



- \* compact local display and switching module
- \* switching point can be displayed
- \* switch point setting without process condition

### APPLICATION

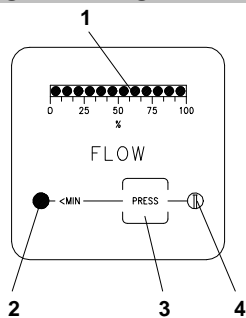
With the appropriate flow sensors the ESA1 Electronic Unit forms an adjustable flow switch with trend indicator. When the switching point is undercut, the output changes from 24 VDC to 0 V (open state). The switching point can be adjusted at any time by pressing the key "press" (3) and by simultaneously turning the potentiometer (4). A red LED (2) indicates undercutting of the switching point. If you do not press the membrane key, the momentary value is displayed.

### PRINCIPLE

The electronic unit consists of a primary sensor which is able to detect the rotor blades or the toothed wheels of the flow sensor (inductive, Hall or optical reflex sensor depending on the sensor material) and a calibrated F/V converter which displays the detected frequency on a trend indicator. By a comparator and potentiometer a minimum threshold flow rate may be selected.

The cable orientation can be aligned by turning the whole upper part of the housing or by changing connections (a small, but useful point!).

### OPERATION



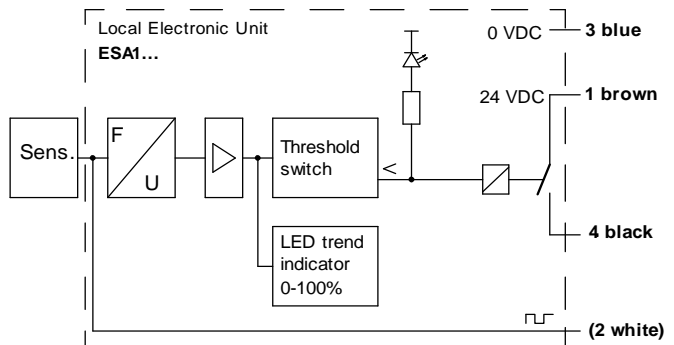
- 1 Trend indicator (12 x green LEDs)
- 2 <min. indicator (red LED)
- 3 Membrane key (displays switching point)
- 4 Potentiometer for setting the min. signal (same as 3)

### TECHNICAL DATA

operating ranges	see relevant flow sensor
accuracy	
operating pressure	
operating temperature of electronic unit	max. 60°C
supply voltage	24V DC ± 10%

power consumption	1.5W
display	12 LEDs (green) = momentary value and displayable switching point LED (red) = <min
limits	n.o. ( 24 V DC, 24 W)
hysteresis	set ex-works to 2%
connection	at locking plug M12x1, 4-pole option cable
materials	PA66
protection class	IP 60

### TERMINAL ASSIGNMENT



Before carrying out the electrical installation, please make sure that the supply voltage corresponds to the basic data. The "min" relay contact must only be used for signal voltages. If you want to control a more powerful relay, connect a freewheel diode across your power relay to reduce inductive spikes.

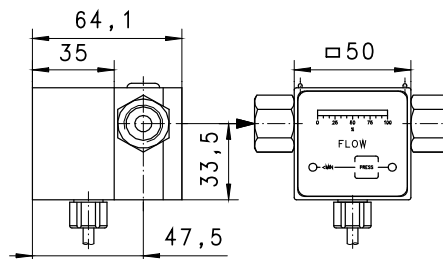
The changeover contact is shown in the quiescent state (no supply voltage). The state "in range" then corresponds to the pulled-in condition. With a power failure to the sensor the relay also drops out.

### MOUNTING

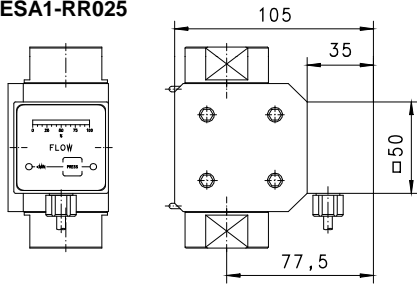
Please note that the flow sensor and the ESA1 Electronic Unit are paired (same production number). The ESA1 Electronic Unit must be fully plugged onto the Rototron flow sensor to detect a reliable signal. With the RR.25... you have the possibility of positioning the converter in 90° steps to give a suitable reading position. With the RR.10... the position should be determined with your order. The types RT, TT and VHZ offer the best reading position in any installation orientation due to the rotatable electronic unit.

### DIMENSIONS

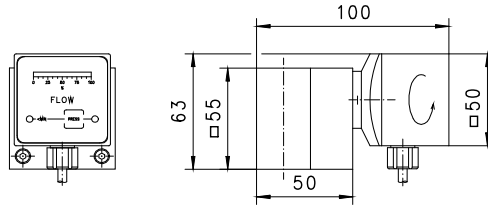
#### ESA1-RR010



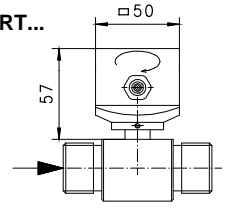
ESA1-RR025



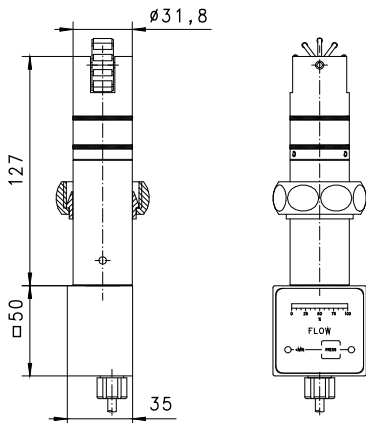
ESA1-VHZ010



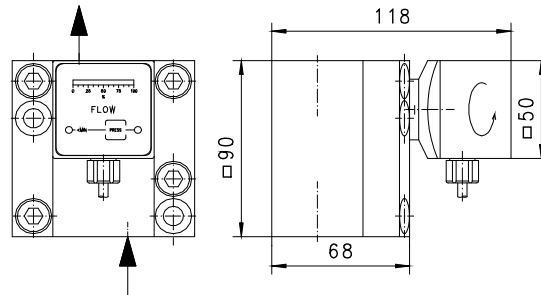
ESA1-RT...



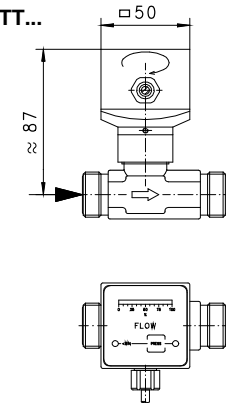
ESA1-RR032



ESA1-VHZ020



ESA1-TT...



**NOMENCLATURE**

ESA1-	RR	010	I	K	basic type specification
ESA1-					● Local Electronic Unit
	RR				● for flow sensor RR
	VHZ				● for flow sensor VHZ
	RT				● for flow sensor RT
	RRT				● for flow sensor RRT
	RRT1				● for flow sensor RRT1
	TT				● for flow sensor TT
		010			● for flow sensor, size DN 10
		020			● for flow sensor, size DN 20
		025			● for flow sensor, size DN 25
		032			● for flow sensor, size DN 32 - 150
			I		● inductive sensor
			H		● hall sensor
			O		● optical sensor
				S	● connection at locking plugs M12x1, 4-pole
				K	○ cable gland with 2 metre PVC cable

**IMPORTANT ORDERING INFORMATION**

- Please state direction of flow when ordering.
- The flow sensor is ordered, for example for the RR.-010... with ESA1-RR010.

**ACCESSORIES**

**Mounting clamp**

BK-	010	basic type specification
	010	● for RR.-010
	025	● for RR.-025



All technical changes reserved

●BASIC Standard ○BASIC Programme option □VARIO Special option ⊕ PLUS Accessories ✗not recommendable