DMS3

Setup of parameters using buttons local control

Menu LCD

Appendix
74 1076 02

1. TABLE OF CONTENTS

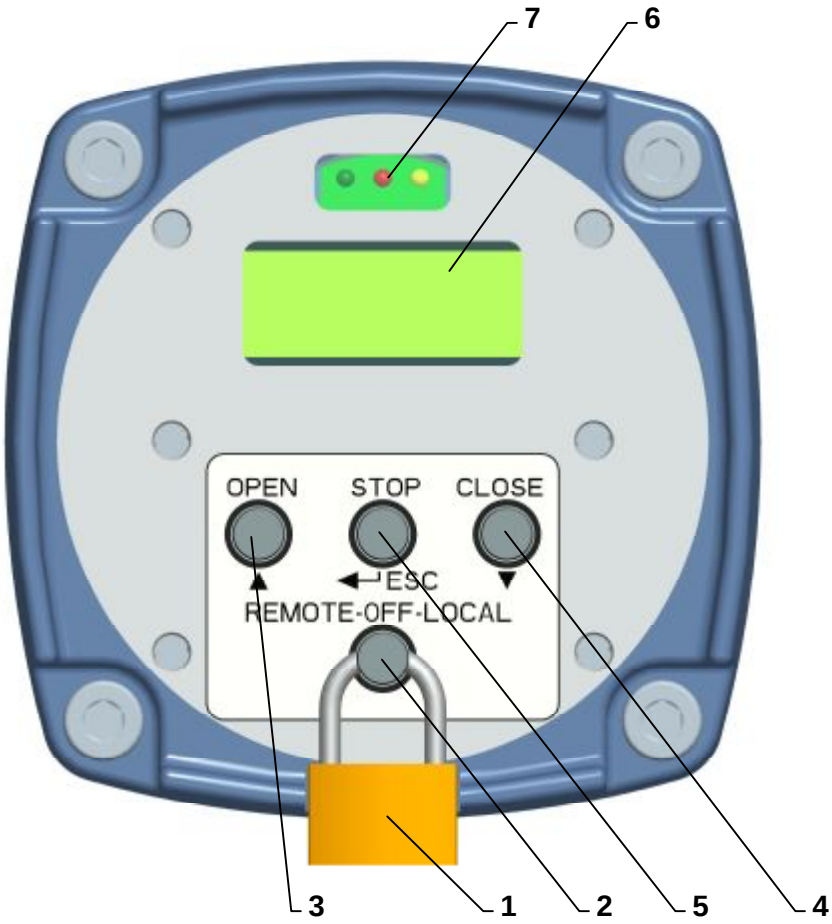
2. PARAMETERS SETUP

Menu	Name	Value of parameter	Description
1	JAZ/LANGUAGE	CESKY	Language menu
		ENGLISH	
2	POSITION O	SET	End position open
3	POSITION C	SET	End position closed
4	CALIBR.REG.	START	Start of calibration
5	END LIMIT	C = TOR, O = TOR	End limit
		C = TOR, O = POS	
		C = POS, O = TOR	
		C = POS, O = POS	
6	TORQUE O	50..100 %	Working torque - open (option 50-69% depends on *torque min* parameter)
7	TORQUE C	50..100 %	Working torque - closed (option 50-69% depends on *torque* min parameter)
8	BLOCK. TIME	0..20 s	Time setup for torque blockage
9	BLOCK. POS. O	0..5 %	Setup the position for torque open blockage
10	BLOCK. POS. C	0..5 %	Setup the position for torque closed blockage
11	CPT	4-20 mA	Type of CPT
		20-4 mA	
12	REGULATION	2P	Type of regulation
		3P	
		3P/2P I2	
13	ANALOG. INPUT	4-20 mA (2-10 V)	Type of analog control signal
		20-4 mA (10-2 V)	
		0-20 mA (0-10 V)	
		20-0 mA (10-0 V)	
		4-12 mA	
		12-20 mA	
		20-12 mA	
		12-4 mA	
14	DEAD ZONE	1..10 %	Dead zone
15	INT. DEAD. Z.	0,5..3,0 %	Internal dead zone
16	FAIL.REACT.	POS.OPEN	Reaction on SAFE and loss control signal
		POS.CLOSE	
		STOP	
		SAFE POSIT.	
17	SAFE POSIT.	0..100 %	Safe Position
18	FUNCTION I1	DISABLED	Function of input I1
		ESD	
		RELEASE LOC.	
		STOP	
19	ACTIVE I1	LOW LEVEL	Active level of input I1
		HIGH LEVEL	
20	FUNCTION I2	DISABLED	Function of input I2
		ESD	
		RELEASE LOC.	
		2P	
21	ACTIVE I2	LOW LEVEL	Active level of input I2
		HIGH LEVEL	

Menu	Name	Value of parameter	Description
22	THERMO.FAIL.	FUSE ACTIVE	Reaction of SAFE when overheating is activated
		FUSE IGNORED	
23	THERMO.RESET	AUTOMATICAL.	Overheating deactivation
		LOCAL CONTR.	
24	READY RELAY	ERROR	Function of relay ready
		WARN. / ERROR	
		ERR / N.REMOTE	
		WAR / ERR / NREM	
25	RELAY 1	DISABLED	Function of relay 1
		POSITION O	
		POSITION C	
		TORQUE O	
		TORQUE C	
		TORQUE O/C	
		TORQ.O / POS.O	
		TORQ.C / POS.C	
		OPEN	
		CLOS	
		MOVE	
		MOVE - TWINKLE	
		TO POSITION	
		FROM POSITION	
		WARNING	
		LOCAL CONT.	
		REMOTE CONT.	
		OFF	
26	RELAY 1 POS.	0..100%	Position for RELAY 1
27	RELAY 2	according to RELAY1	Function of relay 2
28	RELAY 2 POS.	0..100%	Position for RELAY 2
29	RELAY 3	according to RELAY1	Function of relay 3
30	RELAY 3 POS.	0..100%	Position for RELAY 3
31	RELAY 4	according to RELAY1	Function of relay 4
32	RELAY 4 POS.	0..100%	Position for RELAY 4
33	RELAY 5	according to RELAY1	Function of relay 5
34	RELAY 5 POS.	0..100%	Position for RELAY 5
35	CYCLE MODE	DISABLED	Mode cycle regime
		DIRECT. O	
		DIRECT. C	
		DIRECT. O+C	
36	CYCLE RUN. T.	1..250 s	Time of run of motor when cycle mode is enabled
37	CYCLE PAUSE	1..250 s	Time of pause of motor when cycle mode is enabled
38	OC TOLERANCE	0,0..5,0 %	Tolerance O and C
39	INFORMATION	FW ECU 0.23	Information of system
		FW POS. 05	
		FW TORQ. 09	
		FW LED	
		FW LCD 10	
		FW P/RE 01	
		L.ERROR 1 38	
		L.ERROR 2 38	
		L.ERROR 3 38	
		TORQUE 2053	
		TEMPER. 28C	
40	RESTORE BACK	START	Restore from saved parameters
41	CREATE BACK.	START	Create saved parameters
42	RESTORE FACT	START	Restore factories setup
43	ACTIVE ERR.	CLEAR	Clear active errors

2.1. Local control with setup buttons

1. PADLOCK
2. BUTTON REMOTE - OFF - LOCAL
3. BUTTON OPEN /
4. BUTTON CLOSE /
5. BUTTON STOP / ESC
6. LCD DISPLAY
7. LED INDICATING RUN AND ERROR



2.2. MENU LCD

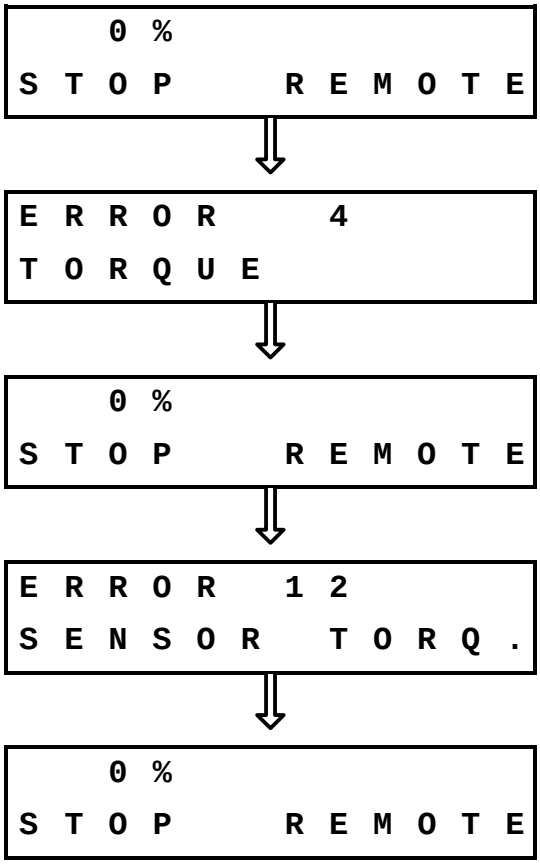
- Enter into MENU is possible only by the position switch block local control=OFF.
- MENU will disable control duty actuator.
- While no are they 4 minutes pressed none button and is not communication serial line, is MENU automatically close and system myself return in regulation duty.

- Enter in MENU can be limited password (parameter *Password*), see. chapter MENU LCD - enter in menu protected password.
- MENU is modified actual configuration the system, parameters oneself bet temporary inaccessible, see. Chapter MENU LCD – temporary inaccessible parameter.

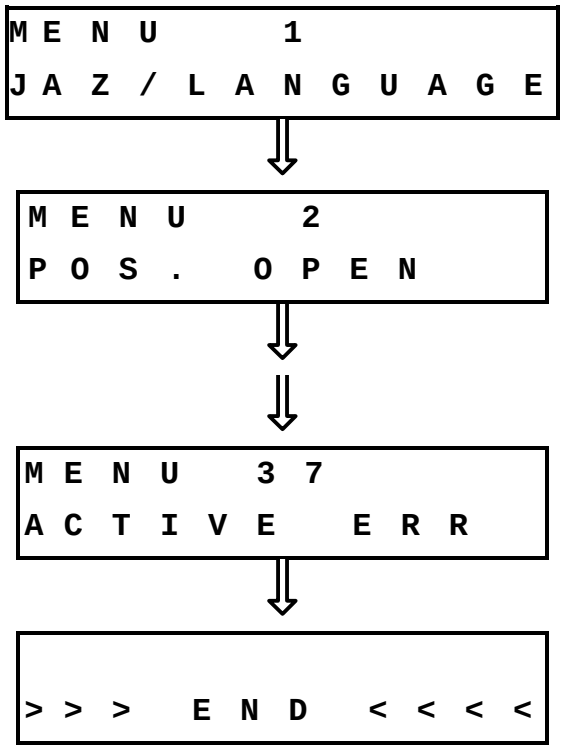
- Record parameters can be limited enter authorized (parameter *Enter*), short-circuit admittance parameters oneself bet inaccessible, see. Chapter MENU LCD – inaccessible parameter
- In the MENU is possible to use for faster changes values parameters or numbers MENU function Autorepeat, i.e. hold button ▼▲ come to automatically increase or reduction values.
- Note: In the ES version with local control, with I1 function set to the value "LOCAL CONTROL BLOCK RELEASE" using the EHL explorer program, or by push buttons on the local control (MENU 18 on local control), after leaving the MENU, control buttons of the control unit and the local control are blocked. This condition is signalized on LCD display of the local control with the sign *VYP. (OFF) or *DALK. (REMOTE), or *MIESTNE (LOCAL). Push buttons are accessible again by activation of input I1, or by changing the setting of I1 function to a value different than "LOCAL CONTROL BLOCK RELEASE" using the EHL explorer program.

2.3. Description of displayed data

Mode		Displayed message
After power on		R E S E T
Operation mode	Example	0 % S T O P R E M O T E
	Position	0 % ⇓ 1 0 0 %
	Torque closed	T O R Q . C
	Torque open	T O R Q . O
	Control is turned off	O F F
	Local control	L O C A L
	Remote control	R E M O T E

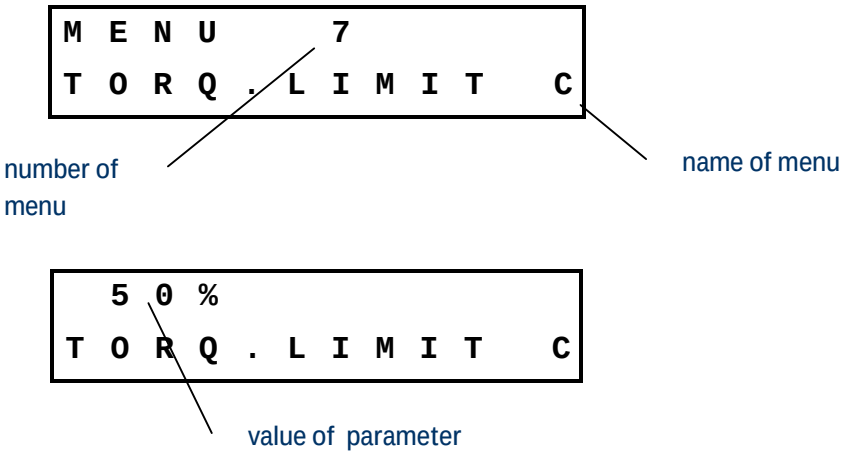
Error or several errors occured (also for warnings).	Operating message and error messages are cyclically displayed.	
Setup parameter there's no point in relative to actual select system function		
Edit given parameter is forbidden (change from PC with required qualified)		
Setup from PC app.		
Reset of sensor.		

2.3.1. Setup of parameters using buttons

Mode		Displayed message
Selection of menu.		
Setup of parameter.		
Record of parameter.		

- Entering the menu is enabled only when remote and local control are disabled. Display shows OFF (REMOTE – OFF – LOCAL).
- Entering the menu disabled common operating mode.
- After 4 minutes of inactivity is menu mode automatically switched to common operating mode.

2.4. Description of displayed information



2.5. Entering menu

2.5.1. Enter into settings without password

Set switch remote - off - local
to position OFF.

Press and hold button. ⟹ ESC

Release the button. ESC

2.5.2. Enter into password protected settings

Change switch REMOTTE.-OFF-LOCAL into position OFF

Press and hold button. ⇨

ESC

```
0 0 0 0 0
P A S S W O R D
```

Press the button, ⇦ ⇨

▼▲

for insert value password

```
3 0 0 0 0
P A S S W O R D
```

Press the button, ⇦ ⇨

ESC

```
3 0 0 0 0
P A S S W O R D
```

pass by next code password

Step by step supply all cods of password ⇦ ⇨

```
3 8 1 1 7
P A S S W O R D
```

Confirm entry by pressing and hold button

ESC

Entry flowing

```
M E N U      1
J A Z / L A N G U A G E
```

Entry disallowed

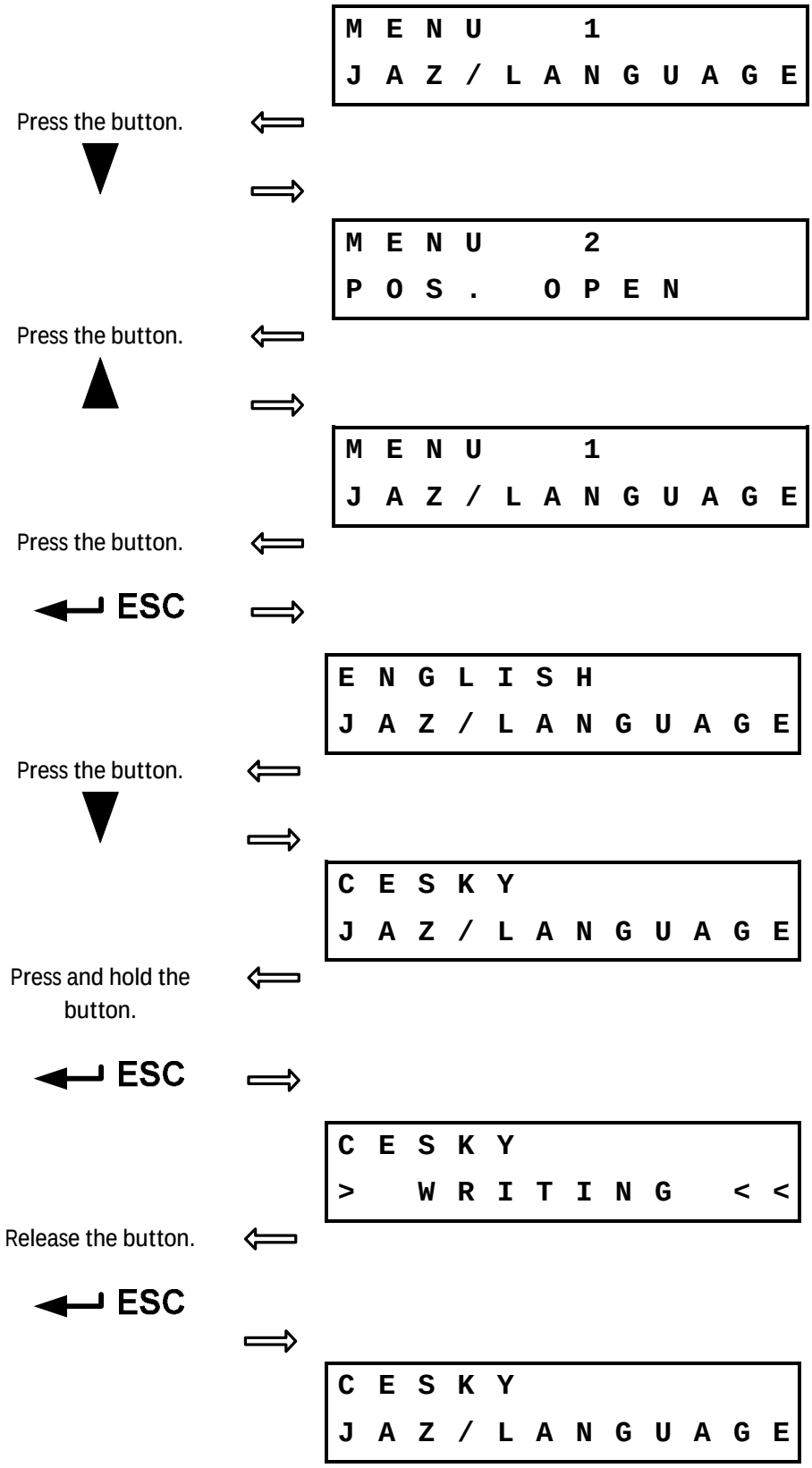
```
F A L S E   P A S S W .
```

Number tests is limited on 5. Next must be actuator out - of - operation and open for option of again enter password.

Release button

ESC

2.6. Listing and setting parameters in menu, change and record parameter



2.7. MENU LCD – temporary inaccessible parameter

- Unless be on display displayed following writing, parameter it's no use for actual configuration the system, is temporary inaccessible.

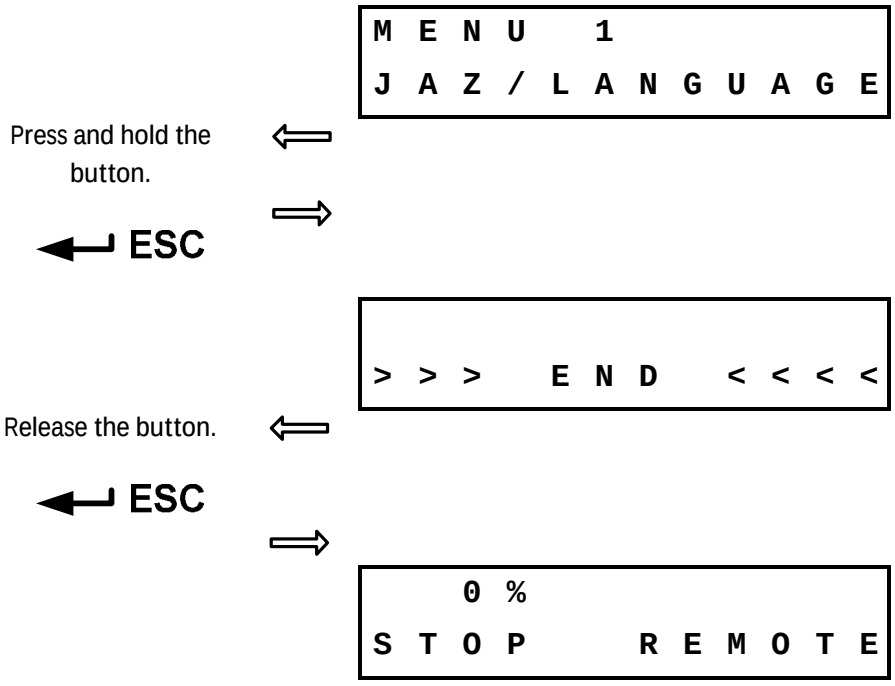
2.8. MENU LCD – inaccessible parameter

- Unless are they by the record parameters on display displayed following writing, just so parameter inaccessible to record

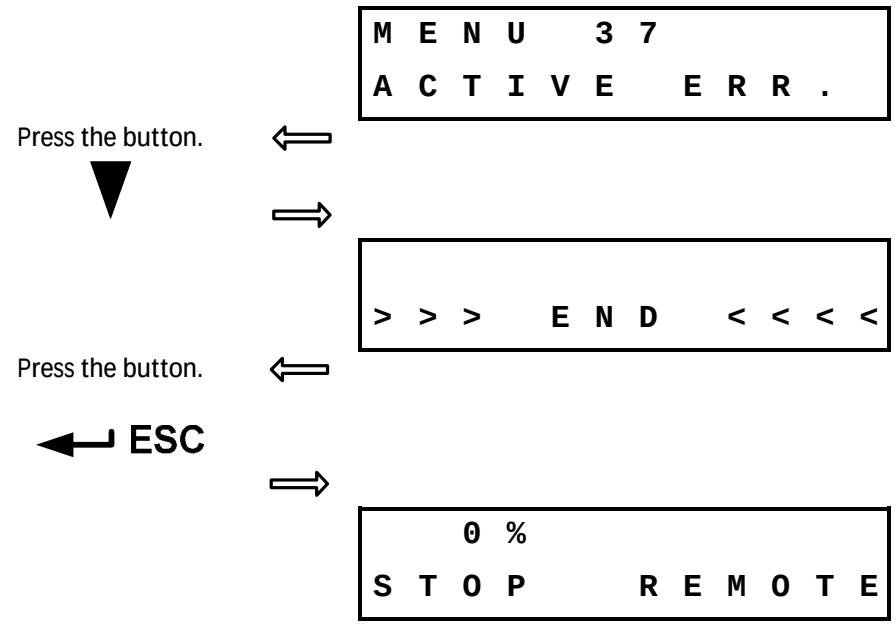
- Accessing parameter is possible to change parameter access by program EHL Explorer with corresponding legitimate (HW key).

2.9. Exit MENU

2.9.1. Exit MENU everywhere

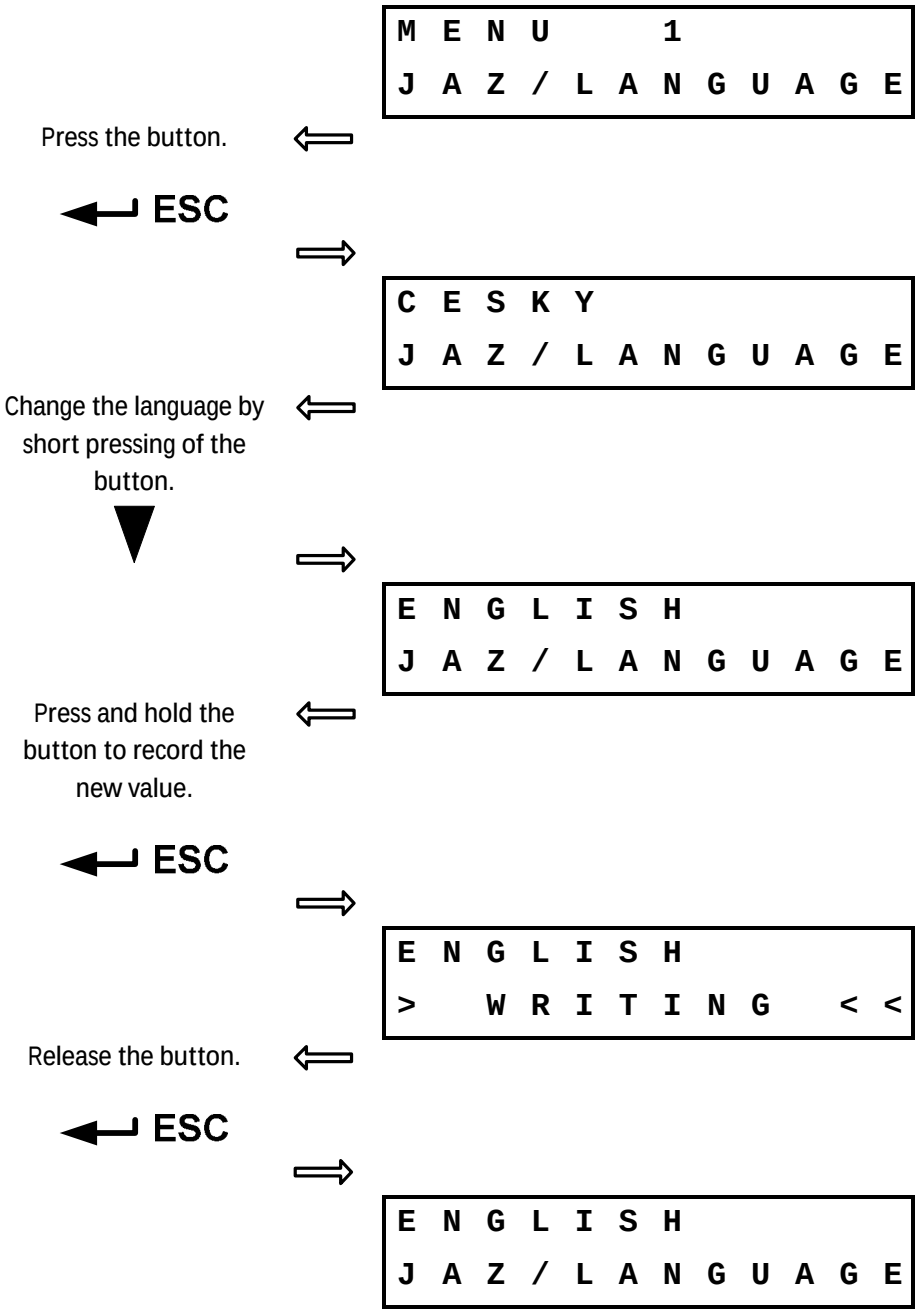


2.9.2. Exit MENU at the end of menu



2.10. MENU overview

2.10.1.MENU 1 –Language



2.10.2.MENU 2 –End position O

```
M E N U     2
P O S I T I O N   O
```

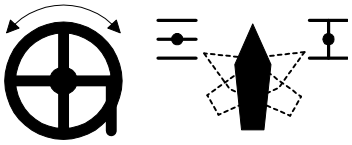
Press the button. ⇦

← ESC

⇨

```
S E T
P O S I T I O N   O
```

Setup a new position manually or by local control. ⇦



⇨

```
S E T
P O S I T I O N   O
```

Press and hold the button to record the new value. ⇦

← ESC

⇨

```
S E T
>   W R I T I N G   < <
```

Release the button. ⇦

← ESC

⇨

```
S E T
P O S I T I O N   O
```

2.10.3. MENU 3 – End position C

```
M E N U     3
P O S I T I O N   C
```

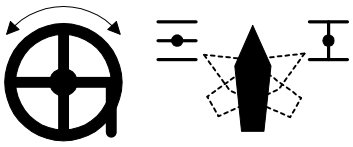
Press the button. ⇦

← ESC

⇨

```
S E T
P O S I T I O N   C
```

Setup a new position manually or by local control. ⇦



⇨

```
S E T
P O S I T I O N   C
```

Press and hold the button to record the new value. ⇦

← ESC

⇨

```
S E T
>   W R I T I N G   < <
```

Release the button. ⇦

← ESC

⇨

```
S E T
P O S I T I O N   C
```

2.10.4.MENU 4 – Calibration regulator

§ During calibration regulator arrive to near turning actuator at two directions.
§ Be needed provide conditions for free turning actuator.

```
M E N U      4
K A L I B R . R E G
```

Press the button. ⇦

ESC ⇨

```
S T A R T
K A L I B R . R E G
```

Press and hold the button to run calibration. ⇦

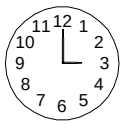
ESC ⇨

```
R U N
>    W R I T I N G    < <
```

Release the button. ⇦

ESC ⇨

WAIT! ⇦
The actuator is moving!



⇨

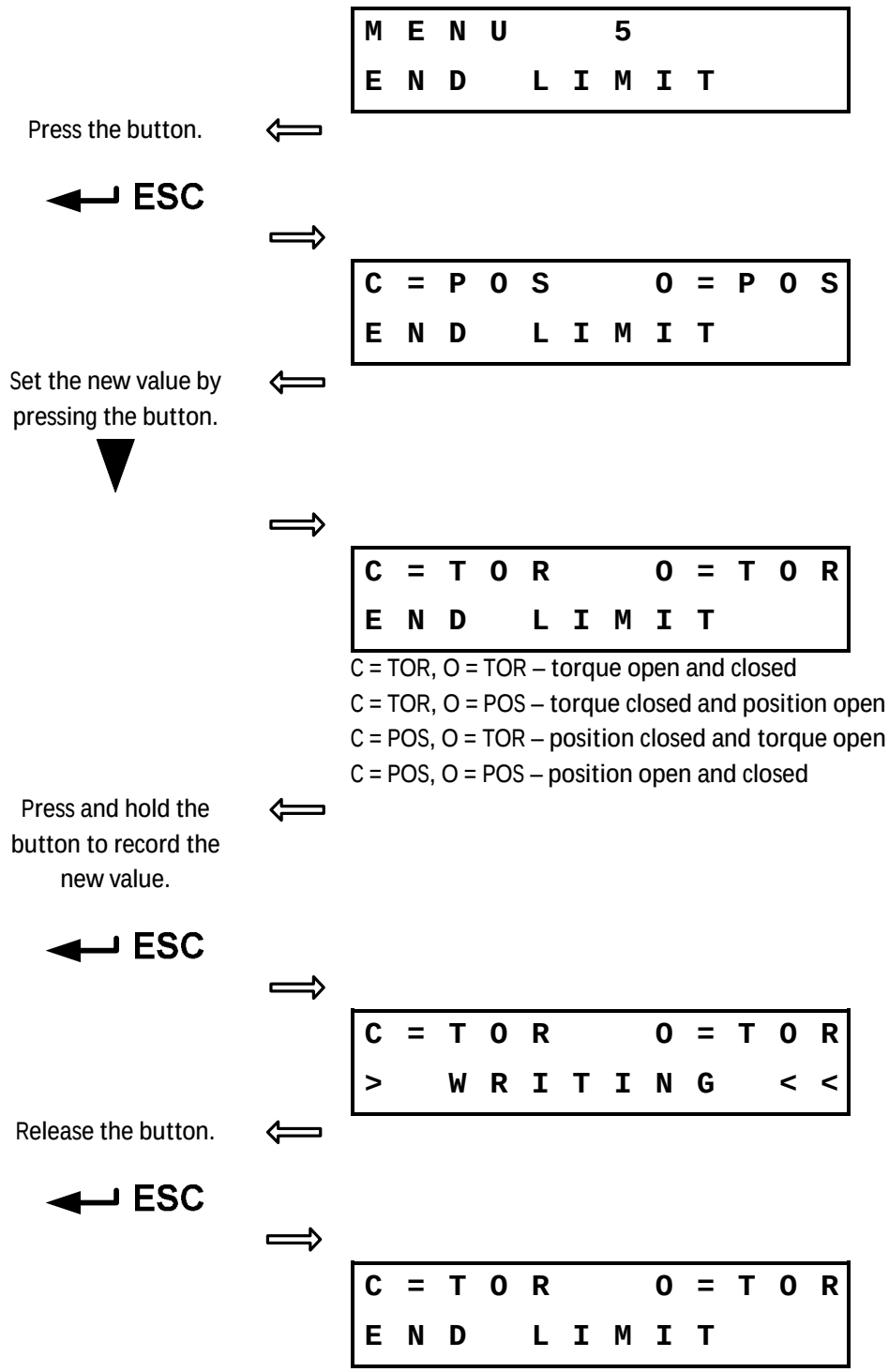
```
O K
K A L I B R . R E G
```

OK – successfully finished

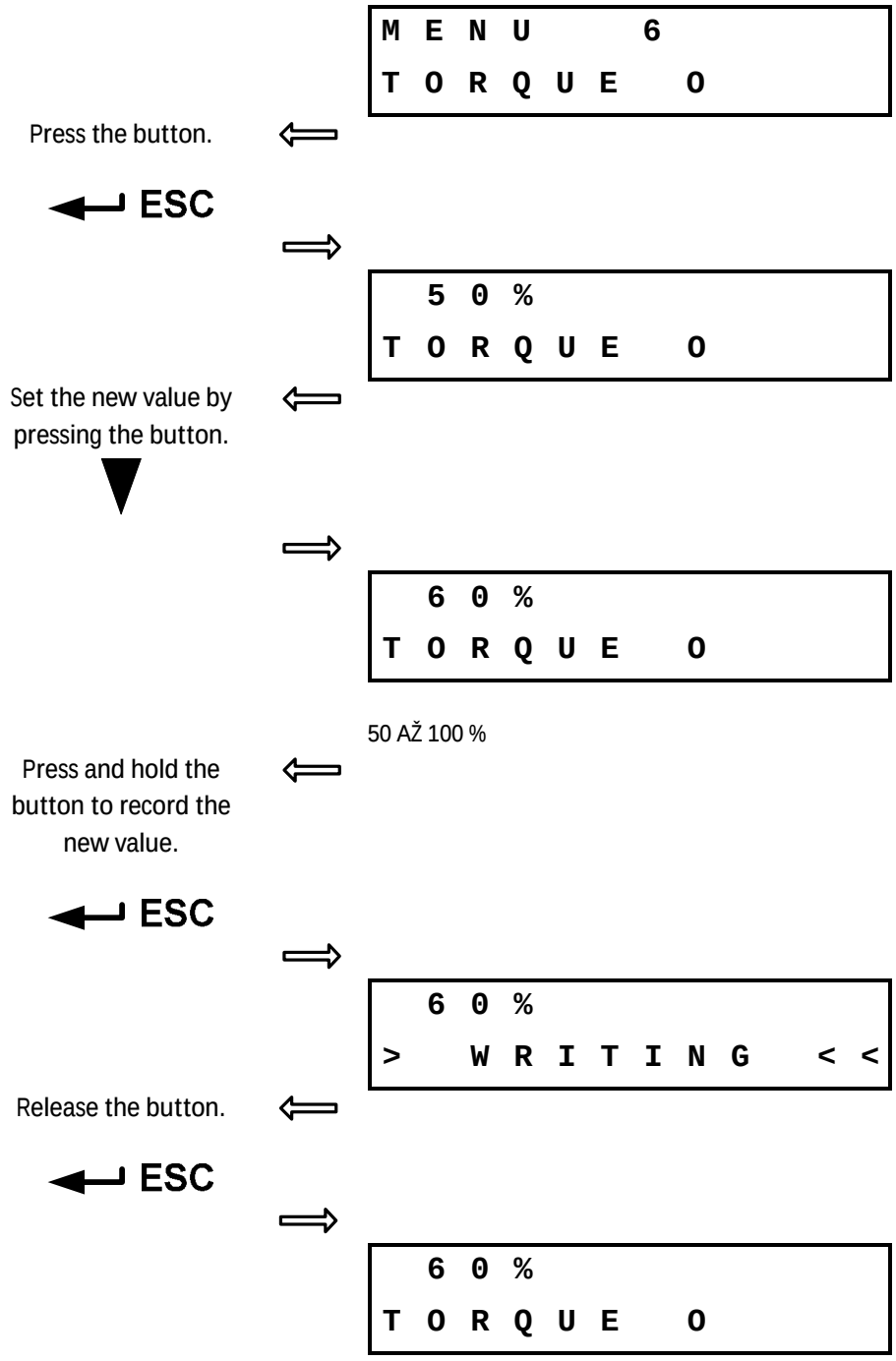
```
E R R O R      3
K A L I B R . R E G
```

Error 3 – during calibration occurred error number 3 (see tab. Register errors...)

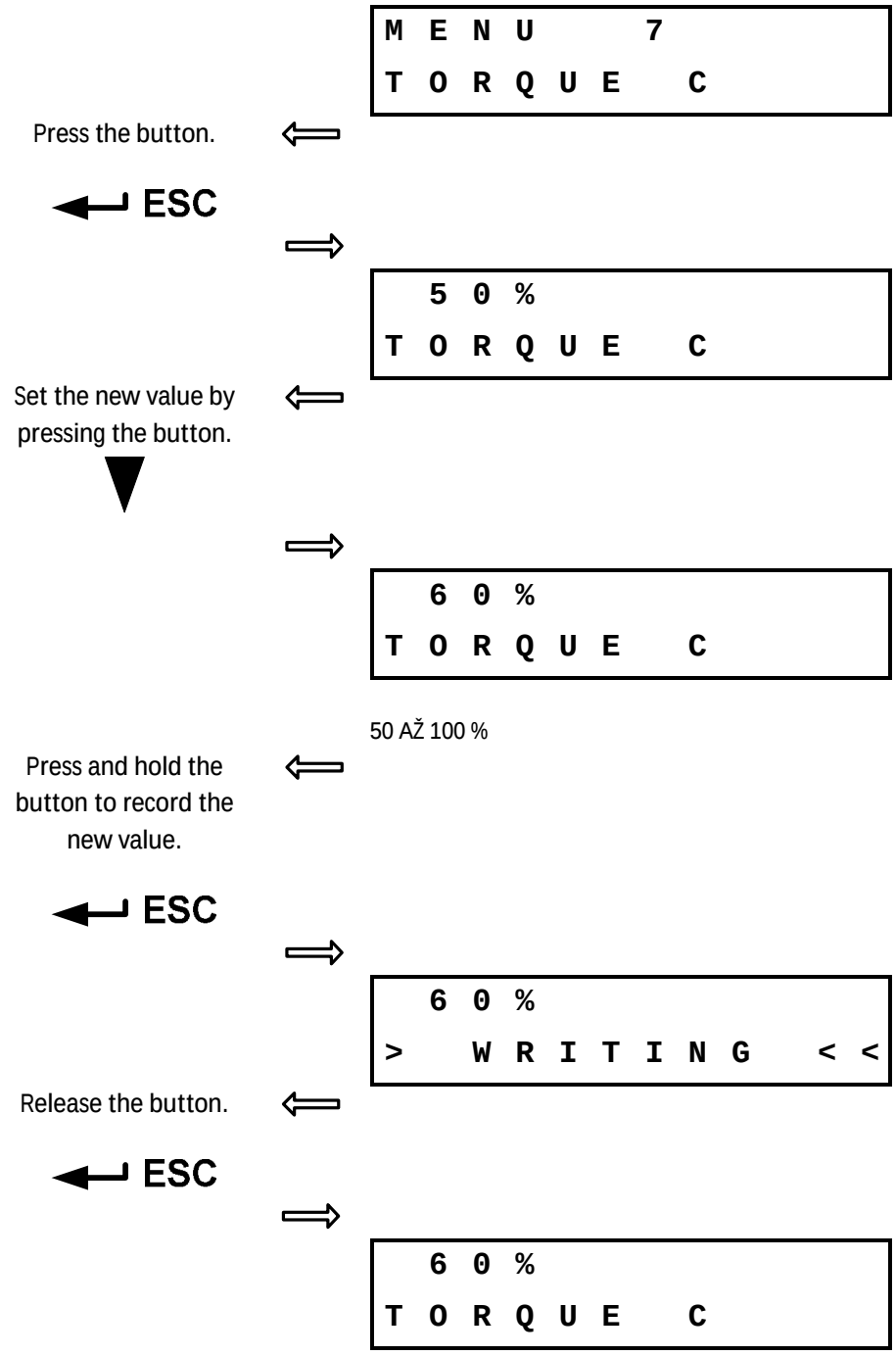
2.10.5.MENU 5 – Shutting off at end limit



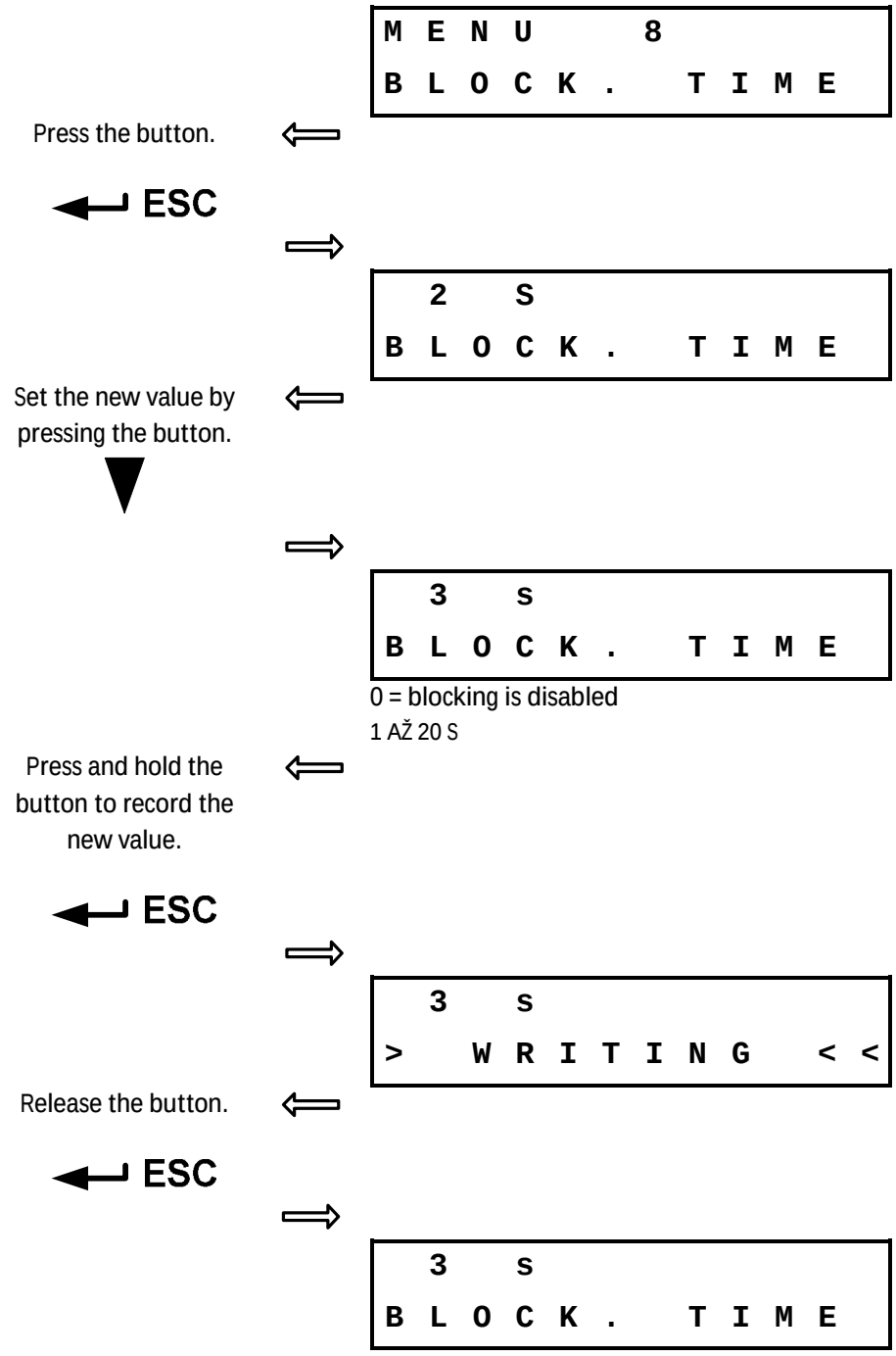
2.10.6.MENU 6 – Operating torque O



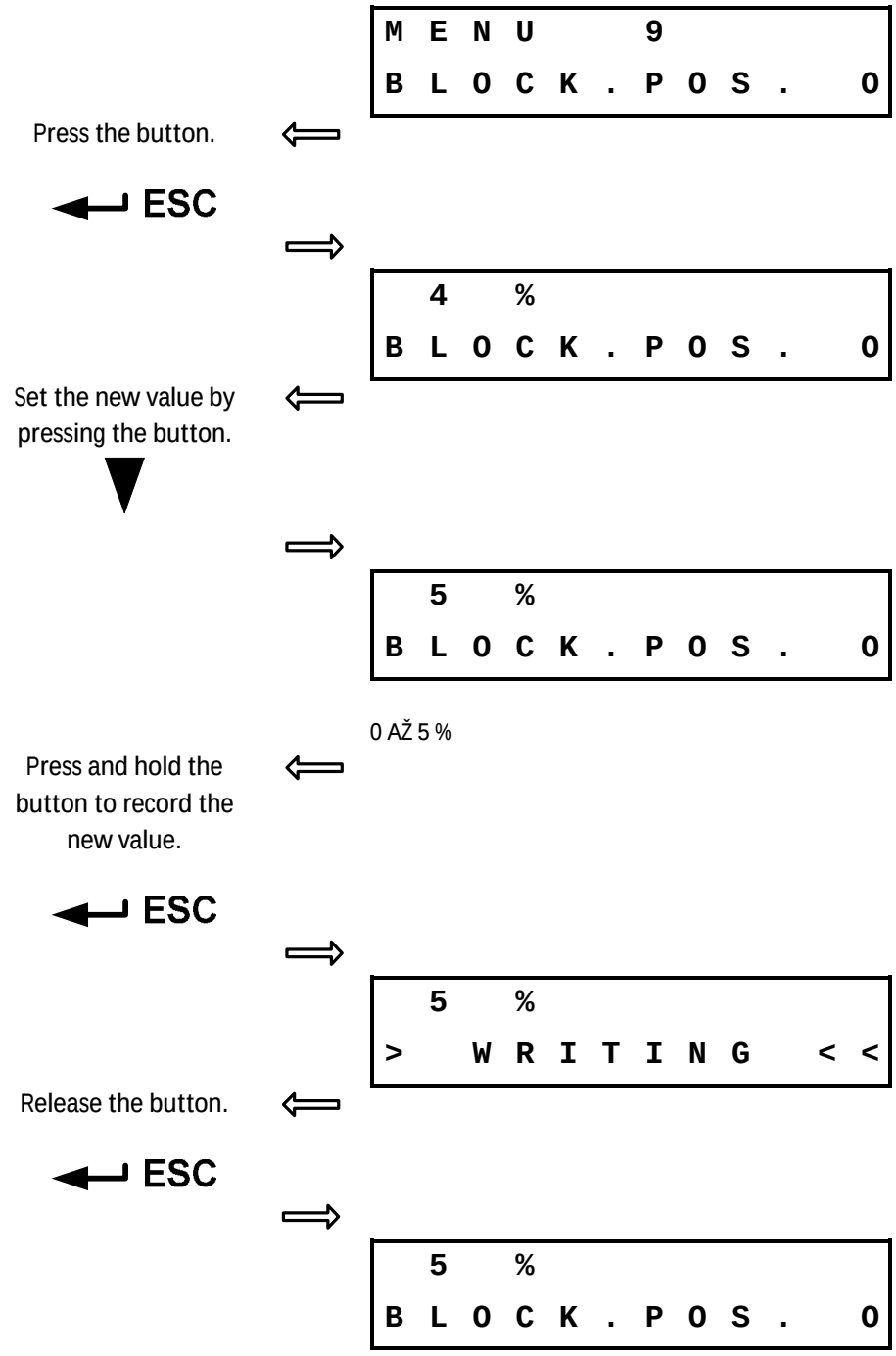
2.10.7.MENU 7 – operating torque C



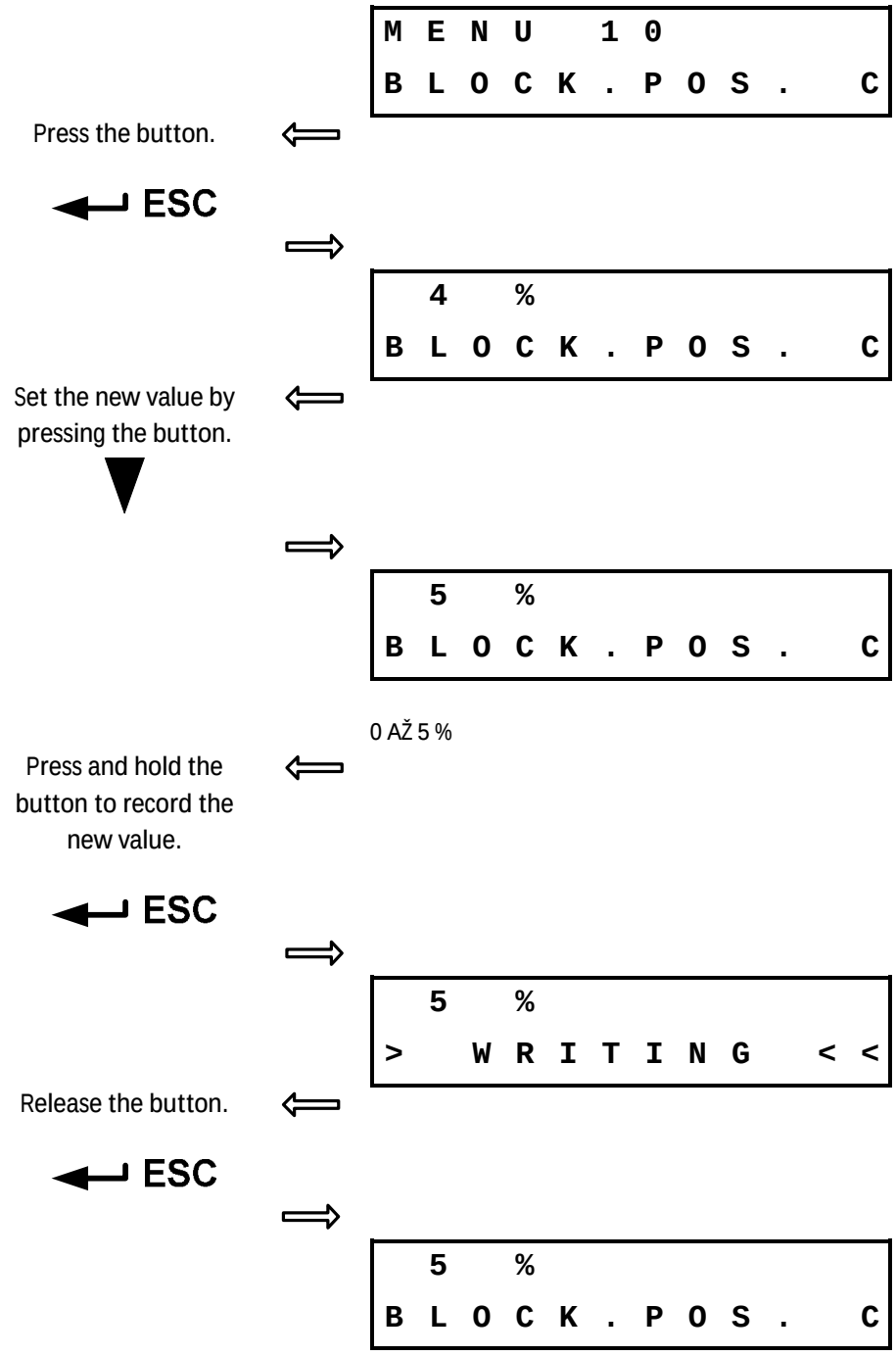
2.10.8.MENU 8 – Time of torque blocking



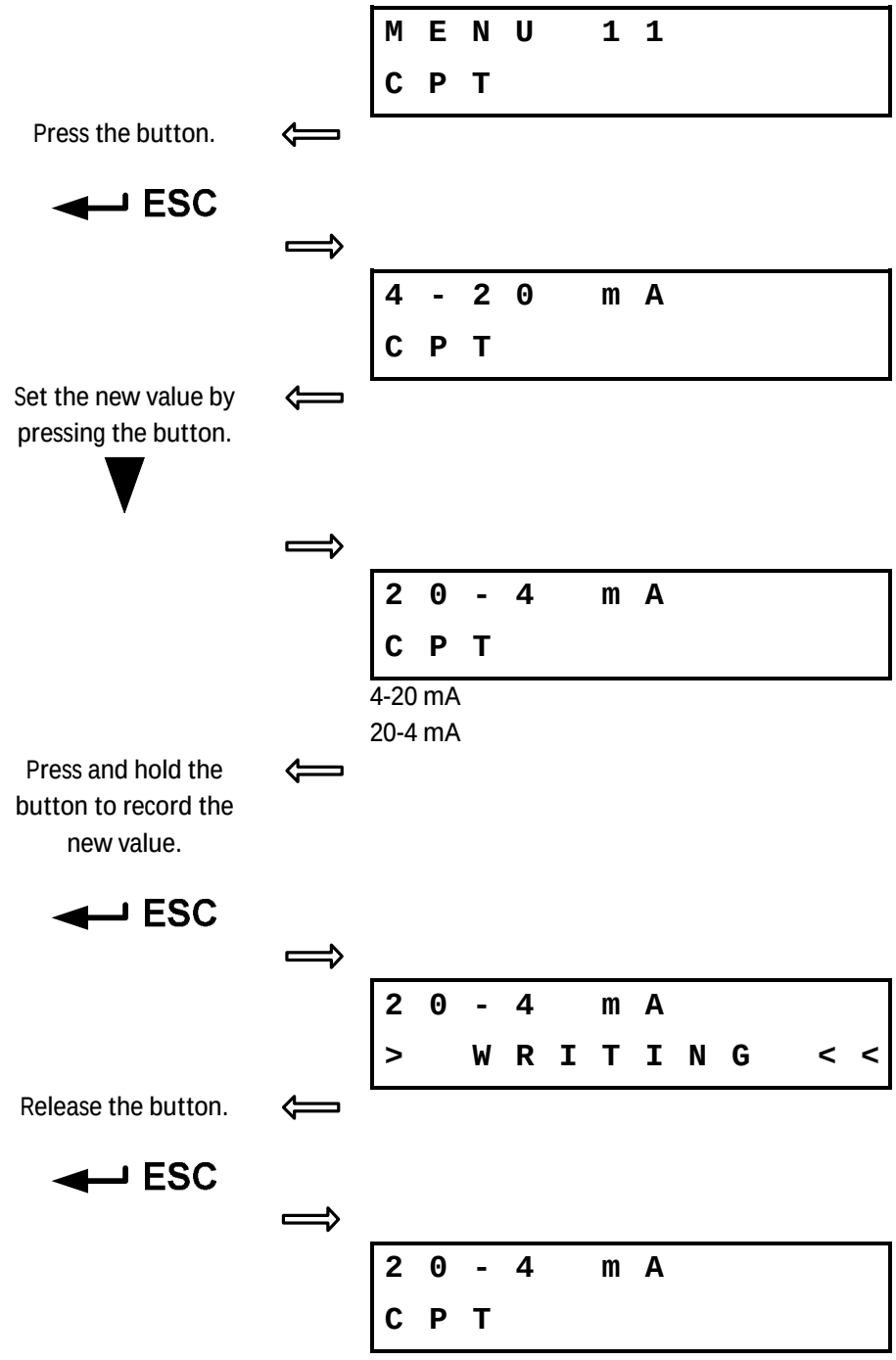
2.10.9.MENU 9 – Position of torque blocking open



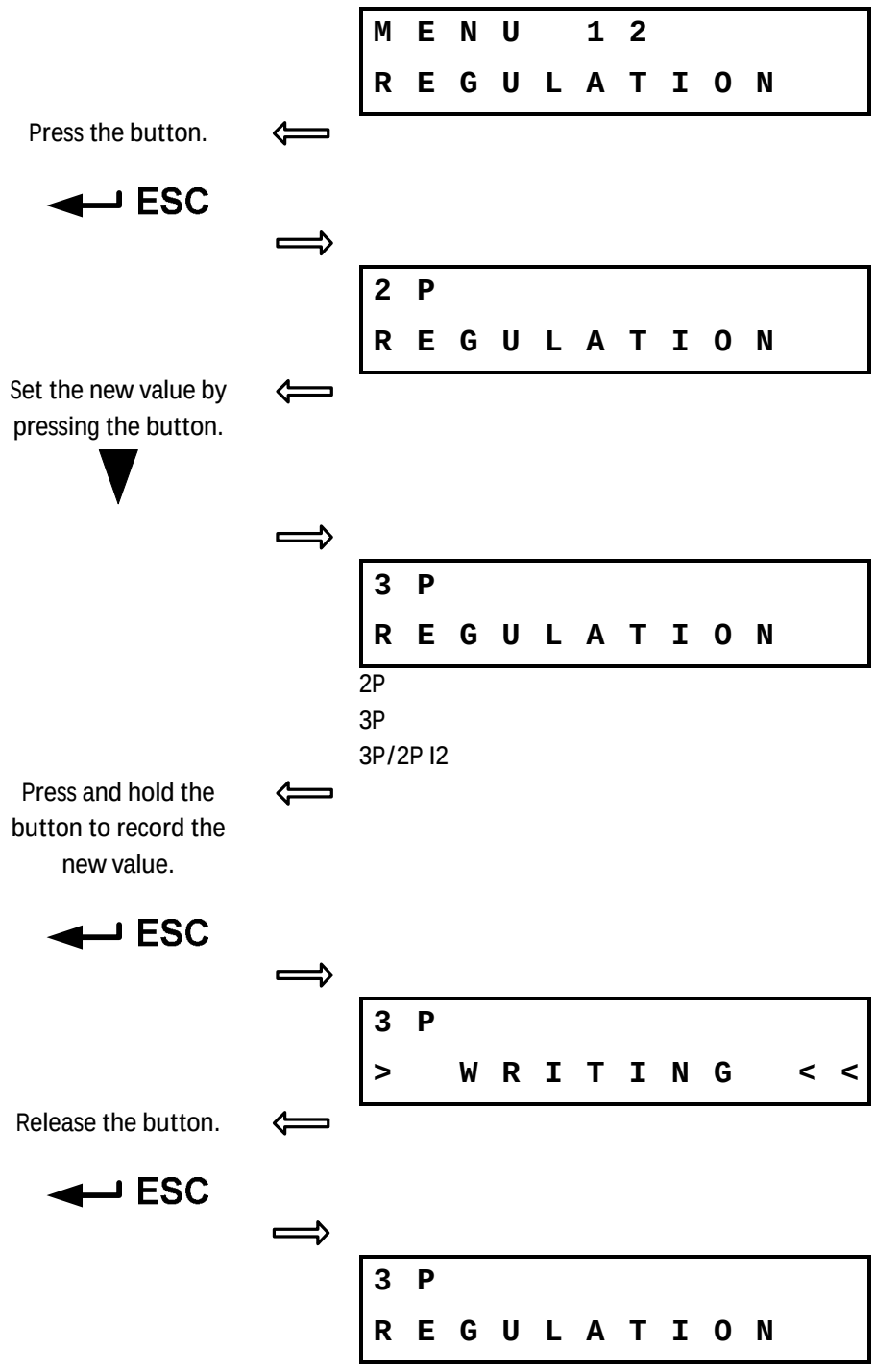
2.10.10. MENU 10 –Position of torque blocking closed



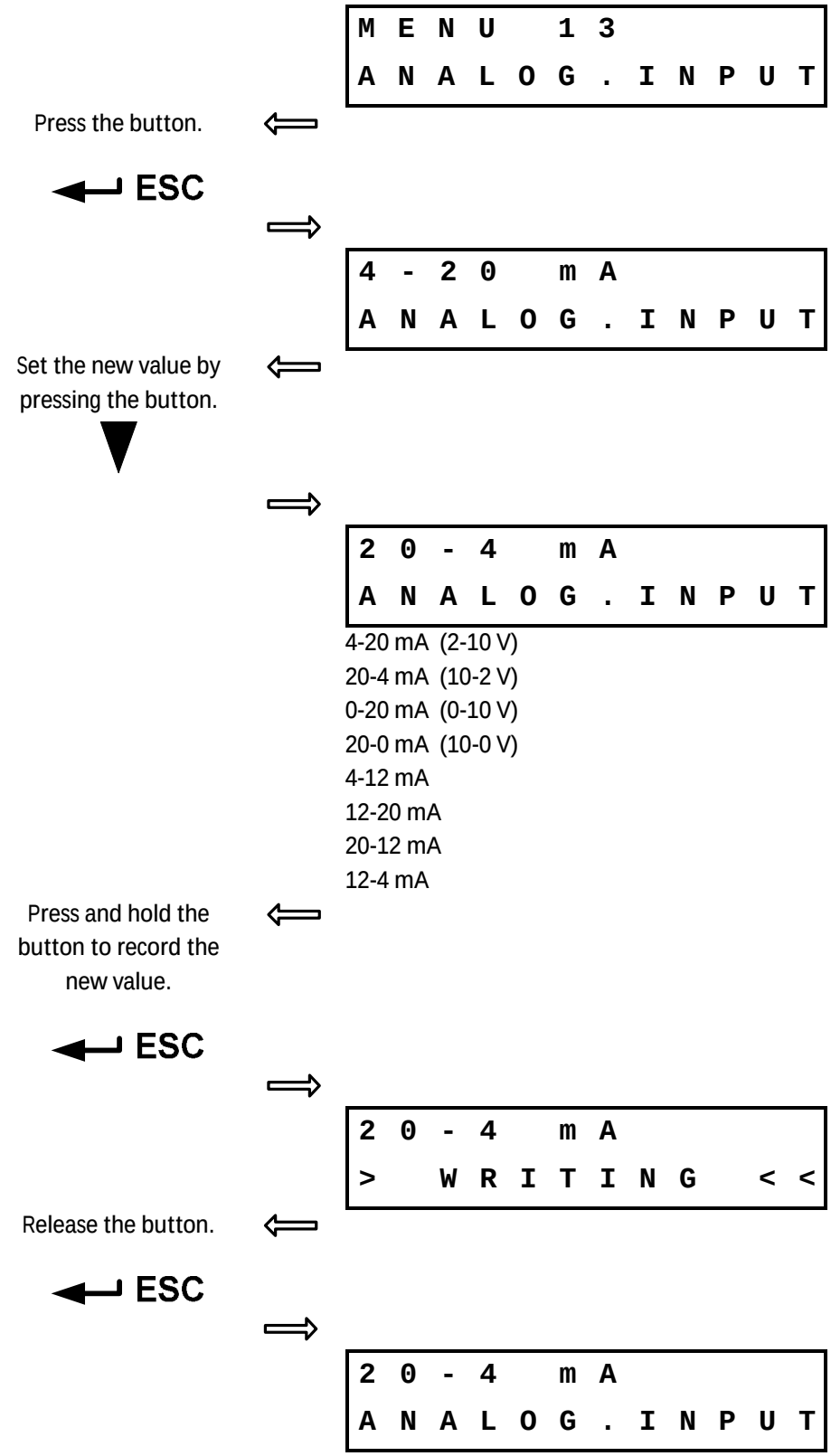
2.10.11. MENU 11 – Setup CPT



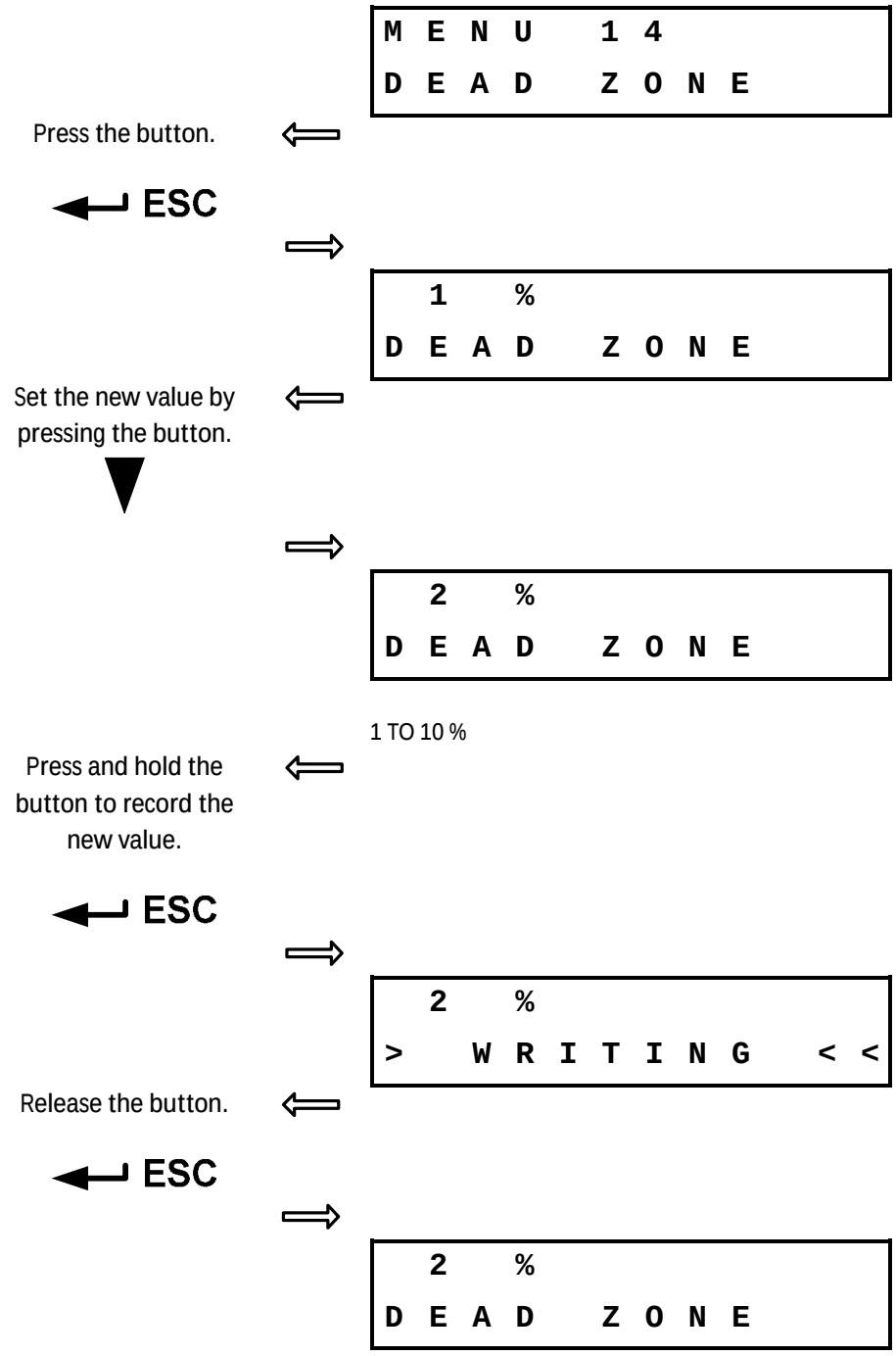
2.10.12. MENU 12 – Type of regulation



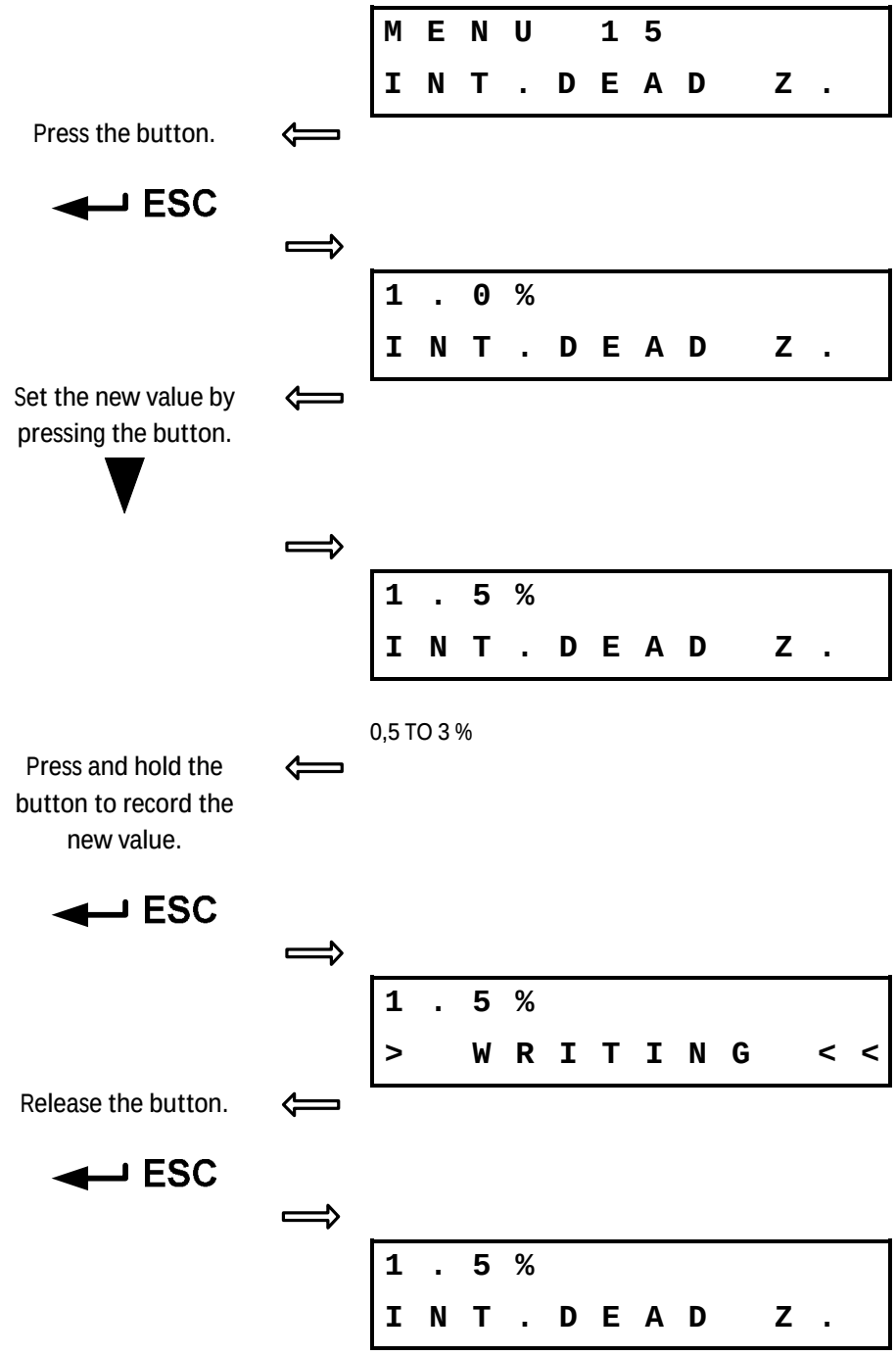
2.10.13. MENU 13 – Analog control signal



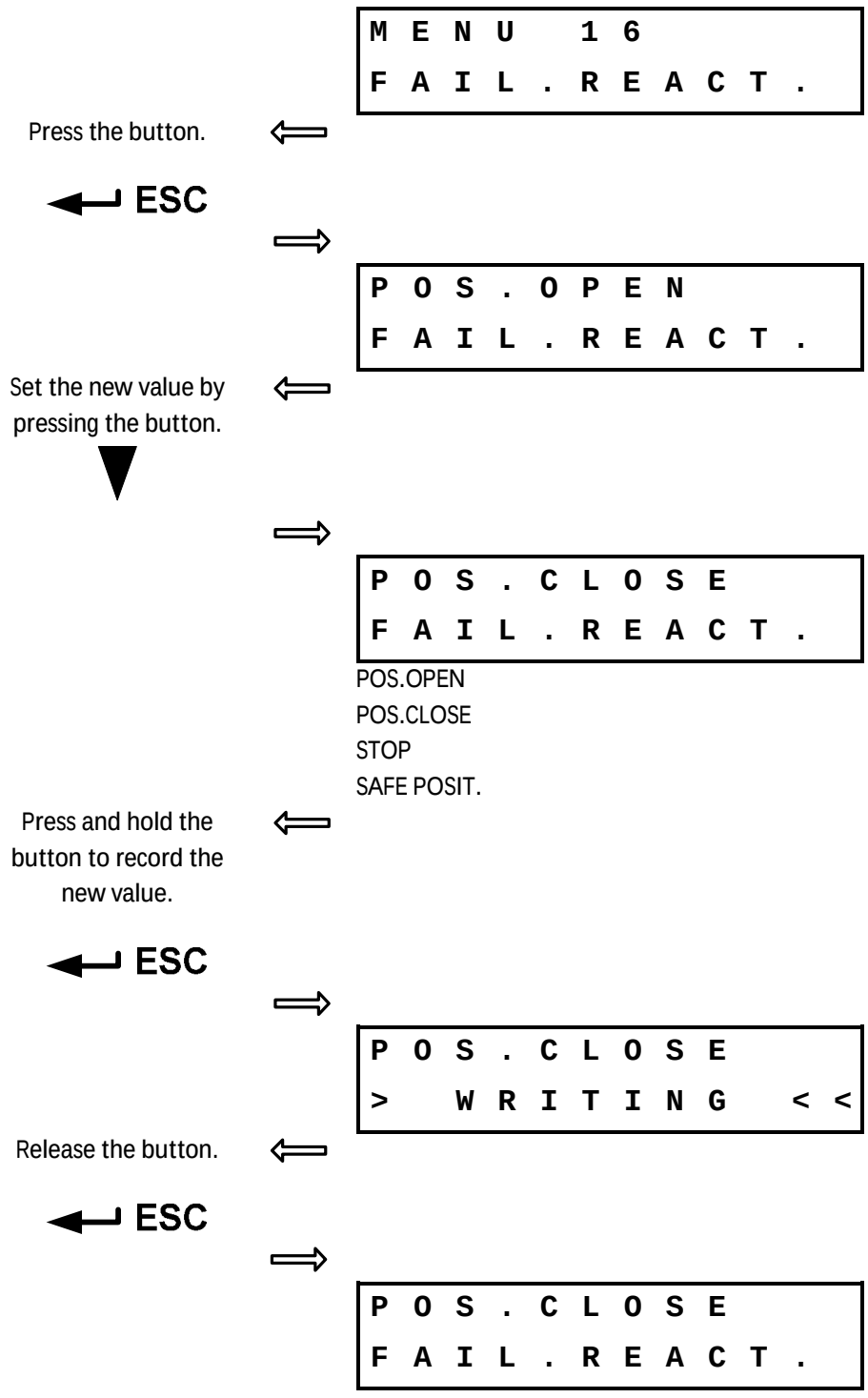
2.10.14. MENU 14 –Dead zone



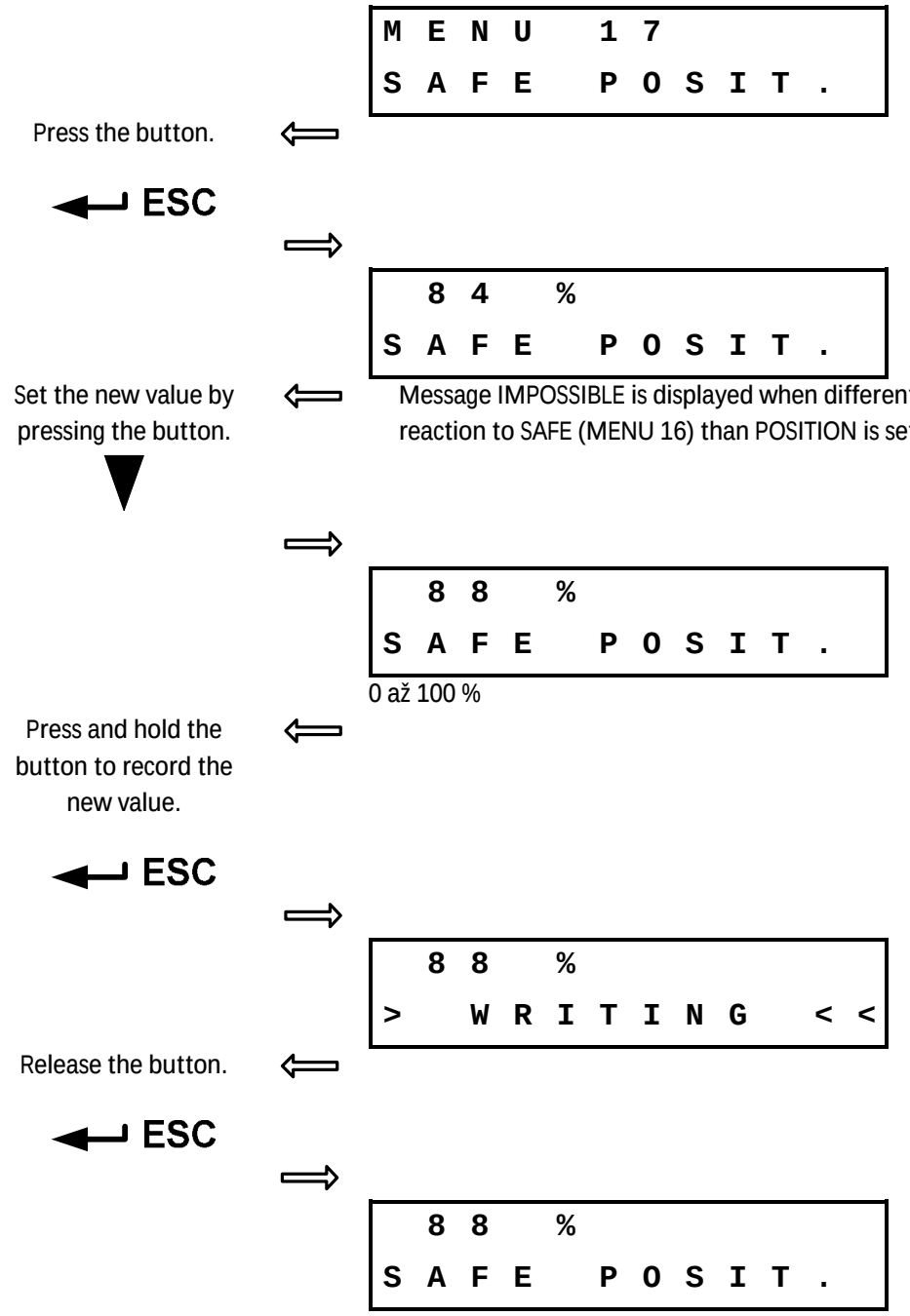
2.10.15. MENU 15 – Internal dead zone



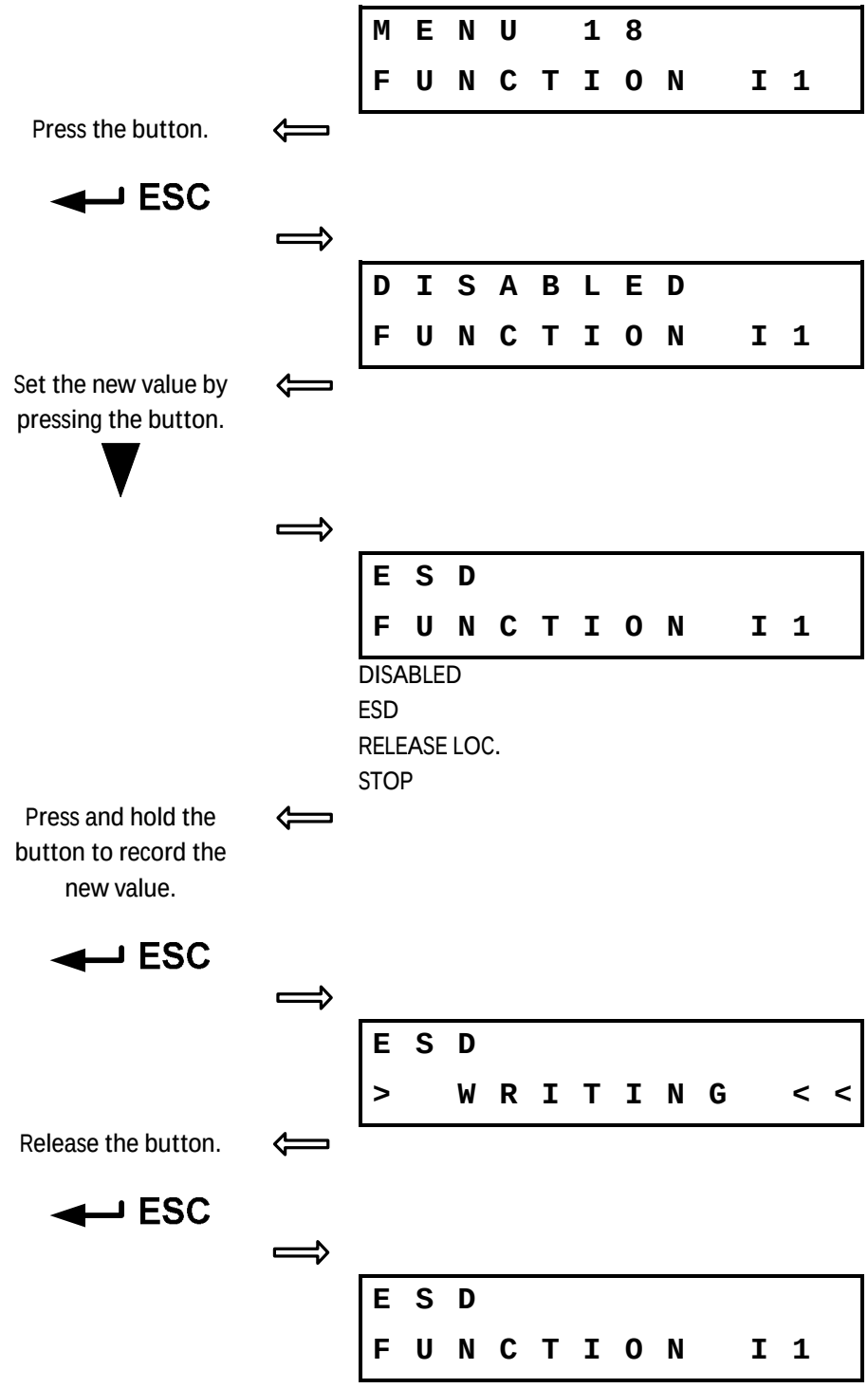
2.10.16. MENU 16 – Failure reaction



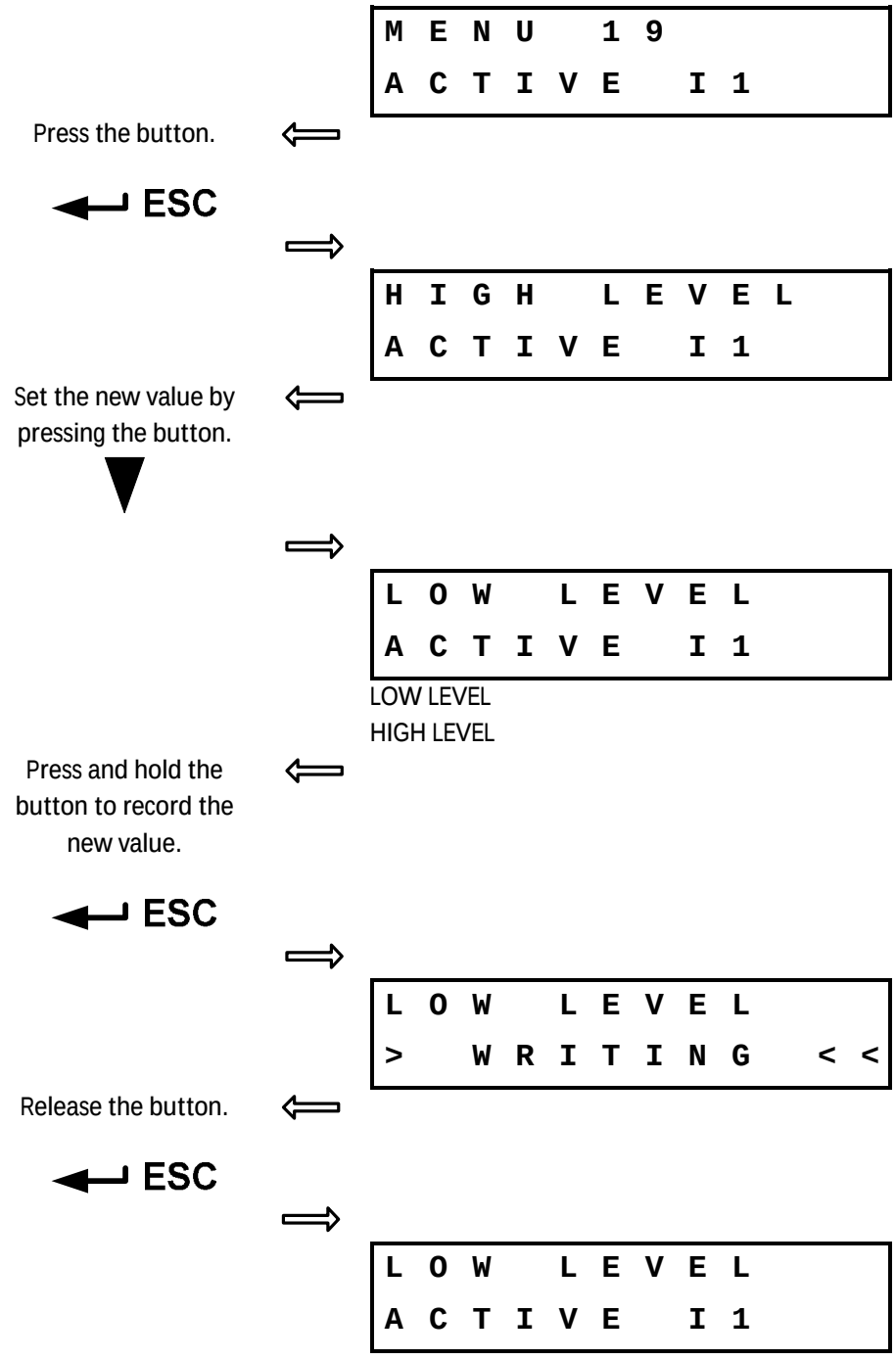
2.10.17. MENU 17 – Safe position



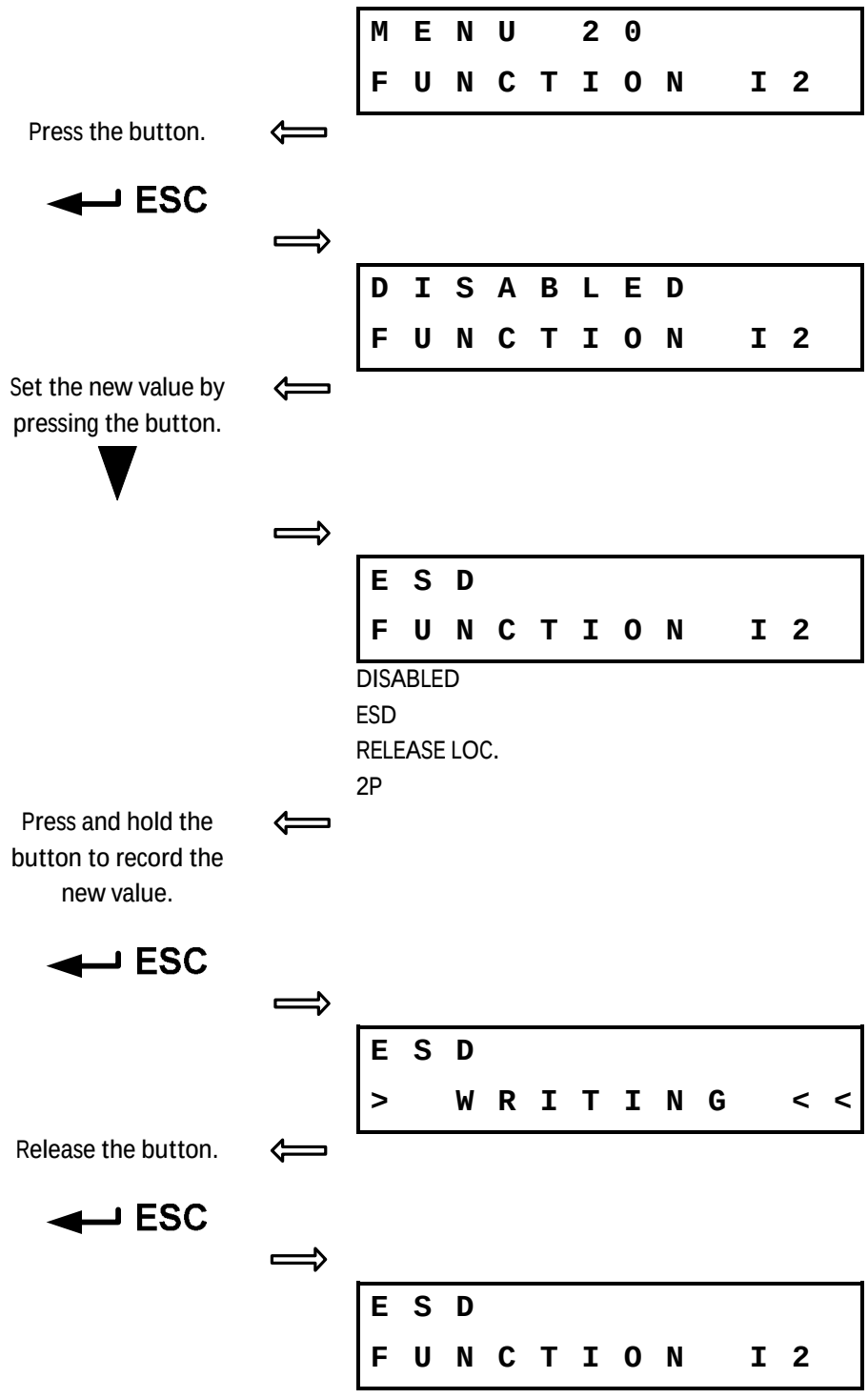
2.10.18. MENU 18 – Function of input I1



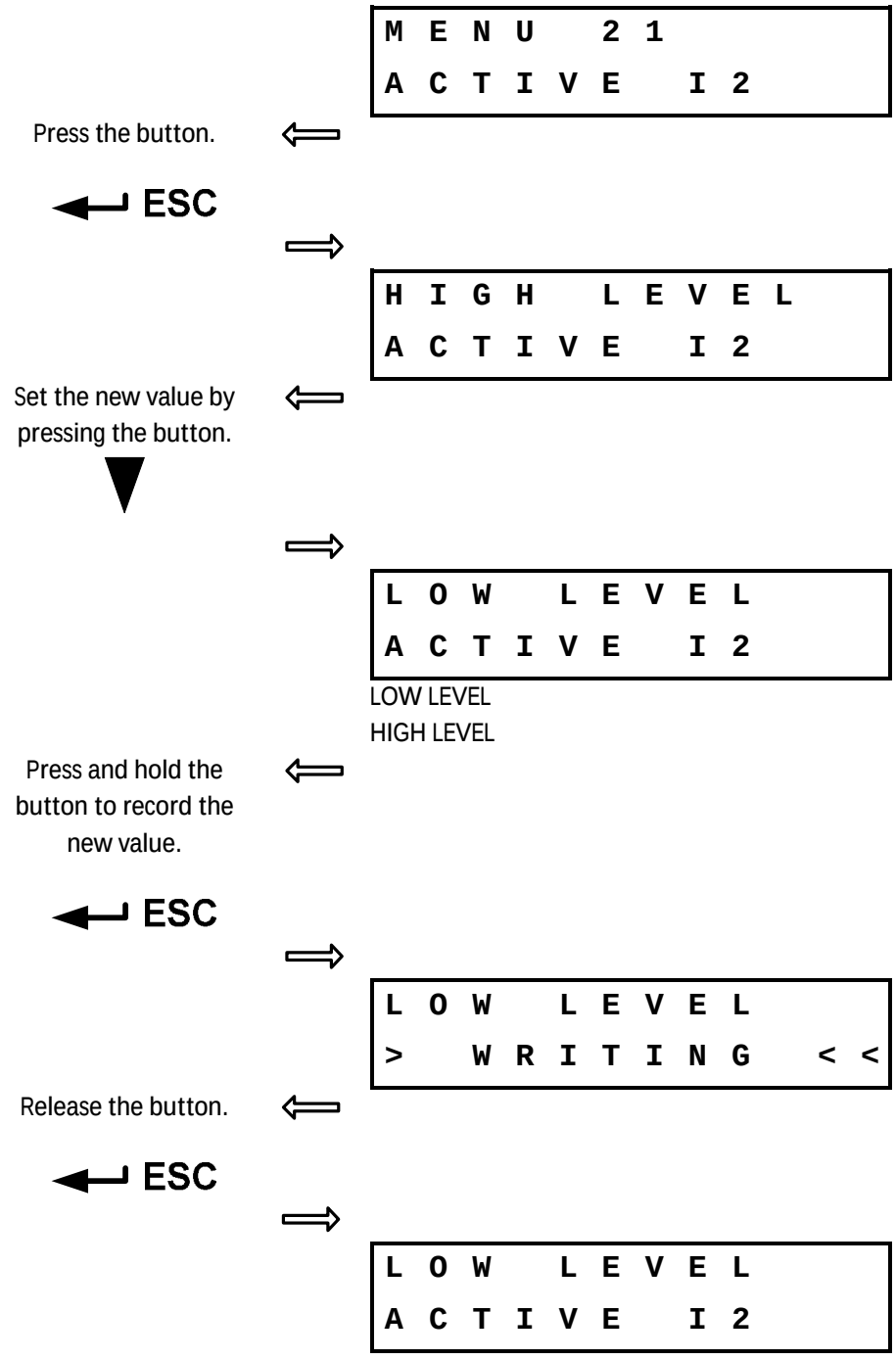
2.10.19. MENU 19 – Active level of input I1



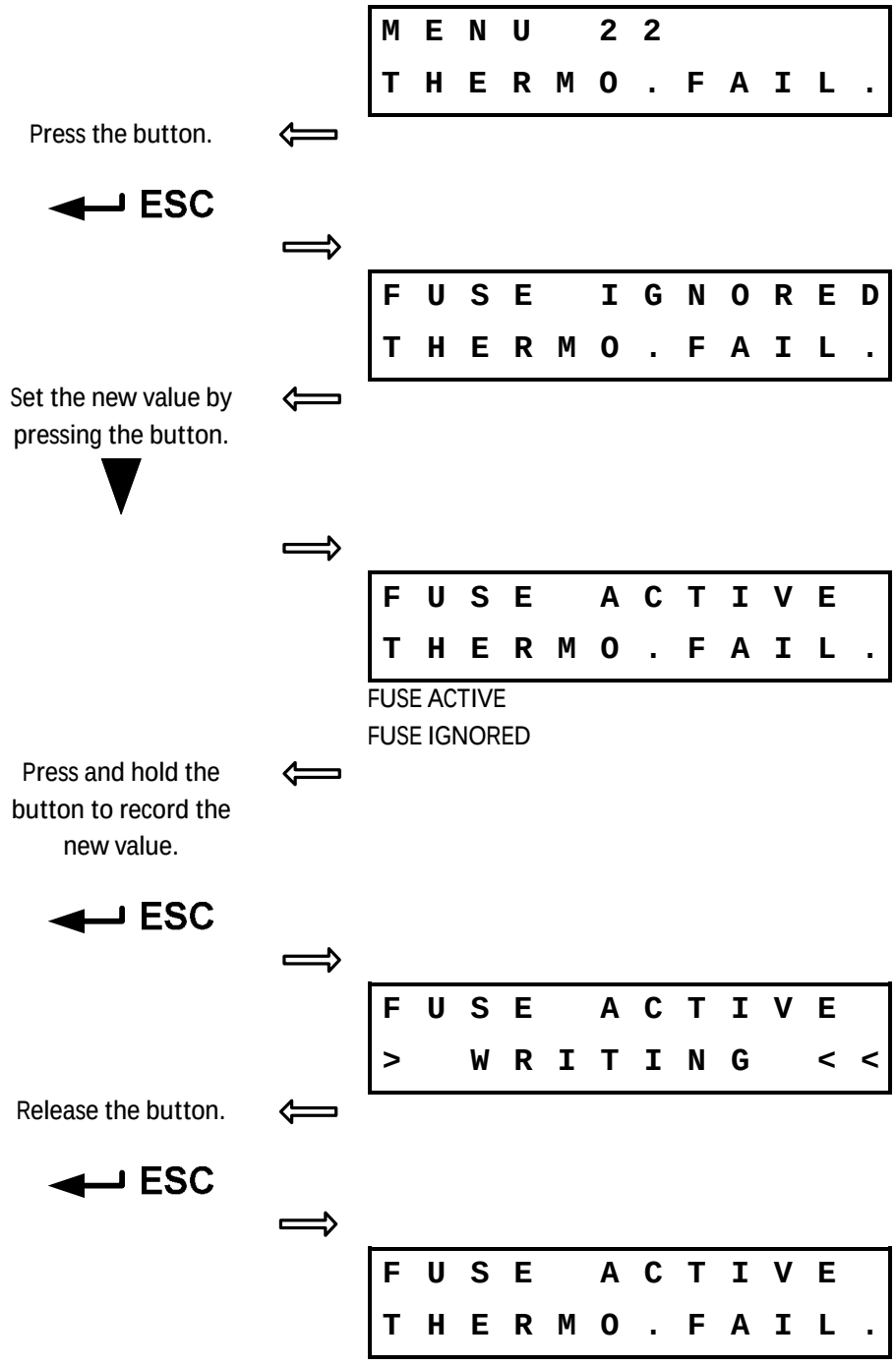
2.10.20. MENU 20 – Function of input I2



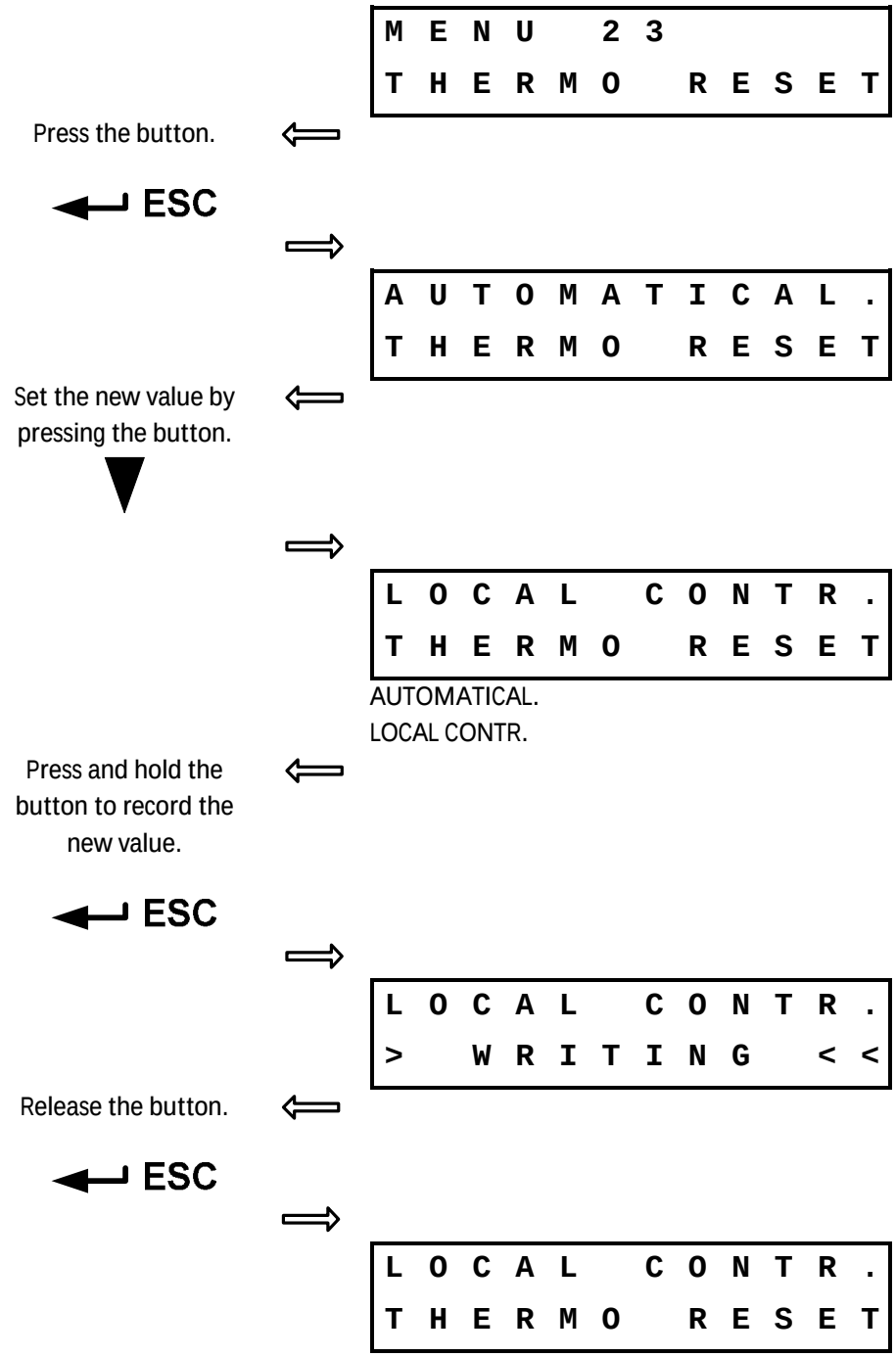
2.10.21. MENU 21 – Active level of input I2



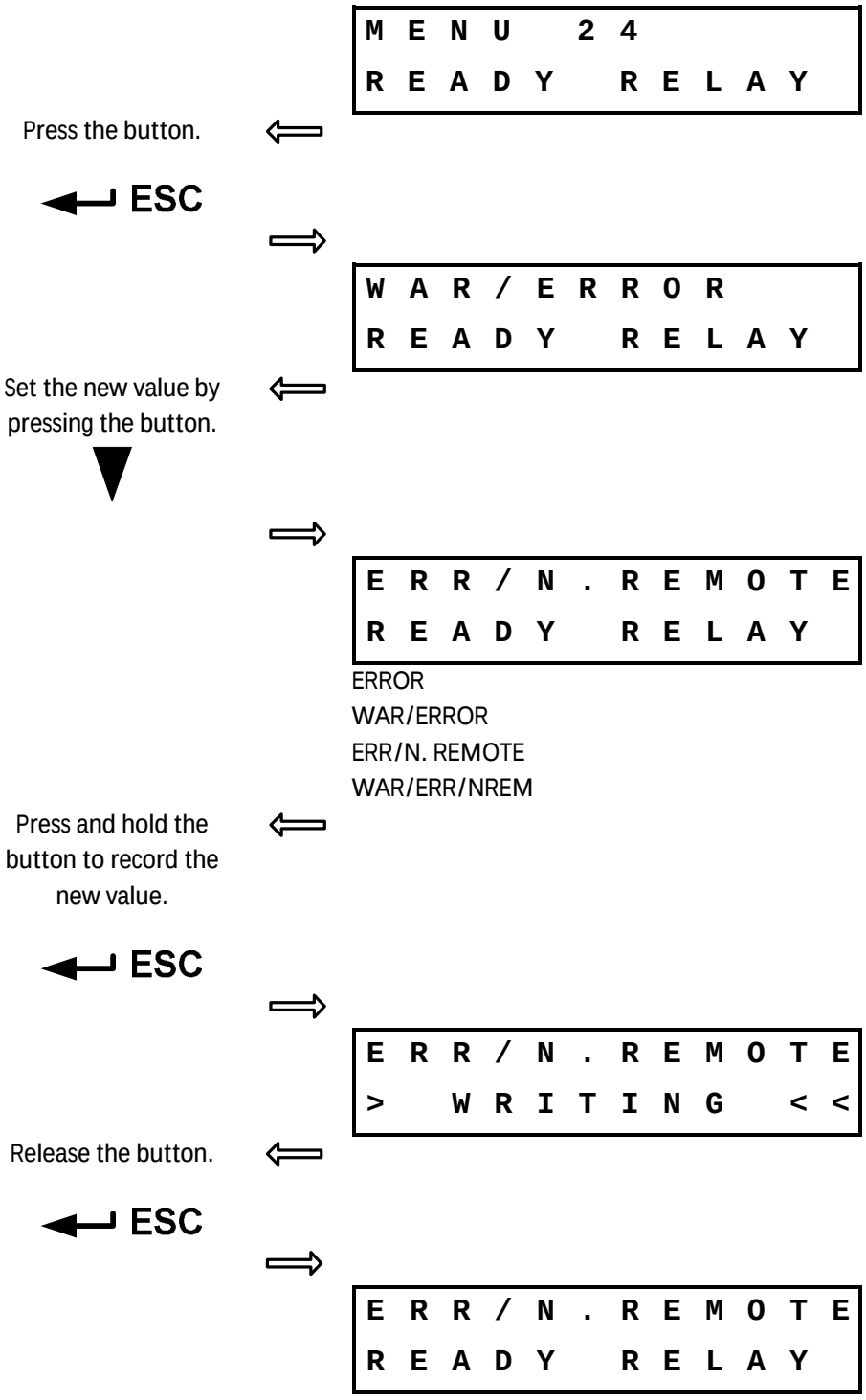
2.10.22. MENU 22 – Thermal fuse by the reaction on failure



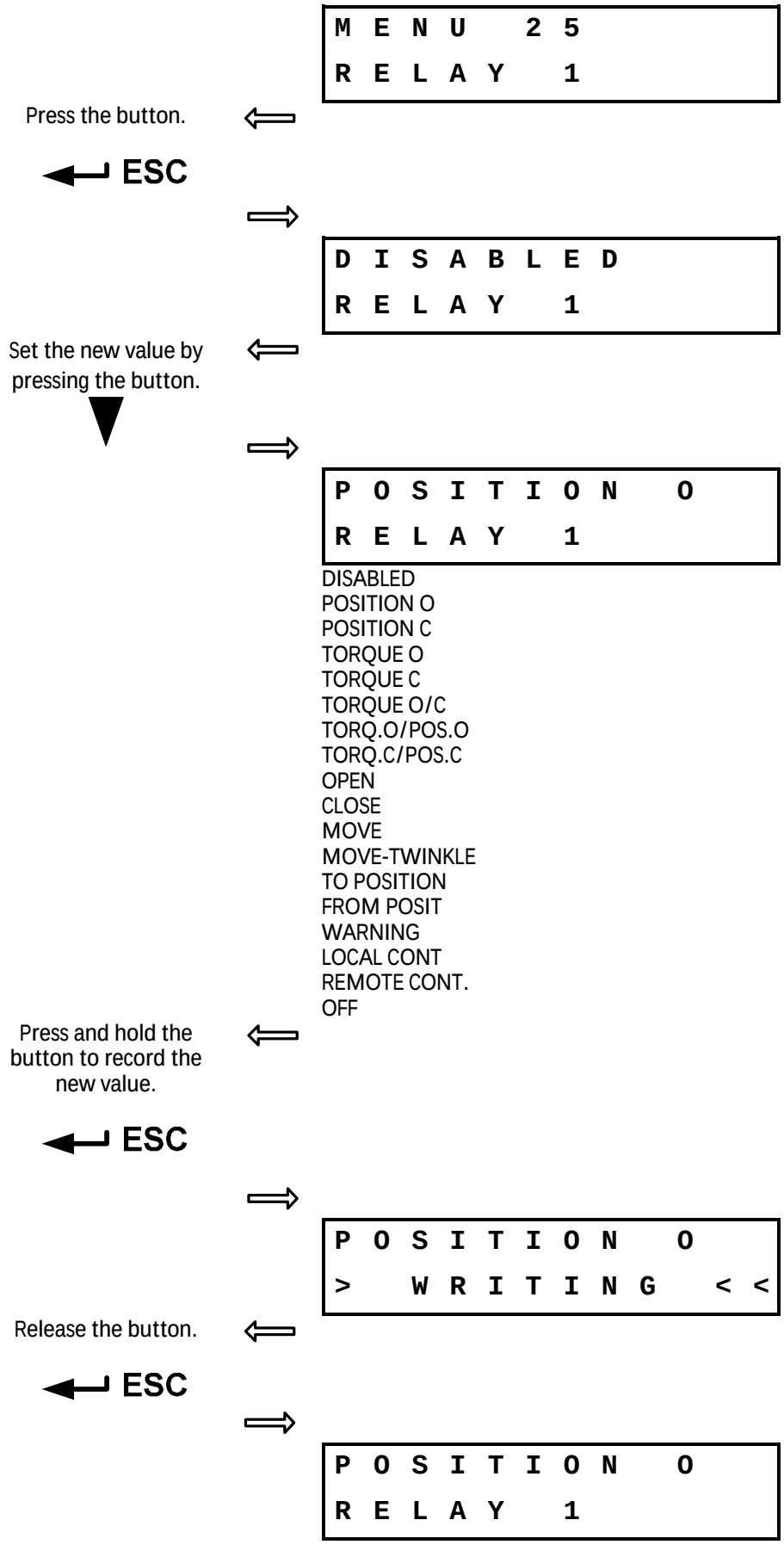
2.10.23. MENU 23 – Overheating deactivation



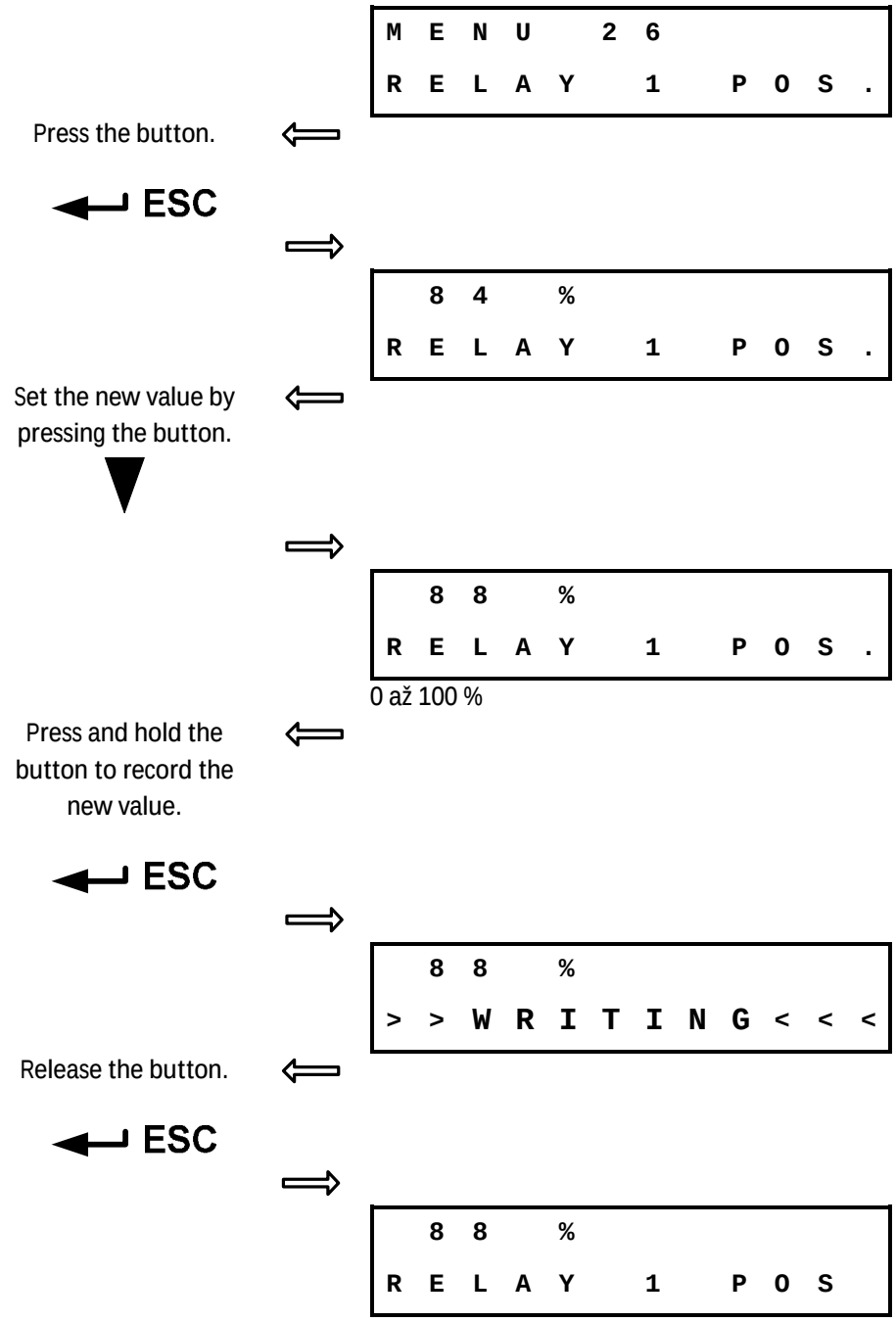
2.10.24. MENU 24 – Function of relay ready



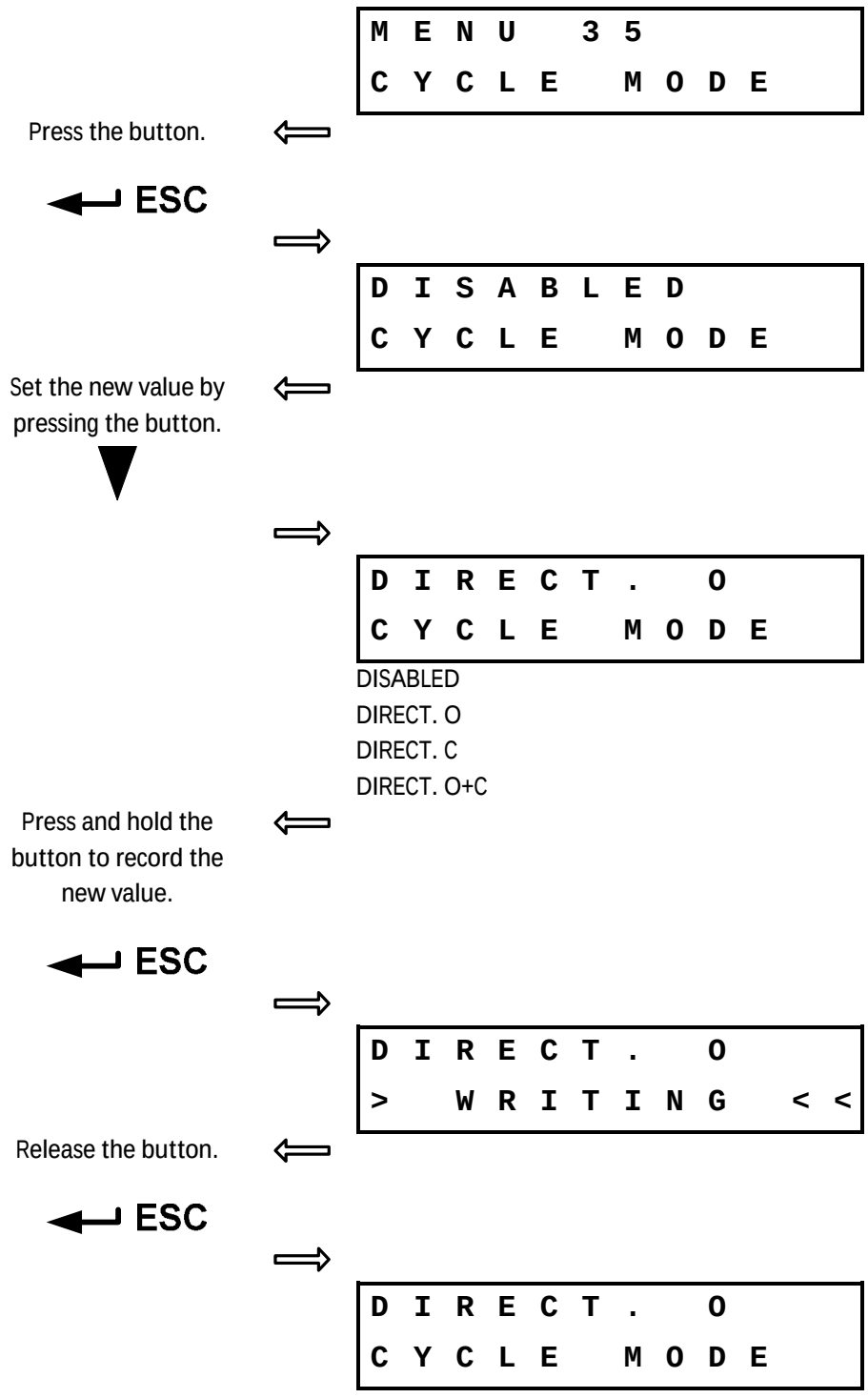
2.10.25. MENU 25, 27, 29, 31, 33 – Function of relay 1 … 5



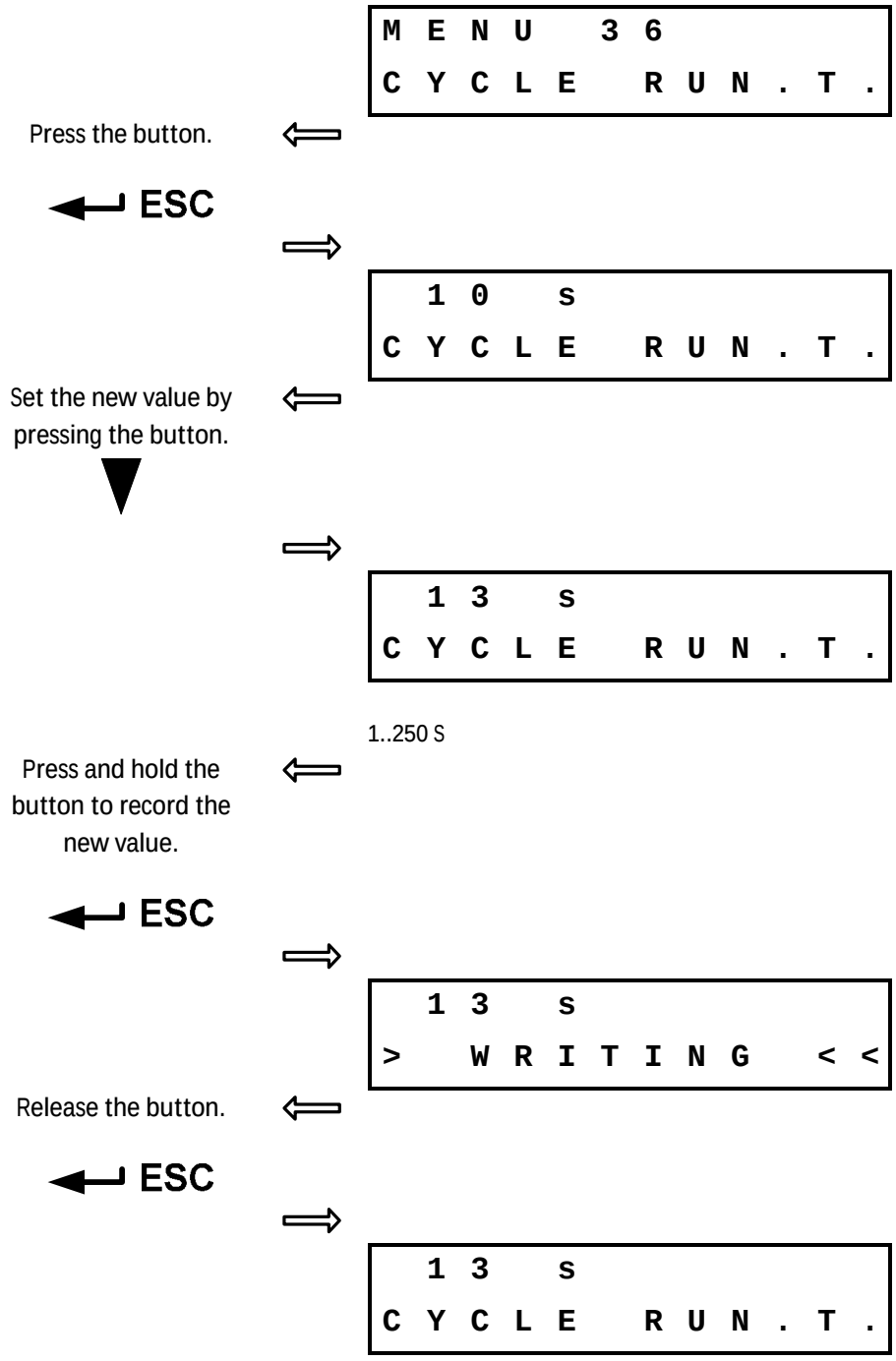
2.10.26. MENU 26, 28, 30, 32, 34 – Position for Relay 1 … 5



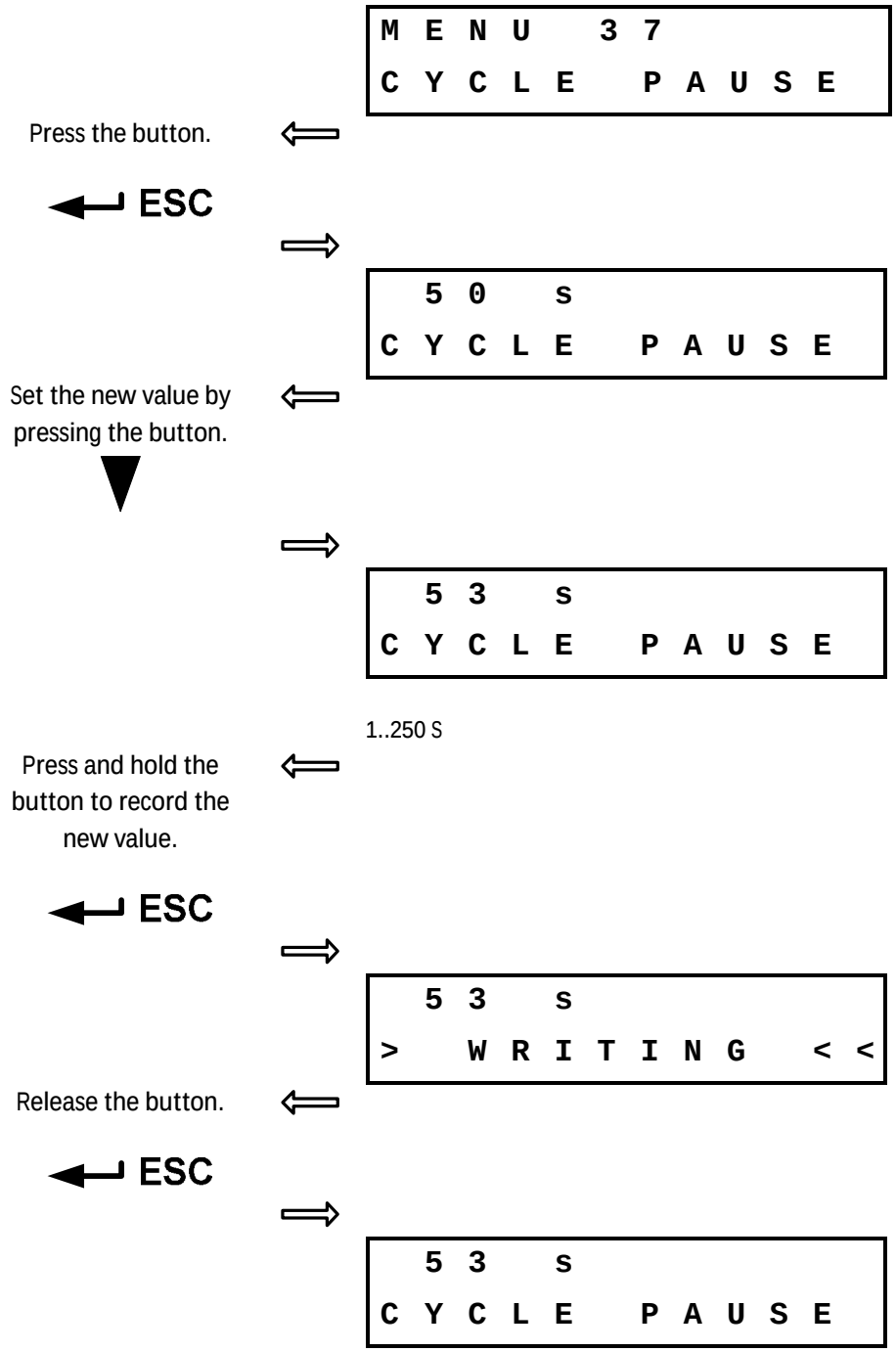
2.10.27. MENU 35 – Cycle mode



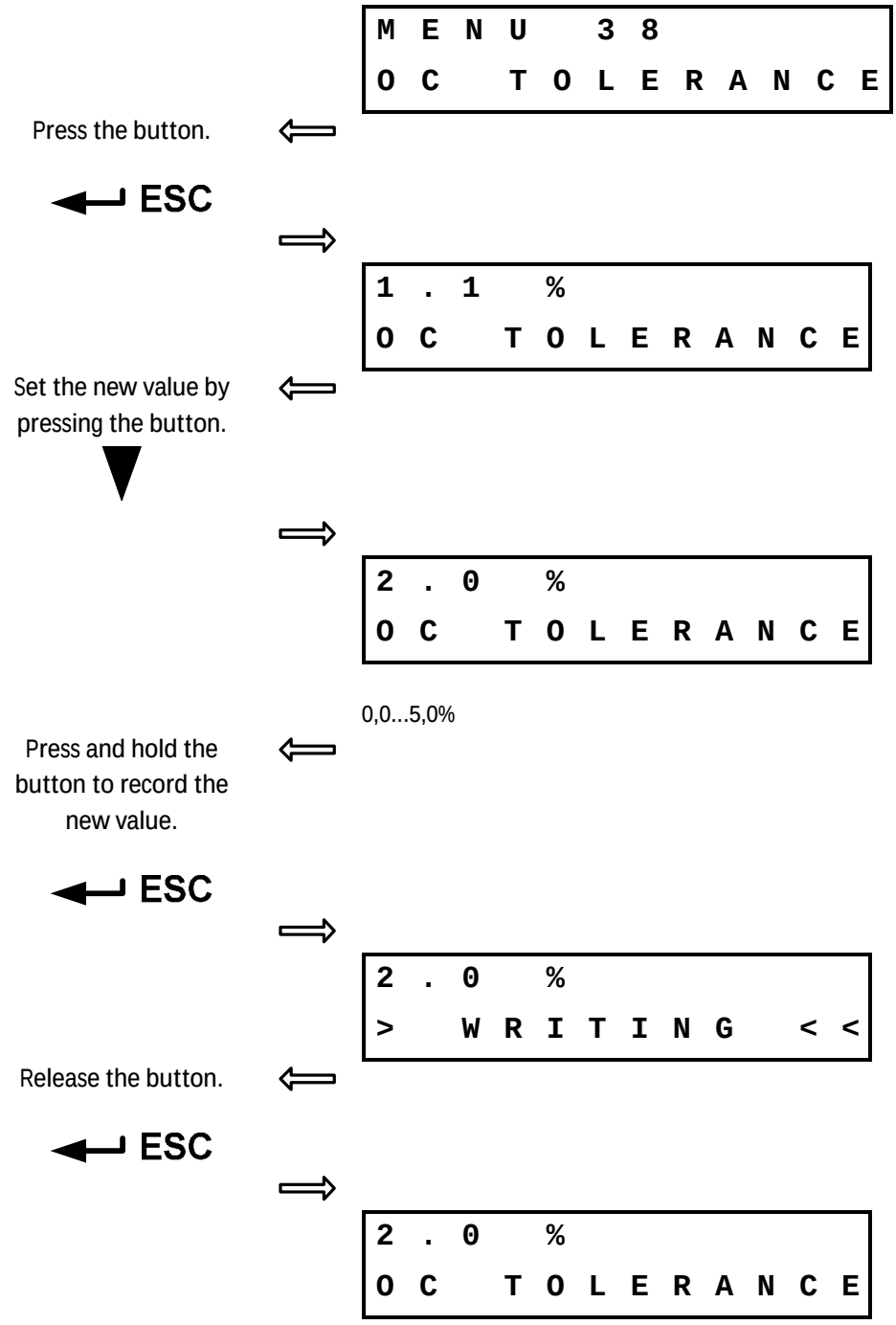
2.10.28. MENU 36 – Time of run of motor when cycle mode is enabled



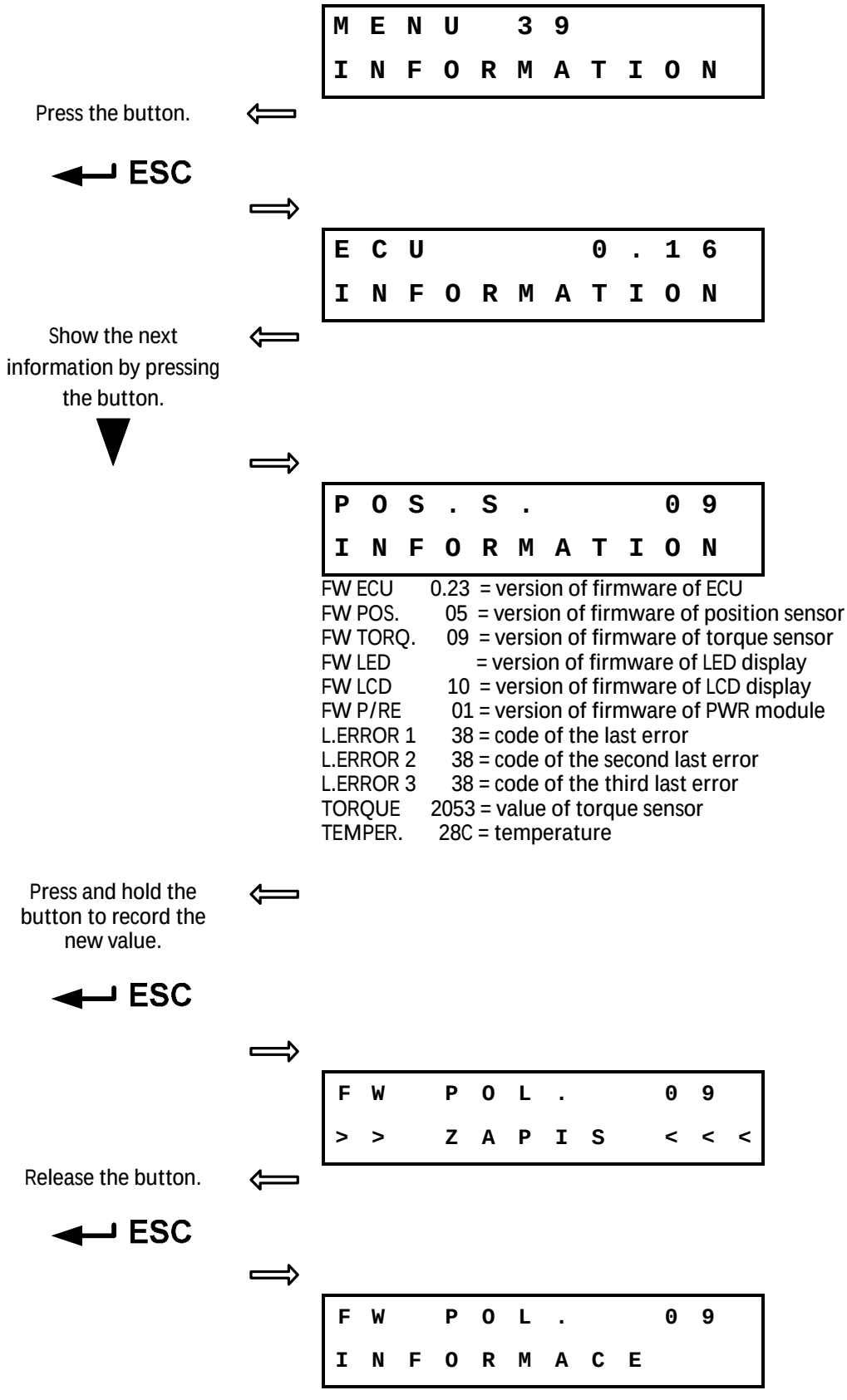
2.10.29. MENU 37 – Time of pause of motor when cycle mode is enabled



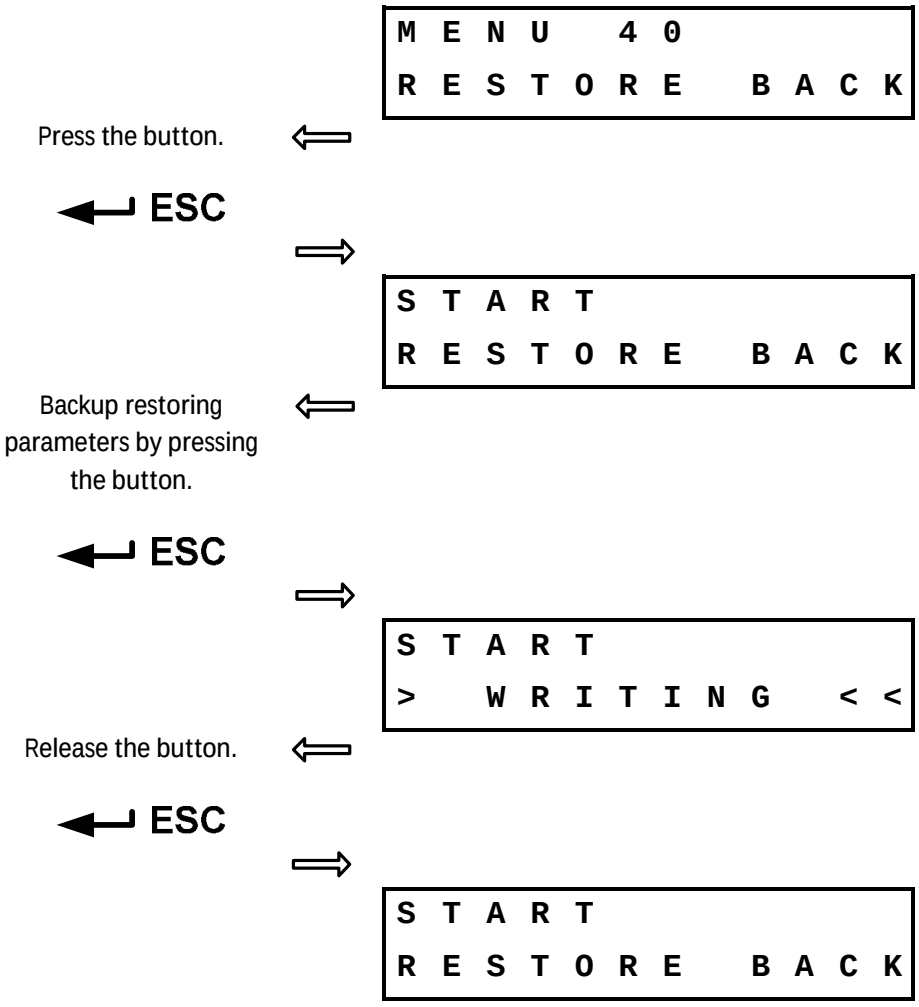
2.10.30. MENU 38 – Tolerance O and C



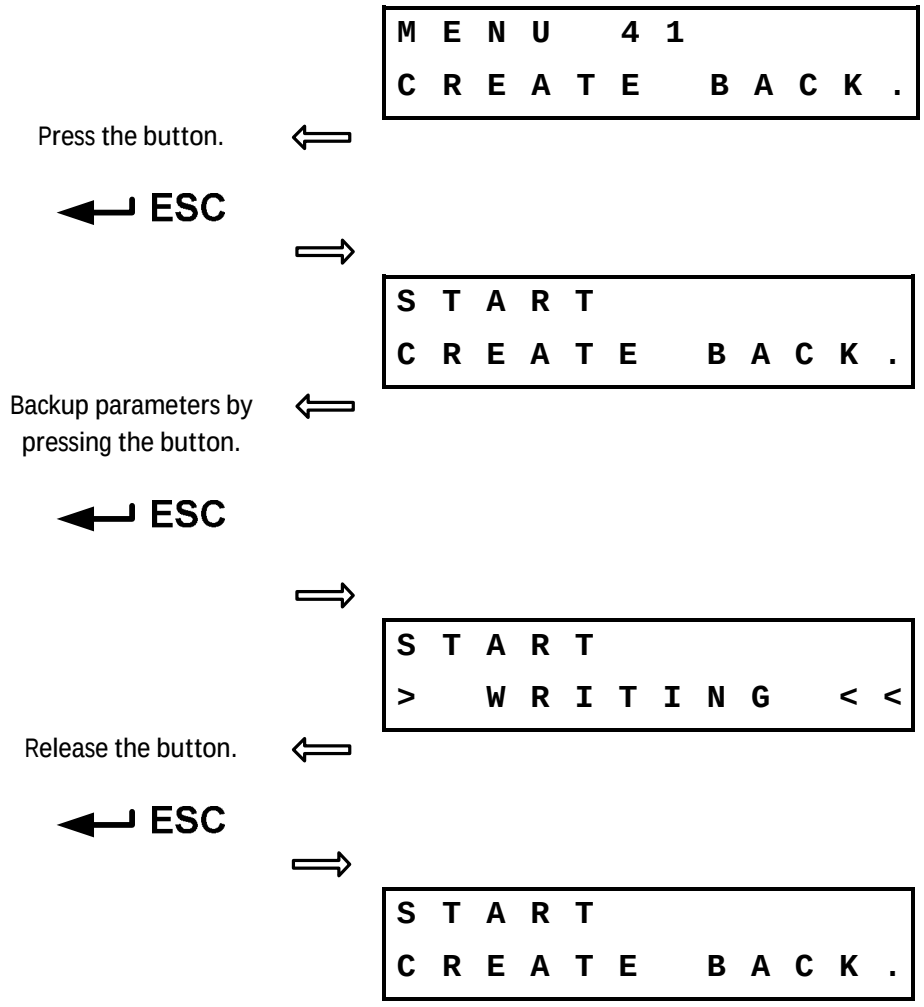
2.10.31. MENU 39 – Information of system



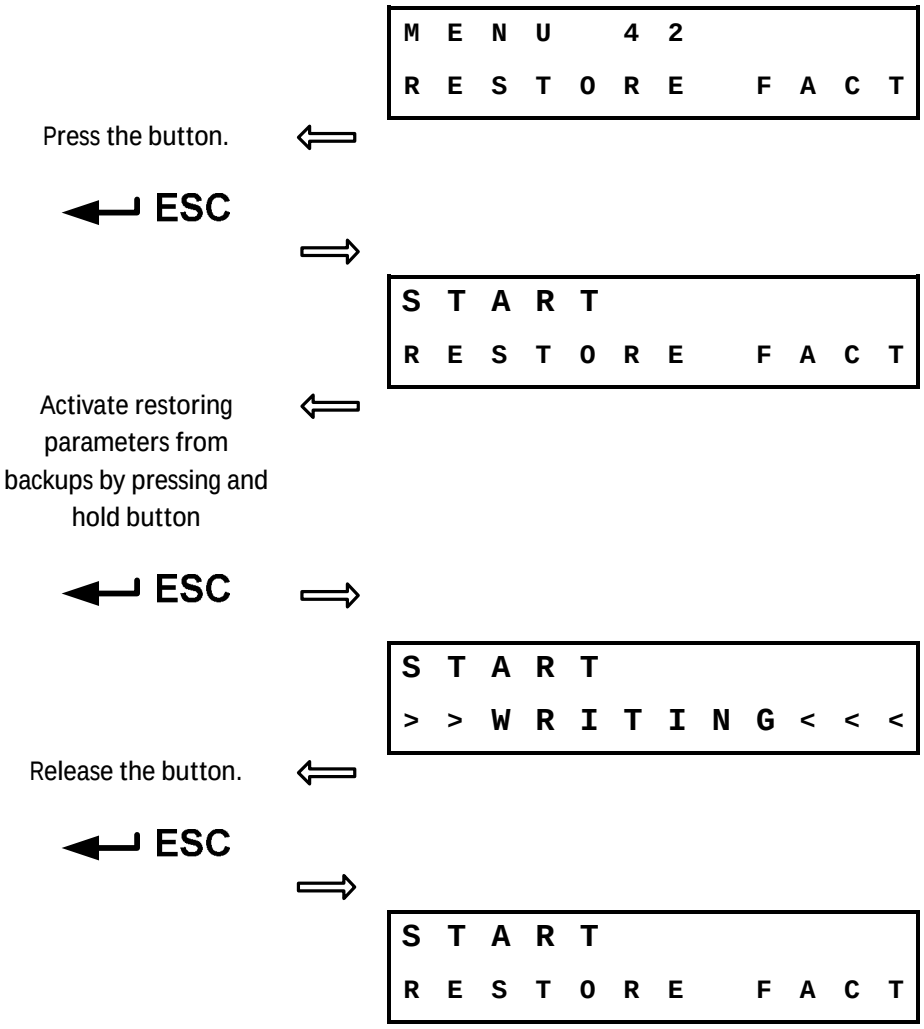
2.10.32. MENU 40 – Restore parameters from backup



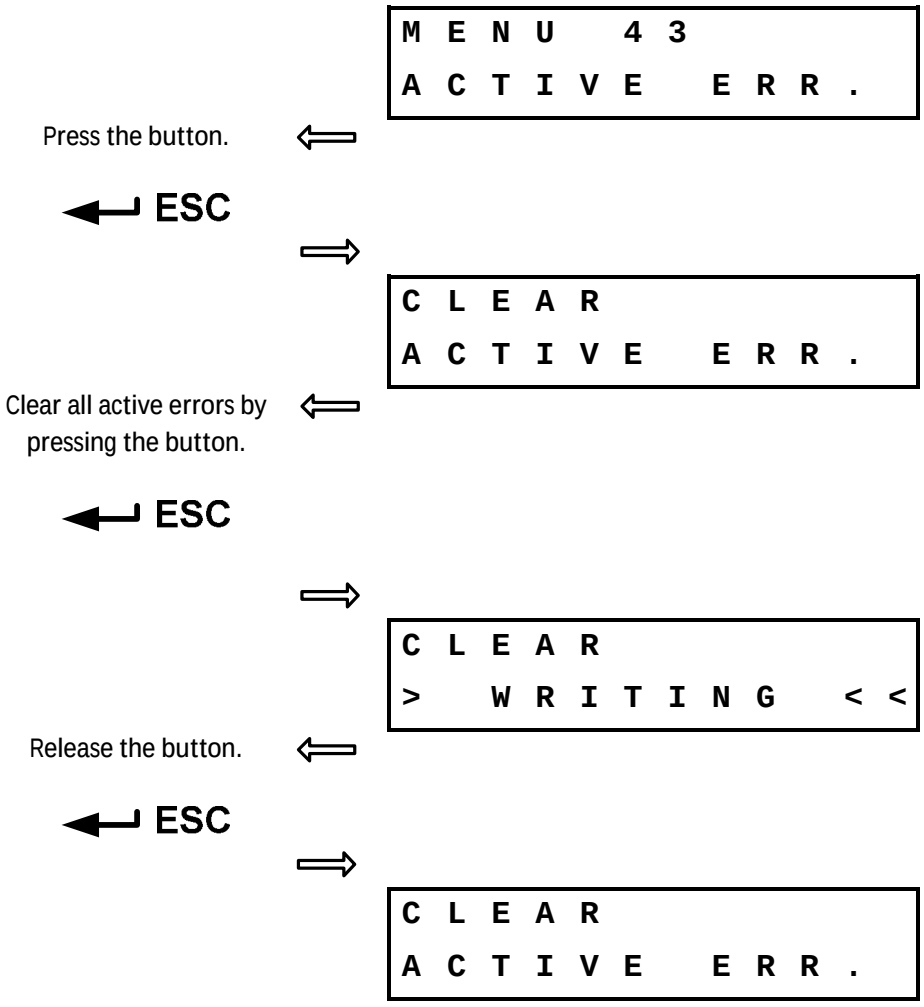
2.10.33. MENU 41 – The creation of backup parameters



2.10.34. MENU 42 – Restoring factories setup



2.10.35. MENU 43 – Resetting active errors



3. REGISTER ERRORS AND WARNINGS

Code	Name	Warning[1]	Error[1]	Reason	Reparation
1	ESD	X		Input ESD activated	1. Deactivate input ESD. 2. Check the wiring.
2	Analog control signal	X		Analog control signal is < 3,5 mA	1. Connect the control signal correctly to the connector +IN -IN 2. Check the regulation parameter. If the analog control signal is disabled regulation parameter must be set to the 2P mode. 3. Check the control signal using some multimeter. 4. Check the parameter *analog control signal*. If the signal is 0 – 20mA then parameter must be set respectively. 5. Recalibrate input of control signal. It means parameter 1mA and 20mA.
3	Calibration	-	-	Calibration starts when torque is activated	1. Move the actuator to the position when torque is not activated.
4	Torque	X	X	Torque was activated outside the end positions	1. Check the end limit position *O* and *C*. End limit position must be set between torque values. 2. Check if there is some mechanical obstacle.
6	Thermo fuse		X	Overheating is activated	1. Wait until motor is cooled down. 2. Check the wiring.
7	Direction		X	Sense of rotation is reversed	1. Check the sense of rotation of position sensor. 2. Check the right wiring of the motor. 3. Check the right connection of phases when three-phase motor is used.
8	EEPROM	X		CRC of EEPROM does not match	1. Record any parameter without changing its value.
9	RAM		X	CRC of RAM does not match	1. Reloading parameters will automatically repair this error. 2. If the error occurred repetitively send the control unit to manufacturer.
11	Menu mode	X		System is in menu	1. Exit the LCD or LED MENU. 2. Exit the setting mode in EHL explorer, e.g. after manual control of motor. 3. Turn off and on the power line.
12	Torque sensor		X	Error of torque sensor	1. Change the broken gearbox of the torque sensor. Magnet must be in specified distance from the sensor and must have specified strength of magnetic field. 2. Replace the broken torque sensor.
13	Sensor of position 1		X	Error of position sensor 1	1. Check the mounting of position sensor. 2. Replace the position sensor module. 3. Replace the gearbox of position sensor module.
14	Sensor of position 2		X	Error of position sensor 2	See code nr.13
15	Sensor of position 3		X	Error of position sensor 3	See code nr.13
16	Sensor of position 4		X	Error of position sensor 4	See code nr.13
17	Regulator calibration	X		Unexecuted calibration	1. Start regulator calibration.
18	Torque calibration		X	Wrong settings of torque values	1. Backup the parameters from system backup or from file. 2. Torque calibration.
19	Stroke		X	Wrong settings of stroke value	1. Reset the parameters *Position C* and *Position O*. New values must meet the required range.
21	Temperature <	X		Temperature is too low	1. Check the parameter *Temperature min*. 2. Check the value of current temperature. 3. Check the function of heating.
22	Temperature >	X		Temperature is too high	1. Check the parameter *Temperature max*. 2. Check the value of current temperature.

Code	Name	Warning[1]	Error[1]	Reason	Reparation
26	Bus error		X	Bus error	1. Check the wiring between all modules. 2. Disconnect the bus cabel from control unit. If the error is still active replace the control unit. 3. Connect only the bus cabel and disconnect from it all modules. If the error occurred, replace the bus cabel. 4. Consecutively connect particular modules. After each one check if the error occurred.
28	Phase		X	Missing phase or wrong sequence of phases	1. Check the voltage of each phase and also the voltage between all phases. 2. Switch any two phases.
29	Relay	X		Operating life of relay overflow	1. Replace the relay and clear the counter *Sum engine O contacts* and *Sum engine C contacts*.
31	ROM		X	Wrong CRC of ROM	1. Turn off and on the power line. If the error appears again send the control unit to the manufacturer.
33	Wrong command		X	Inputs O and C are active simultaneously.	1. Check the function of superior system.
34	Inertia	-	-	Calibration measured the inertia of actuator wrongly	1. Start calibration.
35	Stop time	-	-	Calibration measured the drifting wrongly	1. Start calibration
36	Manual control		X	Input SW3 for manual control is activated.	1. Deactivation of input SW3 for manual control. 2. Check the parameter *Manual control*. If the manual control is not active the value of parameter must be OFF.
37	Position module		X	Error of communication of position module	1. Check the wiring between module and control unit
38	Torque module		X	Error of communication of torque module	1. Check the wiring between module and control unit 2. Check the parameter of torque configuration. When the module torque is enabled then the parameter must be set to the *switch-off min* - 100% or *switch-off 100%.*
39	Module LED		X	Error of communication of LED module	1. Check the wiring between module and control unit 2. Check the parameter *LED module.* When the module is used the value of parameter must be set to the X.
41	Wrong position		X	Position of an actuator is out of set stroke	1. Using hand control set the position back into operation range. 2. Check the parameter *Position O* and *Position C*.
42	Power Supply/Relay module		X	Error of communication of Power Supply/Relay module	1. Check the wiring between module and control unit 2. Check the parameter *Power Supply/Relay module.* When the module is used the value of parameter must beset to the X.
43	Parameters		X	Different or out of bounds parameters in EEPROM	1. Only using EHL explorer app. Parameters which are reported as wrong write the new value from allowed range.
44	Rotation		X	Actuator is not rotating	1. check if the motor is rotating. If not remove the cause. 2. Check if the value *Position absolute* in window monitoring is changing. If the value is not changing during rotation then check the rotation of shaft with magnet of position sensor. 3. Check the parameter *Rotation checking time.*. Increase the value until it is ok.
45	Reset	X		Processor was incorrectly reset	1. This error is counted in counter of errors and it is automaticaly resolved. If the error is generated often then contact the

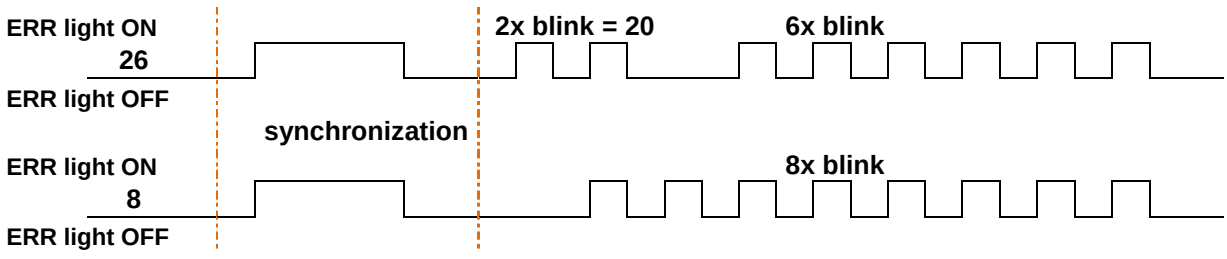
Code	Name	Warning[1]	Error[1]	Reason	Reparation
					manufacturer.
46	Module LCD		X	Error of communication of LCD module	1. Check the wiring between module and control unit 2. Check the parameter *LCD module.* When the module is used the value of parameter must beset to the X.
47	Module type Position		X	Unknown type of position module.	1. Use different type of module. This one is not supported by control unit 2. Use the newer type of control unit
48	Module type Torque		X	Unknown type of torque module	
49	Module type LED		X	Unknown type of LED module	
51	Module type LCD		X	Unknown type of LCD module	
52	Module type Power Supply/Relay		X	Unknown type of PWR module	
54	I2C		X	Error of communication of I2C bus	1. Turn off and on the power line. 2. If the error is still active replace the control unit.
55	Power frequency		X	Indefinable Power frequency	1. To test parameters your timing network and parameter power supply board the system. As far as power supply board non - support frequency timing network, replace her in suitable type. 2. To test connection power supply in source power supply board, not allowed give out toward his disconnecting e.g . bad contact.
56	Voltage +5V	X		Voltage less as 4,5 V	1. Change power supply board 2. Change control unit
57	Torque check	X		Parameter *Torque check =unexecuted*	1. Perform functional *Torque check* and setup parameter *Torque check =Done*
58	End position	-	-	During calibration regulator has been achieved end position	1. Restart calibration regulator the best further from end positions

[1]Codes of errors may vary in different version of firmware or factory settings.

If the errors persist then contact the manufacturer.

- In case of EA error the error is indicated by the blink of LED ERR.
- LED is flashed for a longer period, which indicates the beginning of the error.
- The following number of blinks indicates:
  - The errors of the units 1..9
  - For the units 11..99 and after the short pause of the unit
- When several errors are reported, the individual errors are displayed in sequence. Individual errors are indicated separately by longer light of LED ERR.
- After all errors are reported, reports of individual errors are repeatedly shown in cycles, until individual errors are removed.

Example: Fault 26, 8:



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