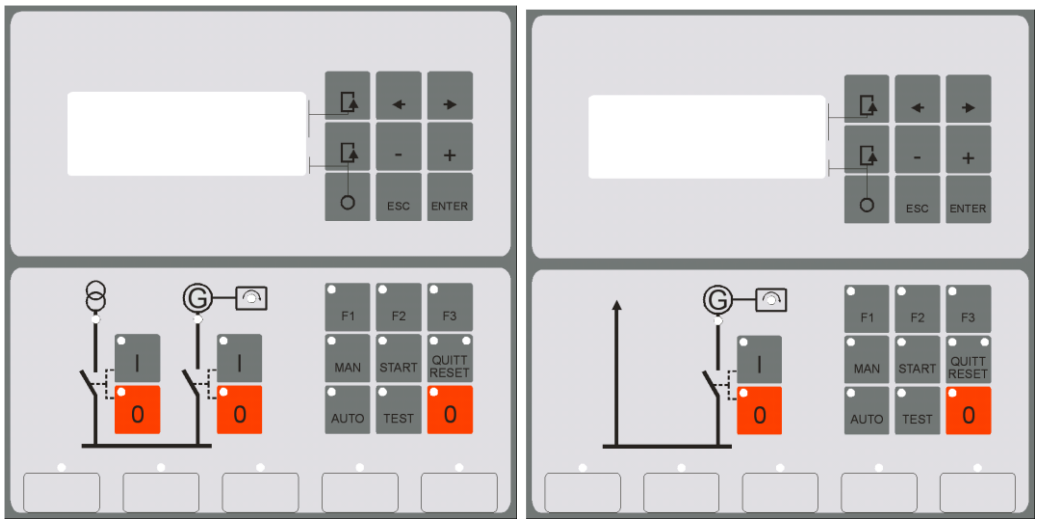
OPERATOR PANEL MOP2

Version02 31.10.2007



Characteristics

- Door operator panel with standard size 180mm x 180mm
- Connecting terminals with connector
- Membrane keyboard IP54
- Four line display for readout, operation, parameter setting and backlighting.
- Bilingual, can be changed directly on equipment
- Optional symbolic display of mains and generator switch
- 12VDC and 24VDC version
- The latest micro controller technology
- SMD technology
- Automatic self-test
- User-friendly settings with parameter-based software
- Parameter editing directly on the equipment
- Interface for PLC connection with S7

1 Field of application

Operation and supervision of PLC-controlled installations.

2 Functioning

The MOP2 is a microprocessor-controlled function and display LCD panel. It can be used in connection with a Simatic S7 PLC. The data are read via the communication interface of the PLC. They are then displayed as operating messages, status messages or alarm messages. The front foil-protected keyboard enables the selection of a variety of displays, which can be paged through.

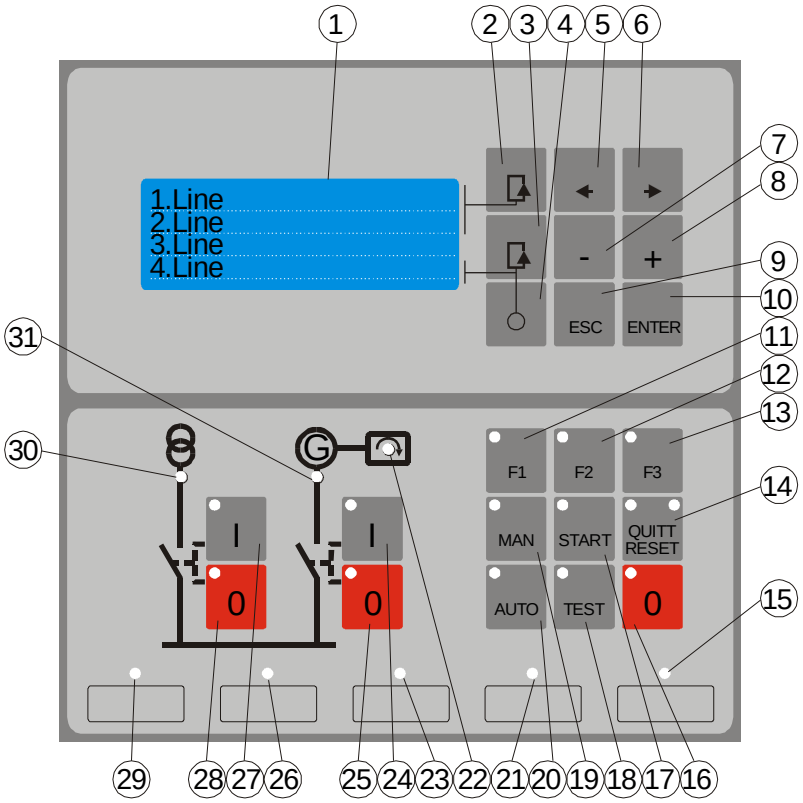
The MOP2 can be configured and can therefore be used for a variety of different PLC-controlled installations. A matching connection cable is required for PLC.

The MOP2 should be connected in accordance with the terminal assignment (refer to 4).

After having switched on the auxiliary voltage and closing the communication with the PLC, the basic display will be shown (refer to 3.1.1).

The equipment has been pre-programmed at the works.

3 Operating and display basic unit MOP2



1 Backlit 4-line display with 20 characters per line. The lighting switches off automatically after 10 minutes if no key has been activated. Once a key is activated or an error message is pending, the lighting is switched on. In line 1 and 2 are shown the errors messages. Operating notifications are displayed in line 3. The 4th line is used to access functions or submenus. A complete overview of the display notifications and functions is available under point 3.2.

2 Scrolling function through line 1 and 2. When there are error messages pending, these are automatically displayed in line 1 and 2. If there are more than two messages pending these can be scrolled through.

3 Scrolling function through line 4. Scrolling through functions, menus and submenus.

4 Selection of functions or menus displayed in line 4.

5 Shifting the cursor left in the editing menu.

6 Shifting the cursor right in the editing menu.

7 Lowering the numerical values in the control and editing menu. In editing the fault indicator text, letters and special characters are scrolled through backwards.

8 Raising the numerical values in the control and editing menu. In editing the fault indicator texts, letters and special characters are scrolled through forwards. When the button is pressed characters are scrolled through quickly.

9 Pressing the ESC key skips directly from any display and submenu to the standard display. The editing menu has to be ended using the ESC button in order to save the modified parameters.

10 Pressing the ENTER key closes the modified parameter in the editing menu. In the control menu the nominal value is set to the actual value for the internal load specification.

11 Function key which can be parameterised to a freely allocable output. The function can be selected as key or switch. The LED arranged in the key field can be parameterised to a freely allocable input and must be activated externally.
12 See key 11
13 See key 11
14 Acknowledging and resetting an error message. The yellow LED indicates a warning error message. When the error message is switched off the yellow and red LED's are illuminated. By pressing the key for the first time the LED's go from flashlight to constant light. The horn is switched off. If the error message is corrected, pressing the key for the second time results in the LED's going out and the fault indicator texts disappear in the display. If the error message is not corrected, the second press of the key results in the LED's flashing again and the horn is set.
15 The LED function can be parameterised e.g. to display an error message.
16 With the selection of the operating mode OFF the generator switch is switched off and the unit is stopped. The key "0" has priority over all other keys. Furthermore a general mains switch release is accorded and when there is mains power available this is switched off.
17 The unit can be started in the operating mode MAN with the key "Start".
18 By selecting the operation mode test the gen set will be started and supervised automatically. The gen set runs without load. Mains and gen cb push buttons are active for manual on/off switching the cb's. In case of a mains failure while test mode automatical emergency operation follows. Change back to mains supply after mains returns follows manually or by selecting the operation mode auto.
19 In the operating mode HAND manual operation is pre-selected. The unit can be started using the key "Start". Once started the function of the key changes and appears on the display as "OFF". The unit can now be stopped again using this key. In this operation mode the control does not respond to a power failure. The switches have to be activated manually using the mains and generator switch keys.
20 E.g. NG control: With the selection of operating mode AUTOMATIC the unit is made ready for automatic start. In the event of power failure it leads to automatic replacement power operation. The unit is automatically started, the mains switch release is cancelled and the generator switch release is accorded. The consumer loads are supplied by the generator. In the case of mains return (restart), once the time stages have elapsed, the loads are automatically set to the mains. The unit is stopped after one cooling run. For automatic start remote start input can also be used, e.g. to achieve load test or top load operation with or without synchronisation.
21 The LED function can be parameterised e.g. to display an error message.
22 LED for unit operation. Together with the operating message "MOTOR RUNNING" the LED also lights up. Once the unit has ground to a halt and the stopping time is up, the operating message "MOTOR STANDING" appears and the LED goes out.
23 The LED function can be parameterised, e.g. to display an error message.
24 See key 25
25 Keys for generator switch OFF and ON. The LED's in the key fields are controlled via the switch feedback signals. The keys are only enabled in manual and test operation with the available generator power. By means of software the generator switch release and mains switch release are locked. The generator and mains switches have to be locked externally using breakers. The internal locking is cancelled during synchronisation.
26 The LED function can be parameterised, e.g. to display an error message.
27 See key 28
28 Keys for mains switch OFF and ON. The LED's in the key fields are controlled via the switch feedback signals. These keys are only enabled in manual and test operation. Mains switch release and generator switch release are locked using software. These should also be locked externally using breakers. The internal locking is cancelled by introducing synchronisation.
29 The LED function can be parameterised, e.g. to display an error message.
30 LED available for mains voltage.
31 LED available for generator voltage.

3.1 Display

3.1.1 Standard display

NO FAULTS
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MOTOR STOP
MEASURING

FUEL SHORTAGE
OVER CURRENT
MOTOR RUNNING
MEASURING

If error messages are pending, the text in the first two lines is displayed. Should more than two error messages be pending, it is possible to scroll through the messages using key 2. When an error message is accrued the standard display is always integrated with the corresponding fault indicator text. In order to access the measuring menu when there is an error message pending, the function "MEASURING" in the lowest line has to be accessed with key 3. The measuring menu is opened with key 4.

3.1.2 Operating messages

NO FAULTS
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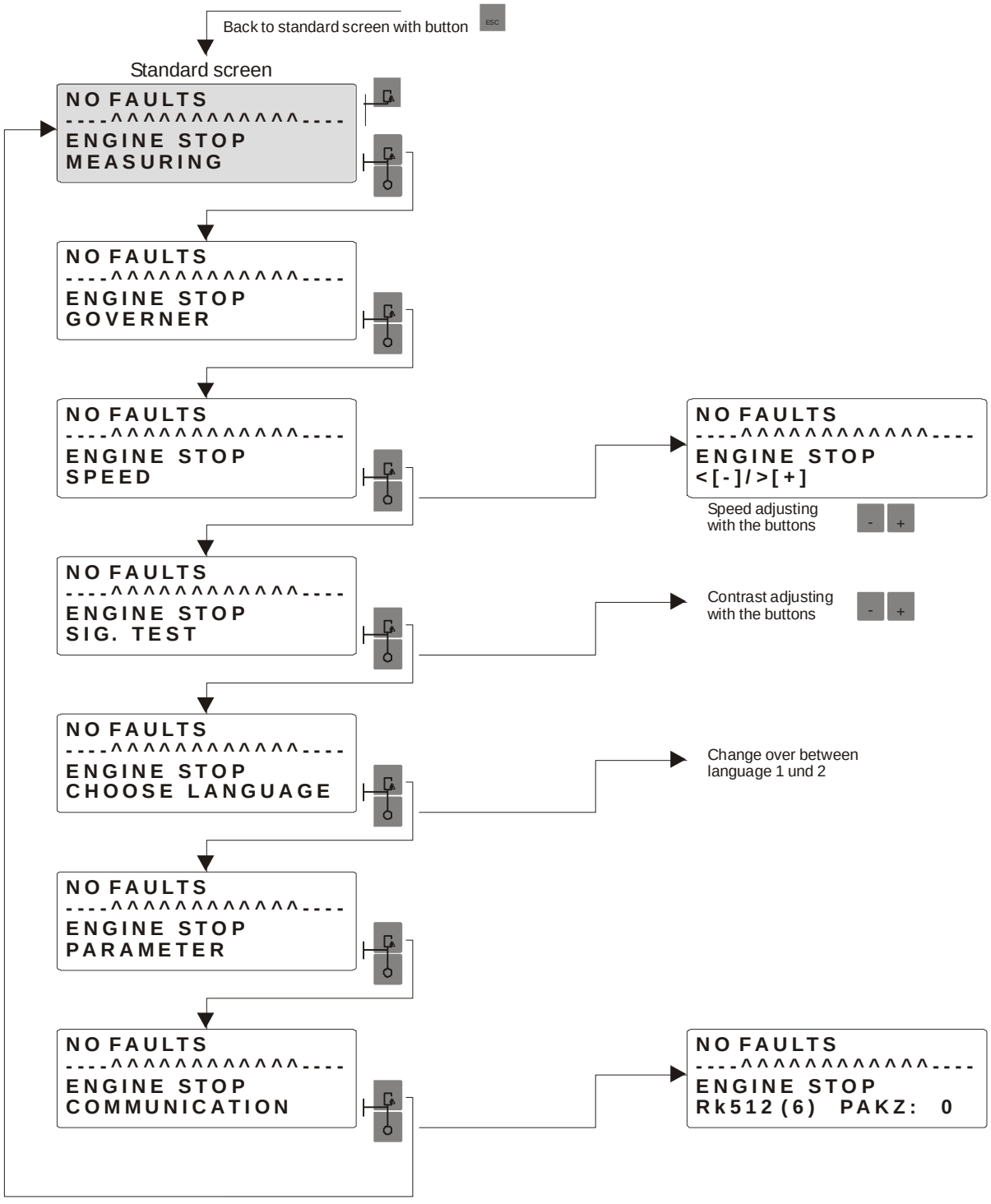
MOTOR STOP
MEASURING

In line 3 the current operating messages are integrated according to the operating status.
The following messages are available.

"MOTOR STOP" The unit is in standing and the stopping time is up.

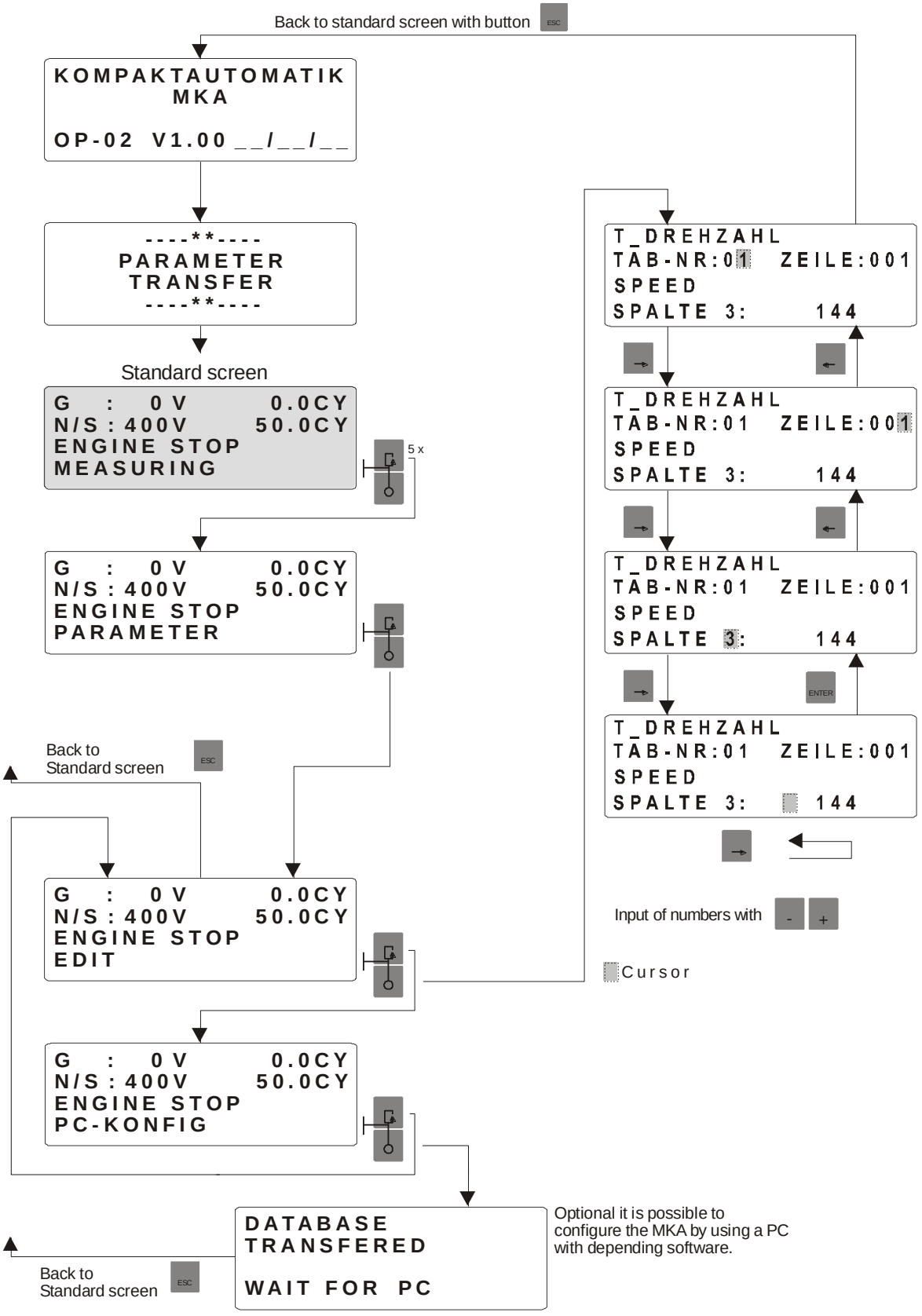
"MOTOR RUNNING" The unit is in operation. Operation is identified if on the input "firing speed reached" (KI. A02) input a 24VDC signal is pending.

3.2 Function menu

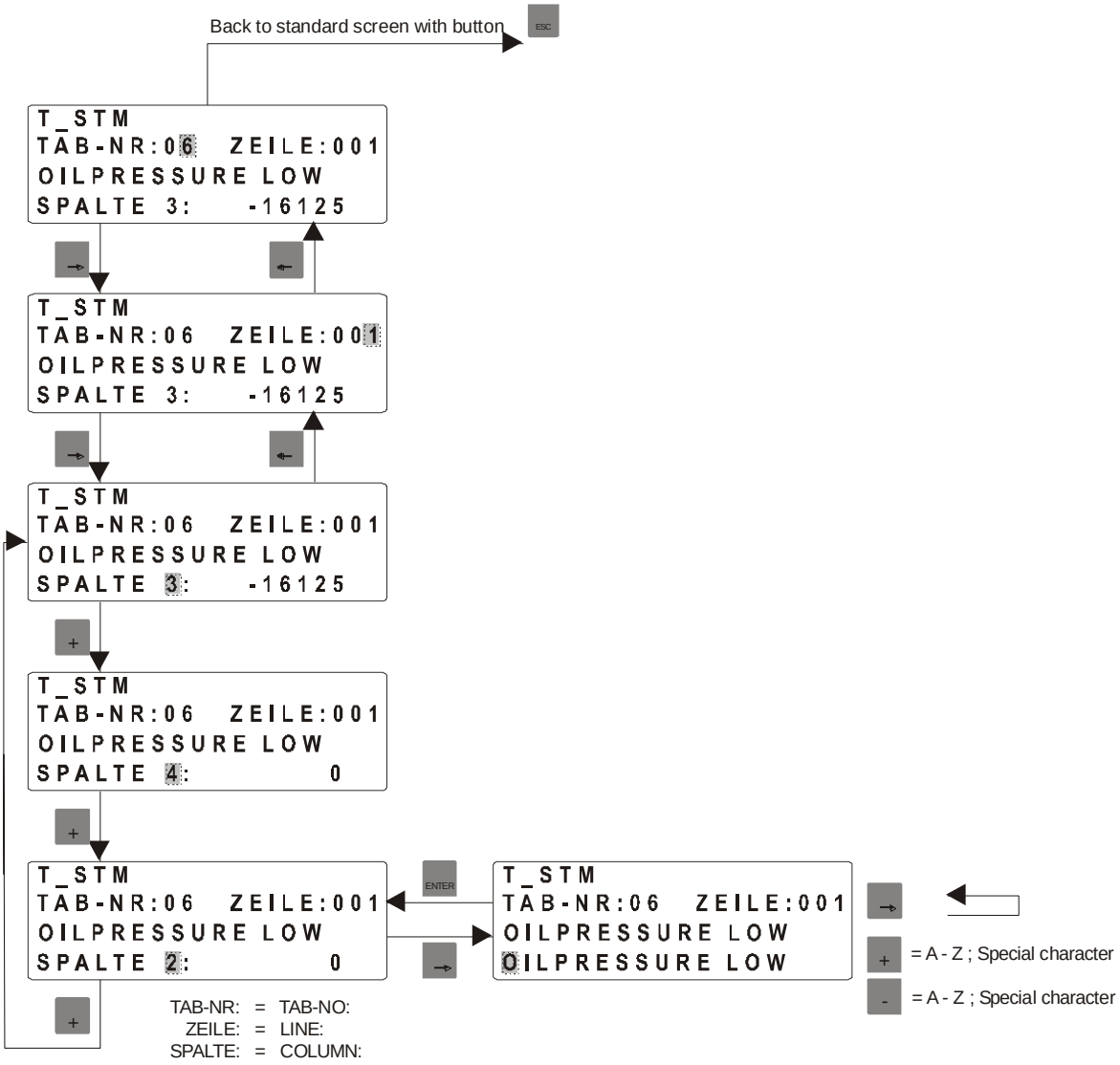


Press key 3 to scroll through the line 4. The functions or menus displayed can be performed and opened with the key 4. According to the same principle the menus can be scrolled through with key 3 and the function performed with key 4. Pressing the "ESC" key 9 will take the operator from any display directly back to the standard display

3.3 Editing menu



3.4 Editing of an error message

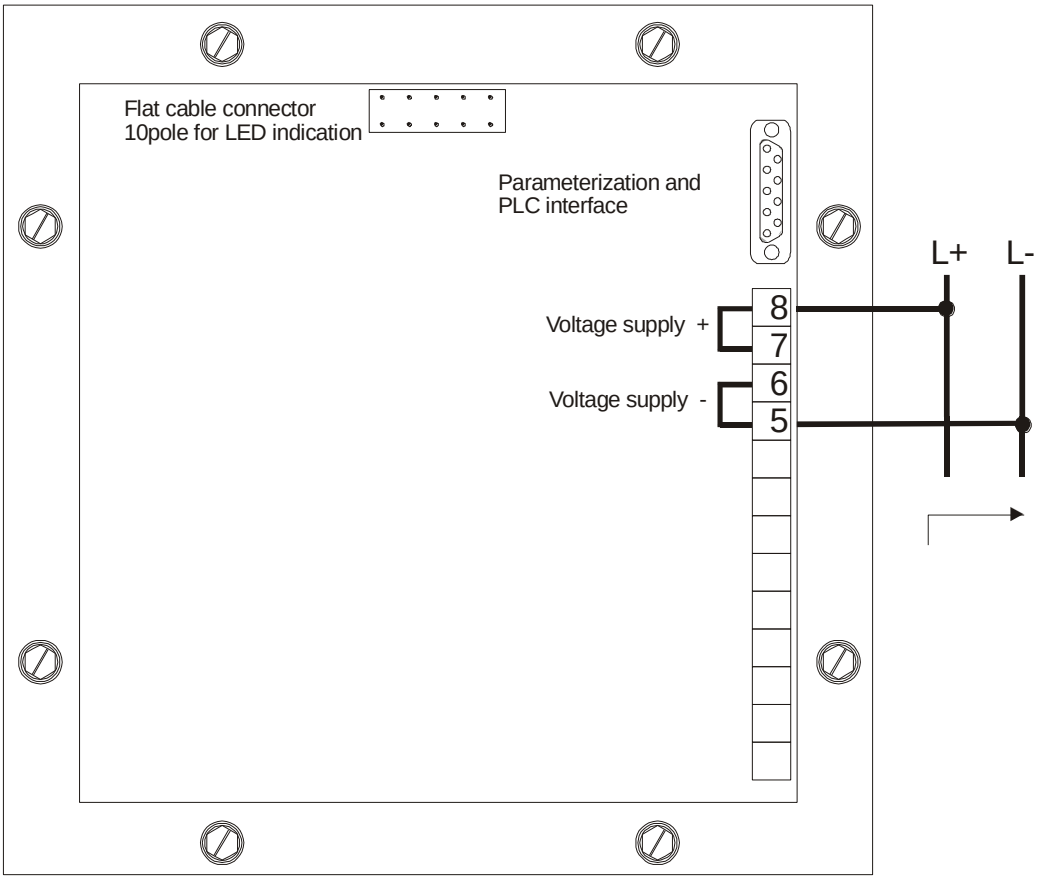


<u>Warning</u>: This function is only enabled, if the motor is standing and the operating mode “Off” is selected.

In the editing menu the fault indicator text of the MOP2 can be modified.

T_STM					
TAB-NO:6	LINE:	1	COLUMN:	2	ALARM1
		bis			bis
	LINE:	64	COLUMN:	2	ALARM64

4 Connector pin assignment



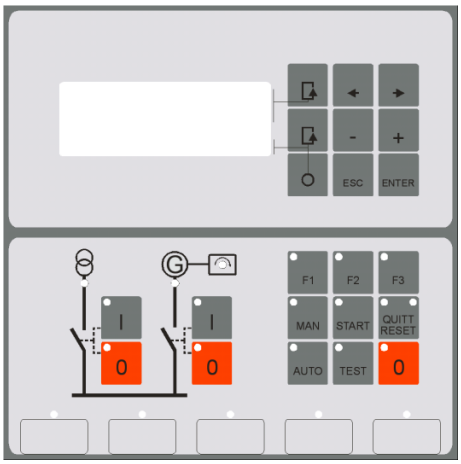
Rear view

The automatic is delivered for 24VDC voltage supply as standard. It is therefore also possible to build the automatic as 12VDC variant. Please specify this when ordering.

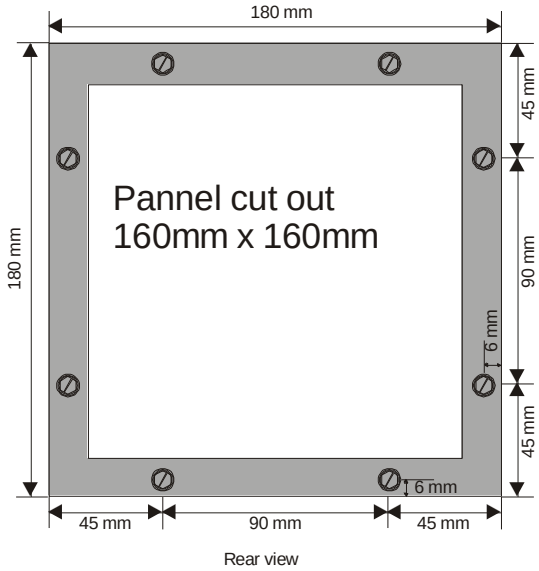
A PC can be connected with serial interface via the parameterisation interface (SUB-D 9 pole jack). The programming cable is a standard 1:1 cable. By using the appropriate software it is easy to set the parameters in the MOP2. The interface can also be accepted for coupling to an SPS control.

10 pole. Flat cable connectors can be connected to up to four expansion pads. There are 16 LED's on each pad. The function of the LED can be parameterised. Error messages or operating signals can be selected.

5 Dimensional drawings



Assembly dimensions w180mm x h180mm x d40mm



Rear view

6 Technical data

Auxiliary voltage	12V Version 9 - 18 VDC 24V Version 19 - 32 VDC
Charging rate (current consumption)	ca. 0.5 A
Ambient air temperature	0 ... 50 °C
Interfaces	Programming interface for setting parameters SUB-D 9 pole.
Casing	metal
Dimensions	see dimensional drawings
Mounting	Stay bolts M4 x 12mm
Protection category	IP 20, with seal IP 62
Weight	800 g
Mounting position	Any
Regulations	VDE 0160 / EN 50178 VDE 0435 part 303 VDE 110 IEC 255-6

Subject to modifications!

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