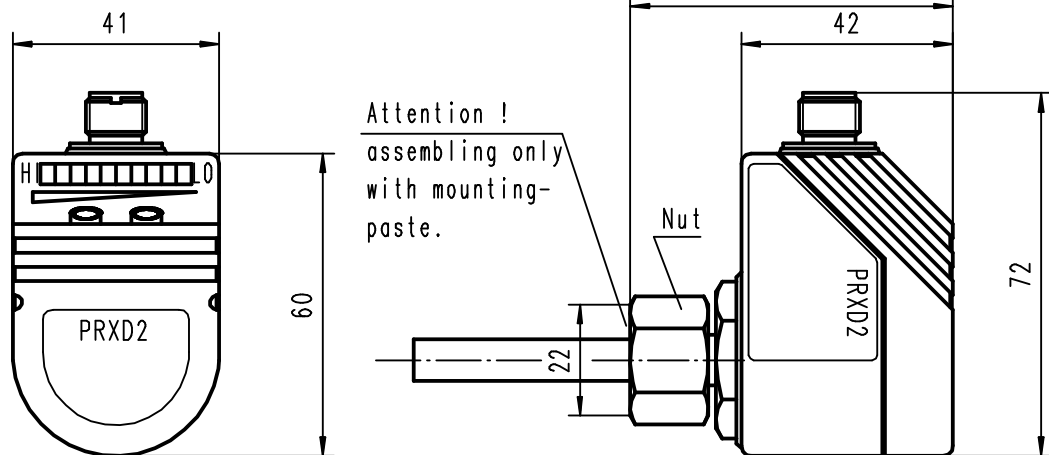


1. Function and features

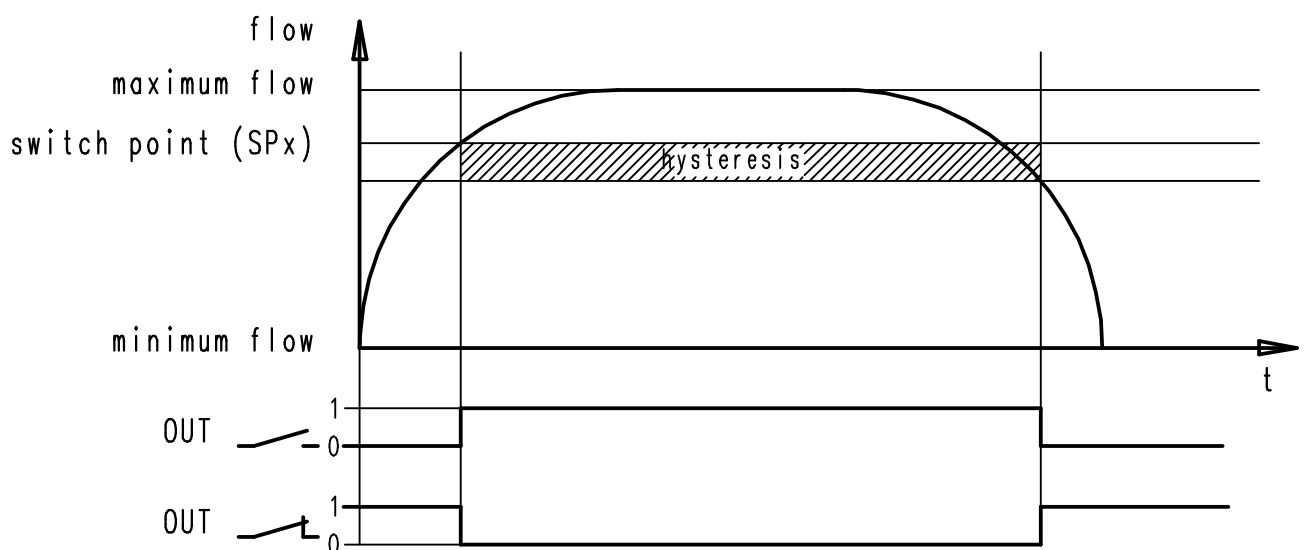
The flow monitor monitors liquid and gaseous media. Two switching outputs provide a signal if the respectively set flow velocity has been reached.

- An LED display indicates the relative flow value (referred to the minimum and maximum flow values).
- It is also possible to indicate: Switching status, excess flow, under-flow, and flow standstill.

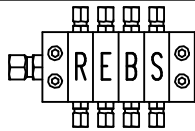


2. Hysteresis

- Adjustment to maximum flow (HI-Flow) and minimum flow 7 flow standstill (LO-Flow) via setting buttom.
- The unit can be used as N.O. (—) or N.C. (— L) and operates with hysteresis function.



When the flow rises, the outputs switch when the corresponding switch point (SPx) has been reached. When the flow falls again, the output switches back when the value 'SPx - hysteresis' has been reached.



Flow Control for Turbolubsystem

Type:
PRXD2

The hysteresis is considerably influenced by the choice of the operating range on the sensitivity curve of the sensor:

- In the case of adjustment to HI-Flow values in the range 0...60 cm/s the hysteresis is 2-4cm/s (values apply to water)
- in the case of adjustment HI-Flow values above 100 cm/s the hysteresis increases as the flow rises.

The typical response time of the unit is 3...8s. It can be influenced by setting the LO-Teach and switch point:

- The lower the LO-Teach or the switch point is set, the faster the unit switches on.
- The higher the LO-Teach or switch point is set, the faster the unit switches off.

3. Technical data

Operating voltage [V].....20...36 DC
Current rating [mA].....2x250; short-circuit protection;
reverse polarity protection/overload protection.

Voltage drop [V].....< 2,5

Liquids:

Medium temperature [°C].....-25...+80

Setting range [cm/s].....3...300

Greatest sensitivity [cm/s].....3...60

Max. temperature gradient of medium [K/min].....300

Gases:

Medium temperature [°C].....-25...+80

Setting range [cm/s].....200...3000

Greatest sensitivity [cm/s].....200...800

Response time [s].....1...10

Power-on delay time [s].....15, optically indicated

Pressure rating [bar].....300

Operating temperature [°C].....-20...+80

Protection.....IP67

Housing material.....PBTB

Material sensor surface.....V4A (1.4404); O-Ring: 8x1,5 sw 90° Shore A

Änderungen vorbehalten.
gültig ab: 16.05.2001

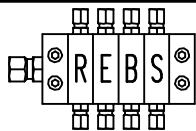
Artikel Nr.:

REBS

Zentralschmiertechnik GmbH
40885 Ratingen Postfach 104364
Tel.02102/93060 Telefax 02102/930640

Gruppe\group: 4.3

Blatt\sheet: 6.2



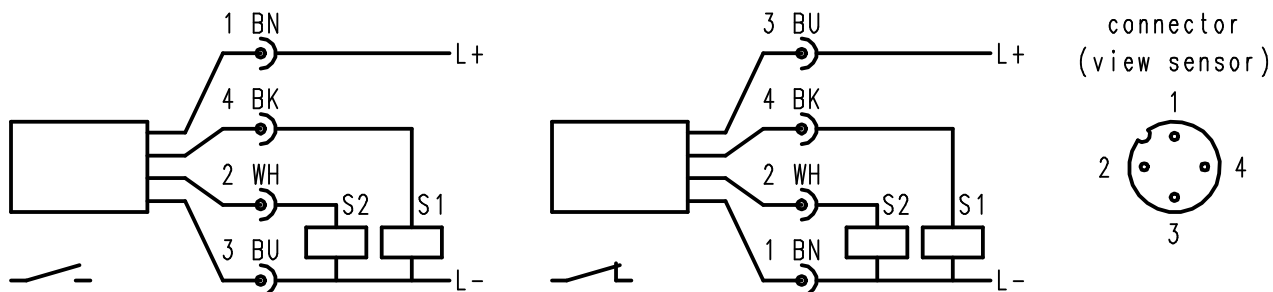
Flow Control for Turbolubsystem

Type:
PRXD2

4. Electrical connection

The unit must only be connected by an electrician.

Disconnect power before connecting the unit. Wiring:



Core colours of ifm sockets:

1= BN (brown), 2= WH (white), 3= BU (blue), 4= BK (black)

When the supply voltage is applied, all LEDs light and go off one after the other. (*) The unit is then ready for operation.

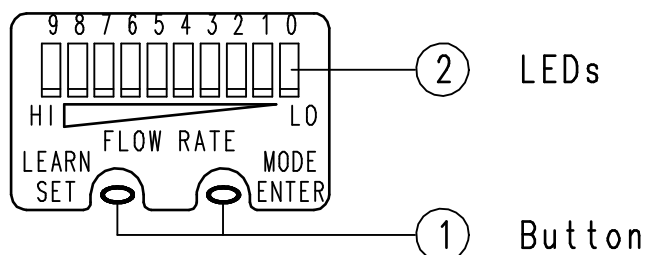
*During this time both outputs are switched according to the programming: ON with the NO function and OFF with the NC function.

Failure indication:

5 left LEDs flashing in case of short-circuit at the switching output S1;

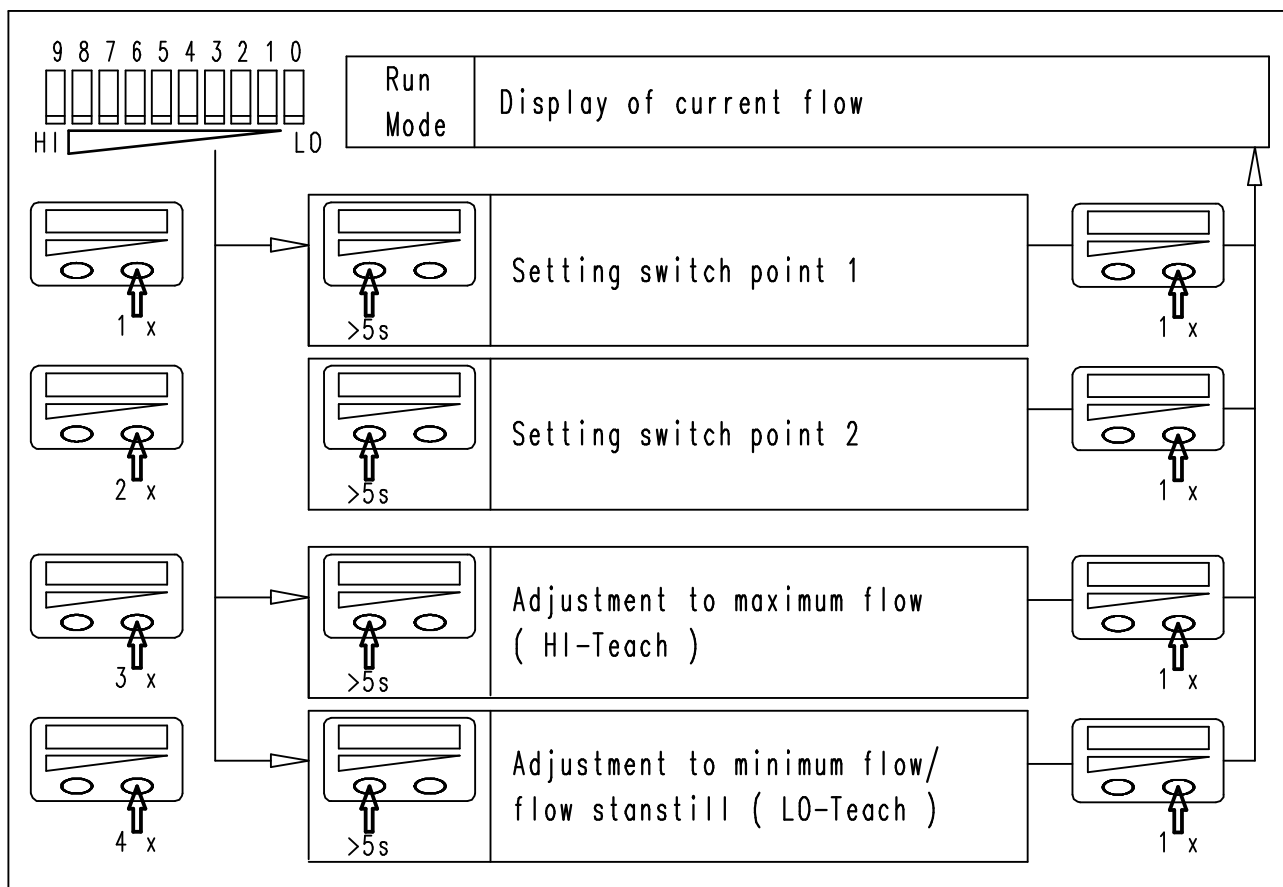
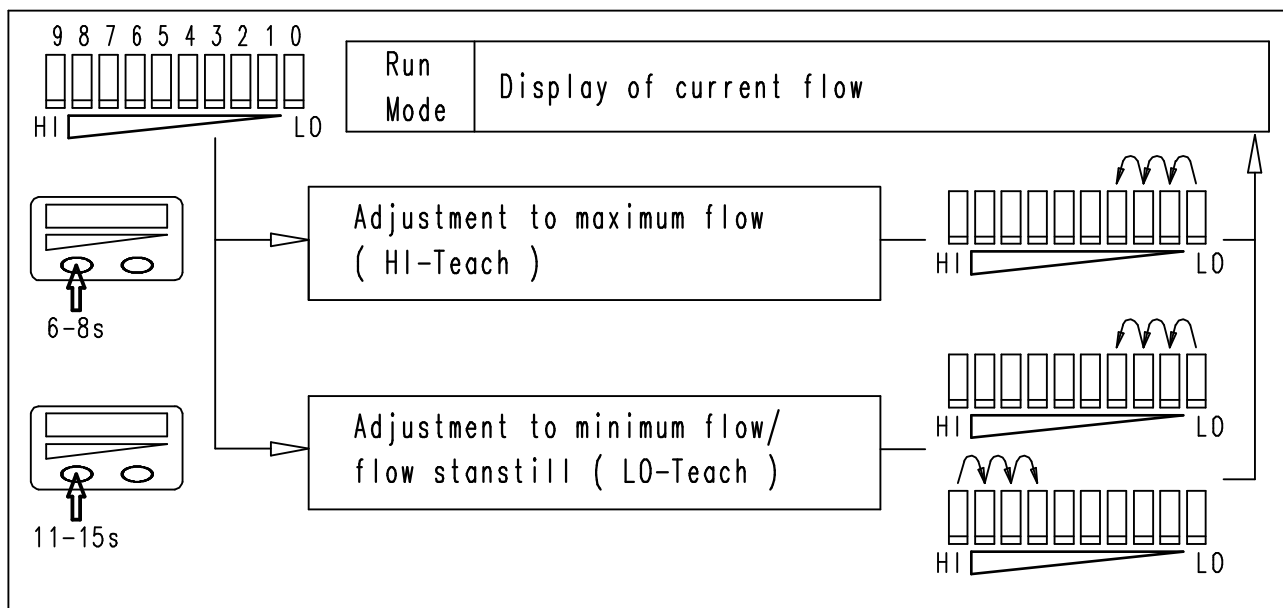
5 right LEDs flashing in case of short-circuit at the switching output S2;

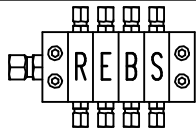
Controls and visual indication



①	setting button Mode/Enter	selection of the parameters and acknowledgement of the parameter values
	setting button Learn/Set	adjustment to maximum/minimum flow setting of the parameter values (scrolling by holding pressed; incremental by pressing briefly)
②	function display	LEDs green: current flow within the display range (LO...HI) - LEDs 0 to 9 are lit: maximum flow is reached - LED 9 flashes; LEDs 0 to 8 are lit: flow is considerably higher (2 LEDs) than the display range - LED 0 flashes: flow is lower than display range
		LEDs yellow / red: switch points (SPx) (yellow: flow $\geq$ SPx; red: flow $<$ SPx)

Menu structure





Flow Control for Turbolubsystem

Type:

PRXD2

Programming

Brief instructions

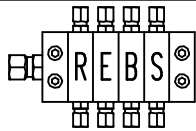
1. Turn on the operating voltage after insallation and electrical connection
After approx. 15s the unit is ready for operation.
2. Set the maximum flow and keep it constant.
3. Press the Learn/Set button for at least 5s.
The unit is adjusted to the maximum flow.
4. Set the minimum flow / flow standstill.
5. Press the Learn/Set button for at least 10s.
The unit is adjusted to the minimum flow / flow standstill.
6. Set the switch points.

The following applies to all setting procedurest: |

- If no button is pressed for 20s during the setting procedure, the unit returns to the operating mode with the parameter values unchanged.
- If adjustment has not been possible, all the red LEDs flash. The unit returns to the operating mode with the parameter values unchanged.

Locking/Unlocking:

- The unit can be electonically locked to prevent unwanted adjustment of the set parameters: Pressa both push buttons for 10s.
Indication goes out briefly (acknowledgement of locking/unlocking). Units are delivered from the factory in the unlocked state.



Adjustment to maximum flow (HI-Teach)

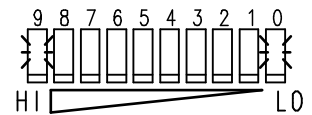
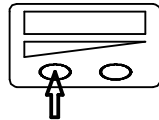
The unit measure the current flow and sets this value as the maximum value for the LED-Display (LED 9)

In normal operation all LEDs are lit in green when the max.flow is reached.They go out step by step as the flow decreases.

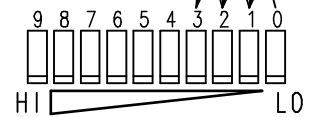
- 1 Apply the operating voltage.
After approx. 15s the unit is ready.
Set the maximum flow and keep it constant.

2

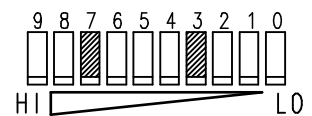
press the Learn/Set
button for 5s ,
release when the LEDs light
step by step from right to left.



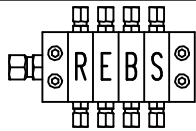
the green LEDs on the right
and on the left flash;



after 5s the LEDs light
step by step



The unit stores the current flow
as maximum flow and passes into
the operating mode.



Adjustment to minimum flow/flow standstill (LO-Teach)

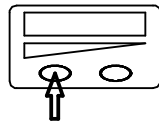
The unit measures the current flow and sets this value as the minimum display value for the LED-Display. In normal operation the first green LED (LED 0) flashes when the flow falls below this value (or when it comes to a standstill).

NOTE:

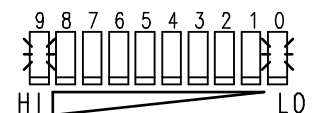
The LO-Teach operation may only be carried out after the HI-Teach operation.

- 1 Set the minimum flow or flow standstill;
keep the flow constant.

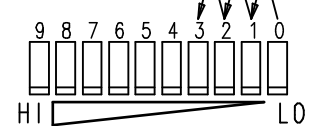
2



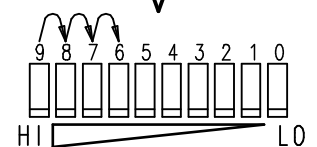
Press the Learn/Set
button for 10s
release when the LEDs light
step by step from left to right.



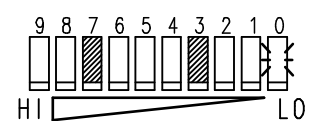
The green LEDs on the right
and on the left flash;



after 5s the LEDs light step
by step from right to left;



after a further 5s from
left to right.

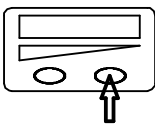
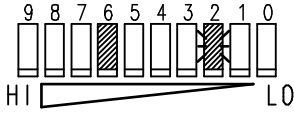
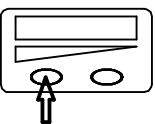
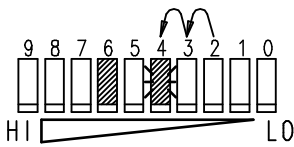
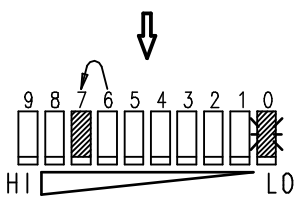
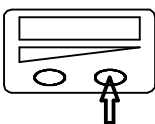
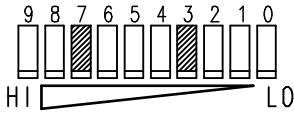


The unit stores the current flow
as minimum flow and passes into
the operating mode.

Setting of the switch points

Switch point 1 (SP1) = lower value, setting range: LED 0...SP2

Switch point 2 (SP2) = upper value, setting range: SP1...LED 9

1	 Press the Mode/Enter-button 1 time (= setting of SP1) 2 time (= setting of SP2)	 the unit is in the programming mode; LEDs red = current switch point (LED lit: coarse setting, LED flashes: fine setting).
2	 Press the Learn/Set button and keep it pressed until the requested switch point is displayed. As soon as the LED starts moving the switch point can be increased* (incremental by pressing briefly or scrolling by holding pressed).	 After 5s the flashing LED moves from right to left.  After LED 9 has been reached the cycle starts again at LED 0. The LED which is constantly lit moves on by one position.**
3	 Press the Mode/Enter-button briefly (acknowledgement).	 The set switch point becomes effective; the unit passes into the operating mode.

* Decrease the switch point: Let the flashing and lit LEDs move to the maximum setting value. Then the cycle starts again at the minimum setting value.

** overflow. If the flashing LED and the lit LED exceed the maximum setting value, the cycle starts again at the minimum setting value.