KY18S SCREW AIR COMPRESSOR

MAM6070IH

CK001 M089-3

USER

MANUAL

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⚠ NOTICE

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

Installation of MAM—KY 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.

Port connection shall be inspected carefully before power on.

Correct ground connection (the third ground)can help increase product capacity of resisting signal interference.

Set rated current of motor: the max current of motor/1.2

Features：

- **Color touch screen**
- **Supports multiple model compressor selection.**
- **Record 100 days of air compressor fault information.**
- **Support for pressure units, temperature units switching.**
- **RS-485 communication, support MODBUS RTU protocol.**
- **Built-in multi-inverter communication protocol.**

Content

1、Function Introduction

(1)、Controller components and functions

Controller includes the main controller, touch screen display, current transformer, communication lines and other related accessories. Related functions described below.

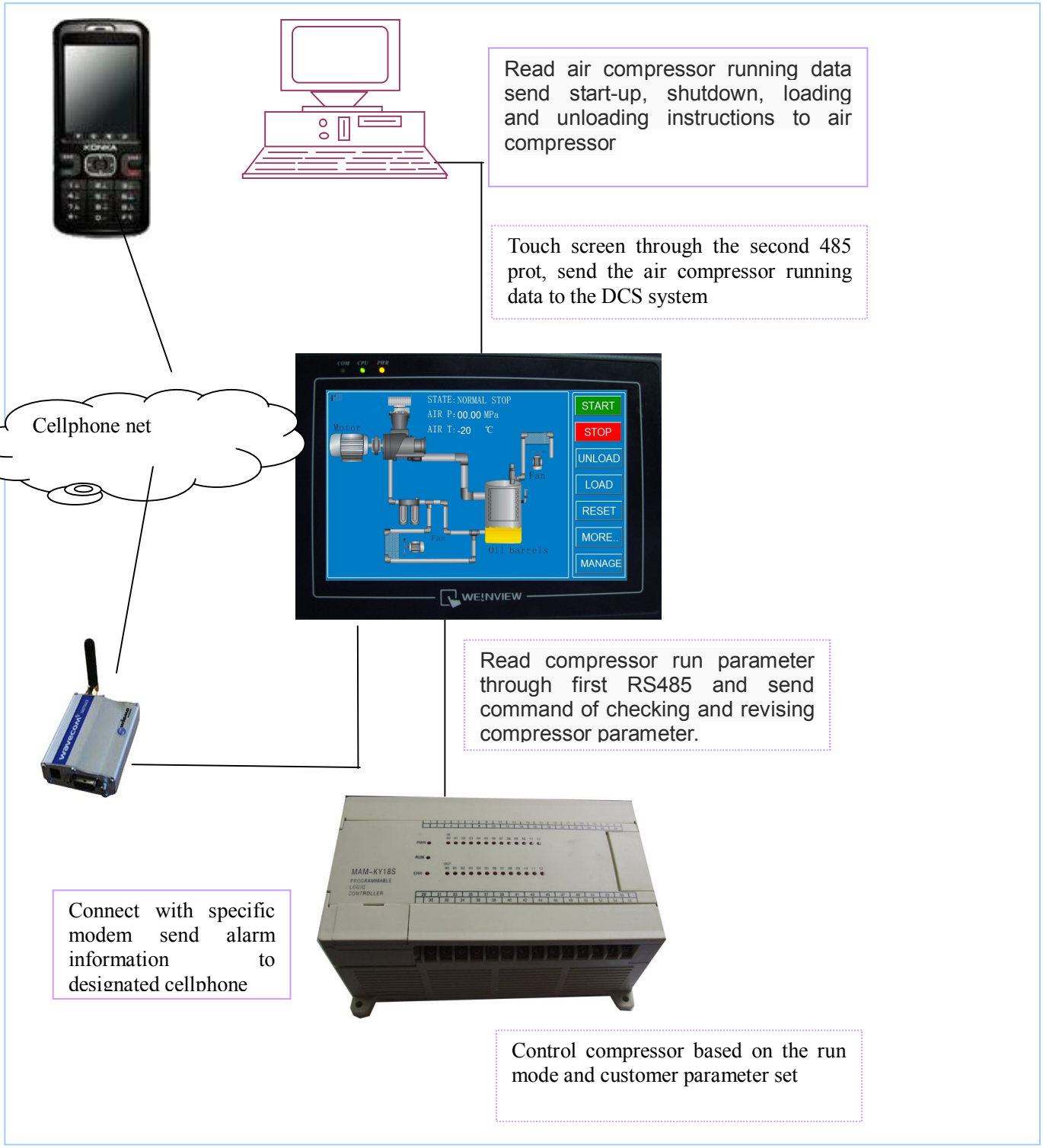


Figure 1.1.1

(2)、Status Display and Operation

The display screen will show as below after power on:：

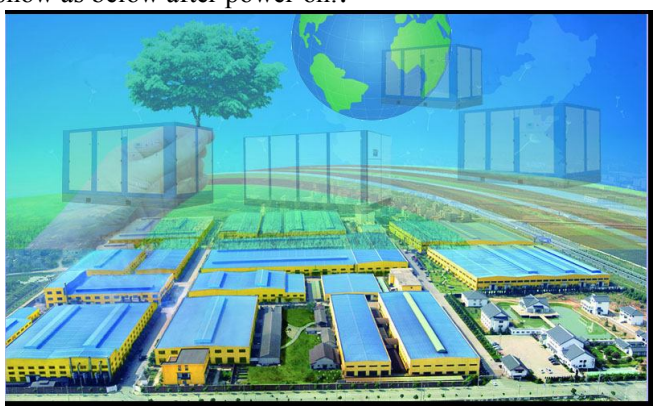


Figure 1. 2. 1

After a while(touch screen model starts for about 30S),enter compressor operation ,menu like below picture:

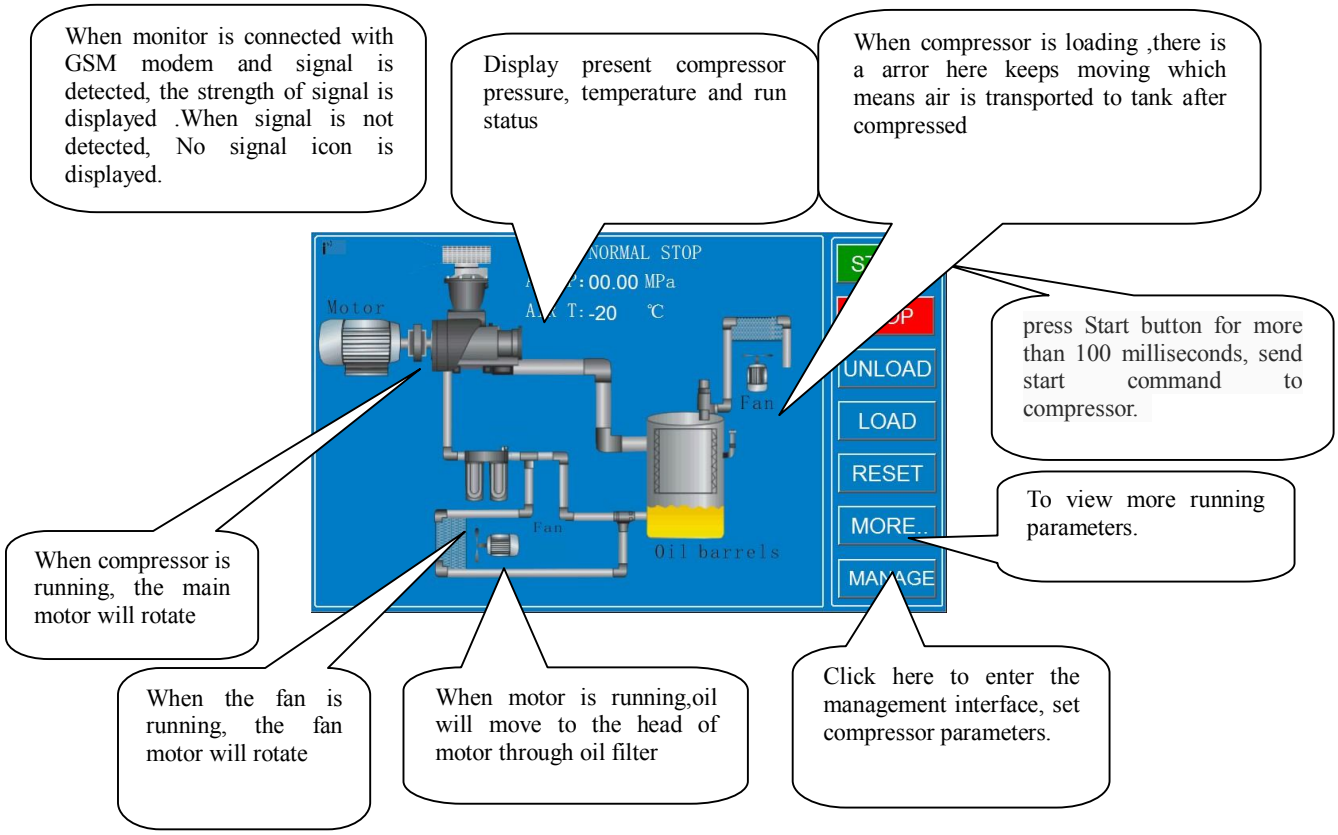
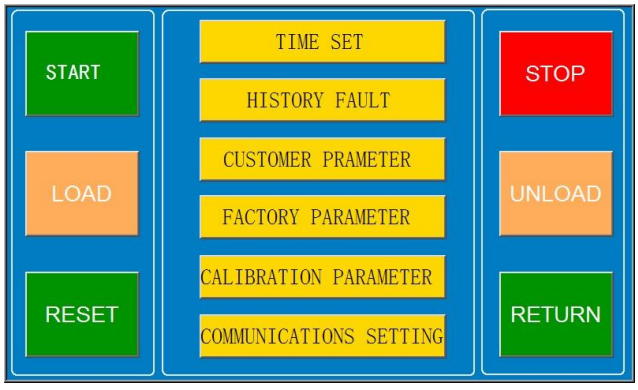


Figure 1.2.2

Press “more” in the menu to check running parameter.(Note: monitor should be communicated with controller correctly for running parameter view)

(3)、Manage menu

Press “Manage” in the menu to enter below menu. User can set different parameter through this menu (Note: monitor should be communicated with controller correctly for parameter modification)



(4)、Customer Parameter Sheet and Function

Menu	Set value	Functional Description
LOAD P	00.65MPa	1,In AUTO load mode , compressor will load if pressure is below this set data 2,In STANDBY mode, compressor will start if the pressure is below this set data
UNLD P	00.80MPa	1,Compressor will unload automatically if air pressure is above this set data 2.This data should be set above LOAD P ,also should be set below UNLD P LIM
FAN START T	0080℃	Fan will start if DISC T is above this set data
FAN STOP T	0070℃	Fan will stop if DISC T is below this set data
MOTOR START TIME	0008S	Set the MOTOR START TIME. Record time when motor is activated, controller will not start overload protection during this time to avoid impulse starting current stopping the motor.
FAN START TIME	0003S	Set the FAN START TIME. Record time when fan is activated, controller will not start overload protection during this time to avoid impulse starting current stopping the fan.
STAR DELAY TIME	0006S	Interval time from star start to delta start.
LOAD DELAY TIME	0002S	Unloading in this set time after enter delta running
UNLOAD TIME	0600 S	Operating time period for air compressor Continuously operates without load; automatically stops operation if operates without load for time period more than this delay time
STOP DELAY	0010S	For NORMAL STOP operation, compressor will stop after it continuously unloads over this set time
RE-START DELAY	0100S	Machine can start only over this set time at any case(after normal stop, standby or alarm &stop)
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;
LOAD MODE	AUTOMATICAL/ MANUAL	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
.OIL FILTER USED TIME	0000H	Record total running time of oil filter. If changing new oil filter, the data should be reset by manual operation.
O/A SEPERATOR USED TIME	0000H	Record total running time of O/A separator. If changing new O/A separator, the data should be reset by manual operation
AIR FILTER USED TIME	0000H	Record total running time of air filter .If changing new air filter, the data should be reset by manual operation
LUBE USED TIME	0000H	Record total running time of lubricant. If changing new lubricant, the data should be reset by manual operation
GREASE USED TIME	0000H	Record total running time of grease. If changing new grease, the data should be reset by manual operation
LIFE OF OIL FILTER	2000H	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

LIFE OF O/A SEPERATOR	2000H	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
LIFE OF AIR FILTER	2000H	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
LIFE OF LUBE	2000H	1, Alarm prompt when total running time of lubricant is above the set data. 2, Set this data to “0000”, alarm function for lubricant running time is not activated.
LIFE OF GREASE	2000H	1, Alarm prompt when total running time of grease is above the set data. 2,Set this data to “0” , alarm function for grease running time is not activated
SOUND OF ALARM	CLOSE/OPEN	Controller detects a fault, the touch screen issue Beep sound
NEW USER PASSWORD	****	User could modify the user password by old user password or factory password
SCREEN BRIGHTNESS	DISABLE/ENABLE	DISABLE:When stop operation,controller will not dim ENABLE: When stop operation, controller backlight will dim
SOFT-START TIME	0008 S	Soft-start delay time (This parameter is only available when compressor is set to soft-start)
VSD P	00.70MPa	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 RATED POWER	022.0KW	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	1500RPM	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 UP SPEED	625	Restrict PID calculations in case the frequency increasing too fast which cause motor speeding up too fast
MOTOR DN SPEED	625	Restrict PID calculations in case the frequency decreasing too fast which cause motor slowing down too fast
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 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 RATED SPEED	1500RPM	Set the corresponding fan speed in 50HZ to calculate actual fan speed in FAN VSD mode((This data is only available in FAN VSD or MOTOR/FAN VSD mode)
FAN UP SPEED	625	Restrict PID calculations in case the frequency increasing too fast which cause fan speeding up too fast

FAN DN SPEED	625	Restrict PID calculations in case the frequency decreasing too fast which cause fan slowing down too fast
POWER UNIT SELECT	KW/HP	Set power units

(5)、Factory Parameter View and Modification

Menu	Initial Data	Function
MOTOR RATED CURR	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 CURR	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	105℃	When discharge temperature reaches this set data, compressor will alarm
STOP DISC T	110℃	When the discharge temperature reaches this set data, compressor will alarm and stop
STOP AIR P	00.90MPa	When pressure reaches this set data ,compressor will alarm and stop
UNLD P LIM	0.85MPa	This data is the maximum of UNLD P. The UNLD P in the customer parameter must be set no higher than this data.
CURR UNBALANCE	0006	When MAX -MIN CURRENT >=（1+ SET DATA*MIN CURRENT/10 ）,the unbalance protection is activated ,compressor will alarm and stop, reporting MOTOR CURR UNBAL If the set data ≥ 15, the unbalance protection will not be activated.
OPEN PHASE PROT	002.0S	If OPEN PHASE protection ≥20 seconds, OPEN PHASE protection is not activated
ALARM LONG STOP	0000H	When controller detects oil filter， air filter, O/A separator lubricant and grease running over the max time and alarm over the data set, compressor will alarm and stop
FAULT RECORD RESET	****	Input”8888”and press “set“ button to clear all the history fault record.
MAX RUN TIME	0000H	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.
STOP SYSTEM PRES	01．0MPa	Set the stop system pressure. Set as 0,controller will shield relevant fault of system pressure(This data is set as 0 if only connect air pressure sensor)
PIPING PIEZORESIS	00.01MPa	Maximum set: 0.20MPa
OIL/AIR PRES	00.20MPa	In compressor loading status , when AIR P and tank pressure all above 0.5MPa,and tank pressure-AIR P-pipe piezoresistive> OIL/AIR PRES, system will alarm
CURR FILTER TIMES	0004	The current displayed in the RUN PARAMETER is the average of the detect data. The more of CURR FILTER TIMES, the slower current will change in RUN PARAMERTER.
FREQ SEL	50Hz/60Hz	Choose operation power frequency. (This parameter influences the sample current value. When this data is set incorrectly, the actual current is 1.2 times different from displayed current value)
SERIAL NO.	9999999999	Serial No. set by manufacturer

TOTAL LOAD TIME	000095 H	Modify the TOTAL LOAD TIME
TOTAL RUN TIME	000100 H	Modify the TOTAL RUN TIME
PROD.DATE	9999-99-99	Production date set by manufacturer
LOW T PROT	-0005℃	1,In stop mode, air compressor is not allowed to start when discharge temperature is below this set data 2, When the discharge temperature is below this data two minutes after turned on, w, compressor will alarm and stop ,reporting LOW T
PRESSURE UNIT	MPa/Bar/PSI	Set pressure units
TEMPERATURE UNIT	℃/℉	Set temperature units
LOW VOLTAGE	0350V	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.
HIGH VOLTAGE	0410V	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.
PHASE PROT	DISABLE ENABLE	ENABLE: Phase sequence protection function is activated DISABLE: Phase sequence protection function is not activated
COMPRESSOR MODEL SELECTION	PF TYPE/ PF/VSD TYPE/ MOTOR VSD TYPE/ FAN VSD TYPE/ MOTOR&FAN VSD TYPE/ SOFT START TYPE	Select compressor mode
FACTORY PASSWORD	****	User could modify the factory password by old factory password
FACTORY ADVANCED PASSWORD	****	Set high factory password。
MOTOR MIN FREQ	040.0HZ	In the process of adjustment, The minimum operating frequency when pressure is over the LOAD P and not reach the UNLD P
MOTOR MAX FREQ	180.0HZ	The maximum operating frequency in loading status
MOTOR UNLD FREQ	0030.0HZ	Permitted operating frequency in UNLD MODE
MOTOR INT SCALE	00.20MPa	(PID TARGET P - INTEGRAL SCALE)< detected AIR P < (PID TARGET P + INTEGRAL SCALE）,INTEGRAL GAIN works
MOTOR INT INITIAL	0020	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 PROP GAIN	0010	Track speed of PID TARGET P , the bigger the data, the faster the track; the smaller the data, the slower the track
MOTOR INT GAIN	0012	Track the speed of PID TARGET P and STEADY STATE ERROR, the bigger the data ,the faster the track and smaller the STEADY-STATE ERRORS; the smaller the data ,the slower the track and bigger the STEADY-STATE ERRORS

MOTOR DIFF GAIN	0000	Track the hysteresis system(such as temperature) ,it is not used very often and normally set as “0000”
MOTOR PID CYCLE	001.0S	Set the PID calculation interval time to adjust motor speed.
MOTOR INVERTER NUMBER	0	Set motor inverter number, touch model can prestore at most 50 different inverter communication address.(Inverter should support MODBUS RTU protocol for communication).Inverter password is required to modify this data
MOTOR INVERTER CURRENT	HHHH	Display motor inverter current address(Inverter password is required to modify this data,the address is hexadecimal number)
MOTOR INVERTER VOLTAGE	HHHH	Display motor inverter voltage address(Inverter password is required to modify this data,the address is hexadecimal number)
MOTOR INVERTER POWER	HHHH	Display motor inverter power address(Inverter password is required to modify this data,the address is hexadecimal number)
MOTOR INVERTER FREQUENCY	HHHH	Display motor inverter frequenxy address(Inverter password is required to modify this data,the address is hexadecimal number)
MOTOR INVERTER ADDRESS	0001	Set motor inverter address and make it consistent with inverter address.
MOTOR STOP MODE	SLOW/FREE	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
MOTOR INVERTER NAME	ATV31/…	Set motor inverter name。
MOTOR COMMUNICATION FORMAT	9600BPs 8N1	Set controller communication format and make it inconsistent with inverter format
FAN MIN FREQ	010.0HZ	In the process of adjustment, The minimum operating frequency when temperature is below the VSD work temperature
FAN MAX FREQ	050.0HZ	In the process of adjustment, The maximum operating frequency when temperature is over the VSD work temperature
FAN INT SCALE	0005℃	(PID TARGET T - INTEGRAL SCALE)< detected DISC T < (PID TARGET T + INTEGRAL SCALE），INTEGRAL GAIN works. Beyond this range, INT INITIAL works.
FAN INT INITIAL	0020	When detected DISC T<（PID TARGET T -INTEGRAL SCALE） or Detected DISC T>（PID TARGET T +INTEGRAL SCALE） Integral calculation is based on this data
FAN PROP GAIN	0020	Track speed of PID TARGET T , the bigger the data, the faster the track and the less stable the data; the smaller the data the slower the track and the slower the adjustment
FAN INT GAIN	0020	Track the speed of PID TARGET T and steady state error, the bigger the data ,the faster the track and smaller the steady-state errors; the smaller the data ,the slower the track and bigger the steady-state errors
FAN DIFF GAIN	0000	Normally set as“0000”, this function is not activated
FAN PID CYCLE	001.0S	Set the PID calculation interval time to adjust fan speed.
FAN INVERTER NUMBER	0	Set fan inverter number, touch model can prestore at most 50 different inverter communication address.(Inverter should support MODBUS RTU protocol for communication).Inverter password is required to modify this data
FAN INVERTER CURRENT	HHHH	Display fan inverter current address(Inverter password is required to modify this data, the address is hexadecimal number)
FAN INVERTER VOLTAGE	HHHH	Display fan inverter voltage address(Inverter password is required to modify this data, the address is hexadecimal number)
FAN INVERTER	HHHH	Display fan inverter power address(Inverter password is required to

POWER		modify this data, the address is hexadecimal number)
FAN INVERTER FREQUENCY	HHHH	Display fan inverter frequency address(Inverter password is required to modify this data, the address is hexadecimal number)
FAN INVERTER ADDRESS	0001	Set fan inverter address and make it consistent with inverter address.
FAN INVERTER STOP	SLOW/FREE	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. FAN INVERTER RUN terminal will keep closed to control inverter frequency decreasing and it will open until 1 S before STOP DELAY finishes
FAN INVERTER NAME	ATV31/…	Set fan inverter name
FAN COMMUNICATION FORMAT	9600BPs 8N1	Set controller communication format and make it inconsistent with inverter format

(6)、Calibration Parameter

You can set relative data of controller in CALBR PARAMETER. It is not allowed to view and modify without manufacturers authorization, so please verify the password before view and modification. The modification of CALBR PARAMETER is similar with CUSTOMER PARAMETER. Main function is shown as below.

Note: calibration parameter has been set in factory, normally, it is not necessary to modify. The modification of calibration parameter may affect compressor operation.）

PARAMETER	Initial Value	Functions
P COEF	1.006	P COEF
P ZERO	00.03	P ZERO
T COEF	0.975	T COEF
T ZERO	0007	T ZERO
MOTOR A CURRENT COEF	0.985	MOTOR A CURRENT COEF
MOTOR B CURRENT COEF	0.985	MOTOR B CURRENT COEF
MOTOR C CURRENT COEF	0.967	MOTOR C CURRENT COEF
FAN A CURRENT COEF	0.967	FAN A CURRENT COEF
FAN B CURRENT COEF	0.961	FAN B CURRENT COEF
FAN C CURRENT COEF	0.973	FAN C CURRENT COEF
VOLT COEF	1.025	Calibrate voltage value. The range of coefficient:0.800-1.200 Voltage value=voltage detect*voltage coefficient
P 1 COEF	1.006	Calibrate pressure value. The range of coefficient:0.800-1.200 pressure value=pressure detect*pressure coefficient
P 1 ZERO	00.03	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 CURRENT COEF	1.083	Current value from controller to motor inverter
P CURRENT ZERO	0045	Current value from controller to motor inverter

T CURRENT COEF	1.088	Current value from controller to fan inverter
T CURRENT ZERO	0043	Current value from controller to fan inverter
PHASE ERROR VOLTAGE THRESHOLD	000.9	After three phase adjustment, controller will report “PHASE WRONG” if voltage is detected lower then this set value. Set as“ 0”,PHASE WRONG protection is not activated.
PHASE VOLTAGE	000.0	Real time Voltage to judge phase reversal
OPEN PHASE VOLTAGE THRESHOLD	000.0	When open phase voltage is detected lower than this set value, controller will report “PHASE WRONG” Set as“ 0”,OPEN PHASE protection is not activated.
OPEN PHASE VOLTAGE	000.0	Real time Voltage to judge phase open
MOTOR SHORT-CIRCUIT CURRENT MULT	0008	Current detected ≥Motor rated current ×Motor short circuit multiple. Controller will report ”motor short circuit”
MOTOR BLOCK CURRENT MULT	0004	Current detected ≥Motor rated current ×Motor block multiple. Controller will report ”motor block”
FAN SHORT-CIRCUIT CURRENT MULT	0008	Current detected ≥Fan rated current ×Fan short circuit multiple. Controller will report ”motor short circuit”

(7)、Operation Authorization and Password.

Controller provides multiple passwords and access management. According to different levels of passwords, controller provides different levels of operating authorization, details as following:

8.1, CUSTOMER PASSWORD：factory set:：_____

Permissions: Allows to modify part of CUSTOMER PRAMETER and customer password.(It is not allowed to modify OIL FILTER USED TIME,O/A SEPERATOR USED TIME,AIR FILTER USED TIME,LUBE USED TIME,GREASE USED TIME)

8.2, MAINTENANCE PASSWORD：Fixed：_____

Permissions：Allows to modify all CUSTOMER PRAMETER. Allows to modify TOTAL RUN TIME,TIME LIMIT,ALARM LONG STOP ,PHASE PROTECT in FACTORY PARAMETER.

8.3, FACTORY PASSWORD：factory set：_____

Permissions：Allows to modify part of CUSTOMER PRAMETER , customer password, part of factory parameter and factory password.(Not allowed to modify OIL FILTER USED TIME,O/A SEPERATOR USED TIME,AIR FILTER USED TIME,LUBE USED TIME,GREASE USED TIME in customer parameter and TOTAL RUN TIME,TIME LIMIT,ALARM LONG STOP ,PHASE PROTECT in FACTORY PARAMETER)

8.4, CALIBRATE PASSWORD: fixed:_____

Permissions: Allows users to calibrate currents in CALBR PARAMETER.

8.5, INVERTER SET PASSWORD：factory set：_____

Permissions：Allows to modify all INVERTER SET and calculation of current, voltage, power and frequency of inverter

2、Controller Function and Technical Parameter

2.1,Controller operation power：AC220V、20W。

2.2, High voltage, low voltage protection.

2.3, Phase anti-reversal protection: When compressor is at stop mode and detects phase reversal, response time≤

1s

2.4, Motor protection: This controller provides open phase, unbalance and overload protection to motor, and also, provides overload, block, and short circuit protection to fan.

2.4.1, Open phase protection：When any phase opens, the response time equals to set time；This function is not activated when OPEN PHASE PROTECTION time is set over 20s

2.4.2, Unbalance protection: when MAX-MIN current >= SET DATA *MIN current/10 ,respond time is 5s；

2.4.3, Protection features of overload (time unit: second)，please see following table（table 2.1.1）for your reference. Multiple＝I_{actual} / I_{set} ,response time is shown in following table (table 2.1.1) according to overload multiples from 1.2 times and 3.0 times .

I_{actual}/I_{set} Time parameter	≥1.2	≥1.3	≥1.5	≥1.6	≥2.0	≥3.0
Response time（S）	60	48	24	8	5	1

Table 2.1.1 curve table for protection of motor

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

2.6, Measurement:

①、DISC T：-20～150℃，Accuracy：±1℃.

②、Running time：0～999999H.

③、Current：0～6553.5A。

④、Pressure：0～1.60MPa。Accuracy；0.01Mpa。

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

2.8, Current error is less than 1.0%.；

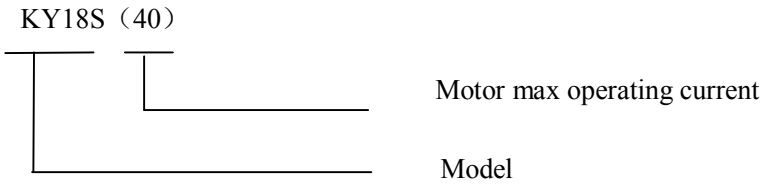
2.9, RS485 communication function,communicate with DCS as slave.

2.10,GSM alarm function: send alarm information to designated cellphone

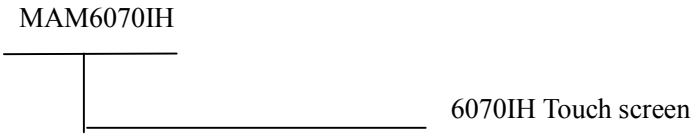
2.11, Remote control compressor: When set as REMOTE, user can remotely control the compressor.

3、Model and Specification

⑴、Controller model explanation



⑵、Monitor model explanation



⑶、Power specification sheet for corresponding motor.

~~Parameter~~	Current range	Suited main	Remark	Description

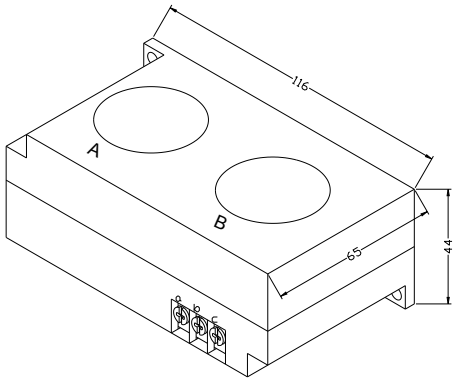
Specification	(A)	motor power (KW)		
KY18S（20）	8～20	Below 11		Fan has three levels of current, such as 0.2-2.5A, 1-5A and 4-10A, determined by current of motor
KY18S（40）	16～40	11-18.5		
KY18S（100）	100	22-45		
KY18S（200）	200	55-90		
KY18S（400）	400	110		
KY18S（600/5）	600/5	200-250	With CT	

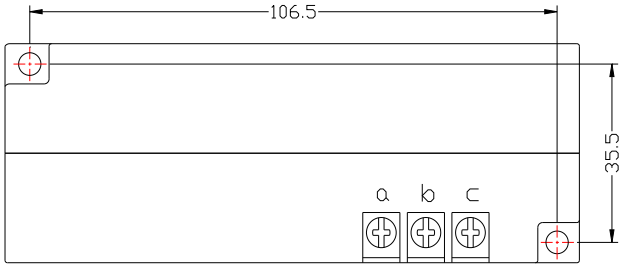
Table 3.3.1

4、Installation

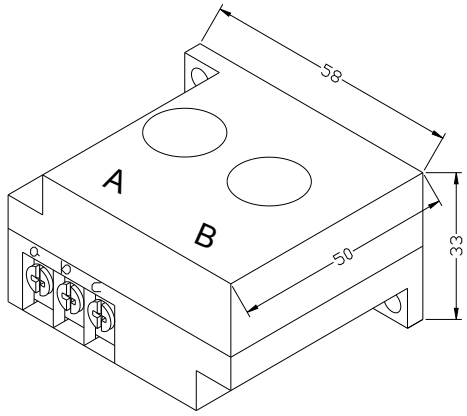
⑴、CT installation

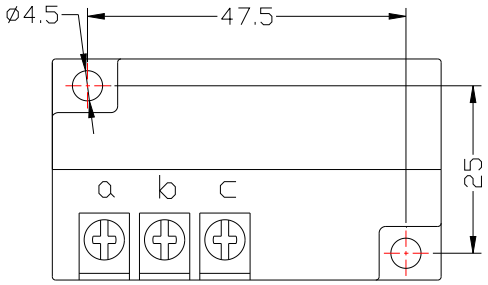
The CT shall be installed at a place where the current of motor cable can be measured, thus, controller can be set according to instructions on motor nameplate, and the detailed dimension is shown as below:





Picture4.1.1,Structural dimension of CT1（ϕ36 hole）　　Picture 4.1.2,CT1 Installation dimension





Picture4.1.3,Structural dimension of CT2（ϕ10 hole）　　Picture 4.1. 4,CT2 Installation dimension

⑵、Controller installation

When install the controller, room should be left around controller for wiring. The specific dimension is shown as below:

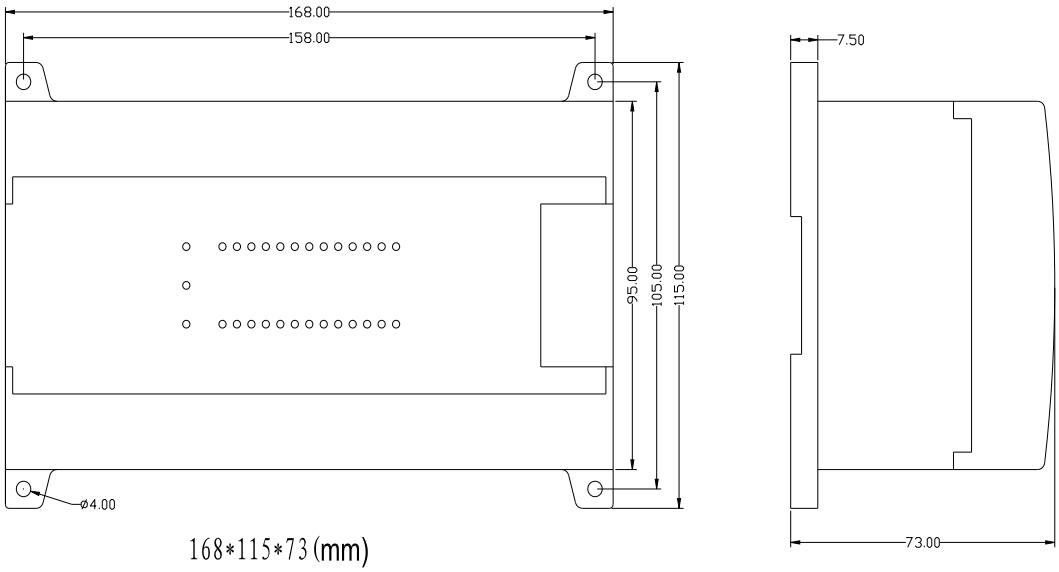


Figure 4.2.1**.** Controller dimension

(3)、Monitor hole size

Figure 4.3.1 Monitor hole size

5、Alarm Function

5.1, Air Filter Alarm

①. Air filter block check. (In HARDWARE CONFIG , there is air check function set in digital input terminal)
The monitor displays AIR BLOCK by checking pressure differential switch close.

②. Air filter running time alarm
The text displays AIR TIME END when running time of the air filter is exhausted.

5.2, Oil Filter Alarm

①. Oil filter block check. (In HARDWARE CONFIG, there is oil check function set in digital input terminal)
The monitor displays OIL BLOCK by checking pressure differential switch close.
②. Oil filter running time alarm
The text displays OILTIME END when running time of the oil filter is exhausted.

5.3, O/A Separator Alarm

①. O/A separator block check. (In HARDWARE CONFIG, there is O/A check function set in digital input terminal)
The monitor displays O/A BLOCK by checking pressure differential switch close.
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 Temperature High Alarm

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

5.7, Oil/Air Pres Alarm

In compressor loading status , when AIR P and tank pressure all above 0.5MPa,and tank pressure AIR P-pipe piezoresistive> OIL/AIR PRES, system will alarm

6、Controller protection

6.1, Motor Protection

KY18S compressor controller provides overload, open phase, unbalance, high voltage, low voltage protection to motor and overload, block and short circuit protection to fan.

Electronic failure	Failure Display	Reason
Overload	Display ":MOTOR/FAN CURR OVLD"	Overload, bearing wear and other mechanical failure
Open phase	Display "MOTOR CUR OPEN PHASE"	Power supply, contactor and open phase of motor
Current Unbalance	Display "MOTOR CURR UNBAL"	Poor contact of contactor, inside open loop of motor
High Voltage	Display "HIGH VOLTAGE"	Motor voltage high
Low Voltage	Display "LOW VOLTAGE"	Motor voltage low

6.2, Protection of Discharge Temperature High

When DISC T is above the STOP DISC T, the controller will alarm and stop the machine. THIS FAULT displays DISC T HIGH

6.3, Protection of Air Compressor anti-reversal

When compressor is at stop status and three phases sequence is not in order, THIS FAULT displays PHASE WRONG1, and the controller cannot start the motor. Change the position of any arbitrary two phase power lines and check the rotation of motor.

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.

6.7, Protection of Low Temperature

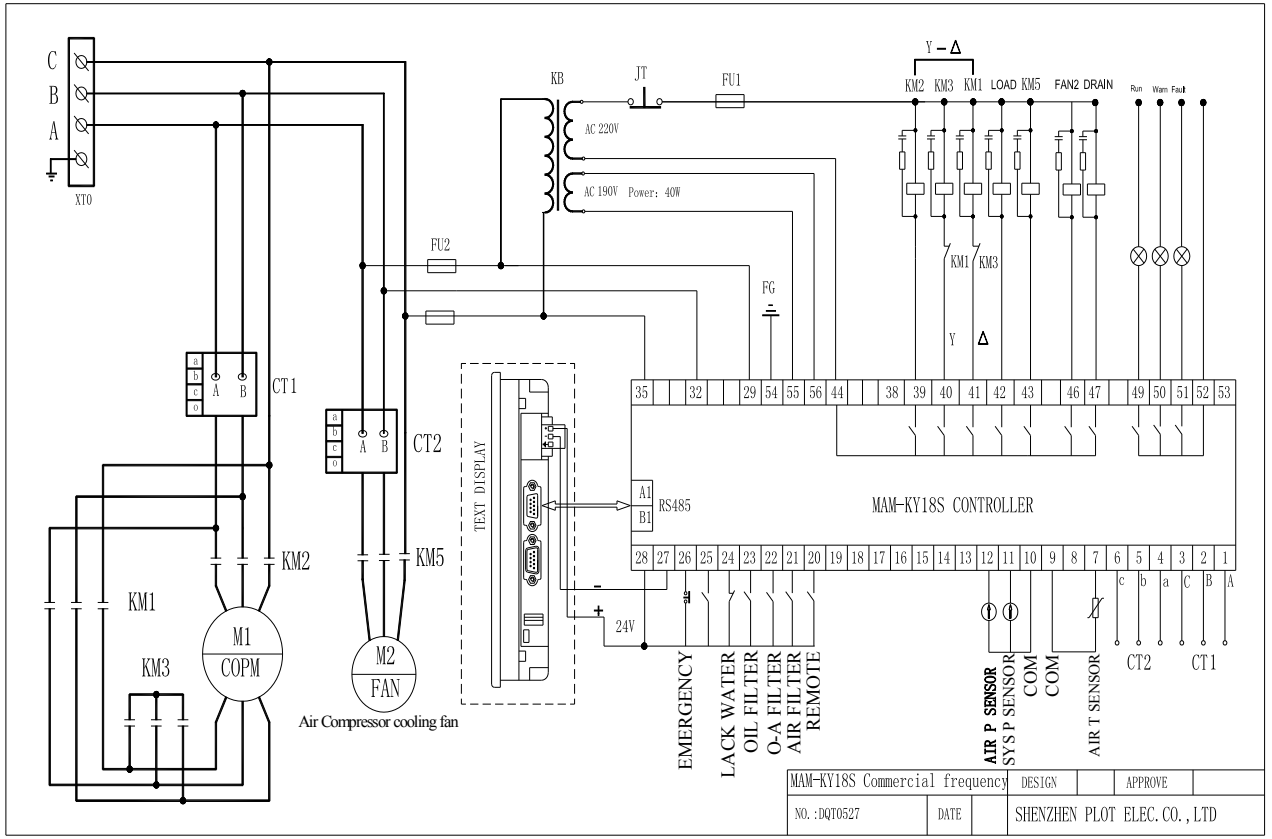
Two minutes after compressor turns on, when DISC T is below LOW T PRO in FACTORY PARAMETER, the controller will alarm and stop. THIS FAULT displays DISC T SENSOR FAULT,

7、Toubleshooting

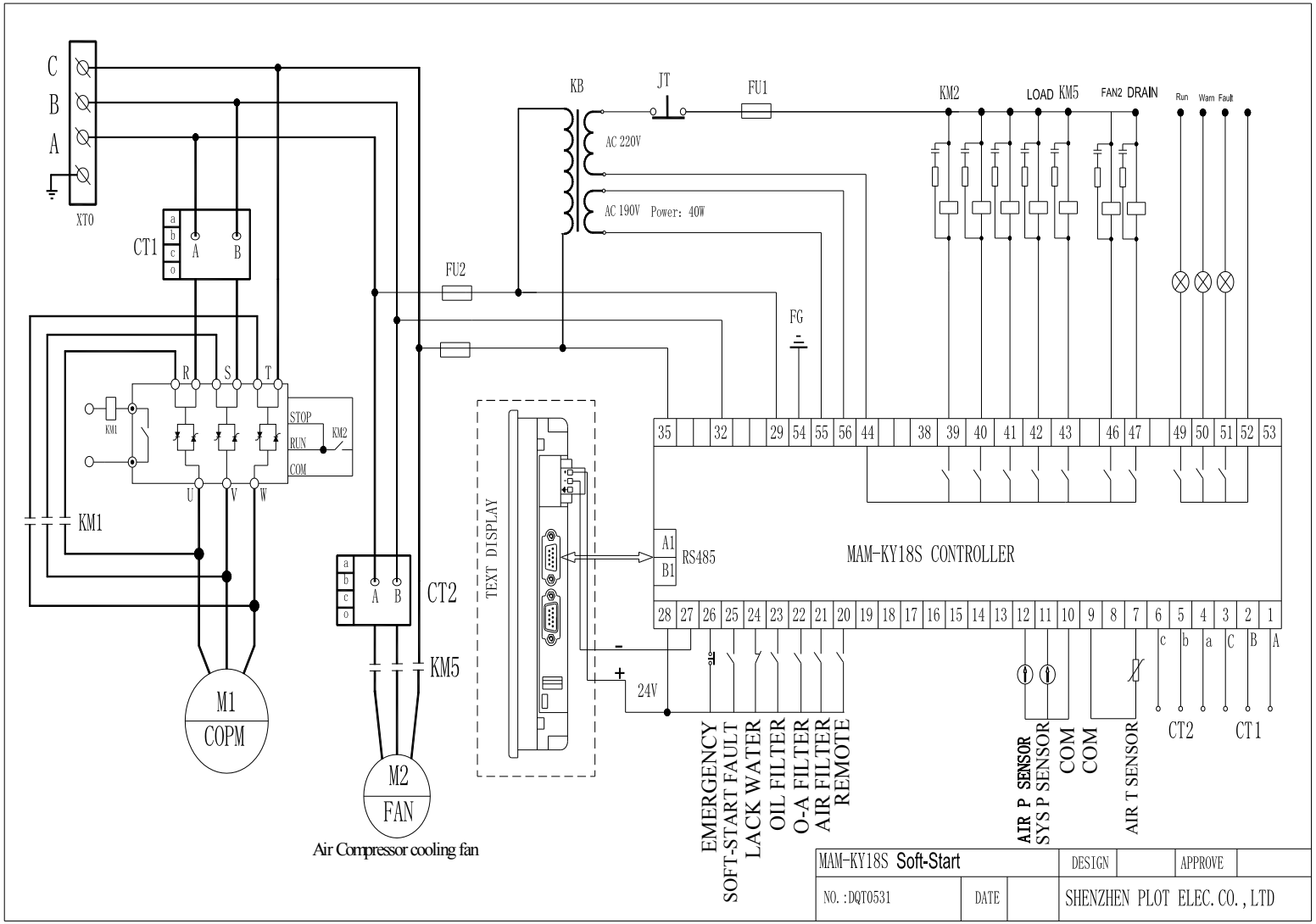
Failure	**Reason**	**Disposal method**
High discharge temperature	Bad vent condition, Oil shortage etc.	Check the vent condition and lubricant amount etc.
Temperature Sensor Failure	Cable broken or PT100 failure	Check the wiring and PT100
High Pressure	Pressure too high or the pressure sensor failure	Check the pressure and the pressure sensor
Pressure Sensor Failure	Cable broken, Sensor failure or the cables connect reversely	Check the wiring and pressure transmitter
Open Phase	Power open phase or the contactor failure	Check the power and contactors
Overload	Voltage too low, tubes block, bearing wear off or other mechanical failure or wrong set data etc.	Check the set data, voltage, bearings, tubes and other mechanical system.
Unbalance	Current unbalance, contactor failure or the internal open loop of the motor	Check the power, contactor and the motor
Wrong Phase Sequence	Phase sequence reversal or open phase	Check the wiring
Motor overload during start	Master start time set to less than the star delta delay time	Reset the master start time longer than star delay + 2 seconds
Main Contactor shakes frequently	The emergency stop button is loose or controller is reset by interference	Check if the coil of contactor connects with RC snubber or not

8、Schematic Diagram

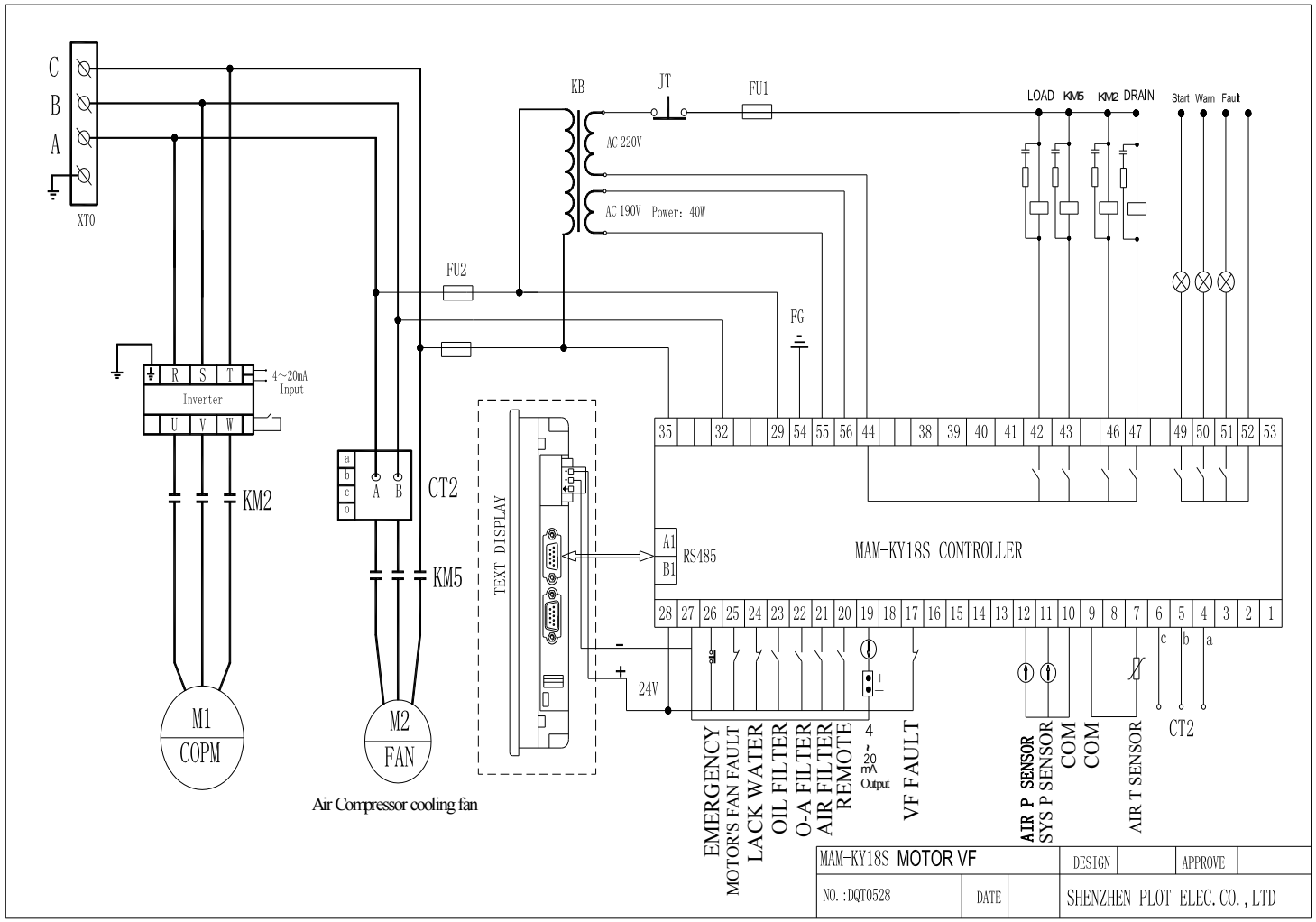
(1)、PF TYPE



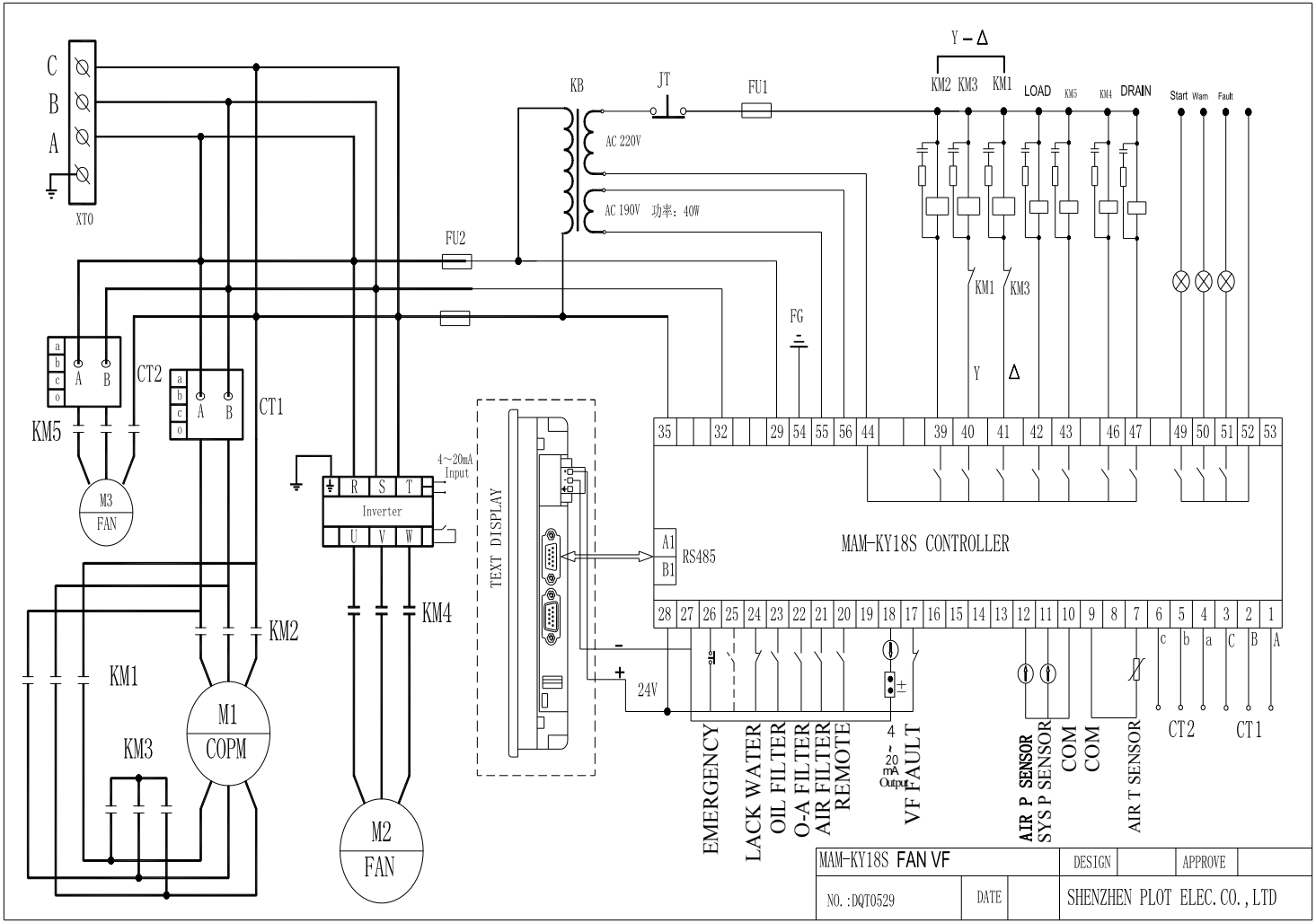
(2)、SOFT-START TYPE



(3)、MOTOR VSD TYPE



(4)、FAN VSD TYPE



(5)、MOTOR、FAN VSD TYPE