2018

SKPB DEL-150 Setting Manual

Application to SKPB DEL-150 Operation Manual

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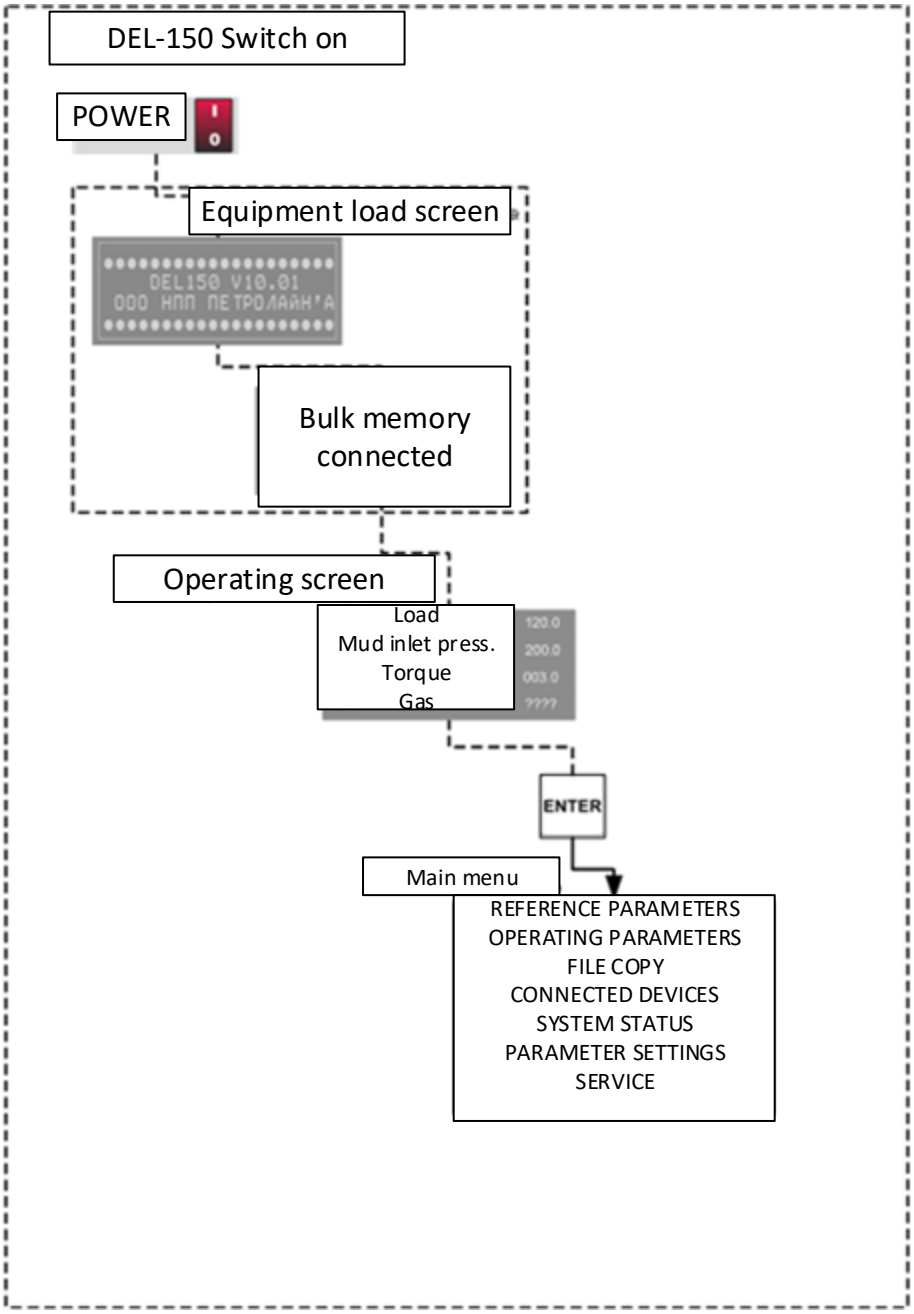
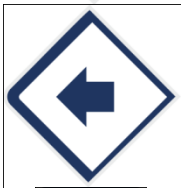
This manual describes the rules and procedure for setting up the control module SKPB DEL-150.

The manual summarizes the functions of the keyboard buttons and presents a structural diagram of the menu with its individual elements.

The manual contains the tables “Keyboard button assignments”, “Shortcuts”, “Reset value”.



KEYBUTTON FUNCTIONS

Physical configuration	Purpose
	Switch on, reset, Switch off Parameter choose, input
	
	Return to menu
	Cursor move up
	Cursor move down
	Cursor move right
	Cursor move left
	On/off parameter «Bit load»
	Keyboard unlock, language edit and symbol size.

0 1 … 9	Insert necessary values
	Shortcut key
SHIFT 1	WORK CODE
SHIFT 2	REFERENCE PARAMETERS
SHIFT 3	OPERATING PARAMETERS
SHIFT 4	FILE COPY
SHIFT 5	NOT USED
SHIFT 6	BOTTOMHOLE DEPTH CORRECTION
SHIFT 7	BLOCKING STATUS
SHIFT 8	SURVEY STOP
SHIFT 9	SENSOR SEARCH
SHIFT 0	PARAMETER RESET

Parameter reset is made by shortcut key SHIFT ENTER at reset line while parameter setting. For example: weight reset is made at line LOAD

Quick reset

Enter into reset parameter mode

Reset the first and next parameters in the list

SKPB DEL-150 (V10.63) MENU

- **REFERENCE PARAMETERS**
  - WELL
  - PAD
  - FIELD
  - CREW
  - SHOP
  - PULLING
  - UNIT
- **OPERATING PARAMETERS**
  - **HOOK LOAD**
    - MAX
    - COEFF
    - LOAD
    - CABLE DIAMETER
  - **BIT LOAD**
    - MAX
  - **MUD INLET PRESSURE1**
    - MAX
    - ZERO
  - **MUD INLET PRESSURE 2**
    - MAX
    - ZERO
  - **TONGS+**
    - **TONG TORQUE**
      - MAX
      - COEFF
      - ZERO
      - MEASURE UNIT
    - **TONG TORQUE**
      - MAX

- ZERO
- + HYDRAULIC TONG PRESSURE
  - MAX
  - ZERO
- + HYDRAULIC TONG TORQUE (D)
  - MAX
  - COEFF
  - COEFF2
  - ZERO,AT
  - MEASURE UNIT
- + AUTOMATIC TONG TORQUE
  - MAX
  - COEFF
  - ZERO
  - MEASURE UNIT
- + TONG TORQUE 2
  - MAX
  - COEFF
  - ZERO
  - MEASURE UNIT
- + TONG TORQUE 3
  - MAX
  - COEFF
  - ZERO
  - MEASURE UNIT

+ ROTARY TORQUE
- MAX
- MIN
- ZERO
- COEFF
- INVERT VALUE
- 4 мА
- 20мА
- MEASURE UNIT

+ ROTARY RPM
- MAX
- MIN
- COEFF
- 4Ma
- 20мА

TOP DRIVE

+ SYSTEM +
- + TOP DRIVE TORQUE
  - MAX

MIN
4мА
20мА

\+ TOP DRIVE RPM

MAX
4мА
20мА

\+ TRIPPING RATE

MAX
MIN

\+ CALIBRATION

ZERO SET
TOP SET

or tweaking (Shift+Enter)

0. ZERO SET
1.
2.
3.
4.
5.

5 points
order
sequence
moving up

COEFF

\+ TB POSITION

MAX
RESET
MISALIGHNMENT

\+ BOTTOMHOLE DEPTH

MODE
DEPTH
PRESSURE LIMIT
W.FILTER N
TOOL LIMIT 1
TOOL LIMIT 2
RUNNING SPEED

\+ PUMP CONSUMPTION +

\+ PUMP CONSUMPTION 1, L/S

MAX
COEFF

\+ PUMP PARAMETERS

PISTON DIAMETER
PISTON STROKE
PISTON ROD DIAMETER
K

\+ PUMP STROKES1

COEFF
4 мА

20 мА

\+ PUMP CONSUMPTION2, L/S

MAX

COEFF

\+ PUMP PARAMETERS

PISTON DIAMETER

PISTON STROKE

PISTON ROD DIAMETER

K

\+ PUMP STROKE2

COEFF

4 мА

20 мА

\+ PUMP CONSUMPTION3, L/S

MAX

COEFF

\+ PUMP PARAMETERS

PISTON DIAMETER

PISTON STROKE

PISTON ROD DIAMETER

K

\+ PUMP STROKE3

COEFF

4 Ma

20 мА

\+ PUMP CONSUMPTION4, L/S

MAX

COEFF

\+ PUMP PARAMETERS

PISTON DIAMETER

PISTON STROKE

PISTON ROD DIAMETER

K

\+ PUMP STROKES4

COEFF

4 мА

20 мА

\+ INLET MUD RATE

4 мА

20 мА

\+ MUD OUTPUT

0%

100%

\+ MUD LEVEL +

\+ MUD LEVEL1

MAX

MIN
ALARM
TANK CAPACITY. SQUAREWAVE

- 4MA,M
- 20MA,M
- SUPPORT BRACKET HEIGHT
- TANK HEIGHT.M
- TANK VOLUME.M

TANK TYPE. -------
4 Ma,M3
20 MA,M3

\+ MUD LEVEL2

MAX
MIN
ALARM
TANK TYPE. SQUAREWAVE

- 4MA,M
- 20MA,M
- SUPPORT BRACKET HEIGHT
- TANK HEIGHT.M
- TANK VOLUME.M

TANK TYPE. -------
4 Ma,M3
20 MA,M3

\+ MUD LEVEL3

MAX
MIN
ALARM
TANK TYPE. SQUAREWAVE

- 4MA,M
- 20MA,M
- SUPPORT BRACKET HEIGHT.M
- TANK HEIGHT.M
- TANK VOLUME.M

TANK TYPE. -------
4 Ma,M3
20 MA,M3

\+ MUD LEVEL4

MAX
MIN
ALARM
TANK TYPE. SQUAREWAVE

- 4MA,M
- 20MA,M

SUPPORT BRACKET
HEIGHT.M
TANK HEIGHT.M
TANK VOLUME.M

TANK TYPE. -------
4 Ma,M3
20 мA,M3

\+ MUD LEVEL5

MAX
MIN
ALARM
TANK TYPE. SQUAREWAVE

4мA,M
20мA,M
SUPPORT BRACKET
HEIGHT.M
TANK HEIGHT.M
TANK VOLUME.M

TANK TYPE. -------
4 Ma,M3
20 мA,M3

\+ MUD LEVEL6

MAX
MIN
ALARM
TANK TYPE. SQUAREWAVE

4мA,M
20мA,M
SUPPORT BRACKET
HEIGHT
TANK HEIGHT.M
TANK VOLUME.M

TANK TYPE. -------
4 Ma,M3
20 мA,M3

\+ MUD LEVEL7

MAX
MIN
ALARM
TANK TYPE. SQUAREWAVE

4мA,M
20мA,M
SUPPORT BRACKET
HEIGHT.M
TANK HEIGHT.M
TANK VOLUME.M

TANK TYPE. -------
4 Ma,M3

20 мА,М3

\+ MUD LEVEL8

MAX
MIN
ALARM
TANK TYPE. SQUAREWAVE

- 4мА,М
- 20мА,М
- SUPPORT BRACKET
- HEIGHT.M
- TANK HEIGHT.M
- TANK VOLUME.M

TANK TYPE. -------
4 Ма,М3
20 мА,М3

\+ MUD LEVEL9

MAX
MIN
☐ ALARM
☐ TANK TYPE. SQUAREWAVE

- ☐ 4мА,М
- ☐ 20мА,М
- ☐ ВЫСОТА КРОН.М
- ☐ ВЫСОТА ЕМК.М
- ☐ ОБЪЁМ ЕМК.М

☐ TANK TYPE. -------
4 Ма,М3
20 мА,М3

\+ MUD LEVEL10

MAX
MIN
☐ ALARM
☐ TANK TYPE. SQUAREWAVE

- ☐ 4мА,М
- ☐ 20мА,М
- SUPPORT BRACKET
- ☐ HEIGHT.M
- ☐ TANK HEIGHT.M
- ☐ VOLUME HEIGHT.M

☐ TANK TYPE. -------
4 Ма,М3
20 мА,М3

\+ MUD LEVEL 11

MAX
MIN
☐ ALARM
☐ TANK TYPE. ПРЯМОУГ

- ☐ 4мА,М

		☐			20мА,М
					SUPPORT BRACKET
		☐			HEIGHT.M
		☐			TANK HEIGHT.M
		☐			VOLUME HEIGHT.M
		☐		TANK TYPE.	-------
				4 Ma,M3	
				20 мА,M3	
		+	MUD LEVEL 12		
				MAX	
				MIN	
		☐		ALARM	
		☐		TANK TYPE.	ПРЯМОУГ
		☐			4мА,М
		☐			20мА,М
					SUPPORT BRACKET
		☐			HEIGHT.M
		☐			TANK HEIGHT.M
		☐			VOLUME HEIGHT.M
		☐		TANK TYPE.	-------
				4 Ma,M3	
				20 мА,M3	
		+	MUD LEVEL 13		
				MAX	
				MIN	
		☐		ALARM	
		☐		TANK TYPE.	ПРЯМОУГ
		☐			4мА,М
		☐			20мА,М
					SUPPORT BRACKET
		☐			HEIGHT.M
		☐			TANK HEIGHT.M
		☐			VOLUME HEIGHT.M
		☐		TANK TYPE.	-------
				4 Ma,M3	
				20 мА,M3	
		+	MUD LEVEL 14		
				MAX	
				MIN	
		☐		ALARM	
		☐		TANK TYPE.	ПРЯМОУГ
		☐			4мА,М
		☐			20мА,М
					SUPPORT BRACKET
		☐			HEIGHT.M
		☐			TANK HEIGHT.M
		☐			VOLUME HEIGHT.M

- TANK TYPE. -------
  - 4 Ma,M3
  - 20 мА,M3

+ MUD LEVEL 15
  - MAX
  - MIN
  - ALARM
  - TANK TYPE. ПРЯМОУГ
    - 4мА,M
    - 20мА,M
    - SUPPORT BRACKET
    - HEIGHT.M
    - TANK HEIGHT.M
    - VOLUME HEIGHT.M
  - TANK TYPE. -------
    - 4 Ma,M3
    - 20 мА,M3

+ MUD LEVEL 16
  - MAX
  - MIN
  - ALARM
  - TANK TYPE. ПРЯМОУГ
    - 4мА,M
    - 20мА,M
    - SUPPORT BRACKET
    - HEIGHT.M
    - TANK HEIGHT.M
    - VOLUME HEIGHT.M
  - TANK TYPE. -------
    - 4 Ma,M3
    - 20 мА,M3

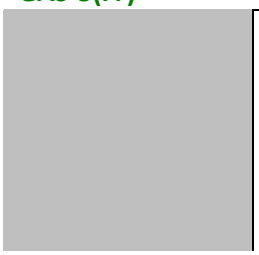
+ TOTAL MUD LEVEL
  - MUD LEVEL.1
  - MUD LEVEL.2
  - MUD LEVEL.3
  - MUD LEVEL.4
  - MUD LEVEL.5
  - MUD LEVEL.6
  - MUD LEVEL.7
  - MUD LEVEL.8
  - MUD LEVEL.9
  - MUD LEVEL.10
  - MUD LEVEL.11
  - MUD LEVEL.12
  - MUD LEVEL.13
  - MUD LEVEL.14
  - MUD LEVEL.15

- MUD LEVEL.16

+ ПЖ.УРОВ.СУМ2
  - MUD LEVEL.1
  - MUD LEVEL.2
  - MUD LEVEL.3
  - MUD LEVEL.4
  - MUD LEVEL.5
  - MUD LEVEL.6
  - MUD LEVEL.7
  - MUD LEVEL.8
  - MUD LEVEL.9
  - MUD LEVEL.10
  - MUD LEVEL.11
  - MUD LEVEL.12
  - MUD LEVEL.13
  - MUD LEVEL.14
  - MUD LEVEL.15
  - MUD LEVEL.16

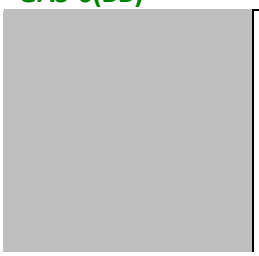
+ GAS +
  + GAS-1(ГГ)
    GAS-1(ГГ),%
    THRESHOLD1
    THRESHOLD2
    4 mA
    20mA
    MEASURE UNIT
  + GAS-2(ВВ)
    GAS-2(ВВ),MG/M3
    THRESHOLD1
    THRESHOLD2
    4 mA
    20mA
    MEASURE UNIT
  + GAS-3(ГГ)
    GAS-3(ГГ),%
    THRESHOLD1
    THRESHOLD2
    4 mA
    20mA
    MEASURE UNIT
  + GAS-4(ВВ)
    GAS-4(ВВ),MG/M3
    THRESHOLD1
    THRESHOLD2
    4 mA
    20mA
    MEASURE UNIT

+ GAS-5(ГГ)



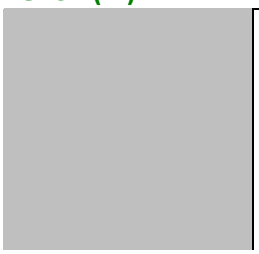
GAS-5(ГГ),%
THRESHOLD1
THRESHOLD2
4 mA
20mA
MEASURE UNIT

+ GAS-6(ВВ)



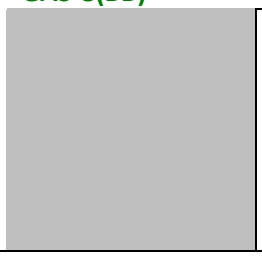
GAS-6(ВВ),MG/M3
THRESHOLD1
THRESHOLD2
4 mA
20mA
MEASURE UNIT

+ GAS-7(ГГ)



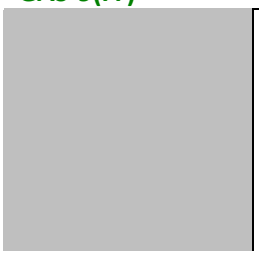
GAS-7(ГГ),%
THRESHOLD1
THRESHOLD2
4 mA
20mA
MEASURE UNIT

+ GAS-8(ВВ)



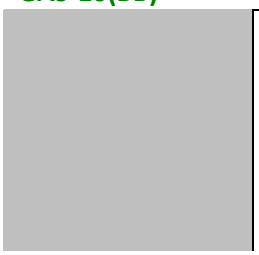
GAS-8(ВВ),MG/M3
THRESHOLD1
THRESHOLD2
4 mA
20mA
MEASURE UNIT

+ GAS-9(ГГ)



GAS-9(ГГ),%
THRESHOLD1
THRESHOLD2
4 mA
20mA
MEASURE UNIT

+ GAS-10(ВВ)



GAS-10(ВВ),MG/M3
THRESHOLD1
THRESHOLD2
4 mA
20mA A
MEASURE UNIT

+ GAS-11(ГГ)

GAS-11(ГГ),%
THRESHOLD1
THRESHOLD2

- 4 mA
- 20mA
- MEASURE UNIT

+ GAS-12(BB)

- GAS-12(BB),MG/M3
  - THRESHOLD1
  - THRESHOLD2
  - 4 mA
  - 20mA
  - MEASURE UNIT

+ GAS-13(ГГ)

- GAS-13(ГГ),%
  - THRESHOLD1
  - THRESHOLD2
  - 4 mA
  - 20mA
  - MEASURE UNIT

+ GAS-14(BB)

- GAS-14(BB),MG/M3
  - THRESHOLD1
  - THRESHOLD2
  - 4 mA
  - 20mA
  - MEASURE UNIT

+ GAS-15(ГГ)

- GAS-15(ГГ),%
  - THRESHOLD1
  - THRESHOLD2
  - 4 mA
  - 20mA
  - MEASURE UNIT

+ GAS-16(BB)

- GAS-16(BB),MG/M3
  - THRESHOLD1
  - THRESHOLD2
  - 4 mA
  - 20mA
  - MEASURE UNIT

+ HOOK LOAD 2

+ HOOK LOAD 2

- MAX
- COEFF
- TACKLE WEIGHT
- LINE DIAMETER

+ GUY LINE

+ GUY LINE 1

- MAX
- MIN
- + GUY LINE 2
  - MAX
  - MIN
- + GUY LINE 3
  - MAX
  - MIN
- + GUY LINE 4
  - MAX
  - MIN
- + GUY LINE 5
  - MAX
  - MIN
- + ОТТЯЖКА 6
  - MAX
  - MIN
- + GUY LINE 7
  - MAX
  - MIN
- + GUY LINE 8
  - MAX
  - MIN

+ TABLE LIFT
- □ INVERT

+ FILE COPY
- 2 FULL DAYS
- ARCHIVE
- WEEK ARCHIVE
- MONTH ARCHIVE
- PERIOD

+ CONNECTED DEVICES
- + SENSORS
  - "CONNECTED DEVICES"
- + INDICATORS
  - "CONNECTED DEVICES"
- + BLOCKING DEVICE
  - "CONNECTED DEVICES"

+ SYSTEM STATUS
- WORK TIME
- □ TEMPERATURE
- □ EXTERNAL MEMORY
- + GPRS STATUS
- □
  - OPERATOR
  - SIGNAL LEVEL
  - GSM STATUS

- GPRS STATUS
- CONNECTED. 1
- CONNECTED. 2
- ETHERNET STATUS
- 1. CONNECTED
- 2. CONNECTED
- 3. CONNECTED
- 4. CONNECTED
- 5. CONNECTED
- 6. CONNECTED

+ PARAMETER SETTINGS

- TIME, DATA
- + GPRS SETTINGS
  - GPRS ON/OFF
  - SIM ½ CHOOSE
  - + SERVER ADDRESS
    - SERVER 1
    - + ADDR1
      - ADDR1
    - SERVER 2
    - + ADDR2
      - ADDR2
    - SERVER 3
    - + ADDR3
    - ADDR3
  - + APN1NAME
    - NAME…
  - + APN1 USER
    - USER…
  - + APN1 PASS
    - PASS…
  - + APN2NAME
    - NAME…
  - + APN2 USER
    - USER…
  - + APN2 PASS
    - PASS…

Shortcut key SHIFT+ENTER able to amend language and size of symbols.

- + ETHERNET SETTINGS
  - + CONNECTION
    - + CONNECTION 1
      - PROTOCOL
      - TYPE
      - ADDRESS

+ CONNECTION 2
PROTOCOL
TYPE
ADDRESS
+ CONNECTION 3
PROTOCOL
TYPE
ADDRESS
+ CONNECTION 4
PROTOCOL
TYPE
ADDRESS
+ CONNECTION 5
PROTOCOL
TYPE
ADDRESS
+ CONNECTION 6
PROTOCOL
TYPE
ADDRESS

IP ADDRESS
NETWORK MASK
GATEWAY

COLOR MODE OF REMOTE INDICATOR
AUTOMATIC KEYBOARD BLOCKING
SERVICE-2
SER.№
SOFTWARE
VERSION
HW VERSION

Pump consumption parameter setting

+ OPERATING PARAMETERS

PUMP CONSUMPTION +

+ PUMP CONSUMPTION1

MAX
COEFF

+ PUMP SETTINGS

STROKE DIAMETER
PUMP ROD STROKE
PISTON TOD DIAMETER
K

+ PUMP CONSUMPTION2
+ PUMP CONSUMPTION3
+ PUMP CONSUMPTION4

1. Fields are filled in if KDD-140 is used and it is necessary to calculate the flow rate in l / s using one coefficient;

   MAX 0.00(max flow rate value)

   COEFF 01.00000(pulse conversion factor per revolution to flow rate l / s)

Example:

the pump is in operation;

initial value of coefficient KOEFF = 1;

Exit to operating mode to view the value on the indicator or on the monitor of the control module, for example: 444;

the value of the flow rate when the pump enters the operating mode of 15.9 l / s;

KOEFF = 15.9 ÷ 444 = 0.0358

Fields are filled in if KDD-140 is used and it is necessary to calculate the flow rate in l / s using the pump parameters.

PISTON DIAMETER-----

PISTON STROKE-----

PISTON ROD DIAMETER-----(for double function pump);

K------(coefficient is individual for each individual installation and takes into account the number of pistons, the number of sensor pulses per revolution, feed rate).

Example:

- set the necessary parameters of the pistons;

- set the value of the coefficient K = 1;

- Exit to operating mode to view the value on the indicator or on the monitor of the control module;

- during operation of the pump in operating mode, remember the value displayed on the monitor of the display module or control module;

- K * = the value of the actual pump flow divided by the value at a coefficient of K = 1.

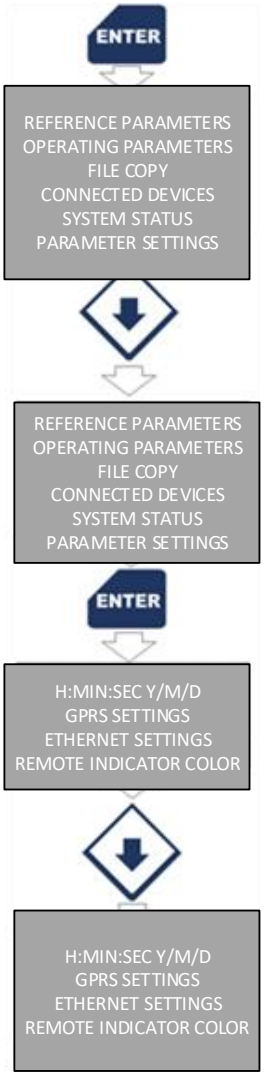
* “K” value does not change when changing the piston diameter and remains constant for this pump and installation.

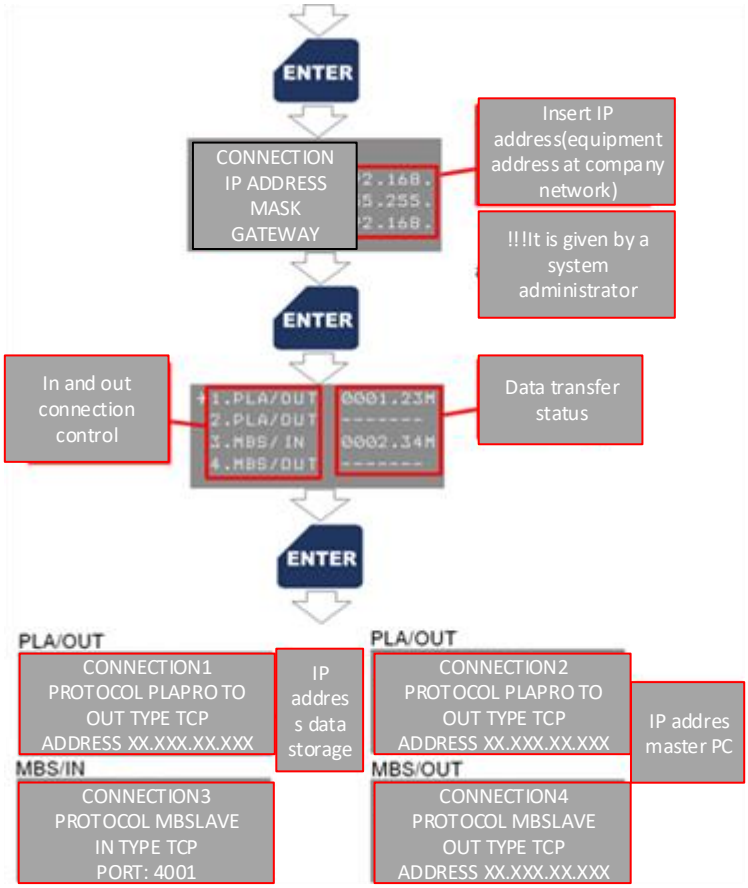
Network connection setup SKPB DEL-150E (Ethernet).

To work at Ethernet network, DEL-150E SKPB is equipped with a network module that allows you to transfer data to a data collection server (outgoing connection) and receive incoming connections (incoming connection) via Ethernet network. Ethernet channel can be used if it is necessary to organize data transfer from remote objects (SKPB DEL-150E complexes) in the absence of GPRS communication. For connecting to the network, there is a RJ-45 block connector.

1. Configuring MU-150E and connecting to the network.

- Unlock the keyboard of the device by pressing the shortcut key SHIFT ENTER.





“PLA / OUT” - outgoing connection (the device automatically establishes communication with the server and with master PC if the installed program “Monitoring of drilling and well repair” is installed). The connection will be made to port 17999 of the specified IP address (in this case, the IP address of the data collection server (connection 1) and IP address of master PC (connection 2)).

“MBS / IN” / “MBS / OUT” - is intended for communication with third-party automation systems via the MODBUSTCP protocol (for the protocol operation, see the SKPB DEL-150 instruction manual in Section 2.2.9)