOMATICAL: the load/unload function can be executed by the fluctuation of AIR P automatically
START MODE:	LOCAL/REMOTE	LOCAL :only the button on the controller can turn on and turn off the machine. REMOTE: both the button on the controller and the remote control button can turn on and turn off the machine; Note: When one input terminal is set as REMOTE START ENABLE, start mode is controlled by hardware status. It is

USER PASSWORD：	****	User could modify the user password by old user password or factory password
SLEEP BACKLIGHT	0000	Set the backlight brightness of the controller in the case of no operation for a long time

1.6,Factory parameter

Factory parameter is used to store relative data. Factory password is required for check and modification.

The modification of factory parameter is same with customer parameter. Main function is below.

Menu	Preset Data	Function
MOTOR RATED CURRENT（A）：	Maximum motor overload data /1.2	When the current of motor is more than 1.2 times of the set data , the unit will stop for overload feature. (see table2.1.1)
FAN RATED CURRENT（A）：	Maximum fan overload data/1.2	When the current of fan is more than 1.2 times than the set data , the unit will stop for overload feature.
ALARM DISC T （℃）：	0105	When discharge temperature reaches this set data, compressor will alarm
		When the discharge temperature reaches this set data, compressor

MAX RUN TIME（H）：	0000	1, When the compressor is in a stop status and the TOTAL RUN TIME is over this MAX TIME set, compressor will alarm and stop, reporting USER MISTAKE 2, Set the data to '0000', this function is not activated.
FACTORY PASSWORD 2:		Set a FACTORY PASSWORD which can be modified.
HIGH VOLTAGE（V）：	0410	When voltage is detected higher than HIGH VOLTAGE, the controller will alarm and stop When set as 0000, HIGH VOLTAGE protection function is not activated.
LOW VOLTAGE（V）：	0350	When voltage is detected lower than LOW VOLTAGE, the controller will alarm and stop When set as 0000, LOW VOLTAGE protection function is not activated.
VSD COM OVERTIME（S）：	002.0	Record time when controller sent first data, if controller failed to receive the feedback from inverter within this set time, controller is regarded overtime and will send command again.
VSD COM INTERRUPT（S）：	0020	If controller failed to receive feedback from inverter for this set time, VSD COM is interrupted.
VSD COM RESTORE：	0015	After VSD COM is interrupted, and controller receives the correct data more than this set times, VSD COM is regarded restored.
SCHEDULED	DISABLE/	ENABLE: SCHEDULED ON/OFF is valid

FAN PF ELEC COMSUMPTION（Kw.H）:	0000000.0	Set or modify PF FAN electricity consumption
FREQ SELECT:	50HZ/60HZ	Set the power supply frequency
O-A DIFF ALARM（MPa）:	00.15	In load mode, when both of AIR P and the OIL BARREL P is higher than 0.5Mpa, OIL BARREL P – AIR P – PIPE PIEQORESI > O-A DIFF ALARM, the controller will alarm
O-A DIFF STOP（MPa）:	00.20	In load mode, when both of AIR P and the OIL BARREL P is higher than 0.5Mpa, OIL BARREL P – AIR P – PIPE PIEQORESI > O-A DIFF ALARM, the controller will stop
PIPE PIEZORESI（MPa）:	00.05	The pressure inside the pipe
REAR BEARING ALARM（℃）:	0000	When the temperature of the rear bearing reaches this set temperature, controller will alarm (Standby)
REAR BEARING STOP（℃）:	0000	When the temperature of the rear bearing reaches this set temperature, controller will make error and stop (Standby)
SERIAL NO.:	12345678	The serial number from the manufacturer
PROD DATE:	2016-02-20	The production date

1.7,Calibration parameter

P COEF	1.000	Input the coefficient to calibrate air pressure. Controller display pressure =sample pressure*coefficient. The range of coefficient:0.800-2.000
MOTOR CURR CYCLE	0004	Control the current update speed
VOLT CYCLE	0004	Control the voltage update speed
T 1 ZERO	0002	Calibrate controller temperature zero. Calibrate temperature to -20℃ when controller pressure sensor terminal connects the resistance in accordance with -20℃. For the calibration of temperature, it is required to calibrate T zero first and then calibrate coefficient
T 2 ZERO	0002	Note:this parameter is reserved in MAM6080
T 3 ZERO	0002	
T 4 ZERO	0002	
T 5 ZERO	0002	
T 6 ZERO	0002	
P 1 ZERO	0002	When AIR P is below this set value, the pressure is displayed as 0.00.It is used to avoid air pressure transmitter from increasing.
P 2 ZERO	0002	When P 2 is below this set value, the pressure is displayed as 0.00.It is used to avoid pressure zero from increasing.
P1 SENSOR RANGE	01.60	Set AIR P sensor range

BLOCK LOAD P（MPa)	00.63	In BLOCK mode, one compressor will start or load when master AIR P is below this set data
BLOCK UNLOAD P（MPa)	00.78	In BLOCK mode, one compressor will stop or unload when master AIR P is above this set data
BLOCK DELAY（S）	0020	In BLOCK mode, when master sends two commands continuously, second command signal delays for this set data
TURN TIME（M）	0060	When master pressure is between BLOCK LOAD P and BLOCK UNLD P, master determines slave to work alternatively after working over this set time
BLOCK MODE	PF-PF VSD-PF VSD-VSD	PF-PF:PF compressor and PF compressor work in block mode VSD-PF: VSD compressor and PF compressor work in block mode VSD-VSD: VSD compressor and VSD compressor work in block mode

1.9,Hardware parameter

Hardware parameter is used to set the function from 5-10 terminals. Main function is below

Menu	Preset Data	Function

O/A SEPERATOR RUN TIME(H)	0000	Record total running time of O/A separator. If changing new O/A separator, the data should be reset by manual operation
AIR FILTER RUN TIME（H)	0000	Record total running time of air filter .If changing new air filter, the data should be reset by manual operation
LUBRICANT RUN TIME（H)	0000	Record total running time of lubricant. If changing new lubricant, the data should be reset by manual operation
GREASE RUN TIME（H)	0000	Record total running time of grease. If changing new grease, the data should be reset by manual operation
OIL FILTER MAX RUN TIME（H)	2000	1, Alarm prompt when total running time of oil filter is above the set data . 2,Set this data to “0000” , alarm function for oil filter running time is not activated
O/A SEPERATOR MAX RUN TIME(H)	2000	1, Alarm prompt when total running time of O/A separator is above the set data. 2,Set this data to “0000” ,alarm function for O/A separator running time is not activated
AIR FILTER MAX RUN TIME（H)	2000	1, Alarm prompt when total running time of air filter is above the set data. 2,Set this data to “0000” , alarm function for air filter running time is not activated
LUBRICANT		1, Alarm prompt when total running time of lubricant is above the set

RUN VALUE：	0001	This data is inverter start data (please refer to communication chapter in inverter manual for different inverter.)
RESET(W) ADD：	2135	Corresponding address of inverter reset command
RUN VALUE：	0001	This data is inverter start data (please refer to communication chapter in inverter manual for different inverter.)
FREQ(W) ADD：	2136	Corresponding register address of inverter running frequency source
FREQ(R) =	REC*0001÷0001	The REC value is frequency value with one decimal. Use formula to transfer to corresponding value based on different inverter and send it to inverter. Example： 50HZ running frequency，REC value:500 For inverter with write frequency of 2 decimals, formula: REC**0001÷0010 For inverter with write frequency of 1 decimal, formula: REC**0001÷0001 For the inverter whose max output frequency is in corresponding with 10000,the formula :REC*0020÷0001
STATE(R) ADD：	2135	Read inverter running status address
RUN S =	RECEIVE AND	Check if inverter has run the formula(please refer to

EMERGENCY ADD	2135	Corresponding add of inverter emergency stop command
RUN VALUE	0001	This data is inverter start data (please refer to communication chapter in inverter manual for different inverter.)

1.12 Touch Calibration

Touch calibration is used to adjust touch accuracy. Touch calibration password is required for adjustment. After entering touch calibration menu, use fingertip or other tool with sharp head to click A ,B ,C ,D in sequence. Press “S” button to restart and save the modification ; If user wants to calibrate again, press reset button and reset following precious step.

1.13Scheduled P

Scheduled P is used to set scheduled pressure. Scheduled P password is required for check and modification. Main function is below.

Menu	Preset Data	Function
LOAD P（MPa):	00.65	During P START TIME and P STOP TIME, compressor will load if AIR P is below this set data
UNLOAD P（MPa):	00.80	During P START TIME and P STOP TIME, compressor will unload if AIR P is above this set data

VSD P（MPa)	00.70	Set AIR P in VSD mode to keep running stable. When pressure is fluctuated around this data, controller will adjust operating frequency of inverter to control the pressure close to this data(This data is only available in MOTOR VSD or MOTOR/FAN VSD mode)
MOTOR UP SPEED	1000	Restrict PID calculations in case the frequency increasing too fast which cause motor speeding up too fast
MOTOR DN SPEED	1000	Restrict PID calculations in case the frequency decreasing too fast which cause motor slowing down too fast
MOTOR RATED POWER（KW)	022.0	Set MOTOR RATED POWER in order to calculate actual power in VSD mode(This data is only available in MOTOR VSD or MOTOR/FAN VSD mode)
MOTOR RATED SPEED（RPM）	1500	Set MOTOR RATED SPEED at 50HZ in order to calculate the actual speed in VSD mode (This data is only available in MOTOR VSD or MOTOR/FAN VSD mode)
MOTOR INT INITIAL	0080	When detected AIR P<（PID TARGET P -INTEGRAL SCALE） or Detected AIR P>（PID TARGET P +INTEGRAL SCALE） Integral calculation is based on this data
MOTOR INT SCALE（Mpa)	00.20	(PID TARGET P - INTEGRAL SCALE)< detected AIR P < (PID TARGET P + INTEGRAL SCALE），INTEGRAL GAIN works
VSD MOBOT		

MOTOR STOP MODE	SLOW/FREE	1、INVERTER START MODE to COM ON-OFF： SLOW： When controller receives stop command, INLET VALVE terminals will open。Controller sends stop command to inverter to slow stop inverter FREE： When controller receives stop command, INLET VALVE terminals will open。Controller sends write frequency through RS485.Controller frequency will decrease and send stop command to inverter 1S before stop delay finished. 2、INVERTER START MODE to TERMINAL ON-OFF： SLOW: When compressor receives stop command, INLET VALVE terminals will open and MOTOR INVERTER RUN terminal will open. The compressor will stop according to STOP DELAY set. FREE: When compressor receives stop command, Inlet valve will open. MOTOR INVERTER RUN terminal will keep closed to control inverter frequency decreasing and it will open until 1 S before STOP DELAY finishes
	COM	COM ON-OFF： Start or stop inverter through RS485 TERMINAL ON-OFF：Start or stop inverter through digital input Note：

CONSTANT POWER PRESSURE 2(MPa)	0.70	In constant power running mode, when pressure is above the data set here, Max output frequency is set as CONSTANT POWER FREQUENCY2
CONSTANT POWER PRESSURE 3(MPa)	0.80	In constant power running mode, when pressure is above the data set here, Max output frequency is set as CONSTANT POWER FREQUENCY3
CONSTANT POWER PRESSURE 4(MPa)	0.90	In constant power running mode, when pressure is above the data set here, Max output frequency is set as CONSTANT POWER FREQUENCY4
CONSTANT POWER PRESSURE 5(MPa)	1.00	In constant power running mode, when pressure is above the data set here, Max output frequency is set as CONSTANT POWER FREQUENCY5
CONSTANT POWER PRESSURE 6(MPa)	1.10	In constant power running mode, when pressure is above the data set here, Max output frequency is set as CONSTANT POWER FREQUENCY6
CONSTANT POWER PRESSURE 7 (MPa)	1.20	In constant power running mode,when pressure is above the data set here, Max output frequency is set as CONSTANT POWER FREQUENCY7
CONSTANT POWER FREQUENCY 1(HZ)	180.0	
CONSTANT POWER FREQUENCY 2(HZ)	160.0	

1.17 Fan VSD

Fan VSD is used to set Fan VSD data. Fan VSD password is required for check and modification. Main function is below.

Menu	Preset Data	Function
FAN VSD T（℃）	0078℃	In VSD mode, set DISC T to keep running stable. When DISC T is fluctuated around this data, controller will adjust operating frequency of fan inverter to control DISC T close to this data(This data is only available in FAN VSD or MOTOR/FAN VSD mode)
MAX VSD T（℃）	0085℃	When DISC T is above or equal to this data, control fan inverter output frequency to FAN MAX FREQ(This data is only available in FAN VSD or MOTOR/FAN VSD mode)
FAN UP SPEED	1000	Restrict PID calculations in case the frequency increasing too fast which cause fan speeding up too fast
FAN DN SPEED	1000	Restrict PID calculations in case the frequency decreasing too fast which cause fan slowing down too fast
FAN RATED POWER	001.5KW	Set FAN RATED POWER to calculate the actual fan power in FAN VSD mode(This data is only available in FAN VSD or MOTOR/FAN VSD mode)

FAN MAX FREQ（HZ)	050.0HZ	In the process of adjustment, The maximum operating frequency when temperature is over the VSD work temperature
FAN MIN FREQ（HZ)	010.0HZ	In the process of adjustment, The minimum operating frequency when temperature is below the VSD work temperature
VSD FAN POWER COEF	0.900	Coefficient to calculate VSD fan power
FAN INVERTER ADD	002	Set the FAN VSD ADD and keep it consistent with VSD COM ADD
FAN PID CYCLE（S）	001.5S	Set the PID calculation interval time to adjust fan speed.
FAN INVERTER MODEL	ATV31	Choose inverter protocol
FAN INVERTER START MODE	COM/ TERMINAL	Set fan inverter start mode
VSD FAN ELEC（Kw.H）	000000.00	VSD fan power consumption
INT COEF	00.00	

1.18 Date

Check and set time

1.19 Operation Authorization and Password

Controller provides multiple passwords and access management. According to different levels

1.19.8 TOUCH CALIBRATION PASSWORD

Permissions: Allows to modify TOUCH ACCURACY

1.19.9 SCHEDULED P PASSWORD

Permissions: Allows to modify all SCHEDULED P PARAMETER.

1.19.10 SCHEDULED ON/OFF PASSWORD

Permissions: Allows to modify all SCHEDULED ON-OFF PARAMETER

1.19.11 MOTOR VSD PASSWORD: fixed：

Permissions: Allows to modify all MOTOR VSD PARAMETER

1.19.12 FAN VSD PASSWORD: fixed：

Permissions: Allows to modify all FAN VSD PARAMETER

2,Controller Function and Technical Parameter

2.1 Ambient temperature：-20℃～+60℃；Humidity：≤98%；

2.2 Digital input& output：6 points of digital input（function optional），6 points of digital relay output

Response time（S）	60	48	24	8	5	1

Table 2.9.3.1 curve table for protection of motor

2.10 Temperature protection: when actual temperature measured is higher than temperature set; response time≤2s；

2.11 Contact capacity of output relay: 250V,5A； Contact endurance :500000 times

2.12 Current error is less than 1.0%.；

2.122 points of RS485communication port. 1 point is for block mode or computer communication. The other point is for inverter communication like reading inverter run parameter, controlling inverter on-off or adjusting inverter frequency.

2.14 Remote control compressor: When set as REMOTE, user can remotely control the compressor.

3,Model and Specifixation

3.1 Model explanation

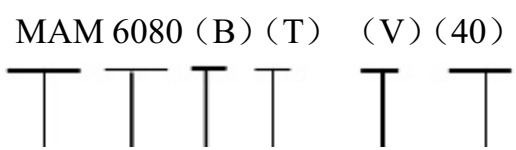
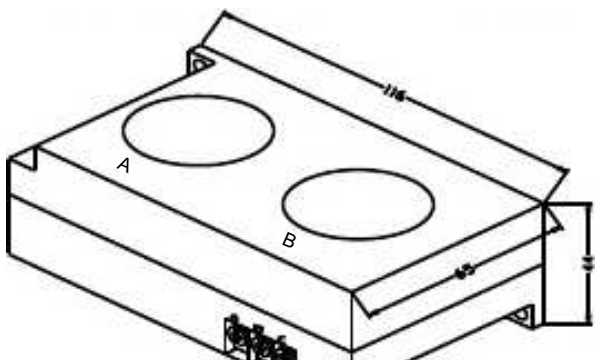


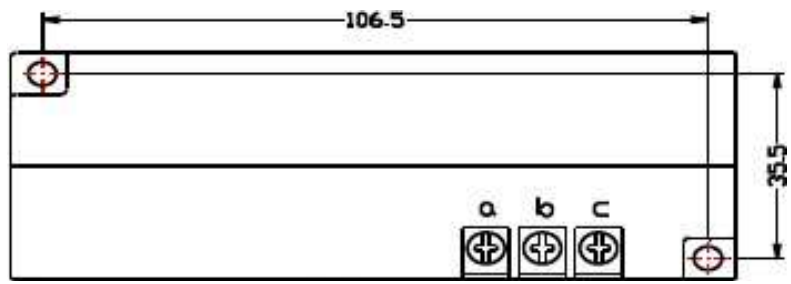
Table 3.2.1 Power specification sheet for corresponding motor

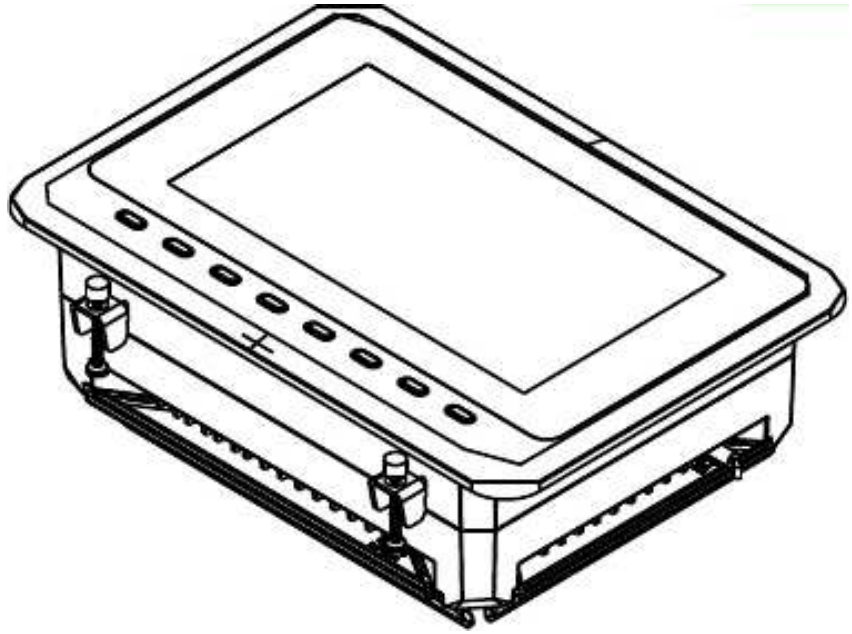
4,Installation

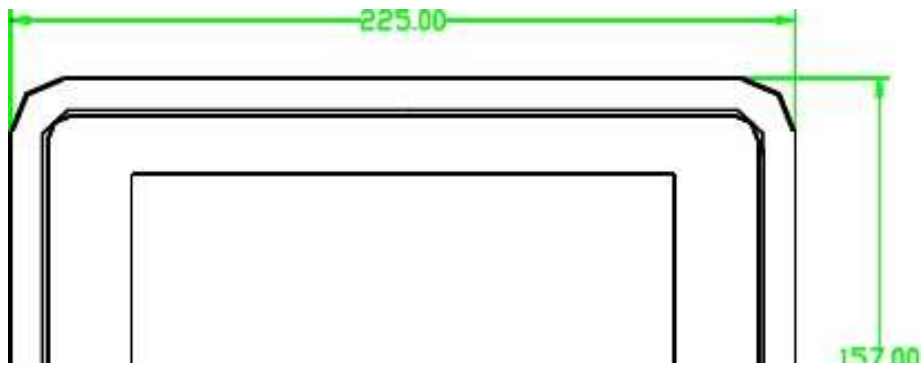
4.1 Mechanical Installation

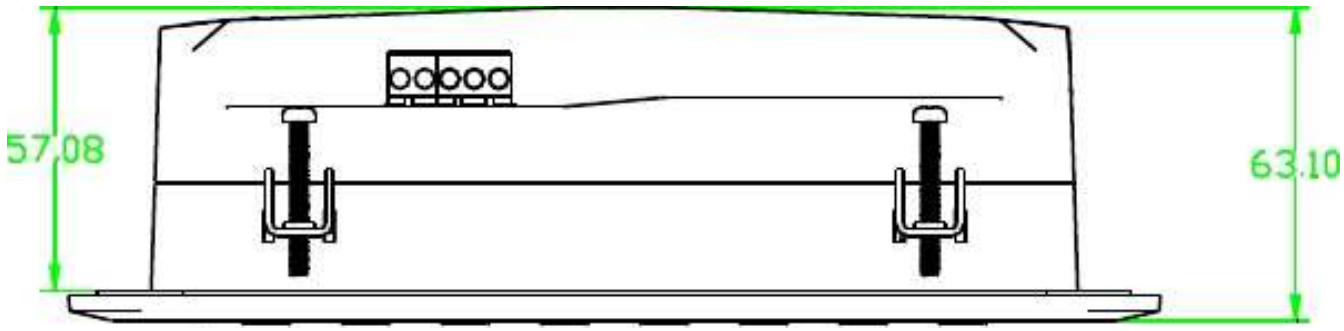
The CT shall be installed at a place where the current of motor cable can be measured, thus, controller can be set according to instructions on motor nameplate, and the detailed dimension is shown as below:

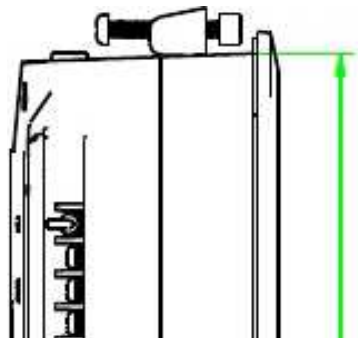


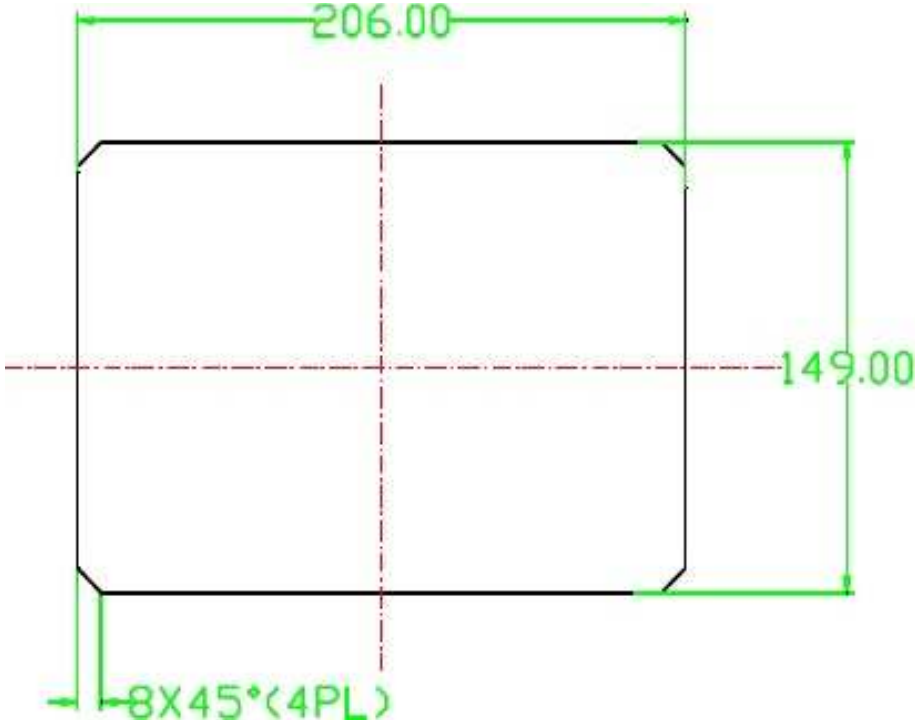





225.00
157.00


57.08
63.10





Picture 4.2.3 Hole size

Note： Though rear cabinet is 190.93mm,the hole size should be at least 206mm.After connect the cable in the rear cabinet, there will be about 10-15mm more space requested. You can save the step of dispatch cable when

② . O/A filter running time alarm

The text displays O/A TIME END when running time of the oil filter is exhausted.

5.4,Lubricant Alarm

The text displays LUBE TIME END when running time of the lubricant is exhausted.

5.5,Grease Alarm

The text displays GREASE TIME END when running time of the grease is exhausted.

5.6,Discharge High Temperature Alarm

The text displays DISC T HIGH when DISC T is higher than ALARM DISC T set in FACTORY PARAMETER.

6,Controller Protection

6.1 Motor Protection

6.4, Protection of Air compressor Open Phase

When compressor is at stop status and open phase is detected, THIS FAULT displays PHASE WRONG2, and the controller cannot start the compressor. Check the three phase.

6.5,Protection of Air Pressure High

When the AIR P is above the MAX LIM P, the controller will alarm and stop the machine. THIS FAULT displays HIGH P.

6.6,Protection of Sensor Fault

When pressure sensor or temperature sensor is disconnected, the controller will alarm and stop the machine. THIS FAULT displays **SENSOR FAULT.

7,Trouble Shooting

Failure	Reason	Solution
High discharge temperature	Bad vent condition, Oil shortage etc.	Check the vent condition and lubricant amount etc.
Temperature	Cable broken or PT100 failure	Check the wiring and PT100

8, Block control and network communication

8.1 Block Control：

MAM6080 controller can work in block mode with MAM series compressor (with communication function).16 pieces compressors can work together in a net at most. Block mode can be set as VSD –VSD,PF-PF or VSD- PF .The cable connection for block mode control is as below....1,2 terminals (RS485 terminal) are used for block mode.

In BLOCK PARAMETER SET menu, set as VSD-VSD or PF-PF,master chooses compressor to work according to the TOTAL RUN TIME. Compressor with shorter running time is chosen to start and compressor with longer running time is chosen to stop with priority.

In BLOCK PARAMETER SET menu,, set as VSD-PF, master works first, other compressors work according to the TOTAL RUN TIME. Compressor with shorter running time is chosen to start and compressor with longer running time is chosen to stop with priority.

When MAM6080 controller serves as slave, it is only necessary to set COM MODE as BLOCK, COM ADD can be set from2-16 in sequence according to the quantity of compressors, .BLOCK STATUS set as SLAVE.

8.1.2 Start, Stop Block mode：

Make sure block cables connect correctly, also the parameter of compressor in block mode is set correctly. Activate master, master controls the compressor in net automatically according to the AIR P detected. When manually stop the master, block control stops at the same time, thus, master will no longer send command to compressors in net.

8.2 Network Communication

MAM6080 controller supports MODBUS RTU protocol and can serve as slave when connects with other equipment .It is supports 03、06、16 MODBUS command. Communication baud rate: 9600BPS, 1 start bit, 8 data bits, 1 stop bits and even parity. For MODBUS register address, please see MODBUS communication manual.

9, Inverter Control

485 communication control

There is one spare port for RS485 to communicate with inverter. User can start or stop controller through RS485,it transfers the output frequency based on PID calculation to inverter through 485 port. This is how to

RUN VALUE：	0001	This data is inverter start data (please refer to communication chapter in inverter manual for different inverter.)
RESET(W) ADD：	2135	Corresponding address of inverter reset command
RUN VALUE：	0001	This data is inverter start data (please refer to communication chapter in inverter manual for different inverter.)
FREQ(W) ADD：	2136	Corresponding register address of inverter running frequency source
FREQ(R) =	REC*0001÷0001	The REC value is frequency value with one decimal. Use formula to transfer to corresponding value based on different inverter and send it to inverter. Example： 50HZ running frequency，REC value:500 For inverter with write frequency of 2 decimals, formula: REC**0001÷0010 For inverter with write frequency of 1 decimal, formula: REC**0001÷0001 For the inverter whose max output frequency is in corresponding with 10000,the formula :REC*0020÷0001
STATE(R) ADD：	2135	Read inverter running status address
RUN S =	R AND 0001=0001	Check if inverter has run the formula(please refer to communication chapter in inverter manual)

ERR ADD	8000	Read inverter error address
ERR S =	R AND 0000≠0000	Inverter reports error formula or not
EMERGENCY ADD	2135	Corresponding add of inverter emergency stop command
RUN VALUE	0001	This data is inverter free stop data (please refer to communication chapter in inverter manual for different inverter.)

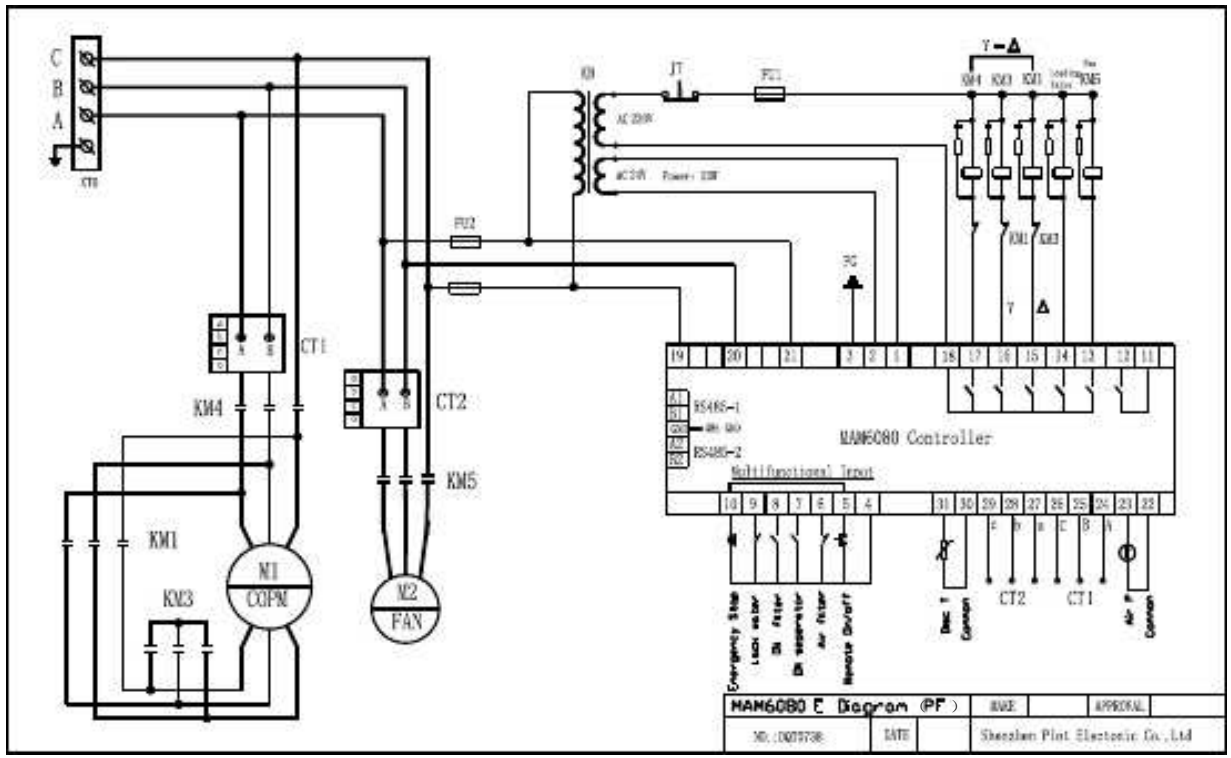
Firstly，controller sends 0 to corresponding register of“STATE(R) ADD” through inverter. After delay for a while, sends 1 to corresponding register of“RUN1(W) ADD”. After another delay, reads“ RUN S”register, and judges if the inverter is running based on the set formula. Calculate the output frequency based on the comparison of pressure detected and pressure set and send this value to corresponding address of“FREQ(R) ADD” through formula operation.

Schneidel inverter parameter set:

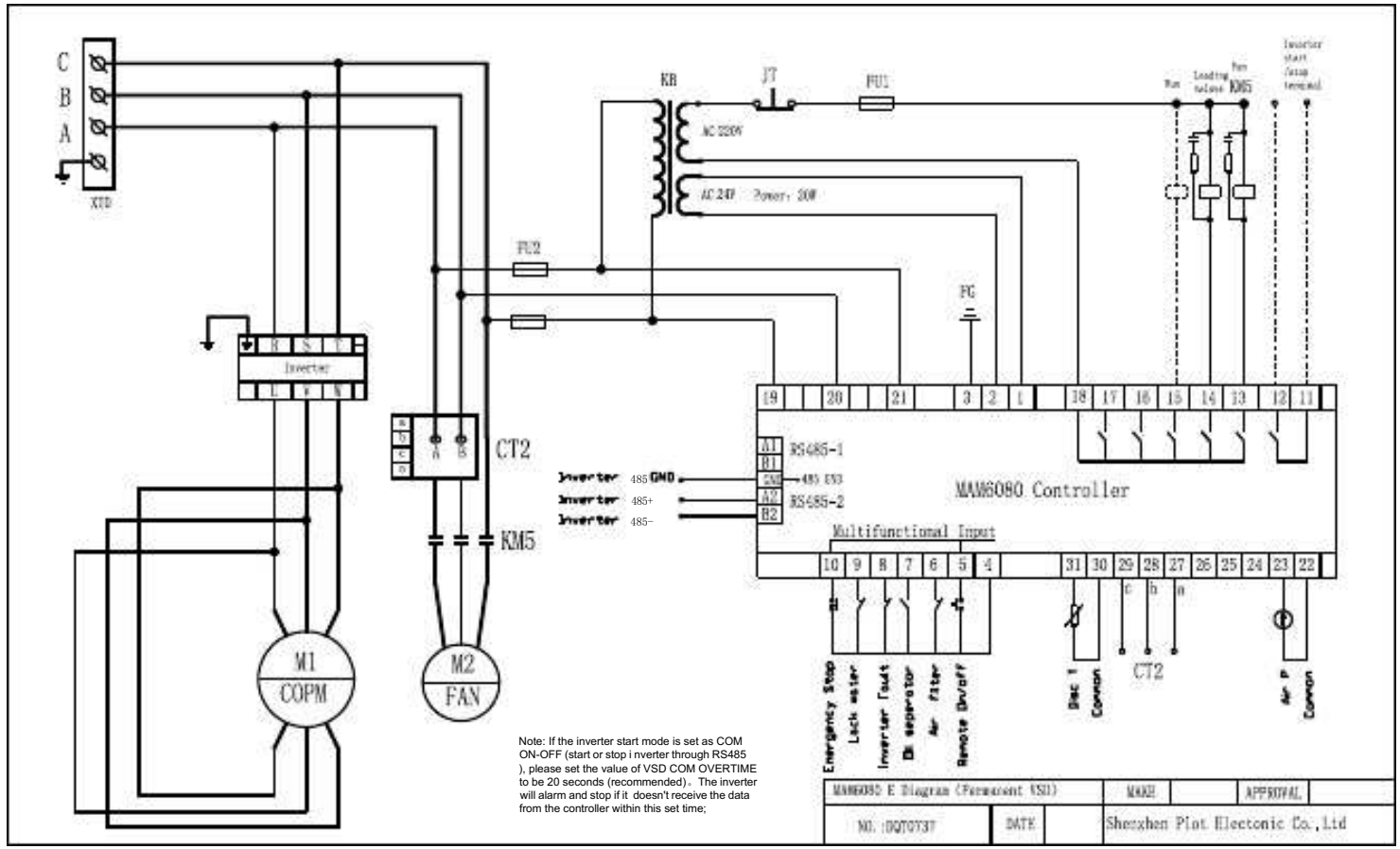
1、CON |AD2-
|AD1-|ADD :1
|EBr :96
|EFO :8N1
|EEO :15
CTL- | Fr1 :ndb
|rln
|PST

10,Schematic Diagram

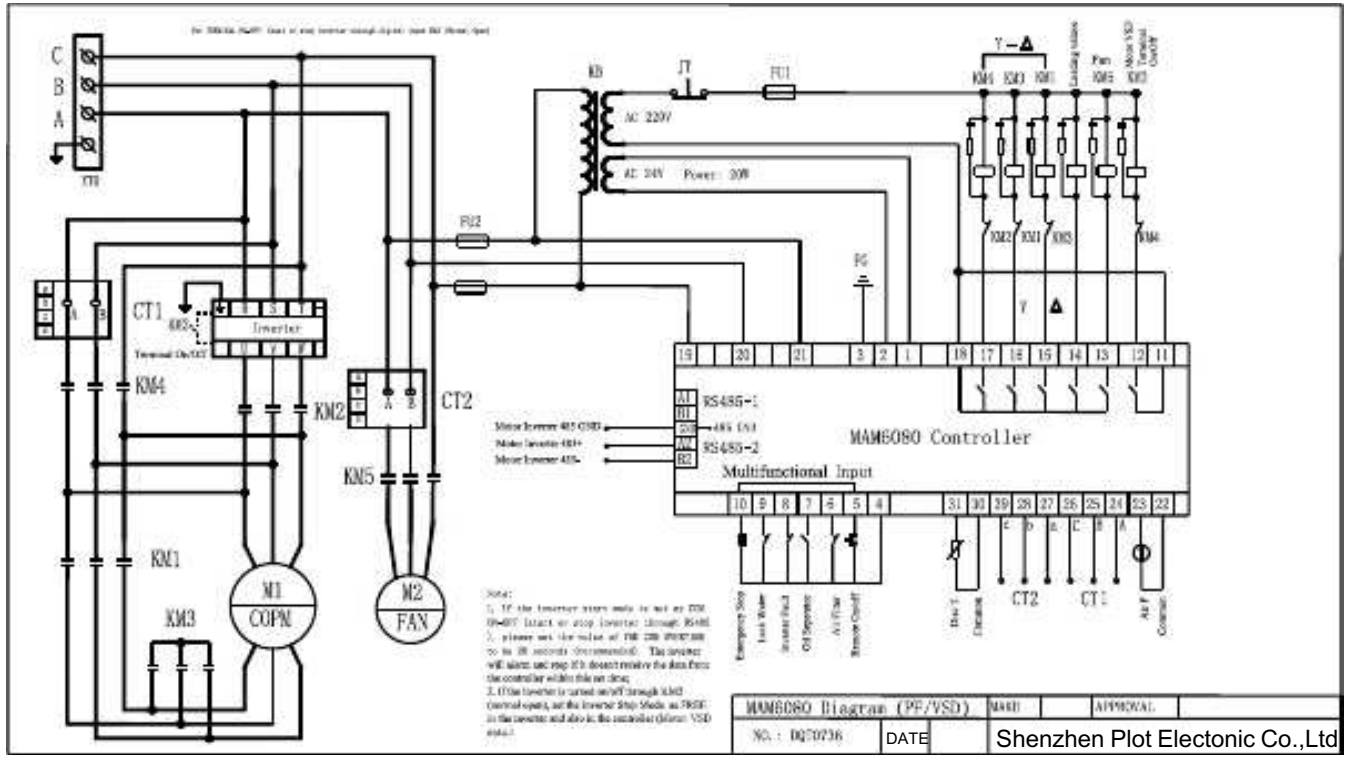
10.1,PF



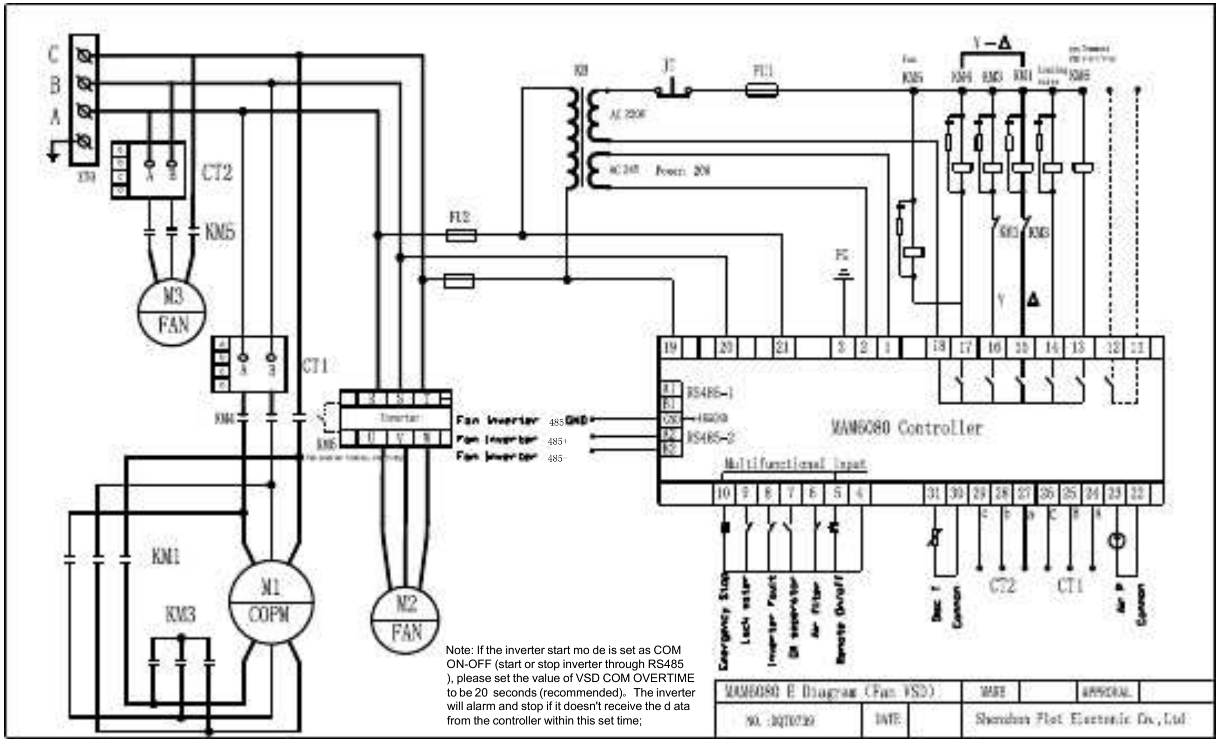
10.2,PERM MAGNET VSD, MOTOR VSD



10.3,PF/VSD


C
B
A
KB
JT
FU1
AC 220V
AC 24V Power: 20W
FU2
PE
CT1
Inverter
KM4
KM2
CT2
KM5
KM1
KM3
M1
COPM
M2
FAN
RS485-1
RS485-2
MAM6080 Controller
Multifunctional Input
MAM6080 Diagram (PF/VSD)
NO.: DQ70736
DATE
APPROVAL
Shenzhen Plot Electonic Co.,Ltd

10.4,FAN VSD


Note: If the inverter start mo de is set as COM ON-OFF (start or stop inverter through RS485), please set the value of VSD COM OVERTIME to be 20 seconds (recommended)。The inverter will alarm and stop if it doesn't receive the d ata from the controller within this set time;
MAM6080 Controller
Multifunctional Input
M1 COPM
M2 FAN
M3 FAN
CT1
CT2
KM1
KM3
KM5
RS485-1
RS485-2

10.5,MOTOR FAN VSD