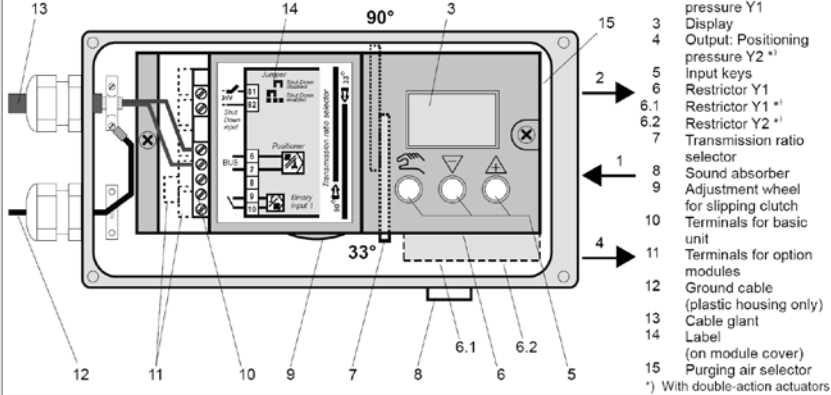
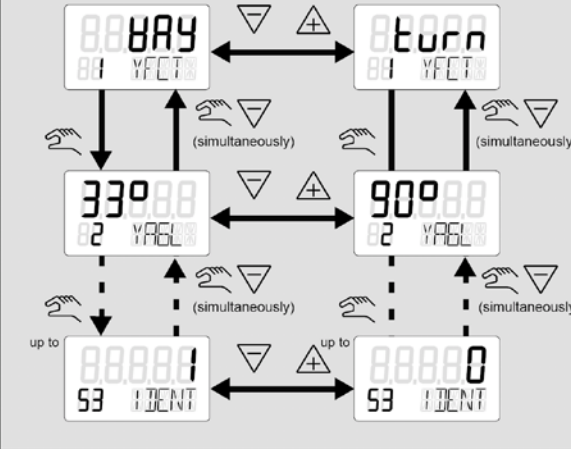


View of device (cover open; plastic housing)



- 1 Input: supply air PZ
 - 2 Output: Positioning pressure Y1
 - 3 Display
 - 4 Output: Positioning pressure Y2 *)
 - 5 Input keys
 - 6 Restrictor Y1
 - 6.1 Restrictor Y1 *)
 - 6.2 Restrictor Y2 *)
 - 7 Transmission ratio selector
 - 8 Sound absorber
 - 9 Adjustment wheel for slipping clutch
 - 10 Terminals for basic unit
 - 11 Terminals for option modules
 - 12 Ground cable (plastic housing only)
 - 13 Cable gland
 - 14 Label (on module cover)
 - 15 Purging air selector
- *) With double-action actuators

Configuring



Changing the input level

Mode	Display
P-manual mode Change position using ∇/Δ	Potentiometer setting [%] Not initialized (can be reached using preset)
Configure Change parameter name using ∇/Δ and ∇/Δ Change value using ∇/Δ	Parameter value Parameter number Parameter name
Manual mode Change position using ∇/Δ	Position [%] Error code Mode and Setpoint [%]
Automatic mode	Position [%] Error code Mode and Setpoint [%]
Diagnosis	Diagnosis value Diagnosis number Diagnosis name

Automatic initial start-up (starting with factory setting)

Step	Meaning
1.) Rotary actuator Linear actuator 	
2.)	Δ 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 ∇ Pressing the Δ key initiates leakage measurement
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)

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

Continue using: ∇/Δ

Possible messages

Display	Meaning	Measures
 	Actuator does not move	Acknowledge message using ∇/Δ Check restrictor (6) and open if necessary Drive actuator to working range using ∇/Δ Restart initialization
 	Down tolerance band violated	Change gearing (7) Continue using Δ or adjust sliding clutch to display Continue using: Δ or for "WAY" using: ∇
	Once the slipping clutch has been adjusted	Linear actuator: Set pick-up lever into vertical position using ∇/Δ Continue using ∇/Δ
	Up tolerance band violated	Acknowledge message using ∇/Δ Set the next highest travel value on the lever Restart initialization Additionally possible with rotary actuators: Adjust using ∇/Δ up to display: Continue using ∇/Δ
	Up/down span insufficient	Acknowledge message using ∇/Δ 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) Continue using Δ or ∇

See Manual for further messages

Parameter name	Function	Parameter values (bold = factory setting)	Unit	Notes
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		
		ncSt -ncSt		
ncSL -ncSL				
ncSLL -ncLL				
2.YAGL	Rated angle of rotation of positioner shaft Set transmission ratio selector (4) appropriately (see view of device)	33° 90°	Degrees	
3.YWAY ¹⁾	Range of stroke (optional setting) If used, the value on the actuator must correspond to the set range of stroke on the lever arm. Carrier pin must be set to the value of the actuator travel or, if this value is not scaled, to the next larger scale value	OFF	mm	
		5 10 15 20 (short lever 33°) 25 30 35 (short lever 90°) 40 50 60 70 90 110 130 (long lever 90°)		
4.INITA	Initialization (automatic)	NOINI no / ###.# Strt		
5.INITM	Initialization (manual)	NOINI no / ###.# Strt		
6.SDIR	Setpoint direction Rising Falling	riSE FALL		
		Auto / 0 ... 400	s	
7.TSUP	Setpoint ramp up	0 ... 400	s	
8.TSDO	Setpoint ramp down	0 ... 400	s	
9.SFCT	Setpoint function Linear Equal percentage 1: 25, 1:33, 1:50 Inverse equal percentage 25:1, 33:1, 50:1 Freely adjustable	Lin		
		1 - 25 1 - 33 1 - 50 n1 - 25 n1 - 33 n1 - 50 FrEE		
10.SLO ²⁾ etc. 30.SLO ²⁰⁾	Setpoint turning point at 0 % etc. to 100 %	0.0 ... 100.0	%	
31.DEBA	Deadband of closed-loop controller	Auto / 0.1 ... 10.0	%	
32.YA	Start of the manipulated variable limit	0.0 ... 100.0	%	
33.YE	End of the manipulated variable limit	0.0 ... 100.0	%	
34.YNRM	Standardization of manipulated variable Mechanical On flow	MPOS FLoW		
		riSE FALL		
35.YDIR	Direction of action of manipulated variable Rising for display and position feedback Falling	no uP do uP do		
		0.0 ... 100.0	%	
37.YCDO	Lower value for tight closing	0.0 ... 100.0	%	
38.YCUP	Upper value for tight closing	0.0 ... 100.0	%	
39.BIN1 ³⁾	Function of binary input 1 None Message only 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		
		bLoc 2 -doWn -doWn		
		StoP -StoP		
PSt -PSt				
40.BIN2 ³⁾	Function of binary input 2 None Message only 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		
		StoP -StoP		
PSt -PSt				
41.AFCT ⁴⁾	Alarm function None A1=Min, A2=Max A1=Min, A2=Min A1=Max, A2=Max	Normal		
		Inverted		
42.A1	Response threshold of alarm 1	0.0 ... 10.0 ... 100.0		
		0.0 ... 90.0 ... 100.0		
43.A2	Response threshold of alarm 2	0.0 ... 90.0 ... 100.0	%	
44.YFCT ⁴⁾	Function for fault message output Normal Inverted	h		
		h nH -h h nH b -h nH b		
45.YTIM	Monitoring time for setting of fault message "Control deviation"	Auto / 0 ... 100	s	
46.YLIM	Response threshold for fault message "Control deviation"	Auto / 0 ... 100	%	
47.YSTRK	Limit for path integral	0...1.00E9		
48.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.SDIR to 47.YSTRK and 51.FSTY to 53.FSVL. Reset param. A to P of the extended diagnostics function as well as parameter 50.XDIAG.	ALL		
		Init		
		PArA		
		diAg		
49.PNEUM	Fail in place Standard pneumatic block Fail in place pneumatic block	Std FIP		
50.XDIAG	Activating for extended diagnostics Off Single-stage alarm Two-stage alarm Three-stage alarm	OFF On1 On2 On3		
51.FSTY	Safety position Parameterized safety setpoint Last setpoint Open venting valve	FSVL FSSP FSAC		
52.FSTI	Monitoring time for setting safety position	0.0 ... 100	s	
53.FSVL	Safety setpoint	0.0 ... 100.0	%	
54.STNR	Station number	0 ... 126		

Parameter name	Function	Parameter values (bold = factory setting)	Unit	Notes
55.IDENT	Device operating mode (ID No.) Manufacturer-independent profile ID no. Device-specific ID no. for full functionality Automatic adjustment by the control system	9710 8079 AdAPT		
Diagnostic parameters				
A.YPST ⁵⁾	Partial Stroke Test (PST) with the following parameters:			
A1. STPOS	Start position	0.0 ... 100.0	%	
A2. STTOL	Start tolerance	0.1 ... 2.0 ... 10.0	%	
A3. STRKH	Stroke height	0.1 ... 10.0 ... 100.0	%	
A4. STRKD	Stroke direction	uP / do / uP do		
A5. RPMd	Ramp mode	OFF / On		
A6. RPRT	Ramp rate	0.1 ... 1.0 ... 100.0	%/s	
A7. FLBH	Behavior after failed PST	Auto / HOLD / AirIn / AirOut		
A8. INTRV	Test interval	OFF / 1 ... 365	Days	
A9. PSTIN	PST reference stroke time	NOINI (C)###/FdlIn/rEAL	s	
Ab. FACT1	Factor 1	0.1 ... 1.5 ... 100.0		
Ac. FACT2	Factor 2	0.1 ... 3.0 ... 100.0		
Ac. FACT3	Factor 3	0.1 ... 5.0 ... 100.0		
b.YDEVI ⁵⁾	Dynamic control valve behavior with the following parameters:			
b1. TIM	Time constant	Auto / 1 ... 400	s	
b2. LIMIT	Limit	0.0 ... 1.0 ... 100.0	%	
b3. FACT1	Factor 1	0.1 ... 1.0 ... 100.0		
b4. FACT2	Factor 2	0.1 ... 5.0 ... 100.0		
b5. FACT3	Factor 3	0.1 ... 15.0 ... 100.0		
c.YLEAK ⁵⁾	Monitoring pneumatic leakage with the following parameters:			
C1. LIMIT	Limit	0.0 ... 30.0 ... 100.0	%	
C2. FACT1	Factor 1	0.1 ... 1.0 ... 100.0		
C3. FACT2	Factor 2	0.1 ... 1.5 ... 100.0		
C4. FACT3	Factor 3	0.1 ... 2.0 ... 100.0		
d.YSTIC ⁵⁾	Monitoring the stiction (slipstick) with the following parameters:			
d1. LIMIT	Limit	0.1 ... 1.0 ... 100.0	%	
d2. FACT1	Factor 1	0.1 ... 2.0 ... 100.0		
d3. FACT2	Factor 2	0.1 ... 5.0 ... 100.0		
d4. FACT3	Factor 3	0.1 ... 10.0 ... 100.0		
e.YDEBA ⁵⁾	Monitoring the deadband with the following parameter:			
E1. LEVL3	Threshold	0.1 ... 2.0 ... 2.9	%	
f.YZERO ⁵⁾	Monitoring the lower endstop with the following parameters:			
F1. LEVL1	Threshold 1	0.1 ... 1.0 ... 10.0	%	
F2. LEVL2	Threshold 2	0.1 ... 2.0 ... 10.0	%	
F3. LEVL3	Threshold 3	0.1 ... 4.0 ... 10.0	%	
g.YOPEN ⁵⁾	Monitoring the upper end stop with the following parameters:			
G1. LEVL1	Threshold 1	0.1 ... 1.0 ... 10.0	%	
G2. LEVL2	Threshold 2	0.1 ... 2.0 ... 10.0	%	
G3. LEVL3	Threshold 3	0.1 ... 4.0 ... 10.0	%	
h.YTMIN ⁵⁾	Monitoring the lower limit temperature with the following parameters:			
H1. TUNIT	Temperature unit	°C / °F		
H2. LEVL1	Threshold 1	-40 ... -25 ... 90 / -40 ... 194		
H3. LEVL2	Threshold 2	-40 ... -30 ... 90 / -40 ... 194		
H4. LEVL3	Threshold 3	-40 ... -40 ... 90 / -40 ... 194		
j.YTMAX ⁵⁾	Monitoring the upper limit temperature with the following parameters:			
J1. TUNIT	Temperature unit	°C / °F		
J2. LEVL1	Threshold 1	-40 ... 75 ... 90 / -40 ... 194		
J3. LEVL2	Threshold 2	-40 ... 80 ... 90 / -40 ... 194		
J4. LEVL3	Threshold 3	-40 ... 90 ... 90 / -40 ... 194		
k.YSTRK ⁵⁾	Monitoring the number of total strokes with the following parameters:			
L1. LIMIT	Limit of strokes	1 ... 1E6 ... 1E8		
L2. FACT1	Factor 1	0.1 ... 1.0 ... 40.0		
L3. FACT2	Factor 2	0.1 ... 2.0 ... 40.0		
L4. FACT3	Factor 3	0.1 ... 5.0 ... 40.0		
o.YDCHG ⁵⁾	Monitoring the no. of changes in direction with the following parameters:			
O1. LIMIT	Limit for number of changes in direction	1 ... 1E6 ... 1E8		
O2. FACT1	Factor 1	0.1 ... 1.0 ... 40.0		
O3. FACT2	Factor 2	0.1 ... 2.0 ... 40.0		
O4. FACT3	Factor 3	0.1 ... 5.0 ... 40.0		
p.YPAVG ⁵⁾	Monitoring the position average value with the following parameters:			
P1. TBASE	Time basis for average value generation	0.5h / 8h / 5d / 60d / 2.5y		
P2. STATE	Status of monitoring position average value	IdLE / rEF. / ###.# / Strt		
P3. LEVL1	Threshold 1	0.1 ... 2.0 ... 100.0	%	
P4. LEVL2	Threshold 2	0.1 ... 5.0 ... 100.0	%	
P5. LEVL3	Threshold 3	0.1 ... 10.0 ... 100.0	%	

HINTS:

- Parameter only appears with "WAY", "-WAY", "ncSLL", and "-ncLL"
- Turning points only appear with selection 9.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 50.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.