ELECTRIC FIRE PUMP CONTROLLER

INSTALLATION AND MAINTENANCE MANUAL

MODEL FPCE

Kerim elektromotor

ATTENTION!!

The installation and commissioning manual is intended for authorized installation, commissioning and maintenance personnel.
Installation personnel must have a basic knowledge of how to work with electrical equipment. Commissioning and maintenance personnel must be experienced in how to operate electrical equipment.

ATTENTION!!

Read these operating instructions carefully before installation and use.
This enclosure must be installed by qualified personnel in accordance with the system installation norms in force in order to avoid the possibility of damage to persons or objects.
Disconnect the supply voltage before any intervention on the enclosure.
The manufacturer assumes no liability for electrical safety resulting from improper use of the enclosure.
The products described in this document are subject to change or new features at any time. For this reason, the descriptions and values in this document are not binding.

1. GENERAL FEATURES

128x64 pixel graphic LCD display
10 keys for functions and setup
9 LEDs for status information
2 language options
Communication interface RS485, Modbus RTU
Advanced programmable I/O functions
5 programmable digital inputs
8 programmable relay outputs
VAC three-phase voltage display
AAC three-phase current indicator
Interlocked rotor protection
Phase missing & phase reversed indication
Manual start & stop buttons
Emergency start & stop buttons
Remote start & stop
Automatic and manual testing
Analog inputs for pressure transmitter
Audible alarm
Ambient temperature monitoring and control
Alarm contacts for remote monitoring
Parameter backup & restore
Parameter protection with password.
Event recorder

2. WORKING METHODS

a. Automatic Start & Automatic Stop

The switch on the panel must be in “AUTOMATIC” position.

02.09 Auto stop parameter must be set as “ENABLED”.

In this operating mode, the status of the pressure input selected according to the automatic starter selection is monitored and the motor is started when there is no pressure.

With the values measured from the current inputs, it is monitored whether the motor is running or not. If the motor does not start, “Motor Start Failure” warning is given. “Siren” and “General Failure” outputs are activated.

After the engine starts running, the status of the pressure inlet is continued to be monitored. If the line pressure is complete, it stops the engine.

Engine start delay and stop delay times can be adjusted.

b. Automatic Start & Manuel Stop

The switch on the panel must be in “AUTOMATIC” position.

02.09 Auto stop parameter must be set as “DISABLED”.

In this operating mode, the status of the pressure input selected according to the automatic starter selection is monitored and the motor is started when there is no pressure.

With the values measured from the current inputs, it is monitored whether the motor starts or not. If the motor does not start, “Motor Start Failure” warning is given. “Siren” and “General Failure” outputs are activated.

After the engine starts, the status of the pressure input is continued to be monitored. When the line pressure is completed, the engine does not stop, but the STOP led on the front panel lights up and the STOP button is activated. The operator stops the motor by pressing the STOP button.

The start delay time of the motor can be adjusted.

c. Manuel Start & Manuel Stop

The switch on the panel must be in the “MANUAL” position.

Pressure inputs are not monitored in this mode.

The device gives “Automatic Mode Locked” warning and activates “Siren” and “General Fault” outputs.

The engine is started and stopped with the “MANUAL START” and “MANUAL STOP” buttons on the FPC panel.

!!! Attention !!! The panel must not be left in this mode for fire fighting operation.

d. Emergency

The pump is started and stopped with the “EMERGENCY START” button on the panel.

The position of the automatic manual selection switch is ignored.

For emergency intervention in case the FPC panel becomes unusable for any reason.

No status related to the engine and installation can be monitored.

3. TEST PROCEDURE

The periodic test is only available when the AutoStart & AutoStop mode is active.

The periodic test procedure includes the simulation of an auto-start attempt with pressure loss.

A solenoid valve is triggered on the set test day and time. The pressure in the test rig drops and the pump is started.

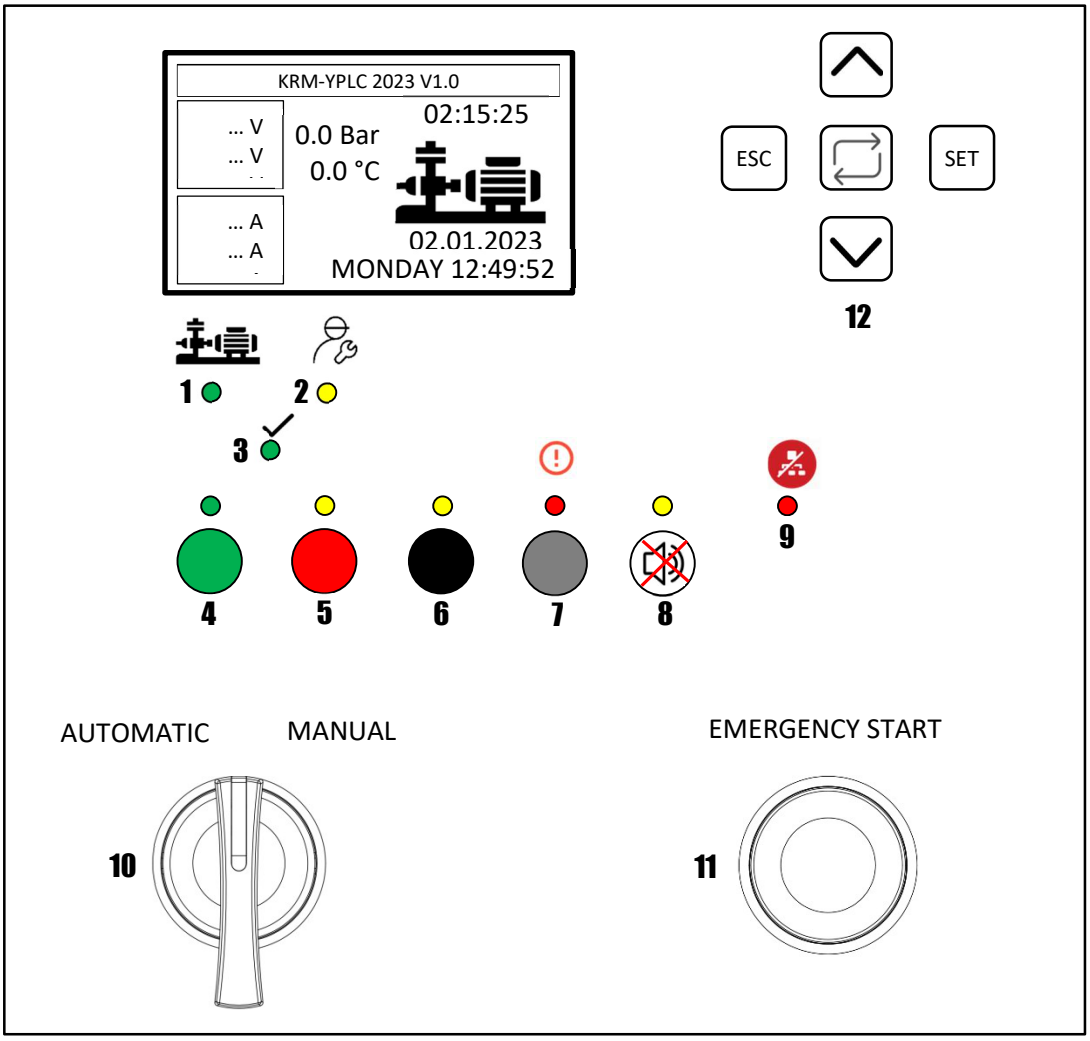
If the line pressure does not drop or the pump cannot be started, “Test Failed” warning is given. “Siren” and “General Fault” outputs are activated.

Periodic test can be disabled with parameter 02.10.

You can run the test procedure by pressing the “TEST” button while the switch on the panel is in the “AUTOMATIC” position.

4. PANEL FRONT VIEW

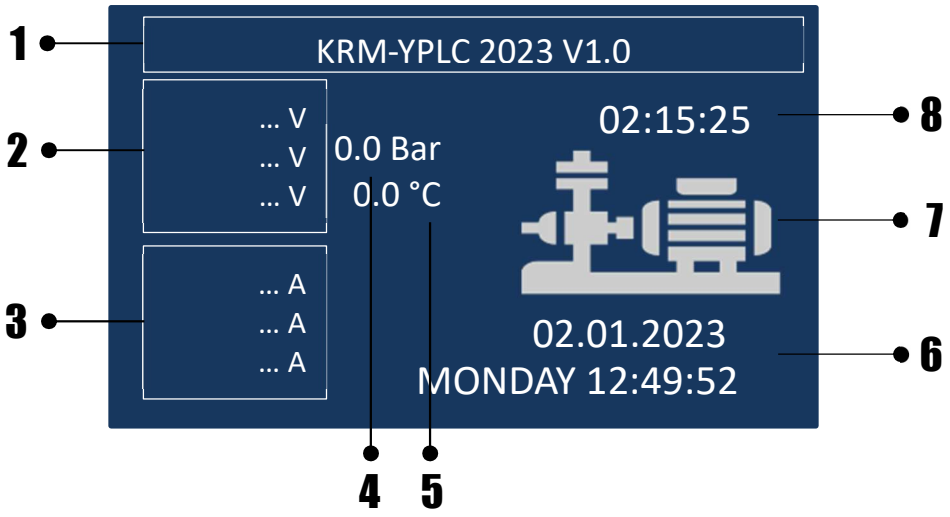
4.a Keypad



KEYPAD AND FUNCTIONS		
NO	**EXPLANATION**	**FUNCTION**
1	PUMP RUNNING LAMP	If the pump is on, the lamp is constantly on.
2	MAINTENANCE REQUEST LAMP	The light comes on when it is time for pump maintenance.
3	STATUS LAMP	If the lamp is constantly on, there is no fault in the system and it is ready for operation. If the lamp flashes, the system pressure is low.
4	MANUAL START BUTTON	Button to operate the pump in manual mode. If the button is active, the lamp turns on.
5	MANUAL STOP BUTTON	Button to stop the pump in manual position. If the button is active, the lamp turns on.
6	TEST BUTTON	This button start the test simulation. If the button is active the lamp turns on.
7	RESET BUTTON	Past errors are deleted when the button is pressed. Ongoing faults will continue to be displayed. If the button is active, the lamp turns on.
8	BUZZER SILENCE BUTTON	When the button is pressed, the buzzer sound is stopped. If the button is active, the lamp turns on. **!!LED test is performed when the RESET and BUZZER SILENCE buttons are pressed together!!**
9	COMMUNICATION FAULT LAMP	Lamp turn on if the communication error.
10	MODE SELECTION SWITCH	This button select the Automatic or Manual mode
11	EMERGENCY START BUTTON	Start the pump every mode.
12	SETTINGS AND NAVIGATION BUTTONS	Keys used to enter, change and navigate through settings.

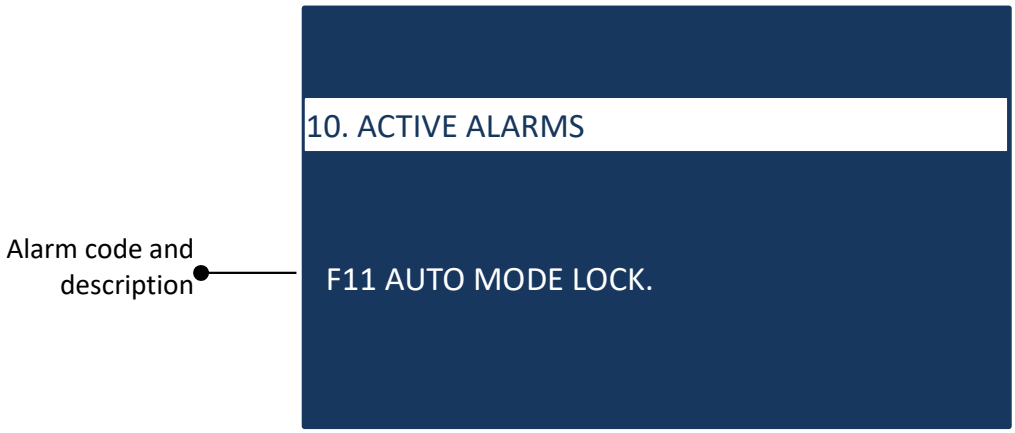
4.b LCD Screen

Monitoring Screen

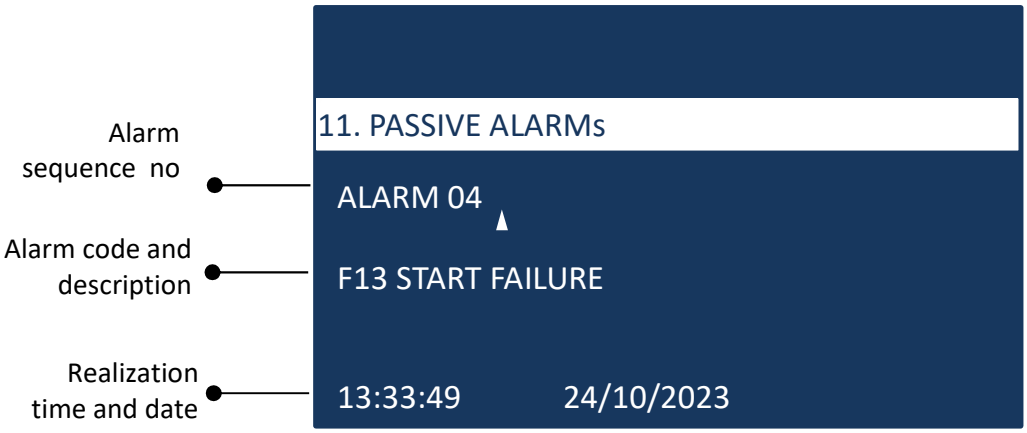


LCD SCREEN		
NO	**EXPLANATION**	**FUNCTION**
1	STATUS LINE	Pump running, faults and events see this line.
2	VOLTAGE MONITORING	Active network voltage
3	CURRENT MONITORING	Active motor currents
4	LINE PRESSURE	If the use pressure transmitter you see the active line pressure this.
5	AMBIENT TEMPERATURE	If the use temperature transmitter you see the active ambient temperature this.
6	DATE & CLOCK	Current date and time
7	PUMP ANIMATION	If pump running, the motor will rotate the picture.
8	PUMP RUNNING TIME	You see motor total running time.

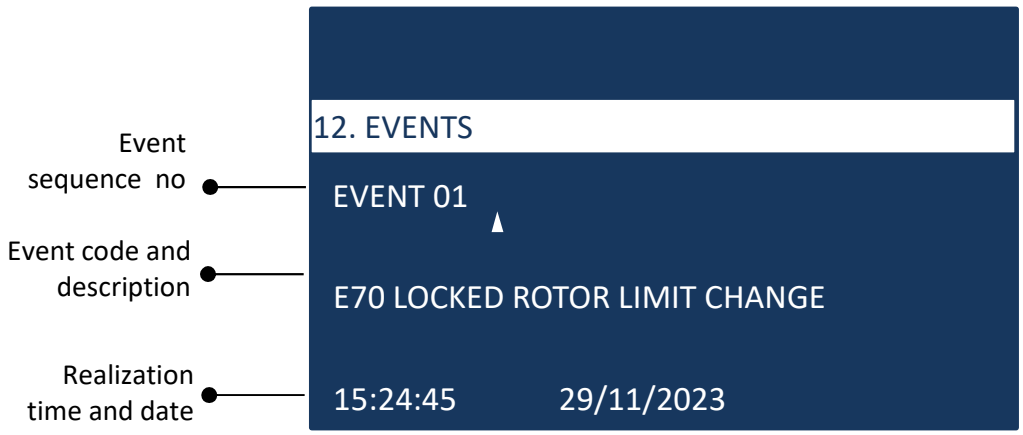
Active Alarms Screen



Passive Alarms Screen



Events Screen



5. MAIN MENU

01 SCREEN SETS		*DESCRIPTION*	*LEVEL OF ACCESS*	*VALUE*	*DEFAULT*
01.01	LANGUAGE SET	-	1	TURKISH ENGLISH	TURKISH
01.02	HOUR SET	-	1		
01.03	DATE SET	-	1		

01.01 – Select the use language
01.02 – Set the time
01.03 – Set the date

02 GENERAL SETS		*DESCRIPTION*	*LEVEL OF ACCESS*	*VALUE*	*DEFAULT*
02.01	NOMINAL VOLTAGE	- Network Voltage	1	100…450	380
02.02	CURRENT TRANSF.	-	3	CT50 CT150 CT300	CT50
02.03	NOMINAL CURRENT	- Motor label current	1	CT AYARINA BAĞLI 0…1000A	0
02.04	STARTER SELECT	- DI: Pressure switch - AI: Pressure transmitter	2	DI AI	DI
02.05	ANALOG START	- Start pressure for pump	1	1,0…50,0	4.0
02.06	ANALOG STOP	- Stop pressure for pump	1	1,0…50,0	5.0
02.07	AUTO START TIME	-	1	0,1…99,9	2
02.08	AUTO STOP TIME	-	1	1…999	300
02.09	AUTO STOP	-	1	ENABLE DISABLE	ENABLE
02.10	AUTO TEST	- Only available when auto stop is active.	1	ENABLE DISABLE	ENABLE
02.11	AUTO TEST DAY	-	1	MONDAY TUESDAY WEDNESDAY THURSDAY FRIDAY SATURDAY SUNDAY	MONDAY
02.12	AUTO TEST HOUR	-	1	00:00 – 23:59	13:00
02.13	AUTO TEST TIME	- Solenoid output operating time	1	1…999	3 sec.
02.14	HEATER START (°C)	-	1	-50…50	4
02.15	HEATER HYSTER. (°C)	-	1	1…10	4
02.16	COOLER START (°C)	-	1	30…50	35
02.17	COOLER HYSTER. (°C)	-	1	1…10	5
02.18	MEMORY SAVE	-	2		
02.19	MEMORY LOAD	-	1		

02.01 – Enter the network voltage here
02.02 – Select the you use current transformer feature
02.03 – Enter the pump motor label current here
02.04 – Select how do you watch line pressure (pressure switch (DI) or pressure transmitter (AI)
02.05 – If you use pressure transmitter write the pump start pressure here.
02.06 – If you use pressure transmitter write the pump stop pressure here.
02.07 – Enter the start delay time here.
02.08 – Enter the stop delay time here.
02.09 – Select the automatic stop enable or disable
02.10 – Select the automatic weekly test enable or disable.
02.11 – Select the automatic weekly test day
02.12 – Select the automatic weekly test hour

02.13 – Enter the test valve run time
02.14 – If you using the ambient heater enter the start degree here.
02.15 – If you are using an ambient heater, set the hysteresis value here to disable the heater
02.16 – If you using the cooler enter the start degree here.
02.17 – If you are using an ambient cooler, set the hysteresis value here to disable the cooler
02.18 – You can save the last settings you made in memory.
02.19 – You can restore the last settings you saved in memory here.

03 PASSWORD SET		***DESCRIPTION***	***LEVEL OF ACCESS***	***VALUE***	***DEFAULT***
03.01	USER PASSWORD	-	1	0000…9999	0000
03.02	SERVICE PASSWOR	-	2	0000…9999	1000

03.01 – Set the user password
03.02 – Set the service password
''Access levels; 1:User, 2:Service, 3:Factory"

04 DIGITAL INPUT SETS		***DESCRIPTION***	***LEVEL OF ACCESS***	***VALUE***	***DEFAULT***
04.01	**DIGITAL INPUT 1 SET MENU**	-			
04.01.01	INPUT 1 SELECTION SET MENU	-	2	0. NO SELECTED 1. PRESSURE SWITCH 2. SIREN MUTE 3. AUTO START 4. MANUEL START 5. TANK FLOATER 6. FAULT RESET	1. PRESSURE SWITCH
04.01.02	INPUT 1 CONTACT TYPE SET MENU	-	2	1 (NO) 0 (NC)	0
04.02	**DIGITAL INPUT 2 SET MENU**	-			
04.02.01	INPUT 2 SELECTION SET MENU	-	2	0. NO SELECTED 1. PRESSURE SWITCH 2. SIREN MUTE 3. AUTO START 4. MANUEL START 5. TANK FLOATER 6. FAULT RESET	5. TANK FLOATER
04.02.02	INPUT 2 CONTACT TYPE SET MENU	-	2	1 (NO) 0 (NC)	0
04.03	**DIGITAL INPUT 3 SET MENU**	-			
04.03.01	INPUT 3 SELECTION SET MENU	-	2	0. NO SELECTED 1. PRESSURE SWITCH 2. SIREN MUTE 3. AUTO START 4. MANUEL START 5. TANK FLOATER 6. FAULT RESET	3. AUTO START
04.03.02	INPUT 3 CONTACT TYPE SET MENU	-	2	1 (NO) 0 (NC)	1
04.04	**DIGITAL INPUT 4 SET MENU**				
04.04.01	INPUT 4 SELECTION SET MENU	-	2	0. NO SELECTED 1. PRESSURE SWITCH 2. SIREN MUTE 3. AUTO START 4. MANUEL START 5. TANK FLOATER 6. FAULT RESET	6. FAULT RESET
04.04.02	INPUT 4 CONTACT TYPE SET MENU	-	2	1 (NA) 0 (NK)	1
04.05	**DIGITAL INPUT 5 SET MENU**				
04.05.01	INPUT 5 SELECTION SET MENU	-	2	0. NO SELECTED 1. PRESSURE SWITCH 2. SIREN MUTE 3. AUTO START 4. MANUEL START 5. TANK FLOATER 6. FAULT RESET	2. SIREN MUTE
04.05.02	INPUT 5 CONTACT TYPE SET MENU	-	2	1 (NO) 0 (NC)	1

04.01.01 … 04.05.01 You can select the digital inputs functions. (See the Digital Inputs Functions Table)
04.01.02 … 04.05.02 Select the digital inputs polarity 0 : NC, 1 : NO

05 DIGITAL OUTPUT SETS		*DESCRIPTION*	*LEVEL OF ACCESS*	*VALUE*	*DEFAULT*
05.01	**DIGITAL OUTPUT 1 SET MENU**	-			
05.01.01	OUTPUT 1 SELECTION SET MENU	-	2	0. NOT SELECTED 1. GENERAL ALARM 2. SIREN 3. AUTO MODE LOCK. 4. LOW PRESSURE 5. START FAILURE 6. WORKING 7. TEST STARTED 8. HEATER 9. COOLER 10. LOCKED ROTOR	1. GENERAL ALARM
05.01.02	OUTPUT 1 CONTACT TYPE SET MENU	-	2	NO NC	NC
05.02	**DIGITAL OUTPUT 2 SET MENU**	-			
05.02.01	OUTPUT 2 SELECTION SET MENU	-	2	0. NOT SELECTED 1. GENERAL ALARM 2. SIREN 3. AUTO MODE LOCK. 4. LOW PRESSURE 5. START FAILURE 6. WORKING 7. TEST STARTED 8. HEATER 9. COOLER 10. LOCKED ROTOR	6. WORKING
05.02.02	OUTPUT 2 CONTACT TYPE SET MENU	-	2	NO NC	NO
05.03	**DIGITAL OUTPUT 3 SET MENU**	-			
05.03.01	OUTPUT 3 SELECTION SET MENU	-	2	0. NOT SELECTED 1. GENERAL ALARM 2. SIREN 3. AUTO MODE LOCK. 4. LOW PRESSURE 5. START FAILURE 6. WORKING 7. TEST STARTED 8. HEATER 9. COOLER 10. LOCKED ROTOR	5. START FAILURE
05.03.02	OUTPUT 3 CONTACT TYPE SET MENU	-	2	NO NC	NO
05.04	**DIGITAL OUTPUT 4 SET MENU**	-			
05.04.01	OUTPUT 4 SELECTION SET MENU	-	2	0. NOT SELECTED 1. GENERAL ALARM 2. SIREN 3. AUTO MODE LOCK. 4. LOW PRESSURE 5. START FAILURE 6. WORKING 7. TEST STARTED 8. HEATER 9. COOLER 10. LOCKED ROTOR	3. AUTO MODE LOCK.
05.04.02	OUTPUT 4 CONTACT TYPE SET MENU	-	2	NO NC	NO
05.05	**DIGITAL OUTPUT 5 SET MENU**	-			
05.05.01	OUTPUT 5 SELECTION SET MENU	-	2	0. NOT SELECTED 1. GENERAL ALARM 2. SIREN 3. AUTO MODE LOCK. 4. LOW PRESSURE 5. START FAILURE 6. WORKING 7. TEST STARTED 8. HEATER 9. COOLER 10. LOCKED ROTOR	7. TEST STARTED
05.05.02	OUTPUT 5 CONTACT TYPE SET MENU	-	2	NO NC	NO
05.06	**DIGITAL OUTPUT 6 SET MENU**	-			
05.06.01	OUTPUT 6 SELECTION SET MENU	-	2	0. NOT SELECTED 1. GENERAL ALARM	2. SIREN

				2. SIREN 3. AUTO MODE LOCK. 4. LOW PRESSURE 5. START FAILURE 6. WORKING 7. TEST STARTED 8. HEATER 9. COOLER 10. LOCKED ROTOR	
05.06.02	OUTPUT 6 CONTACT TYPE SET MENU	-	2	NO NC	NO
05.07	**DIGITAL OUTPUT 7 SET MENU**	-			
05.07.01	OUTPUT 7 SELECTION SET MENU	-	2	0. NOT SELECTED 1. GENERAL ALARM 2. SIREN 3. AUTO MODE LOCK. 4. LOW PRESSURE 5. START FAILURE 6. WORKING 7. TEST STARTED 8. HEATER 9. COOLER 10. LOCKED ROTOR	4. LOW PRESSURE
05.07.02	OUTPUT 7 CONTACT TYPE SET MENU	-	2	NO NC	NO
05.08	**DIGITAL OUTPUT 8 SET MENU**	-			
05.08.01	OUTPUT 8 SELECTION SET MENU	-	2	0. NOT SELECTED 1. GENERAL ALARM 2. SIREN 3. AUTO MODE LOCK. 4. LOW PRESSURE 5. START FAILURE 6. WORKING 7. TEST STARTED 8. HEATER 9. COOLER 10. LOCKED ROTOR	8. HEATER
05.08.02	OUTPUT 8 CONTACT TYPE SET MENU	-	2	NO NC	NO
05.01.01 … 05.05.01 You can select the digital output functions. (See the Digital Outputs Functions Table) 05.01.02 … 05.05.02 Select the digital output polarity 0 : NC, 1 : NO					

06 ANALOG INPUT SET		***DESCRIPTION***	***LEVEL OF ACCESS***	***VALUE***	***DEFAULT***
06.01	**ANALOG INPUT 1 SET MENU**	- Pressure transmitter input for monitoring line pressure			
06.01.01	AI1 MINIMUM VALUE SET (BAR)	-	2	-10,0…50,0	0
06.01.02	AI1 MAXIMUM VALUE SET (BAR)	-	2	5,0…50,0	16
06.02	**ANALOG INPUT 2 SET MENU**	- Pressure transmitter input for monitoring line pressure			
06.02.01	AI2 MINIMUM VALUE SET (BAR)	-	2	-10,0…50,0	0
06.02.02	AI2 MAXIMUM VALUE SET (BAR)	-	2	5,0…50,0	16
06.03	**ANALOG INPUT 3 SET MENU**	- Temperature sensor input for monitoring ambiance temperature			
06.03.01	INPUT TYPE	-	2	NOT SELECTED PTC	NOT SELECTED
06.01.01 … 06.02.01 – Enter the your pressure transmitter minimum scale (For 0-16 Bar transmitter 0 (zero)) 06.01.02 … 06.02.02 – Enter the your pressure transmitter maximum scale (For 0-16 Bar transmitter 16) 06.03.01 – Select the temperature transmitter type					

07 MODE-BUS SETS		***DESCRIPTION***	***LEVEL OF ACCESS***	***VALUE***	***DEFAULT***
07.01	MB. NODE ADRESS SET MENU	-	1	1…255	1
07.02	MB. PORT SPEED SET MENU	-	1	1200 2400 4800 9600 19200 38400 57600 115200	9600

07.03	MB. PORT TYPE SET MENU	-	1	8 NONE 1 8 NONE 2 8 EVEN 1 8 ODD 1	8 NONE 1
07.04	STOP BITE SET MENU	-	1	1 2	1
07.01 – Set the your device node address 07.02 – Select the baud rate 07.03 – Select the data format 07.05 – Select the stop bit					

08 SAFETY SET		***DESCRIPTION***	***LEVEL OF ACCESS***	***VALUE***	***DEFAULT***
08.01	VOLTAGE DOWN LIMIT SET (%)	- It takes into account the value entered in parameter 02.01. - Warning only	2	%70…100	85
08.02	VOLTAGE UP LIMIT SET (%)	- It takes into account the value entered in parameter 02.01. - Warning only	2	%100…130	115
08.03	CURRENT DOWN LIMIT SET (%)	- It takes into account the value entered in parameter 02.03. - Warning only	2	%30…100	30
08.04	CURRENT UP LIMIT SET (%)	- It takes into account the value entered in parameter 02.03. - Warning only	2	%130…180	130
08.05	VOLTAGE ASYMETR LIMIT SET (%)	- Warning only	2	%5…..40	20
08.06	ROTOR BLOCKED LIMIT SET (%)	- It takes into account the value entered in parameter 02.03. - Warning only	2	%150…600	500
08.07	DEMERAGE TIME SET (Sn.)		2	1…99	8
08.08	TEMPERATURE LOW (°C)	06.03.01 PTC must be selected	2	OFF…..99	4
08.09	TEMPERATUR. HIGH (°C)	06.03.01 PTC must be selected	2	OFF…..99	40
08.01 – Enter the low voltage warning limit. Between 70% and 100% of mains voltage 08.02 - Enter the high voltage warning limit. Between 100% and 130% of mains voltage 08.03 – Enter the low current warning limit. Between 30% and 100% of mains voltage 08.04 – Enter the high current warning limit. Between 130% and 180% of mains voltage 08.05 – Enter the maximum asymmetry between phases. Between the 5% and 40% 08.06 – Enter the maximum current limit for locked rotor protection. Between 150% and 600% of motor current. 08.07 – During this period, all protections are ignored. 08.08 – Set the minimum limit for ambient temperature (can be closed) 08.09 - Set the maximum limit for ambient temperature (can be closed) **''Motor stop only during locked rotor protection. Other protections are only warning.''**					

09 SERVICE SET		***DESCRIPTION***	***LEVEL OF ACCESS***	***VALUE***	***DEFAULT***
09.01	SERVICE CAUTION	- Warning only	3	ENABLE DISABLE	DEVREDE
09.02	SERVICE TIME (HOUR)	-	3	1…9999	720
09.03	SERVICE HOUR	-	3		
09.04	PUMP WORK TIME	-	3		
09.01 - Select the maintenance warning status, enable or disable 09.02 - Set how long after the next maintenance is performed. 09.03 – Shows the remaining time for maintenance. 09.04 – Reset the maintenance time Input no **Maintenance warning not stop the motor. Only for warning.**					

DIGITAL INPUT FUNCTIONS TABLE	
FUNCTION	**DESCRIPTION**
NOT SELECTED	Input not use
PRESSURE SWITCH	Connect the pressure switch for motor start
SIREN MUTE	Input for Alarm Silence

AUTO START	When the input is active, the pump starts working. After the inlet is cut off and there is pressure on the line, the pump stops.
MANUEL START	When the input is active, the pump starts working. After the input is cut off and if there is high pressure, it is stopped by simply pressing the STOP button on the panel.
TAN FLOATER	Float switch input for low water level warning
FAULT RESET	Input for Fault Reset

DIGITAL OUTPUT FUNCTIONS TABLE	
FUNCTION	**DESCRIPTION**
NOT SELECTED	Output not use
GENERAL ALARM	The output is activated when any alarm is active.
SIREN	It feeds the siren to give an audible alert.
AUTO MODE LOCKED	Output is enabled when auto-selection is disabled.
PRESSURE LOW	The output is activated when the line pressure is low.
START FAILURE	Indicates that the motor does not start after an attempt to start the motor.
WORKING	The output is activated when the motor starts.
TEST STARTED	The output is activated when the test starts.
HEATER	Controls the room heater. Managed by the ambient heater parameters.
COOLLER	Controls the room cooler. It is governed by the ambient cooler parameters.
LOCKED ROTOR	The output is activated when the locked rotor fault.

TROUBLESHOOTING			
FAULT CODE	**NAME**	**DESCRIPTION**	**ACTIONS**
F01	UNDERVOLTAGE	Supply voltage below limit set in 08.01	- Check the input power line fuses. - Check for loose power cable connections. - Check for input power supply unbalance.
F02	OVERVOLTAGE	Supply voltage over limit set in 08.02	- Check that the supply voltage corresponds to the device nominal input voltage (08.02).
F03	UNDERCURRENT	Current drawn by the motor is under the limit set in 08.03	- Check the motor load. - Check the motor connection. - Make sure that the value of parameter group 02.03 nominal current is entered correctly.
F04	OVERCURRENT	Current drawn by the motor is over the limit set in 08.04	- Check the motor load. - Check the motor connection. - Make sure that the value of parameter group 02.03 nominal current is entered correctly.
F05	PHASE SEQUENCE FAIL.	Incorrect sequence of the supply phases	- Change the sequence of the supply phases.
F06	PHASE ASYM. ERROR	Asymmetry between mains voltages over the limit set in 08.05	- Check the input power line fuses. - Check for loose power cable connections. - Check for input power supply unbalance.
F07	LOCKED ROTOR	Motor current over the limit set in 08.06	- Motor shaft stuck
F08	NO WATER	No water in the tank	- Check the water tank - Check the tank float connections.
F09	ROOM TEMP. TOO LOW	Ambient temperature under the limit set in 08.08	
F10	ROOM TEMP. TOO HIGH	Ambient temperature over the limit set in 09.09	
F11	AUTOMATIC MODE LEOCKED	The auto/manual selection switch is left in the manual position.	- The key must always be left in the automatic position for fire fighting.
F12	AI MISSING	Pressure transmitter not connected or incorrect connection	- Check the pressure transmitter cables.

F13	MOTOR START FAILURE	Start command came but the engine does not start	- Check the motor load. - Check the motor connection. - Make sure that the value of parameter group 02.03 nominal current is entered correctly.
F14	MAINTENANCE REQUEST	It's time for pump maintenance.	- Contact your pump manufacturer.
F15	TEST FAILED	Test attempt failed	- Check your test solenoid and test assembly.

EVENTS		
CODE	**NAME**	**DESCRIPTION**
E01	PRESS. LOW	PRESSURE DROPPED
E02	PUMP START	PUMP WORKED
E03	PUMP STOP	PUMP STOPPED
E04	TEST STARTED	TEST BEGINS
E05	TEST DONE	TEST FINISHED
E06	<EMPTY>	<Bos>
E07	VOLT.CHANGED	VOLTAGE VALUE CHANGED
E08	CT. CHANGED	CURRENT TRANSFORMER RATIO CHANGED
E09	CURR.CHANGE.	CURRENT VALUE CHANGED
E10	AUT.LAU.CHA.	AUTO-LAUNCHER REPLACED
E11	MIN.PRE.CHA.	AI START LEVEL CHANGED
E12	MAX.PRE.CHA.	AI STOP LEVEL CHANGED
E13	STRTDLYCHANG	START DELAY TIME CHANGED
E14	STPDELAYCHAN	STOP DELAY TIME CHANGED
E15	AUT.STP.CHAN	AUTO STOP SETTING CHANGED
E16	TEST CHANGED	AUTOMATIC TEST SETTING CHANGED
E17	TESTDAYCHANG	AUTOMATIC TEST DAY CHANGED
E18	TESTHOURCHAN	AUTOMATIC TEST TIME CHANGED
E19	TESTDURACHAN	AUTOMATIC TEST TIME CHANGED
E20	MEMORY REC.	SETTINGS SAVED IN MEMORY
E21	ADJ.RESTORE	SETTINGS RESTORED
E22	PASS.1 CHANG	USER PASSWORD CHANGED
E23	PASS.2 CHANG	SERVICE PASSWORD CHANGED
E24	ASS.1 INPUT	USER PASSWORD ENTERED
E25	PASS.2 INPUT	SERVICE PASSWORD ENTERED
E26	PASS.3 INPUT	FACTORY PASSWORD ENTERED
E27	PASS.4 INPUT	MASTER PASSWORD ENTERED
E28	DI1FUNC.CHA.	DI1 FUNCTION CHANGED
E29	DI1 CON.CHA.	DI1 CONTACT TYPE CHANGED
E30	DI2FUNC.CHA.	DI2 FUNCTION CHANGED
E31	DI2 CON.CHA.	DI2 CONTACT TYPE CHANGED
E32	DI3FUNC.CHA.	DI3 FUNCTION CHANGED
E33	DI3 CON.CHA.	DI3 CONTACT TYPE CHANGED

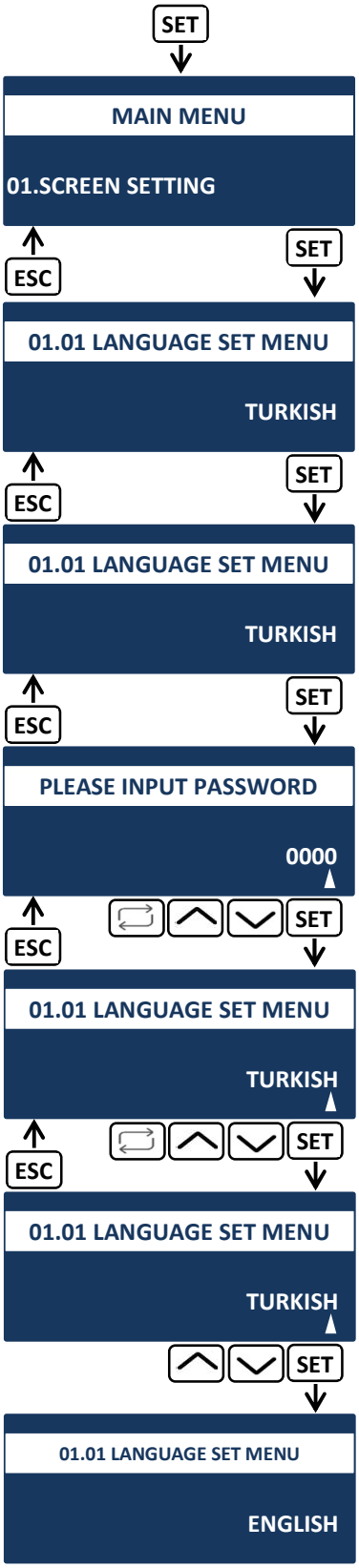
E34	DI4FUNC.CHA.	DI4 FUNCTION CHANGED
E35	DI4 CON.CHA.	DI4 CONTACT TYPE CHANGED
E36	DI5FUNC.CHA.	DI5 FUNCTION CHANGED
E37	DI5 CON.CHA.	DI5 CONTACT TYPE CHANGED
E38	<EMPTY>	<Bos>
E39	<EMPTY>	<Bos>
E40	DO1FUNC.CHA.	DO1 FUNCTION CHANGED
E41	DO1 CON.CHA.	DO1 CONTACT TYPE CHANGED
E42	DO2FUNC.CHA.	DO2 FUNCTION CHANGED
E43	DO2 CON.CHA.	DO2 CONTACT TYPE CHANGED
E44	DO3FUNC.CHA.	DO3 FUNCTION CHANGED
E45	DO3 CON.CHA.	DO3 CONTACT TYPE CHANGED
E46	DO4FUNC.CHA.	DO4 FUNCTION CHANGED
E47	DO4 CON.CHA.	DO4 CONTACT TYPE CHANGED
E48	DO5FUNC.CHA.	DO5 FUNCTION CHANGED
E49	DO5 CON.CHA.	DO5 CONTACT TYPE CHANGED
E50	DO6FUNC.CHA.	DO6 FUNCTION CHANGED
E51	DO6 CON.CHA.	DO6 CONTACT TYPE CHANGED
E52	DO7FUNC.CHA.	DO7 FUNCTION CHANGED
E53	DO7 CON.CHA.	DO7 CONTACT TYPE CHANGED
E54	DO8FUNC.CHA.	DO8 FUNCTION CHANGED
E55	DO8 CON.CHA.	DO8 CONTACT TYPE CHANGED
E56	AI1 MIN.CHA.	AI1 MINIMUM VALUE CHANGED
E57	AI1 MAX.CHA.	AI1 MAXIMUM VALUE CHANGED
E58	AI2 MIN.CHA.	AI2 MINIMUM VALUE CHANGED
E59	AI2 MAX.CHA.	AI2 MAXIMUM VALUE CHANGED
E60	AI3 TYPECHA.	AI3 INPUT TYPE CHANGED
E61	SERI.ID CHA.	NODE ADDRESS CHANGED
E62	SER.SPEEDCHA	COMMUNICATION SPEED CHANGED
E63	DATA FOR.CHA	DATA FORMAT CHANGED
E64	STP.BIT.CHA.	STOP BIT CHANGED
E65	LOW.VOL.CHA.	LOW VOLTAGE LIMIT CHANGED.
E66	HIG.VOL.CHA.	HIGH VOLTAGE LIMIT CHANGED.
E67	LOW.CUR.CHA.	LOW CURRENT LIMIT CHANGED.
E68	HIG.CUR.CHA.	HIGH CURRENT LIMIT CHANGED.
E69	VOL.ASYM.CHA	VOLTAGE ASYMMETRY LIMIT CHANGED.
E70	LOCK.ROT.CHA	LOCKED ROTOR LIMIT CHANGED.
E71	DEM.TIM.CHA.	CHANGED THE DAMPING TIME.
E72	LOW.AMB.CHA.	LOW AMBIENT TEMPERATURE LIMIT CHANGED.
E73	HIG.AMB.CHA.	HIGH AMBIENT TEMPERATURE LIMIT CHANGED
E74	MAINTEN.CHA.	MAINTENANCE ALERT SETTING CHANGED.

E75	MAI.TIM.CHA.	MAINTENANCE INTERVAL TIME CHANGED.
E76	MAI.VAR.CHA.	MAINTENANCE TIME VARIABLE CHANGED.
E77	MAI.TIM.RES.	MAINTENANCE CLOCK RESET
E78	TIM.ADJ.CHA.	TIME SETTING CHANGED.
E79	DAT.ADJ.CHA.	DATE SETTING CHANGED.

SIREN TABLE		**SIREN**	
CODE	**DESCRIPTION**	**CONTINUOUS**	**SHORT**
F01	VOLTAGE level low	√	-
F02	VOLTAGE level high	√	-
F03	Low current level	√	-
F04	High current level	√	-
F05	Wrong phase sequence	√	-
F06	High voltage asymmetry	√	-
F07	Interlocked rotor	√	-
F08	No water	√	-
F09	Low ambient temperature	√	-
F10	High ambient temperature	√	-
F11	System not in automatic mode	√	-
F12	Analog signal loss	√	-
F13	Motor start error	√	-
F14	Maintenance time is up	√	-
F15	Test failed	√	-
E02	Pump started	-	√
E04	Test started	-	√

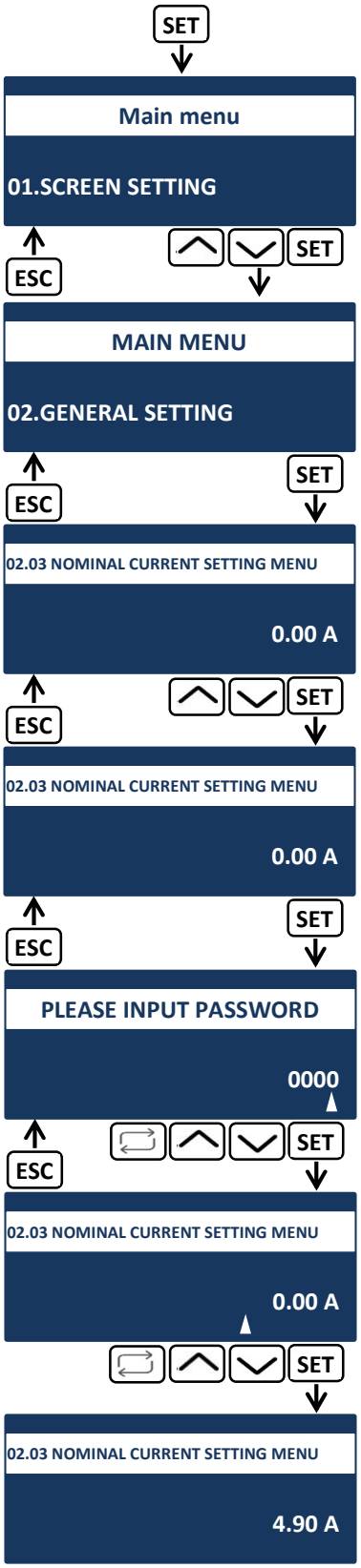
6. PROGRAMING

SETTING THE MENU LANGUAGE

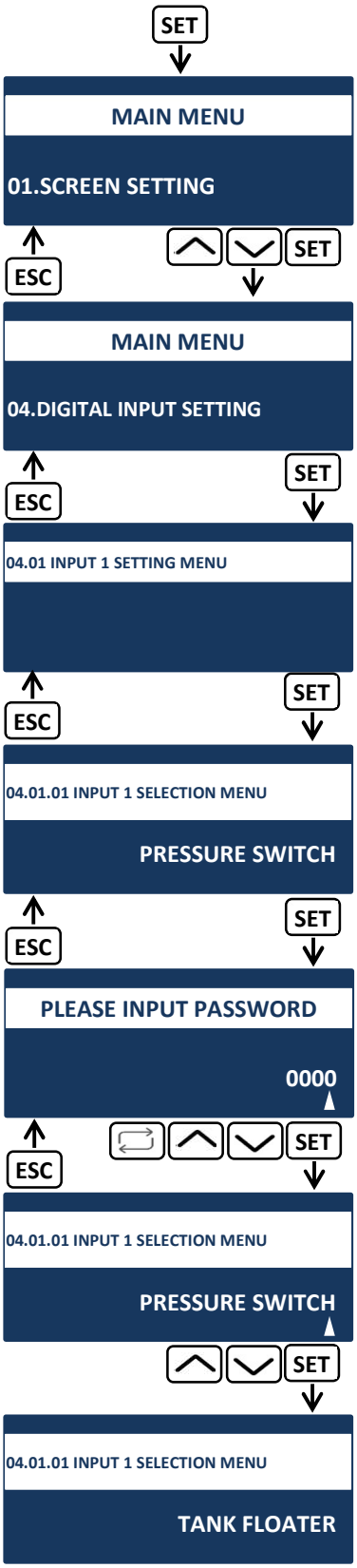


SETTING THE MOTOR LABEL CURRENT

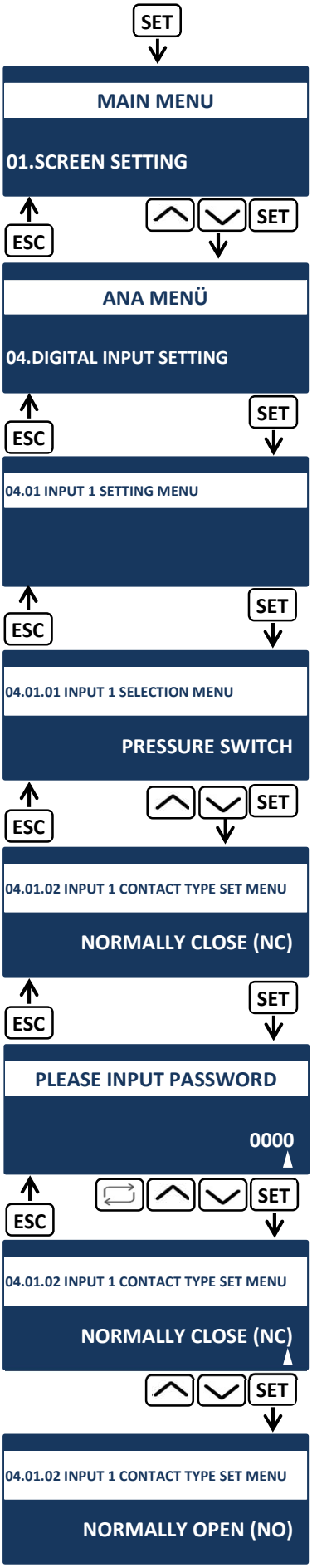
(Input the your motor values)



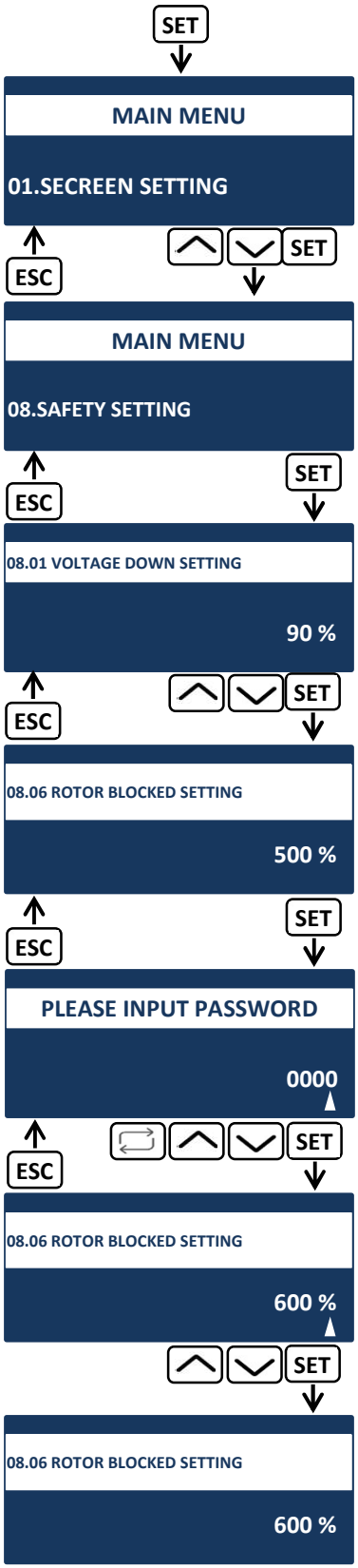
SETTING THE DIGITAL INPUT FUNCTION



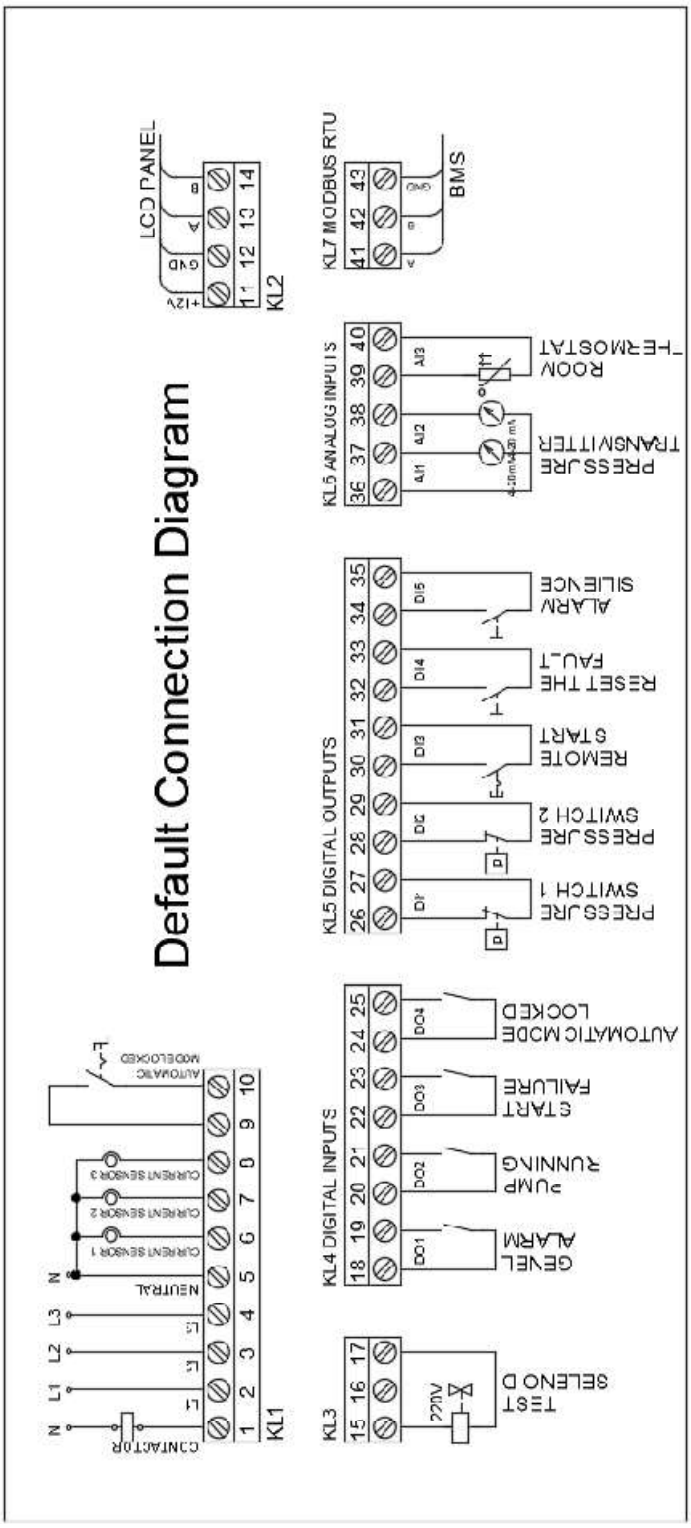
SETTING THE DIGITAL INPUT CONTACT TYPE



SETTING THE LOCKED ROTOR CURRENT LIMIT

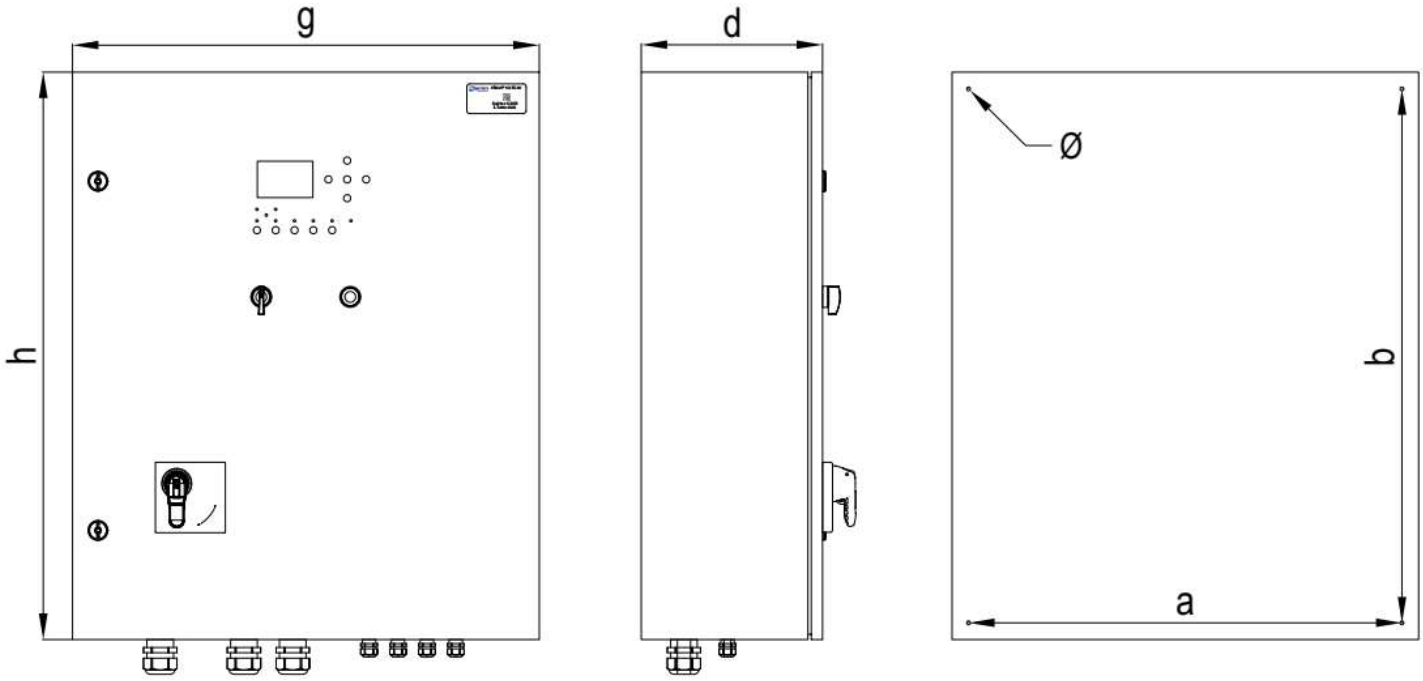


7. DEFAULT CONNECTION



p

8. DIMENSIONS



Motor Power		Starter Method	Dimension						Weight (kg)	Fixed
kW	HP		g	h	d	a	b	Ø		
5,5	7,5	Direct On Line	450	450	200	400	400	6	16	Wall
7,5	10	Direct On Line	450	450	200	400	400	6	16	Wall
11	15	Star-delta	450	500	220	400	450	6	18	Wall
15	20	Star-delta	450	500	220	400	450	6	18	Wall
18,5	25	Star-delta	450	500	220	400	450		18	Wall
22	30	Star-delta	450	500	220	400	450	6	18	Wall
30	40	Star-delta	600	600	220	550	550	6	23	Wall
37	50	Star-delta	600	600	220	550	550	6	23	Wall
45	60	Star-delta	600	600	220	550	550	6	25	Wall
55	75	Star-delta	600	600	220	550	550	6	27	Wall
75	100	Star-delta	650	700	220	600	650	6	32	Wall
90	125	Star-delta	650	700	220	600	650	6	33	Wall
110	150	Star-delta	800	1000	320	750	950	6	42	Wall
132	180	Star-delta	800	1000	320	750	950	6	42	Wall
160	220	Star-delta	800	1000	320	750	950	6	46	Wall
200	270	Star-delta	800	1300	400	-	-	-	135	Floor
250	340	Star-delta	800	1600	500	-	-	-	145	Floor
320	430	Star-delta	800	1800	500	-	-	-	152	Floor