For mounting on SRP981 (retrofit):

EW 420 661 092	**Position transmitter 4-20 mA**
EW 419 510 334	**Inductive limits switches, two wires technique, standard version**
EW 419 510 352	**Inductive limits switches, two wire technique, security version**
EW 419 510 291	**Inductive limits switches, three wires technique**
EW 420 421 017	**Limits switches, two micro-switches *(*)***

If you upgrade your Positioner with this Kit (*) you loose the ATEX certification

For mounting on SRI986 (retrofit):

EW 420 661 106	**Position transmitter 4-20 mA**
EW 419 510 343	**Inductive limits switches, two wires technique, standard version**
EW 419 510 361	**Inductive limits switches, two wire technique, security version**
EW 419 510 307	**Inductive limits switches, three wires technique**
EW 420 421 026	**Limits switches, two micro-switches *(*)***

If you upgrade your Positioner with this Kit (*) you loose the ATEX certification

FOXBORO ECKARDT

These instructions are to be used as a guide for quick retrofit and start-up. For more detailed information please refer to the documents “Master Instructions” and “Product Specification Sheet” of the base devices. These can be found on our Website www.foxboro-eckardt.com .

1 MOUNTING REQUIREMENTS

The parts of the kits have been assembled and controlled in agreement with the standards of intrinsic safety according to the certificate of conformity PTB 02 ATEX 2153.

If this kit is fitted to an intrinsically safe electro-pneumatic positioner SRI986 (modelcode EAA, certificate PTB 02 ATEX 2153), this positioner will become an intrinsically safe device. If the kit is mounted to a positioner not certified intrinsic safety, this positioner remain a non certified device.

If this kit is fitted to a pneumatic positioner SRP981 according to registration n° 02 ATEX D030, this positioner will become an intrinsically safe device.

The installation of this kit onto an intrinsic-safe SRI986, has to be considered as a modification of an explosion protected device therefore it is only permitted in compliance with the national requirements.

The assembling has to be certified by a person authorized, according to article 14, paragraph 6, point 2 of the standard 95/63/EC “minimum safety and health requirements for the use of work equipment by workers at work”.

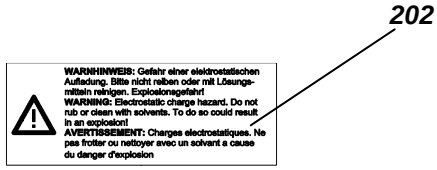
For the SRI986 data shown on the data label of the basic positioner are valid for the complete positioner.

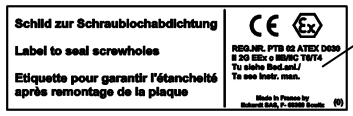
2 MOUNTING OF LIMIT SWITCHES (ALL TYPES) ON SRP981 AND SRI986

The kit of limit switches includes the following parts:

- **1** Adapter for transferring the rotary movement to the control vane
- **5** Hexagonal bolts for mounting plate
- **9** Mounting plate with probes, adjusting devices, terminals
- **11** Bolts for housing cover
- **12** Cable gland
- **13** Screw plug
- **14** Frame with sealing
- **201** Label of seal screws holes *
- **202** Warning Label *
- **203** Plastic protection sheet for the label*

* only for kits EW 420 510 334, EW 419 510 352, EW 419 421 017





Installation :

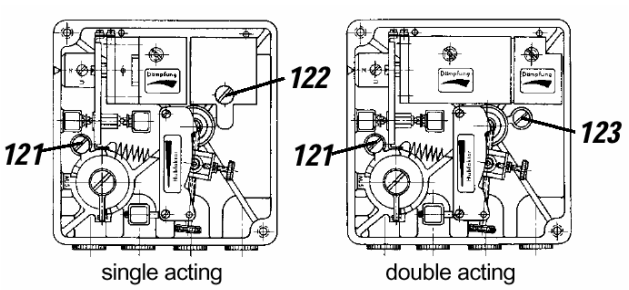
For the installation of the kit the positioner should be out of service, air supply disconnected

a) Screw on adapter **1**:
Unscrew bottom screw **2**. Fit adapter **1**, then screw in the screw again and tighten slightly. Hold adjusting device **3** firmly in position and unscrew top screw **4**. Install adapter **1** and tighten the screw again. Tighten screws **2** and **4**.

b) Screw in the two hexagonal bolts **5** (SW 8):

For SRI986 Long hexagonal bolt on the left, short hexagonal bolt on the right.

For SRP981 release screw **121**, attach gaske
long hexagonal bolt and insert instead of sc
121.
In case of single-acting positioners release sc
122, transfer gasket to short hexagonal bolt
insert instead of screw **122**.
In case of double-acting positioners rele
screw **123**, transfer gasket to medium ler
hexagonal bolt and insert instead of screw **123**



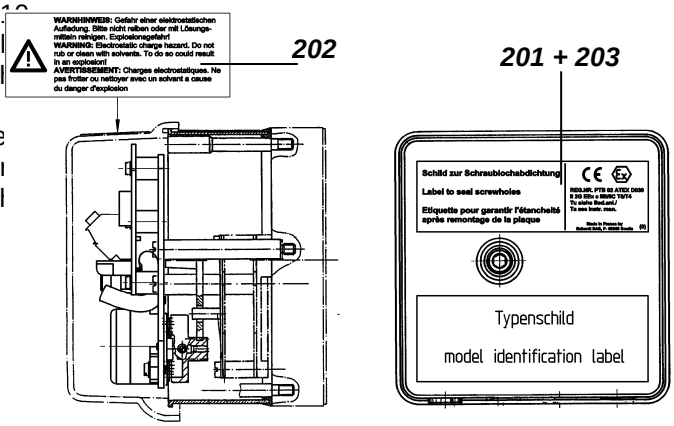
c) Screw mounting plate **9** to the two hexagonal bolts **5** with the zwo screws **10** (if necessary, adjust the adjusting devices so that the right-hand mounting hole is accessible). Be careful to ensure that the driving pin of the adapter engages in the slot in the gear segment.

d) Screw the two bolts **11** into the female threads to secure the housing cover. When the positioner is installed, these will be the female threads in the top left-hand corner and in the bottom right-hand corner.

e) Secure cable fitting **12** and screw **13** plug to frame **14** with the enclosed nuts. Fit the frame with the rubber seal facing the positioner and cable fitting **12** at the terminals.

f) Screw on the housing cover with the air vent facing **downwards** when the device is mounted.

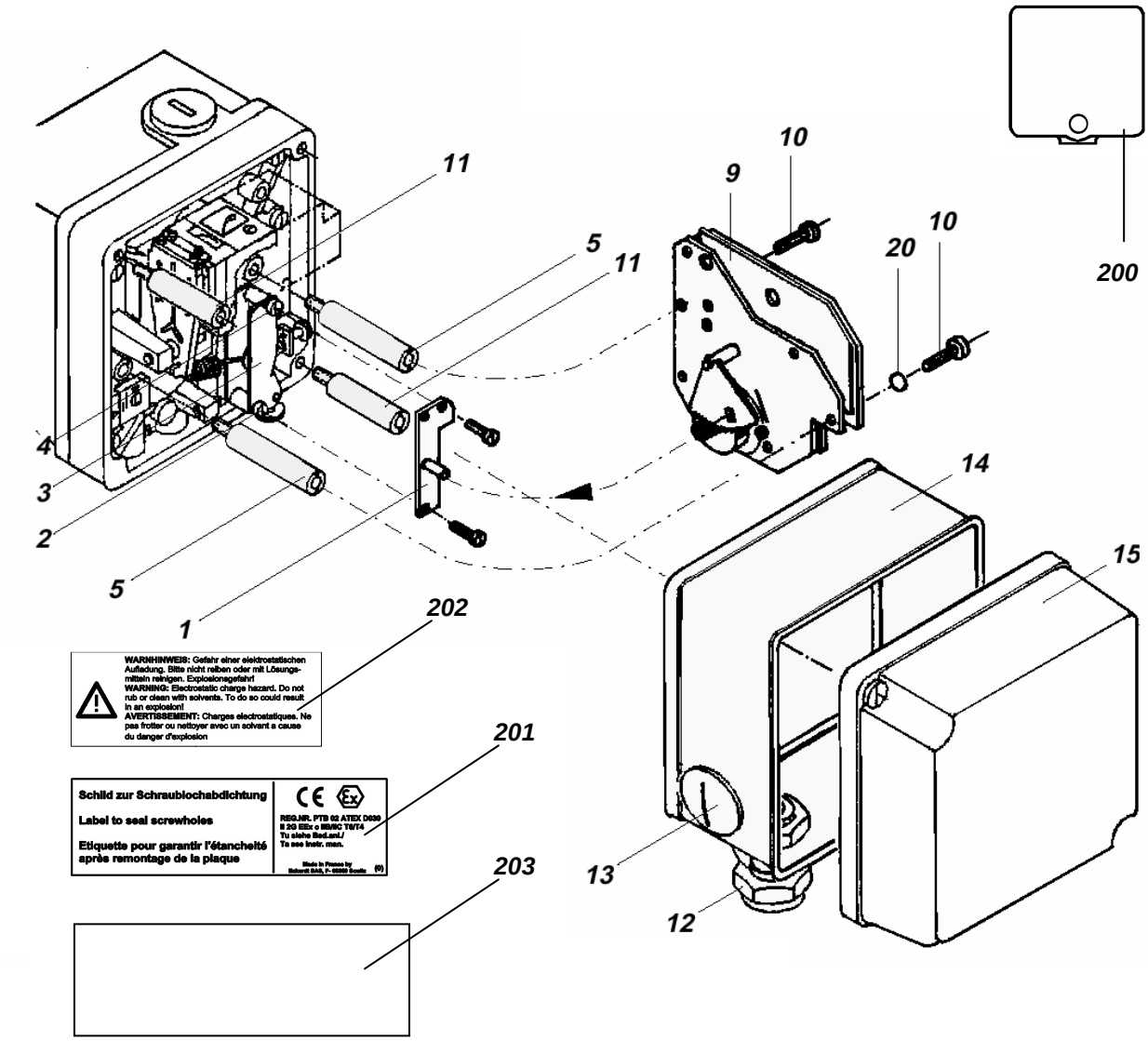
g) Only for the SRP981 and for kits EW 419 51
334, EW 419 510 352, EW 419 421 017, stick tl
warning label **202** on the plastic cover and tl
new model identification label **201** on the back
the positioner. Stick the plastic protection she
203 on the label **201**. This warning label a
model identification label are necessary for tl
basic positioner to get ATEX conform



3 MOUNTING OF POSITION TRANSMITTER ON SRP981 AND SRI986

The kit of position transmitter includes the following parts:

- **1** Driver plate for transmitting the rotary motion
- **5** Support Ø 7 mm for converter plate
- **9** Converter plate with 2 fillister head screws **10** and one lock washer **20**
- **11** Support for cover
- **12** Cable screw connection
- **13** Screw plug
- **14** Frame with rubber seal
- **200** A special air duct plate for mounting on SRP981 single acting
- **201** Label of seal screws holes
- **202** Warning Label
- **203** Plastic protection sheet for the label



Installation:

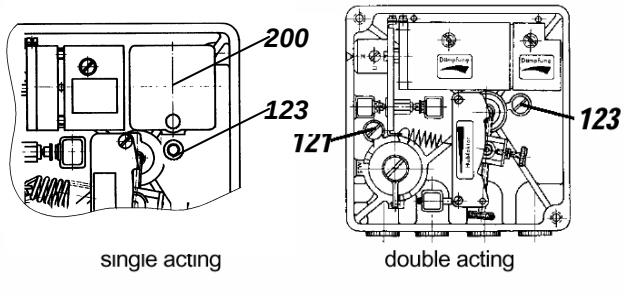
For the installation of the kit the positioner should be out of service, air supply disconnected

a) Screw on adapter **1**:
Unscrew bottom screw **2**. Fit adapter **1**, then screw in the screw again and tighten slightly. Hold adjusting device **3** firmly in position and unscrew top screw **4**. Install adapter **1** and tighten the screw again. Tighten screws **2** and **4**.

d) Screw in the 2 supports **5** Ø 7 mm as follows:

For SRI986 Long support on the left, short support on the right.

For SRP981 release screw **121**, attach gasket long support and insert instead of screw **121**.
In case of single-acting positioners remove the existing air duct plate and replace it by the delivered plate **200** with the O-rings.
Screw the short support with the gasket at the position **123.**
In case of double-acting positioners release screw **123**, transfer gasket to medium length support and insert instead of screw **123**.



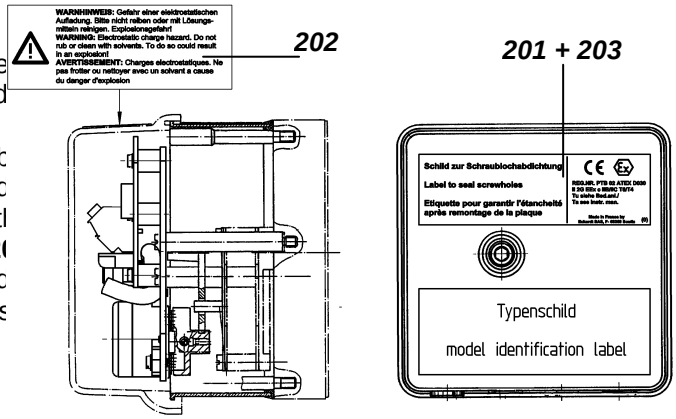
e) Secure converter plate **9** with screws **10** and a lock-washer **20** (left screw) to the two supports so that the pin on the driver plate **1** engages into the slot on the tooth segment. Use sealant to seal screws **10**.

f) Screw two supports **11** into the female thread for securing the cover. In installation position, these are the female threads in the top left corner and in the bottom right corner.

g) Secure cable screw connection **12** and screw plug **13** to frame **14** using the nuts supplied. Position the frame so that the rubber seal faces towards the position controller and so that the cable screw connection **12** is next to the terminals.

h) Screw on the housing cover with the air ve facing **downwards** when the device is mounted

i) Only for the SRP981, stick the warning lab **202** on the plastic cover and the new moc identification label **201** on the back of tl positioner. Stick the plastic protection sheet **2(** on the label **201**This warning label and moc identification label are necessary for the bas positioner to get ATEX conform.

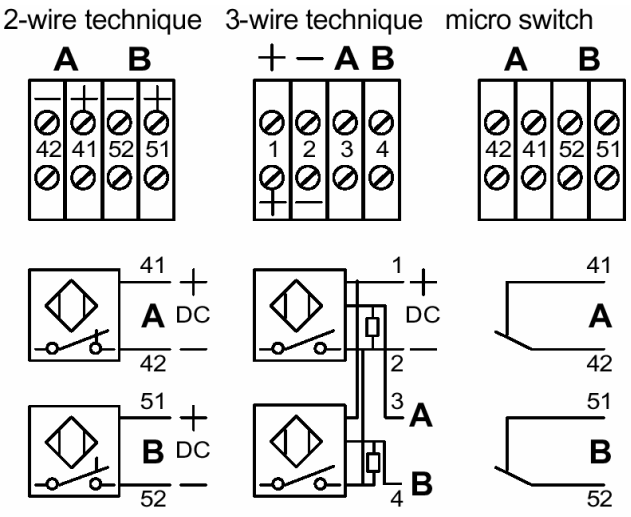


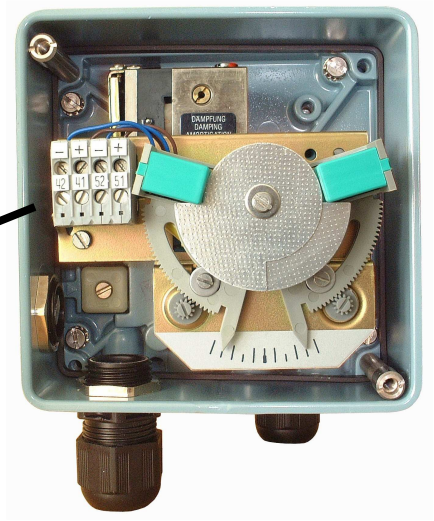
4 ELECTRICAL CONNECTIONS

The safety requirements of the document EX EVE0001 as well as the requirements of the respective PSS EVE0102 or EVE0101 and MI EVE0102 or EVE0101 for the SRI986 or the SRP981 must be observed.

4.1 For the limit switch

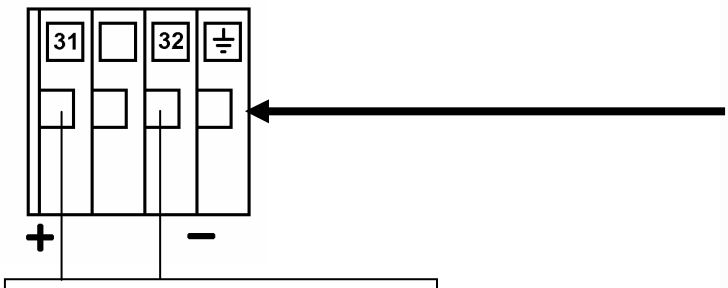
This unit can consist of either inductive slot type sensors or micro switches.



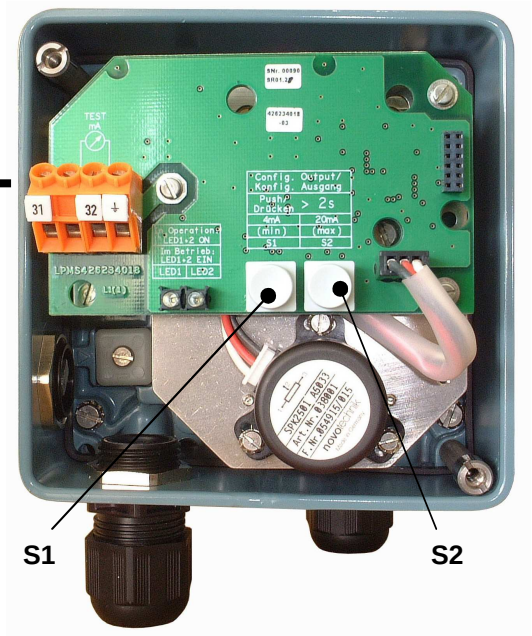


Warning : For the connection of micro-switches please refer you to the MI (Master Instruction) and respect the safety requirements of the document EX EVE0001.

4.2 For the Position Transmitter 4-20mA



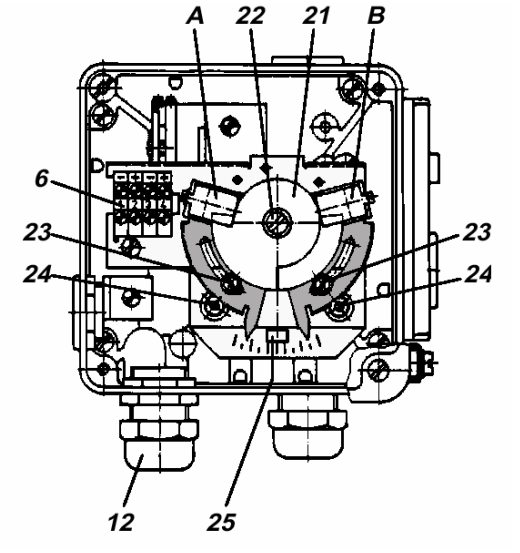
Analog output 4 to 20mA
2 wire system
Supply voltage DC 11 to 48 V



5 SETTINGS AND START UP

Attachment and start-up of the unit to the actuator must be performed according MI EVE0102 A or MI EVE0101 A. At 50% stroke, the control lever must be horizontal.

5.1 Setting and Start Up of limit switches



The switching points are dependent on the setting of the control vanes **21**, on the settings of the probes **A** and **B** and on the ratio setting.

To **set the control vanes** loosen the screw **22** on the dr shaft and align the control vanes in accordance with the illustrations on page 23.

During loosening and/or tightening this screw hold contr vanes tightly to avoid damaging pinion and tooth segme

Adjust the probes as follows:

a) Move the actuator to the position to be signaled

b) Loosen locking screw **23** and adjust the switching points by turning adjustment screws **2**4.

c) Then retighten locking screws.

To **set the transformation** the ratio of the rotation angle y turning the spindle screw **25** of the adapter. Turn clockwise to increase the ratio and counter-clockwise to reduce it.

The switching functions may be freely selected and set.
The control vanes may be adjusted as desired in order to reach the wanted switching behaviour.
2-wire technique: if control vane is immersed the initiator power circuit becomes high-ohmic.
3-wire technique: if control vane is immersed the contact is closed against plus.
Micro switch: Contact opens during passing of the control vanes.

5.2 Setting and Start Up of position transmitter 4-20mA

The electronic connection of the position transmitter must be assured. Both LED's are then light up.

Adjusting the start of the measuring range (4mA)

a) Move the actuator to the starting position.
b) Press push button S1 „Config Output 4mA" longer than 2 seconds. During this time LED 1 lights up. After 2 seconds both LED's are light up again, the value for 4mA is stored.

Adjusting the end of the measuring range (20mA)

a) Move the actuator to the end position.
b) Press push button S2 „Config Output 20mA" longer than 2 seconds. During this time LED 2 lights up. After 2 seconds both LED's are light up again, the value for 20mA is stored.

Random adjustment of the current values at the end points

a) Move the actuator to the end position, where you want to adjust the current.
b) Press both buttons simultaneously for about 2 seconds. Then both LED's are alternating flashing in a slow frequency.
c) With push button S1 „Config Output 4mA" the output current value can be decreased and with push button S2 „Config Output 20mA" the output current value can be increased. Pressing the buttons for a short moment results in a small change and pressing the button for a longer time results in a fast mode for a bigger change. The value of the current can be freely decreased between about 3,3 and increased up to 22,5 mA.
d) Without any additional manipulations of the push buttons the new value is automatically saved. After a few seconds, the device returns into the normal operating mode, indicated by both LED's that are then light up again.

Trouble shooting of the position transmitter

The components of the position transmitter are under constant surveillance by the installed micro controller. Errors are detected and indicated when both LED's are off or both LED's are parallel flashing at a fast frequency.

In the event of a fatal error, e.g. potentiometer not connected, an output current of more then 24mA will be shown in addition to the error indication given by the LED's (fast flashing).

In this case check the following:

a) if the potentiometer is correctly connected to the electronic board.
b) if the potentiometer is within its working span.

When both LED's are off, the supply voltage should be checked (minimum tension, polarity).

Additional Documentation for this products:

Master Instructions:

MI EVE0101 A	for the SRP981 Pneumatic Positioner
MI EVE0102 A	for the SRI986 Electro-Pneumatic Positioner

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