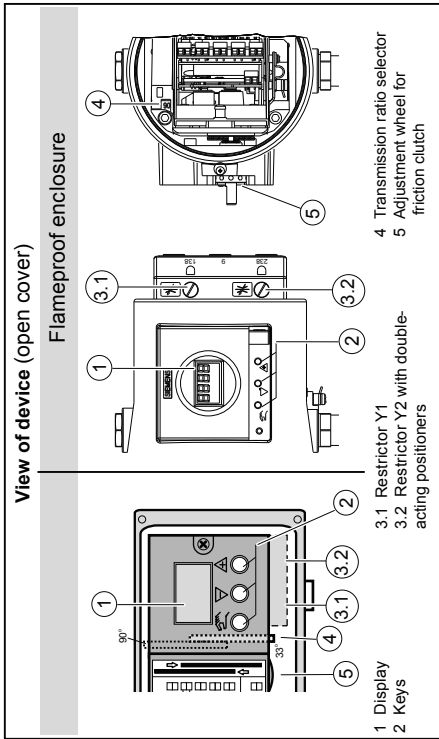
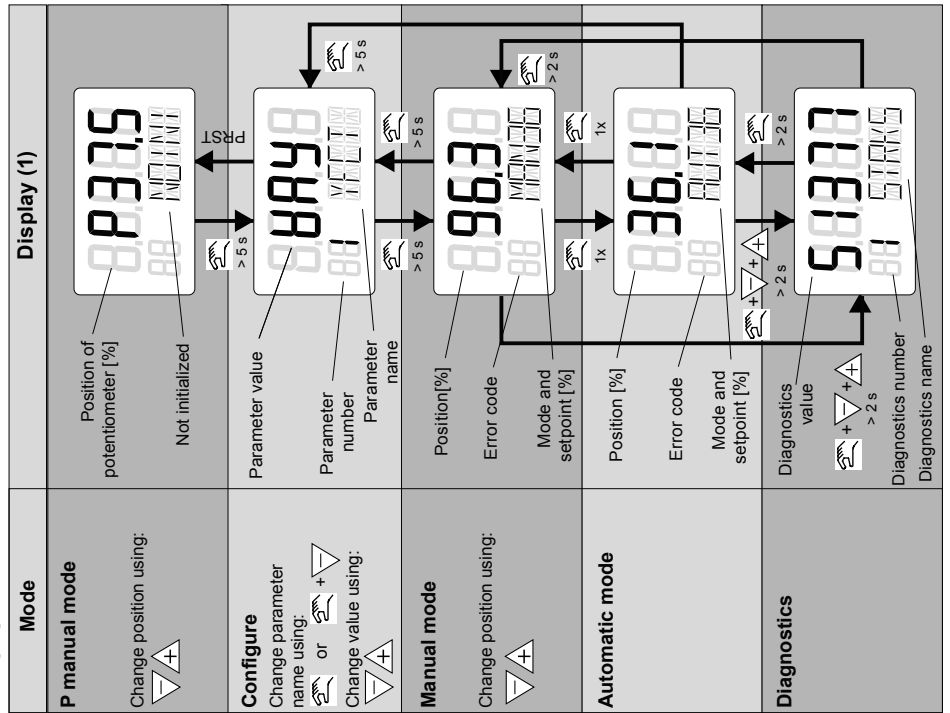


Leaflet "Operation - a concise overview"



Changing the input level



(The gray values in the top line of the digital display are examples)

Attention: See Operating Instructions for safety instructions

Automatic Initialization (starting with factory setting)

Condition: Transmission ratio selector (4) is set accordingly (see figure "View of device")

Step	Meaning
1.) Part-turn actuator	
Linear actuator	
Linear actuator - external linear potentiometer (e. g. with cylinder drives)	
2.)	Press for > 5 s Remaining steps carried out automatically.
3.)	Direction of action is determined.
4.)	Checking of travel and adjustment of zero and stroke (from stop to stop).
5.)	Determination and display of positioning time down (dxx.x), up (uxx.x) Stop with:
5.1.PNEUM	
Std / FIP	Initiate leakage measurement with
boost	Display of overshoot down (3.2 oSuP), up (2.9 oSdo)
6.)	Determination of minimum increment length.
7.)	Optimization of transient response.
8.)	Initialization terminated successfully. (travel in mm for linear actuators) (angle of rotation for part-turn actuators) Continue using:

Display	Meaning	Possible messages
	Actuator does not move.	Acknowledge message using: Check restrictor (3.1 / 3.2) and open if necessary. Drive actuator to working range using: Restart initialization.
	Tolerance band "Down" violated.	Change gearing (4). Continue using: or adjust friction clutch (5) up to display shows d_0_u:
		Continue using: or for "WAY" using:
	Once the friction clutch (5) has been adjusted.	For linear actuators: Set pick-up lever perpendicular to the spindle: Continue using:
	Tolerance band "Up" violated.	Acknowledge message using: Set the next highest travel value on the lever. Restart initialization. Additional feature for part-turn actuators: Adjust tolerance band using: up to display:
		Continue using:
	Span "Up-Down" insufficient.	Acknowledge message using: Set the next lowest travel value on the lever. Restart initialization.
Std / FIP		
	Actuator does not move.	Adjust positioning time using restrictor(s) (3.1 / 3.2).
	Positioning time is possible to adjust.	Continue using or
boost	Overshoots are determined.	Booster-Bypass über die Stell-schraube am Booster einstellen bis Anzeige:
		Continue using or
		Continue using or

See Operating Instructions for further messages

Parameter name	Function	Parameter values (bold = factory setting)		Unit	Notes
		Normal	Inverted		
1.YFCT	Type of actuator Part-turn actuator Linear actuator Linear actuator - carrier pin on actuator spindle Linear actuator - external linear potentiometer Part-turn actuator with NCS Linear actuator with NCS Linear actuator with NCS and lever	Normal	Inverted		
		turn	-turn		
		WAY	-WAY		
		FWAY	-FWAY		
		LWAY	-LWAY		
2.YAGL	Rated angle of rotation of positioner shaft Set transmission ratio selector (4) appropriately (see view of device)	33° 90°		Degrees	
		OFF			
		5 10 15 20 (Short lever 33°, range of stroke 5 to 20 mm)			
		25 30 35 (Short lever 90°, range of stroke 25 to 35 mm)			
		40 50 60 70 90 110 130 (Long lever 90°, range of stroke 40 to 130 mm)			
4.INITA	Initialization (automatically)	NOINI no / ###.# Strt			
5.INITM	Initialization (manually)	NOINI no / ###.# Strt			
6.SCUR	Current range of setpoint 0 ... 20 mA 4 ... 20 mA	0 MA 4 MA			
		riSE FALL			
7.SDIR	Setpoint direction Rising Falling	riSE FALL			
8.SPRA	Setpoint split range start	0.0 ... 100.0		%	
9.SPRE	Setpoint split range end	0.0 ... 100.0		%	
10.TSUP	Setpoint ramp up	Auto / 0 ... 400		s	
11.TSDO	Setpoint ramp down	0 ... 400		s	
		Lin			
12.SFCT	Setpoint function Linear Equal percentage 1: 25, 1:33, 1:50 Invers equal percentage 25:1, 33:1, 50:1 Freely adjustable	1 - 25	1 - 33	1 - 50	
		n1 - 25	n1 - 33	n1 - 50	
13.SL0 2) etc. ... 33.SL20	Setpoint turning point at 0 % etc. to 100 %	0.0 ... 100.0		%	
		Auto / 0.1 ... 10.0			
34.DEBA	Deadband of closed-loop controller	Auto / 0.1 ... 10.0		%	
35.YA	Start of manipulated variable limit	0.0 ... 100.0		%	
36.YE	End of manipulated variable limit	0.0 ... 100.0		%	
37.YNRM	Standardization of manipulated variable To mechanical travel On flow	MPOS FLoW			
		riSE FALL			
38.YDIR	Direction of manipulated variable for display and position feedback Rising Falling	riSE FALL			
		no uP do uP do Fu Fd Fu Fd uP Fd Fu do			
39.YCLS	Tight closing / fast closing with manipulated variable None Tight closing Up Tight closing Down Tight closing Up and Down Fast closing Up Fast closing Down Fast closing Up and Down Tight closing Up and fast closing Down Fast closing Up and tight closing Down	no uP do uP do Fu Fd Fu Fd uP Fd Fu do			
		0.0 ... 0.5 ... 100.0		%	
40.YCDO	Lower value for tight closing	0.0 ... 0.5 ... 100.0		%	
41.YCUP	Upper value for tight closing	0.0 ... 99.5 ... 100.0		%	
42.BIN1 3)	Function of binary input 1 None Only message Block configuration Block configuration and manual Drive valve to position YE Drive valve to position YA Block movement Partial stroke test	NO contact	NC contact		
		OFF			
		on	-on		
		bLoc 1 uP	-uP		
		bLoc 2 doWn	-doWn		
43.BIN2 3)	Function of binary input 2 None Only message Drive valve to position YE Drive valve to position YA Block movement Partial stroke test	NO contact	NC contact		
		OFF			
		on	-on		
		uP	-uP		
		doWn	-doWn		
44.AFCT 4)	Alarm function None A1=Min, A2=Max A1=Min, A2=Min A1=Max, A2=Max	Normal	Inverted		
		OFF			
		Π, ΠΠ	Π, ΠΠ		
		Π, Π, Π	Π, Π, Π		
		ΠΠ ΠΠ	ΠΠ ΠΠ		
45.A1	Response threshold of alarm 1	0.0 ... 10.0 ... 100.0		%	
46.A2	Response threshold of alarm 2	0.0 ... 90.0 ... 100.0		%	
47.YFCT 4)	Function fault message output Fault Fault + not automatic Fault + not automatic + BIN ("+" means logical OR combination)	Normal	Inverted		
		h	-h		
		hΠΠ	-hΠΠ		
		hΠΠΠ	-hΠΠΠ		
		hΠΠΠΠ	-hΠΠΠΠ		
48.YTIM	Monitoring time for setting of fault message 'Control deviation'	Auto / 0 ... 100		s	
49.YLIM	Response threshold for fault message 'Control deviation'	Auto / 0 ... 100		%	
50.PRST	Preset Reset all parameters which can be reset by 'Init', 'PARA' and 'diAg'. Reset initialization parameters '1.YFCT' to '5.INITM'. Reset parameters '6.SCUR' to '49.YLIM'. Reset param. A to P of the extended diagnostics function as well as parameter '52.XDIAG'.	ALL			
		Init			
		PARA			
		diAg			
51.PNEUM	Pneumatics type Standard pneumatic block Fail in place pneumatic block Operation with boosters	Std FIP booSt			
52.XDIAG	Activating for extended diagnostics Off Single-stage alarm Two-stage alarm Three-stage alarm	OFF On1 On2 On3			

Parameter name	Function	Parameter values (bold = factory setting)		Unit	Notes
		Normal	Inverted		
A. 1 PST 5)	Partial Stroke Test (PST) with the following parameters: A1. STPOS Start position A2. STTOL Start tolerance A3. STRKH Stroke height A4. STRKD Stroke direction A5. RPMd Ramp mode A6. RPRT Ramp rate A7. FLBH Behavior after failed PST A8. INTRV Test interval A9. PSTIN PST reference stroke time AA. FACT1 Factor 1 Ab. FACT2 Factor 2 AC. FACT3 Factor 3	0.0 ... 100.0		% % % % % % % % % % % %	
		0.1 ... 2.0 ... 10.0			
		0.1 ... 10.0 ... 100.0			
		uP / do / uP do			
		Ramp mode			
		0.1 ... 1.0 ... 100.0			
		Auto / HOlD / AirIn / AirOu			
		OFF / 1 ... 365			
		NOINI / (C)### / Fdini / rEAL			
		0.1 ... 1.5 ... 100.0			
		0.1 ... 3.0 ... 100.0			
		0.1 ... 5.0 ... 100.0			
		b. 1 DEVI 5)	Monitoring dynamic control valve behavior with the following parameters: b1. TIM Time constant b2. LIMIT Limit b3. FACT1 Factor 1 b4. FACT2 Factor 2 b5. FACT3 Factor 3		
0.0 ... 1.0 ... 100.0					
0.1 ... 5.0 ... 100.0					
0.1 ... 10.0 ... 100.0					
0.1 ... 15.0 ... 100.0					
C. 1 LEAK 5)	Monitoring/compensation pneumatic leakage with the following parameters: C1. LIMIT Limit C2. FACT1 Factor 1 C3. FACT2 Factor 2 C4. FACT3 Factor 3	0.0 ... 30.0 ... 100.0		%	
		0.1 ... 1.0 ... 100.0			
		0.1 ... 1.5 ... 100.0			
		0.1 ... 2.0 ... 100.0			
d. 1 STIC 5)	Monitoring of stiction (slipstick) with the following parameters: d1. LIMIT Limit d2. FACT1 Factor 1 d3. FACT2 Factor 2 d4. FACT3 Factor 3	0.1 ... 1.0 ... 100.0		%	
		0.1 ... 2.0 ... 100.0			
		0.1 ... 5.0 ... 100.0			
		0.1 ... 10.0 ... 100.0			
		0.1 ... 10.0 ... 100.0			
E. 1 DEBA 5)	Monitoring of deadband with the following parameter: E1. LEVL3 6)	0.1 ... 2.0 ... 10.0		%	
		0.1 ... 1.0 ... 10.0			
F. 1 ZERO 5)	Monitoring of lower endstop with the following parameters: F1. LEVL1 Threshold 1 F2. LEVL2 Threshold 2 F3. LEVL3 Threshold 3	0.1 ... 1.0 ... 10.0		%	
		0.1 ... 2.0 ... 10.0			
		0.1 ... 4.0 ... 10.0			
G. 1 OPEN 5)	Monitoring of upper end stop with the following parameters: G1. LEVL1 Threshold 1 G2. LEVL2 Threshold 2 G3. LEVL3 Threshold 3	0.1 ... 1.0 ... 10.0		%	
		0.1 ... 2.0 ... 10.0			
		0.1 ... 4.0 ... 10.0			
H. 1 TMIN 5)	Monitoring the lower limit temperature with the following parameters: H1. TUNIT Temperature unit H2. LEVL1 Threshold 1 H3. LEVL2 Threshold 2 H4. LEVL3 Threshold 3	°C / °F			
		-40 ... -25 ... 90 / -40 ... 194			
		-40 ... -30 ... 90 / -40 ... 194			
		-40 ... 90 / -40 ... 194			
J. 1 TMAX 5)	Monitoring the upper limit temperature with the following parameters: J1. TUNIT Temperature unit J2. LEVL1 Threshold 1 J3. LEVL2 Threshold 2 J4. LEVL3 Threshold 3	°C / °F			
		-40 ... 75 ... 90 / -40 ... 194			
		-40 ... 80 ... 90 / -40 ... 194			
		-40 ... 90 / -40 ... 194			
L. 1 STRK 5)	Monitoring the number of total strokes with the following parameters: L1. LIMIT Limit L2. FACT1 Factor 1 L3. FACT2 Factor 2 L4. FACT3 Factor 3	1 ... 1E6 ... 1E8			
		0.1 ... 1.0 ... 40.0			
		0.1 ... 2.0 ... 40.0			
		0.1 ... 5.0 ... 40.0			
O. 1 DCHG 5)	Monitoring the no. of changes in direction with the following parameters: O1. LIMIT Limit O2. FACT1 Factor 1 O3. FACT2 Factor 2 O4. FACT3 Factor 3	1 ... 1E6 ... 1E8			
		0.1 ... 1.0 ... 40.0			
		0.1 ... 2.0 ... 40.0			
		0.1 ... 5.0 ... 40.0			
P. 1 PAVG 5)	Monitoring the position average value with the following parameters: P1. TBASE Time basis for average value generation P2. STATE Status of monitoring position average value P3. LEVL1 Threshold 1 P4. LEVL2 Threshold 2 P5. LEVL3 Threshold 3	0.5h / 8h / 5d / 60d / 2.5y			
		IdLE / rEF. / ### / Strt			
		0.1 ... 2.0 ... 100.0			
		0.1 ... 5.0 ... 100.0			
		0.1 ... 10.0 ... 100.0			

HINTS:

- Parameter only appears with 'WAY', '-WAY', 'ncSLL', and '-ncLL'
- Turning points only appear with selection 12.SFCT = 'FrEE'.
- NC contact means: action with opened switch or Low level
NO contact means: action with closed switch or High level
- Normal means: High level without fault
Inverted means: Low level without fault
- Parameters A up to P appears only if parameter '52.XDIAG' is activated with On1, On2 or On3. The contents of the parameters A up to P appears also only if the selected parameter is activated with 'On'.
- The values are monitored in the range of '0.1' to '2.9'. Values between '3.0' and '10.0' are not monitored.