Shot Pin Operating Instructions

1. Description

The Shot Pin is a high-power tool used as mechanical limit lock for moved installation parts. Typical applications are:
- Turntables
– Linear or rotary systems
– Fixture parts

The Shot Pin is made up of a steel housing with integrated bolt guides and trip cam of the end position sensing. The pneumatic drive cylinder is mounted on the housing and connected with the guide bolt by a traverse. For fastening purposes, the housing has four bores and two optional available positioning bolts.

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 micro switches, i.e. opening when the signal becomes 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.

Type	F_{max} per bolt
SAN 40-25/50	3000 N
SAN 50-25/25 SAND 50-30/40	8000 N
SAN 80-50/25	22000 N
SAN 80-50/50 SAND 80-50/50	22000 N

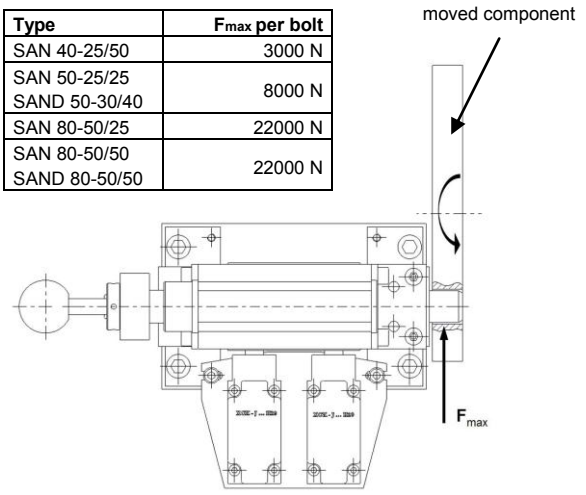

Fig. 1

- Installation of the Shot Pin by means of four cylinder screws on the console. In any case, screw locking elements must be used.
- Connect the compressed-air supply between the pneumatic control and the Shot Pin.
- Connect roller plunger switch with suitable couplings. 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.

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Technical data

Bearing capacity per bolt:

SAN 40-25/50	3000 N
SAN 50-25/25	8000 N
SAN 80-50/25	22000 N
SAN 80-50/50	22000 N
SAND 50-30/40	8000 N
SAND 80-50/50	22000 N

Purely static load. The Shot Pin may only be operated while unloaded.

Operating pressure range ..... pe = 2-10 bar

Medium ..... compressed air, 8 bar max. Operation allowed with oil-free compressed 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: 1.1213 (hardened and chromed)
- pneumatic end position cushioning, both sides

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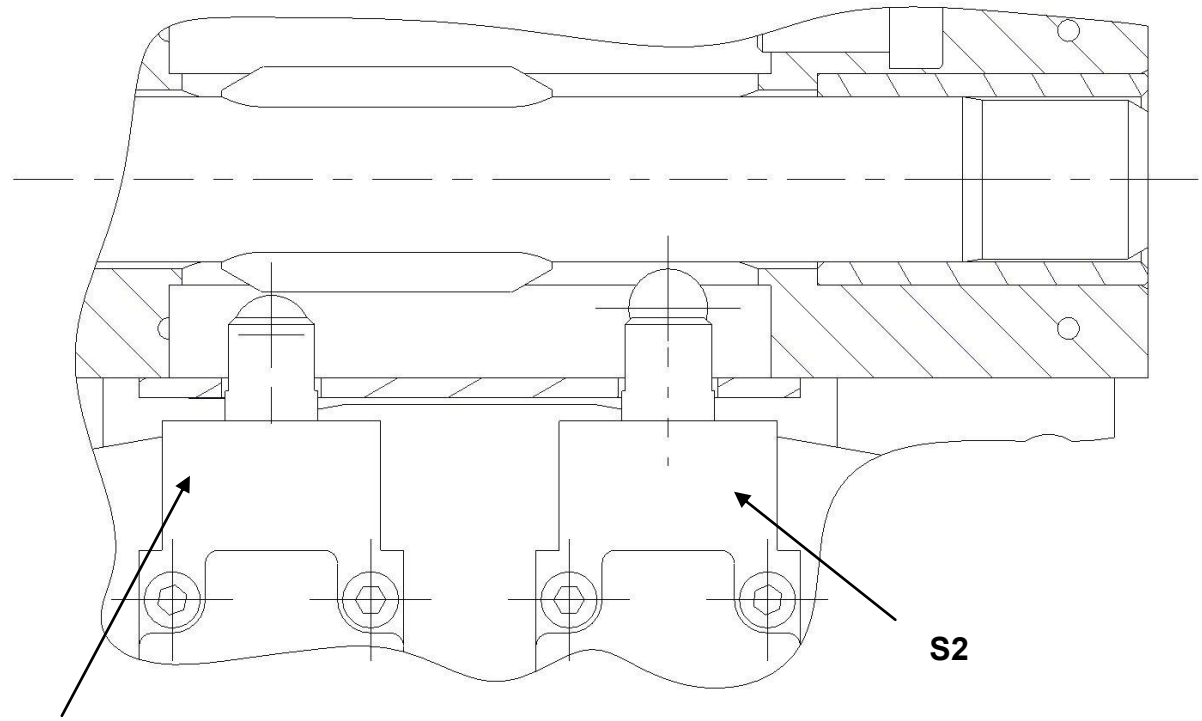
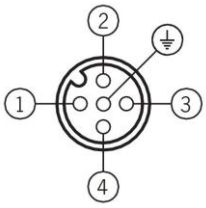
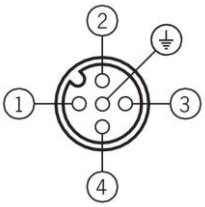
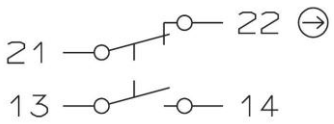


S1 (unlocked) **S2 (locked)**







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