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Instruction Manual

Electric actuators type EA25-250: Monitoring

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The technical data are not binding and not expressly warranted characteristics of the goods. They are subject to change. Our General Conditions of Sale apply. Using the monitoring, the instruction manual of the electric actuator type EA 25-250 must be observed.

### Intended use
Accessory board Monitoring
The monitoring can be used with the electric actuators type EA25, EA45, EA120 and EA250, both with the 24V AC/DC as well as the 100-230V AC version. The board is to be plugged into the housing of the actuator in the provided slots.

Description	Code
Monitoring	199 190 602
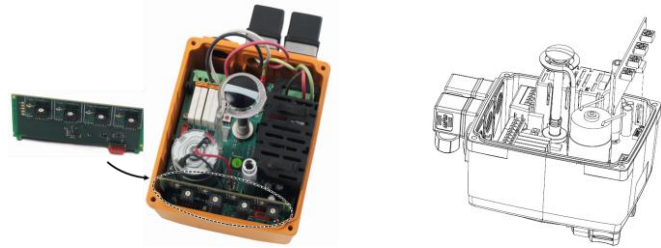
1 Function

The monitoring enables four functions: Cycle time extension, Cycle time monitoring, Cycle counter and Motor current monitoring.
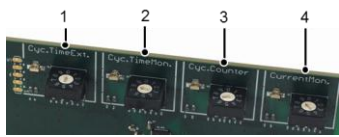
Via the BCD switches 1 to 4 the monitor settings are made. The different functions work independently of one another.

Nr.	Description
1	Cycle time extension
2	Cycle time monitoring
3	Cycle counter Monitoring a selected maximum number of cycles
4	Motor current monitoring Monitoring a selected maximum motor current

2 Assembly of the monitoring board

⚠ CAUTION

Disconnect the actuator from the supply voltage.

1. Remove housing cover of the electric actuator (loosen the 4 screws, open cover).
2. Take the monitoring board out of the packaging and check for damages.

⚠ CAUTION

Do not touch the board itself. Electrostatic discharge can damage the components.

3. Insert board vertical on the backside of the main board onto the red plug.

⚠ CAUTION

Ensure that the board sits in the lateral guides and snaps.

4. Make desired settings according to 3 "Settings".
5. Stick scheme label into housing cover.
6. Put the cover back in place and fasten it with the 4 screws.

3 Settings

1. Cycle time extension
The cycle time extension extends the cycle time of the electric actuator. To do this, the actuator is moved continuously into the end positions (OPEN or CLOSE). For the corresponding value please refer to the table below. These values are valid for 90° actuation. The cycle time is given in seconds.

	BCD	EA25	EA45	EA120	EA250
	0 (factory setting)	7	7	25	27
	1	10	10	28	35
	2	13	13	32	40
	3	15	15	38	45
Cycle Time Extension	4	18	18	42	50
	5	20	20	48	55
	6	23	23	52	60
	7	25	25	58	65
	8	28	28	62	70
	9	30	30	67	75

2. Cycle time monitoring
The cycle time monitoring monitors the duration of a preset cycle time of the electric actuator. As soon as the cycle exceeds the preset time, an error is reported. For the corresponding value please refer to the table below. These values are valid for 90° actuation. The cycle time is given in seconds.

	BCD	EA25	EA45	EA120	EA250
	0	8	7	20	30
	1	11	10	30	40
	2	14	13	35	45
	3	17	16	40	50
Cycle Time Monitoring	4 (factory setting)	20	19	45	55
	5	23	22	50	60
	6	26	25	55	65
	7	29	28	60	70
	8	32	31	65	80
	9	36	34	75	90

3. Cycle counter

This function allows setting a desired number of cycles. As soon as the number of cycles exceeds the set value, an error is reported.

	BCD	EA25, EA45, EA120, EA250
Cycle Counter	0	1
	1	10 000
	2	20 000
	3	30 000
	4 (factory setting)	40 000
	5	50 000
	6	75 000
	7	100 000
	8	150 000
	9	200 000

Reset number of cycles

The cycle counter can be reset by the following steps:
- Set BCD switch to position „0" (this corresponds to one cycle)
- Press the „Set" button on the main board until the RGB-LED flashes blue/red.

4. Motor current monitoring

The current monitoring function monitors the motor current. If the motor current is higher than the preset value, an error is reported and the actuator will remain in place.

	BCD	EA25	EA45	EA120	EA250
Motor Current Monitoring	0	25	25	50	50
	1	100	300	300	400
	2	150	350	400	500
	3	200	400	500	600
	4	250	450	600	700
	5	300	500	700	800
	6	400	600	800	1000
	7	500	700	900	1200
	8	600	900	1000	1500
	9 (factory setting)	700	1100	1200	1800

The motor current monitoring is also located on the positioner card and thus increasing motor current (and hence torque) can also be monitored here.

NOTE

When setting the BCD switches, make sure that the set functions do not block one another.

Example for an EA25:

|		
BCD1	Cycle time extension	Position 3 = 15 s
BCD2	Cycle time monitoring	Position 0 = 8 s
➔	Will generate an error	

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4 Error message

An error message triggers the following signals:
- The 7-segment display on the main board illuminates; see illustration below. If the monitoring PCB is installed, the respective LED lights up red on the BCD switch, if its set value is exceeded.
- The ready-to-operate signal will be off (terminals 5,6 NO contact)
- LED flashes yellow (except in case of power outage)
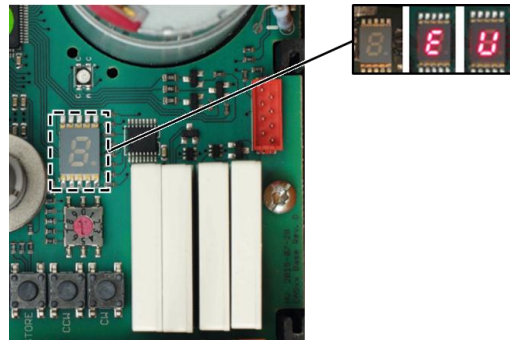
Assignment of error codes for error messages

If the monitoring PCB is installed, the following error codes can be displayed:

Error code	Description	Signal „Ready-to-operate"	EA response
5	Preset cycle time exceeded	No	Stops
C	Preset number of cycles reached	No	Normal operation
1	Actuator has run into motor current limit	No	Stops

For further error codes of the main board, see instruction manual of the electric actuator type EA 25-250.

Acknowledge error message

Check the cause of fault, if necessary, carry out relevant maintenance.

NOTE

The message can be eliminated while the supply voltage is still connected or the actuator is briefly disconnected from the mains voltage (does not work with cycle monitoring).

Error can be acknowledged via the „SET" button on the main board.