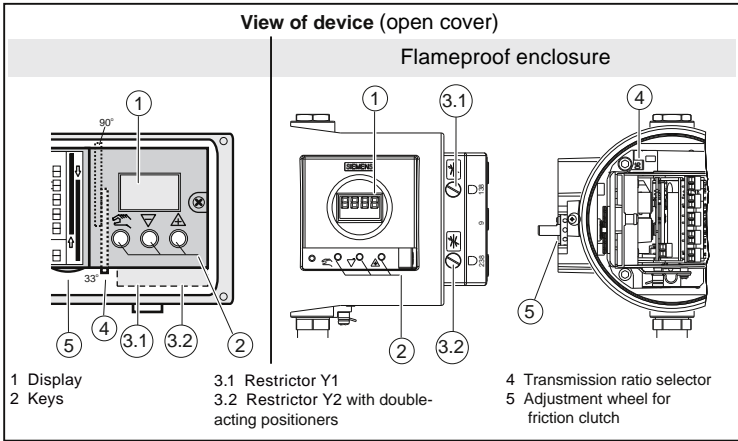


Leaflet "Operation - a concise overview"



Changing the operating mode

Operating mode	Display (1)
P manual mode Change position using: 	Position of potentiometer [%] Not initialized
Configure Change parameter name using: or + Change value using: 	Parameter value Parameter number Parameter name
Manual mode Change position using: 	Position [%] Error code Mode and setpoint [%]
Automatic mode	Position [%] Error code Mode and setpoint [%]
Diagnostics	Diagnostics value Diagnostics number Diagnostics name

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

Attention: See Operating Instructions for safety instructions !

Automatic Initialization (For linear actuators observe Operating Instructions Chapter "Commissioning > Commissioning linear actuators")

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:				
	51.PNEUM <table border="0"> <tr> <td>Std / FIP</td> <td>Initiate leakage measurement with </td> </tr> <tr> <td>booSt</td> <td>Display of overshoot down (3.2 oSuP), up (2.9 oSdo) </td> </tr> </table>	Std / FIP	Initiate leakage measurement with	booSt	Display of overshoot down (3.2 oSuP), up (2.9 oSdo)
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:				

Possible messages		
Display	Meaning	Measures
	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.
	Actuator does not move. Positioning time is possible to adjust.	Adjust positioning time using restrictor(s) (3.1 / 3.2). Continue using or
	Overshoots are determined.	Adjust booster bypass using the adjustment screw on the booster up to display: 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/iNCS Linear actuator with NCS Linear actuator with NCS/iNCS 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	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)	Setpoint turning point at etc. ... 33.SL20	0 % etc. to 100 %		%	
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			
38.YDIR	Direction of manipulated variable for display and position feedback Rising Falling	riSE FALL			
		no uP do uP do Fu Fu 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 Fu Fu Fd uP Fd Fu do			
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	-bLoc 1		
		bLoc 2	-bLoc 2		
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, ΠΠ	Π, ΠΠ		
		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		
		4	-4		
		4nΠ	-4nΠ		
		4nΠb	-4nΠb		
		Auto / 0 ... 100			
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	Reset all parameters which can be reset by 'Init', 'PARA' and 'diAg'.	ALL			
	Reset initialization parameters '1.YFCT' to '5.INITM'.	Init			
	Reset parameters '6.SCUR' to '49.YLIM'.	PARA			
	Reset param. A to P of the extended diagnostics function as well as parameter '52.XDIAG'.	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. 4 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. RPKMD 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 OFF / On 0.1 ... 1.0 ... 100.0 Auto / HOLD / Airln / AirEAL NOINI / (C)###.## / FdIni / rEAL OFF / 1 ... 365 NOINI / (C)###.## / FdIni / rEAL Factor 1 Factor 2 Factor 3		% % % % % % % % % % % %									
		b. 4 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	Auto / 1 ... 400 0.0 ... 1.0 ... 100.0 0.1 ... 1.5 ... 100.0 0.1 ... 10.0 ... 100.0 0.1 ... 15.0 ... 100.0		s %							
				C. 4 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. 4 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		%			
								E. 4 DEBA 5)	Monitoring of deadband with the following parameter: E1. LEVL3 6)	0.1 ... 2.0 ... 10.0		%	
										F. 4 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. 4 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. 4 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. 4 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. 4 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. 4 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. 4 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 ldLE / rEF./###.# / Strt 0.1 ... 2.0 ... 100.0 0.1 ... 5.0 ... 100.0 0.1 ... 10.0 ... 100.0		%	
						U. 4 PRES 7)	Activate pressure monitoring U1.PUNIT Pressure unit U2.PZLIM Low limit supply pressure (PZLIM) U3.PZHYS Hysteresis of the low limit supply pressure U4.PZ_FR Error response on undershoot of the supply pressure			bar / psi / MPa 1.4 ... 7.0 20.30 ... 101.52 0.140 ... 0.700 0.2 ... 1.00 2.90 ... 14.50 0.020 ... 0.100 cont / HOLD		bar psi MPa bar psi MPa	

HINTS:

- Parameter only appears with 'WAY', '-WAY', 'hcSLl', 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.
- Only with built-in pressure sensor module