

1. Description

The underbody clamp is a high-power tool designed for use in clamping tasks processing sheet metal. It consists of a manual operation, a metal housing with mounting faces, front and rear, and a locating pin with an integrated clamp hook.

The manual operation moves an integrated toggle lever joint to actuate clamping by moving the clamp hook. The position indication of the clamp hook is achieved through an integrated inductive sensing cartridge.

2. Safety

The underbody clamp was not conceived to be a complete tool, ready for independent applications and has therefore not been fitted with safety equipment. Only when it is correctly installed in a production system and a corresponding safety control system is added, will all safety requirements be met.

Should any faults occur that place personnel at risk, the underbody clamp is to be switched off immediately. Maintenance measures are only to be undertaken when the machine is at a complete standstill and by suitably qualified specialists.

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

Maximum load depends on diameter of dowel pin and geometry of the hook.

3. Assembly of the underbody clamp

- The clamp is installed by means of four socket head cap screws on the manual operation, front or rear.

Inductive sensor T12

Connect sensor per electrical diagram to control line by inserting connector "C" and tightening connector coupling nut.

Caution: Operation with wrong current or current higher than specified may short out the system and lead to personnel injury.

Function of the integrated LEDs is as follows:

green System current
 yellow Clamp open
 red Clamp closed

4. Set up for the underbody clamp

Caution! Danger of crushing!

When the clamp hook is being set, fingers could be severed or crushed. Do not reach into the toggle lever area of the clamp arm while the underbody clamp is in operation. Before adjustments are started, the air supply must be shot off.

- For sight checks of the support roller, remove cover "B" by releasing the screws "D".
- Move the underbody clamp to the opened position, the clamp hook is inside the locating pin; support rollers are in lower position.
- Set work piece on locating pin and move to desired position.
- Move underbody clamp to clamping position, clamp hook lies on the work piece; support rollers are in the upper position.
Caution: The support rollers must be at the upper limit stop. Only in this way can operation of the upper dead-centre lock be ensured.
- To adjust tension between the work piece and the clamp hook, open the clamp and remove the work piece. Adjust the height of support plate on clamp head accordingly by changing net blocks, ground spacers, shims, etc.
- Reduce height of support plate of clamp head accordingly by changing net blocks, ground spacers, shims, etc.
- Reassemble cover "B" with screws "D".

5. Replacement of limit switch cartridge

- Remove limit switch cartridge by releasing the screw "D".
- Set new limit switch cartridge for relevant opening angle and assemble.

6. Maintenance

The underbody clamp is designed for high production applications; it is equipped with high quality, low-maintenance bearings, seals and guides. Because of the closed structure no special maintenance of the underbody clamp is necessary.

Caution: Damage can be caused to the underbody clamp by cleaning with steam-jet or dry ice

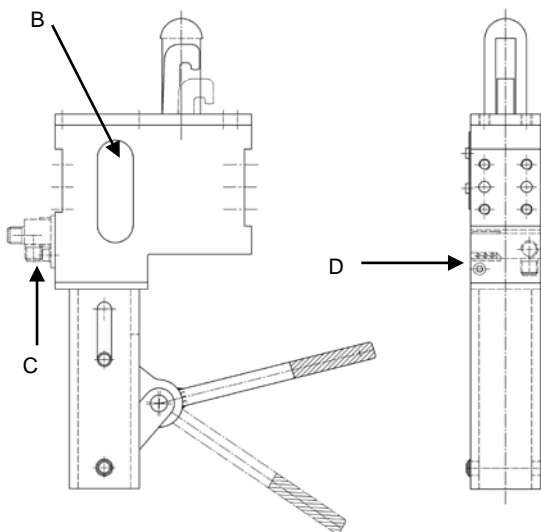
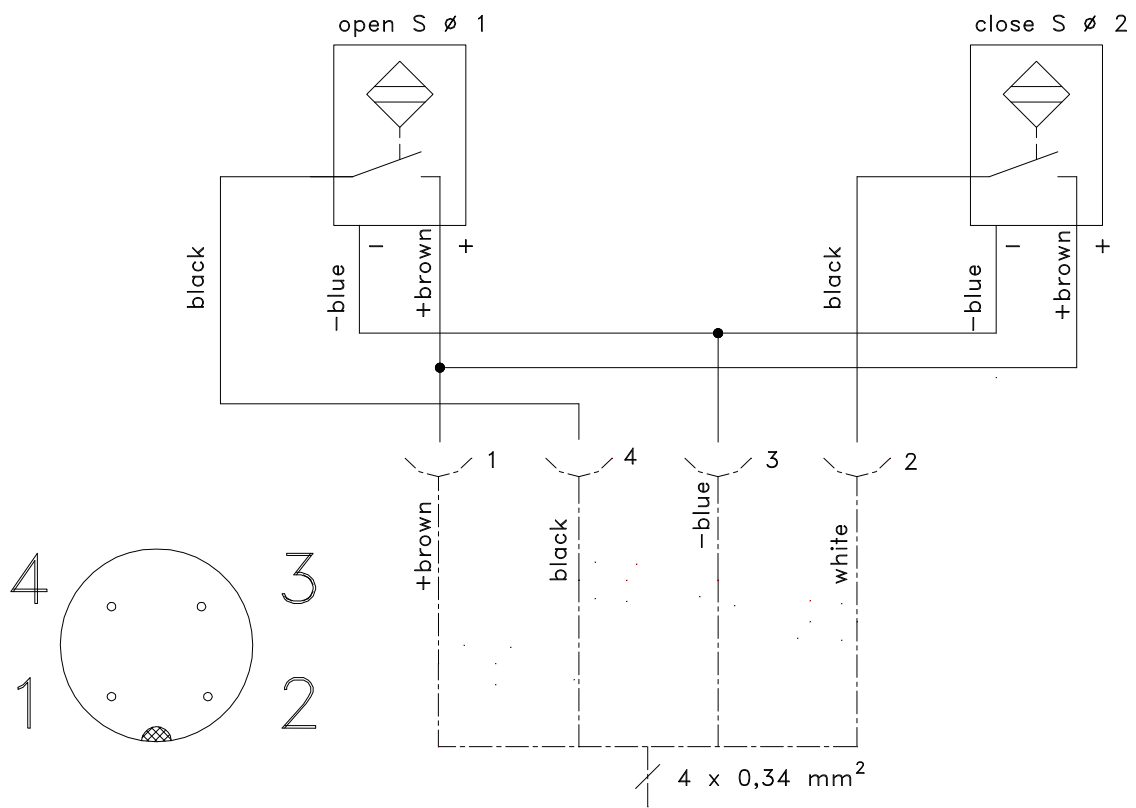
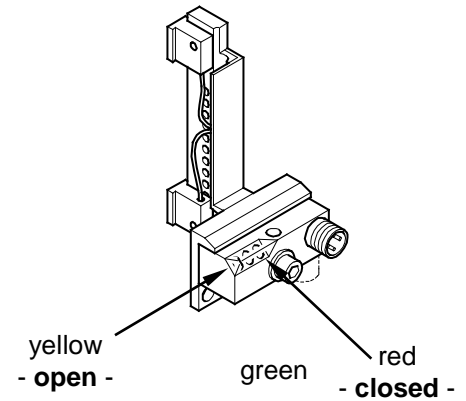


Fig. 1: Underbody clamp





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

