

1. Description

The shot pin is a high-power tool used as mechanical limit lock for moved installation parts. Typical applications are:

- Turn tables
- Lifting fixtures

The shot pin is made up of a highly rigid, aluminium housing, with integrated pneumatic cylinder, bolt guides and limit sensors. For fastening purposes, the housing has connection possibilities at the front and sides.

When the shot pin is operated, the pneumatic cylinder positions the guiding bolt integrated on the piston rod in an end-marker opening realized on the installation side.

2. Safety

The shot pin was not conceived to be a complete tool ready for independent applications and has therefore not been fitted with its own safety equipment. It is not until correct installation in a production- or control system observing the EC Machine Directive and installation of a corresponding safety control on it that the safety-technical requirements are satisfied.

Safety limit sensors

Since the perfect positioning of the shot pin is decisive for the operability of the control, the limit sensors were designed as follows:

- The limit switches and mechanical operating parts are safeguarded in an encapsulated housing.
- Use of automatically opening, mechanical T01 microswitches, i.e. opening when the signal become faulty.
- The mechanical operating parts of the switches counter-operate, i.e. if limit switch A is closed, B is open, and inversely.

For safety reasons we therefore recommend to check the switching signals of the two limit switches while connected by an AND element. This shall safeguard that the faulty operation of the control can be immediately recognized even if one limit switch is faulty.

Should any faults occur that place personnel at risk, the shot pin must be switched off immediately. Maintenance activities may only be undertaken when the machine is at a complete standstill and by suitably qualified specialists.

After the maintenance work has been carried out, the protection devices are to be refitted in a correct way.

3. Installing the shot pin

CAUTION: The maximum allowable static weight load (see fig. 1) may not be exceeded! Overload will lead to the market bolt breaking. The shot pin may only be operated while unloaded.

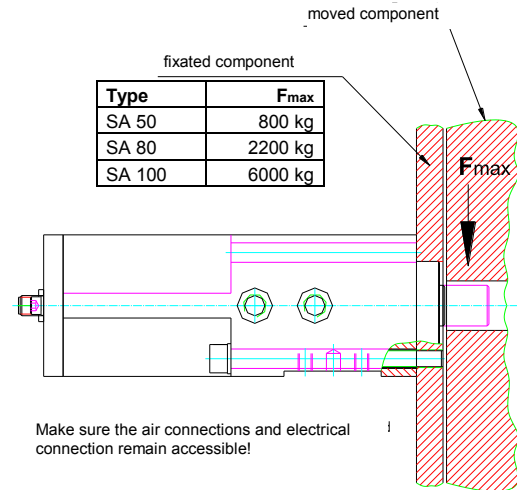


Fig. 1

- Installation of the shot pin by means of two cylinder screws on the front-side cylinder face or by means of four cylinder screws on the side flange face. In any case, screw locking elements must be used.
- Connect the compressed-air supply between the pneumatic control and the shot pin.
- Install and tighten the angle coupling on the connector plug that is situated on the back of the shot pin. When connecting the cables, make sure the terminals are not reversed (see electrical circuit for the limit sensors). On the front side, make sure that the signals of both switches in the shot pin are sensed via an AND connection in any limit position.

4. Maintenance

The shot pin is designed for high-production applications; it is equipped with low-maintenance bearings and guides. Based on its closed construction it doesn't require special maintenance. For use in welding lines, it is recommended that the marker bolt is cleaned at regular intervals. Cleaning with high-pressure steam or dry ice may damage the shot pin.

Bearing capacity:

SA 50/25..... 800 kg

Purely static load. The shot pin may only be operated while unloaded.

Operating pressure range $p_e = 2-10$ bar

Medium compressed air, 10 bar max. Operation permitted with oil-free air.

Control voltage DC 24 V or AC 50 Hz 230 V

Device temperature max. 70° C

Version

- corrosion-proof
- with depot lubrication
- piston rod material: 42 CrMo 4
- elastic end stops for the cylinders
- covers for switches:

Protection class IP 65

Bearing capacity:

SA 50-25/25 800 kg

SA 80-50/50 2,200 kg

SA 100-70/80 6,000 kg

Caution!

Purely static load. The shot pin may only be operated while unloaded.

Operating pressure range $p_e = 2-10$ bar

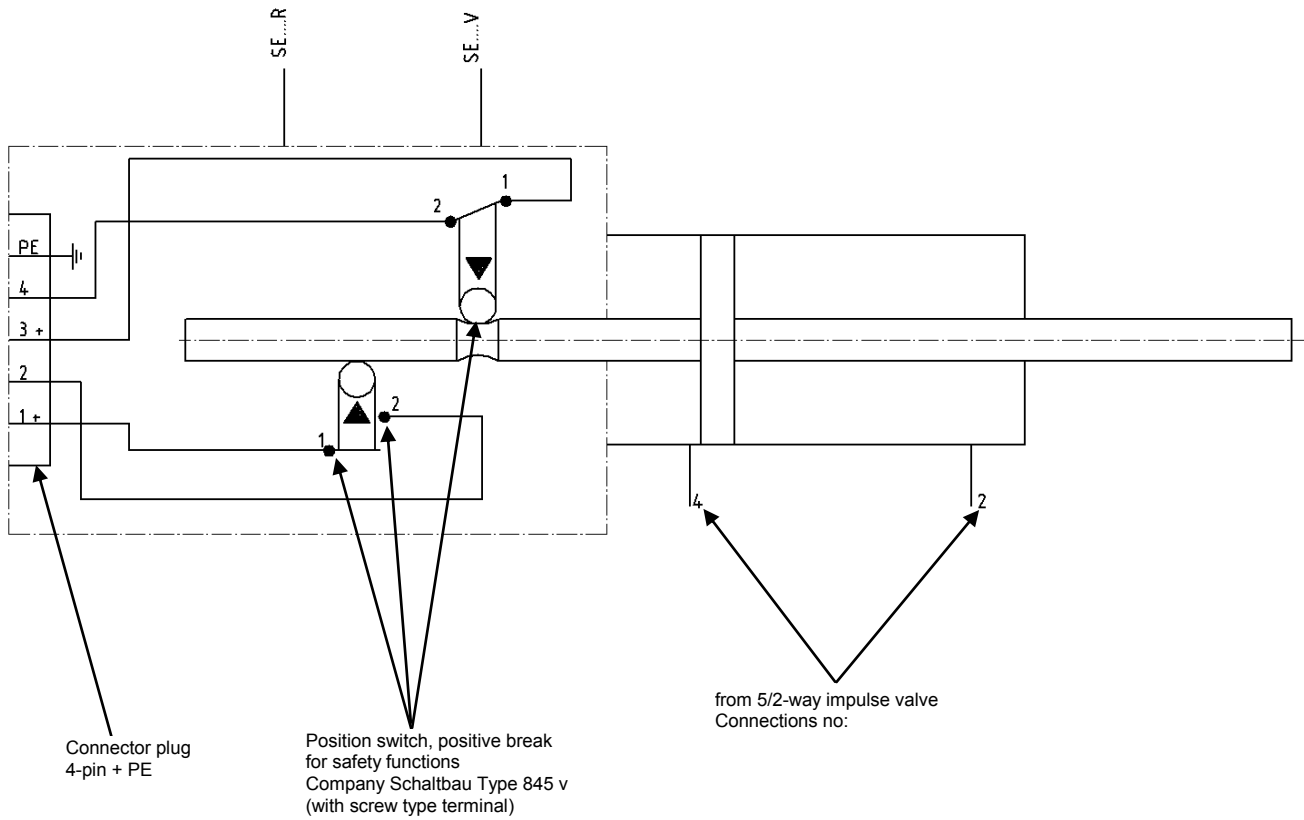
Medium compressed air, 8 bar max. Operation with oil-free compressed air allowable.

Control voltage DC 24 V or AC 50 Hz 230 V

Device temperature max. 70° C

Version

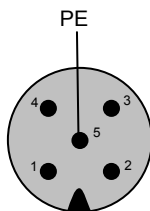
- housing fully encapsulated
- material: highly rigid aluminium
- surface hard coated (corrosion-proof)
- piston rod material: 42 CrMo 4
- with depot lubrication
- Protection class IP 65

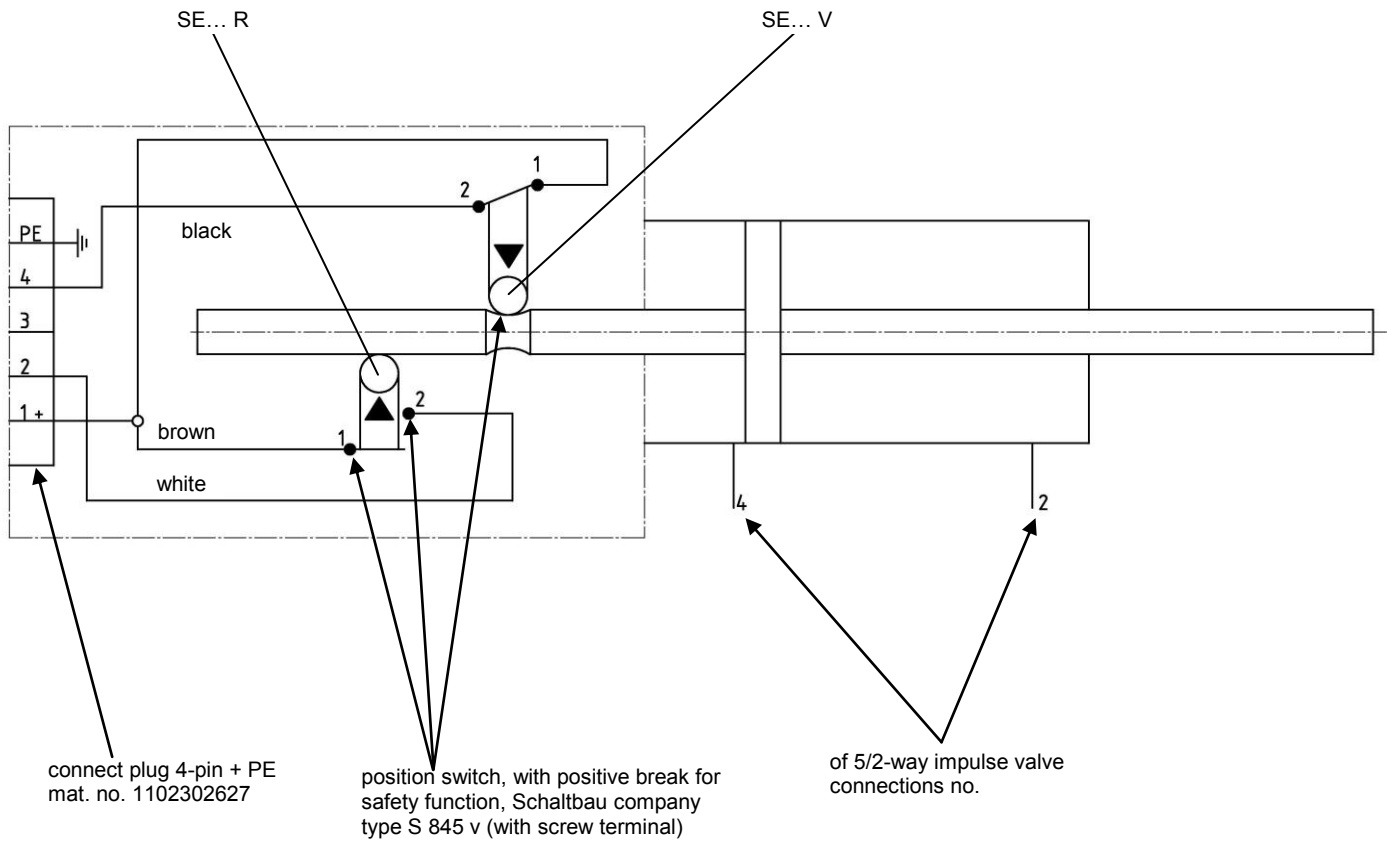


Pin assignment of connectors:

- 1 - 2 = SE...R = basic position = unlocked
- 3 - 4 = SE...V = working position = locked

PE connected with base body and –unless made of insulating material- with cover for the switches.

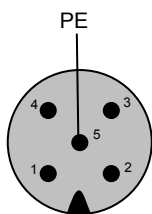


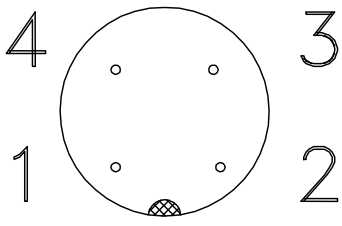
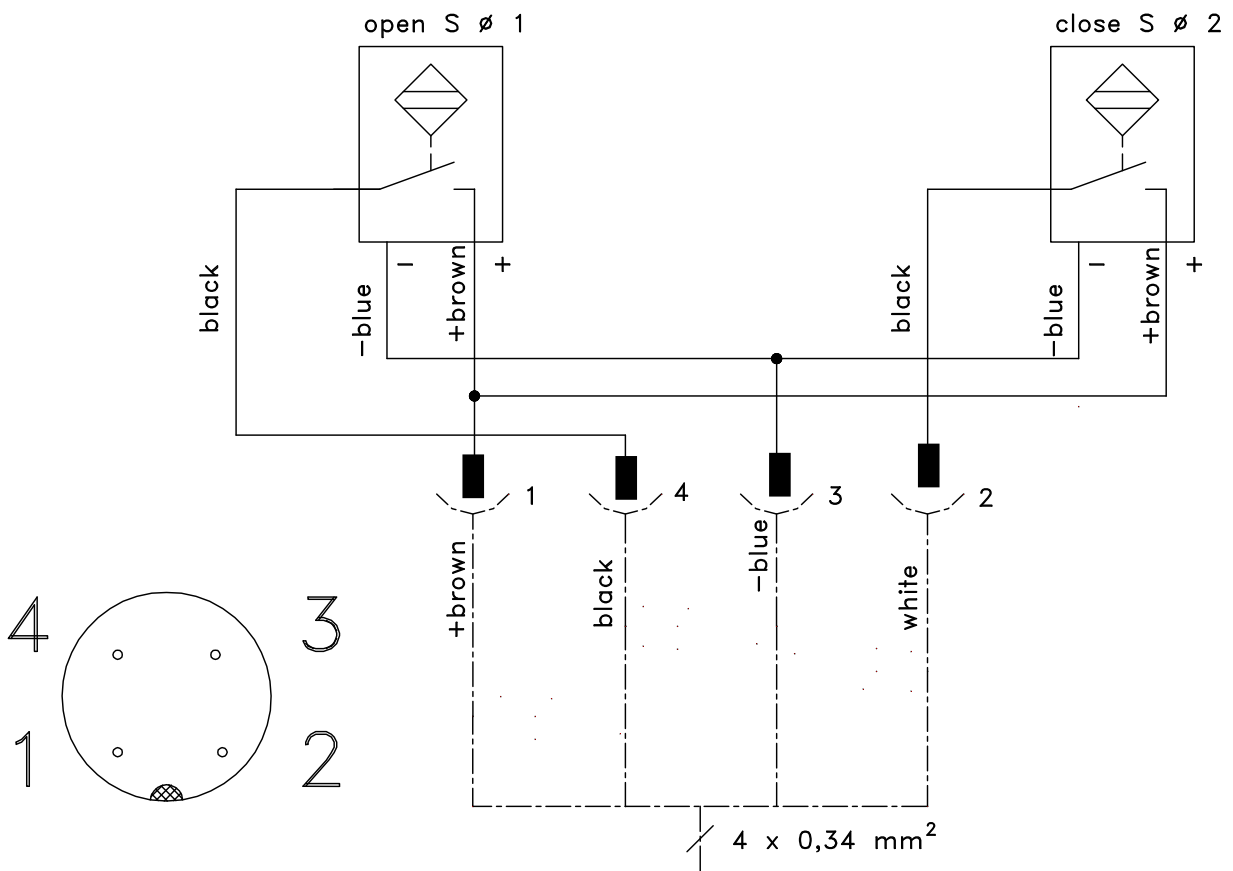
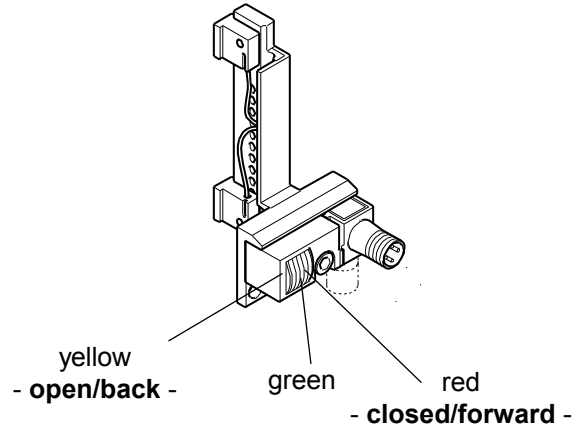


contact assignment of plug connection:

- 1 - 2 = SE...R = basic position = not unplugged
- 1 - 4 = SE...V = operating position = unplugged

PE connected with basic body and – unless it consists of insulating material - with cover cap for switch





Technical Specifications

Inductive switch (Standard version)

Short circuit proof

Rated voltage 10-30 V

Working current 32 mA (one initiator connected with PLC)

Closer PNP exit



Subject to technical modifications.

12.09.2017