



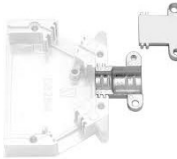





## 1 Overview

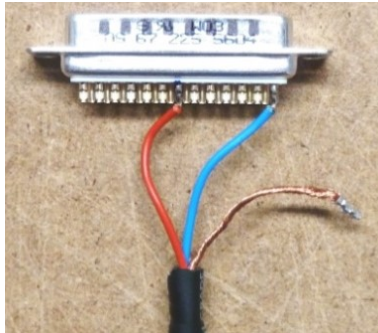
A footswitch can be used in conjunction with a Klippel Analyzer 3 (KA3) or Production Analyzer (PA) to provide an easy, hands-free way to start a test operation. This is especially relevant for production line testing. This Technical Note provides information on how to build a footswitch including a list of components, assembly instructions and a test to verify the operation. The following is only a recommendation. Other sources or types of components may be used. It is then mandatory to adopt this instruction.

## 2 Component List

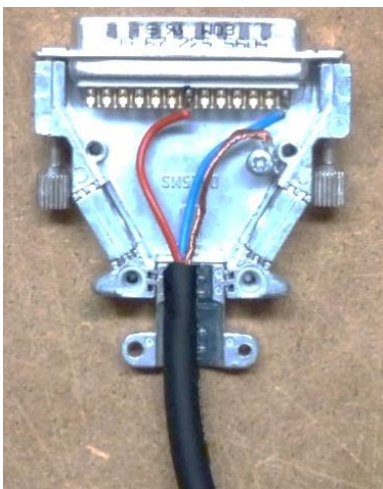
Nr.	Part Description	Supplier	Part Number	Quantity	Image
1	<b>Pre-assembled footswitch</b> Berstein F1-SU1Z	<a href="#">Farnell</a>	178891	1	
2	<b>Microphone cable</b>	<a href="#">KLOTZ</a>	MC2000SW	L: 3 m	
3	<b>D-Sub plug</b> 25-pin Solder cup			1	
4	<b>D-Sub full metal hood</b> Including screws	<a href="#">Inotec</a>	DG25MS	1	
5	<b>Cable clamp</b> Including screws	<a href="#">Inotec</a>	DKS100	1	
6	<b>Cable gland</b> MS-M20, ATEX	<a href="#">Farnell</a>	1204376	1	
7	<b>Heat-shrink tubing</b> Dia: 5 mm			L: 100 mm	
8	<b>Wire Ferrule</b> 0.25 mm <sup>2</sup>			4	

### 3 Assembly Instructions

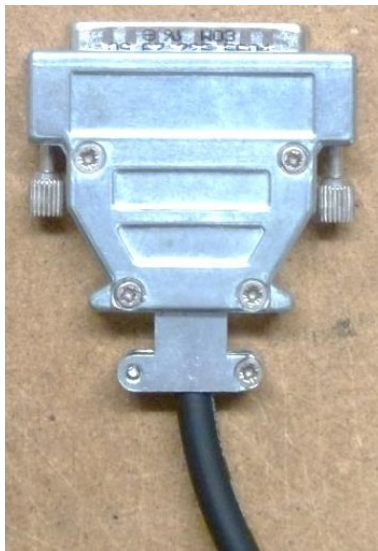
#### 3.1 Solder D-Sub Plug



- Strip 40 mm of insulation from one end of the cable (Pos. 2).
- Twist the copper strands of the shield together and insert it into a wire ferrule
- Strip 5 mm of insulation from both the red and blue wires
- Solder the red wire to pin 7 of the D-Sub plug
- **For use with the KA3**, solder the blue wire to pin 14 (+5V) of the D-Sub plug;  
**For use with the PA**, solder the blue wire to pin 1 (GND) of the D-Sub plug



- Place the D-Sub plug into the D-Sub hood and screw the now-twisted cable shield to the hood.
- Press the bottom section of the cable clamp in the hood and place the cable into it
- Attach the top section of the cable clamp and secure it with the corresponding screws



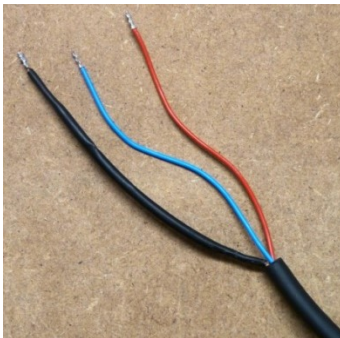
- Attach the hood cover with the corresponding screws

### 3.2 Install Cable Gland



- Unscrew and remove the red cover of the footswitch
- Screw the cable gland into the opening of the footswitch housing

### 3.3 Connect KLOTZ Cable to footswitch



- Strip 100 mm of insulation from one end of the KLOTZ cable
- Twist the copper strands of the shield together
- Strip 5 mm of insulation from both the red and blue wires
- Insert all three wires into wire ferrules
- Slide the heat-shrink tubing over the twisted shield wire and shrink it



- Thread the KLOTZ cable through the cable gland
- Screw the shield wire to the ground of the footswitch
- Screw the red wire to contact 14 and the blue wire to contact 13 (if using the particular footswitch).

### 3.4 Final Assembly

- Place the KLOTZ cable in the cable gland in a way that the cable is not being stretched
- Tighten the cable gland
- Reattach the red cover of the footswitch with the corresponding screws

## 4 Operation verification

Check the switch function with a multimeter (continuity test)

- Set the multimeter to continuity test and connect the test leads to pin 7 and either pin 14 (for use with the KA3) or pin 1 (for use with the PA) of the D-Sub connector
- The multimeter should beep when the footswitch is depressed and be silent when the footswitch is not depressed

## 5 Restrictions

Klippel takes no responsibility for any damage, injury or death while using any self-made accessory, including a footswitch, with any Klippel product. Assemble and use this recommended footswitch or any other self-made accessory at your own risk. We recommend discussing your application and any self-made accessory intended to be used with any Klippel product with KLIPPEL Support ([qc-support@klippel.de](mailto:qc-support@klippel.de) or [rnd-support@klippel.de](mailto:rnd-support@klippel.de)) before using it.

## 6 References

Specification	<a href="#">H3 Klippel Analyzer 3</a> <a href="#">H4 QC Production Analyzer</a>
Manual	R&D Hardware QC User Manual: Section Hardware / I/O Connector / Start Switch

Find explanations for symbols at:

<http://www.klippel.de/know-how/literature.html>

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