

SmoothTool ControlBox manual

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Introduction

This manual describes integrating and setting up the SmoothTool ControlBox into the controller and the SmoothTool software.

The manual is written sequentially and expected to be followed that way.

1 Hardware setup

The ControlBox is made up of components from Schneider and AGRO. The complete list is found on page 4.

The connection from the ControlBox to the controller of the Universal Robot can be seen on page 3. The connections shown are not essential for the ControlBox to function with SmoothTool only when the input/output is specified the wire must go to a corresponding input/output on the controller.

Wire number:	Description	Valid connection(s) in the controller:
1	Source for start and arc switch.	24V from digital or configurable input
2	Arc switch input	Digital or configurable input
3	Start button input	Digital or configurable input
4	Source E-stop line 1	24V from emergency input or configurable input
5	Source E-stop line 2	24V from emergency input or configurable input
6	Input E-stop line 2	Emergency input or configurable input
7	Input E-stop line 1	Emergency input or configurable input
8	0V for the start button light	0V from digital or configurable output
9	Source for the start button light	Digital or configurable output

Table 1: Description of the wire from the ControlBox.

The wire of the ControlBox must be connected before moving to the Software setup.

2 Software setup

In the subsequent sections each of the components of the ControlBox will be described.

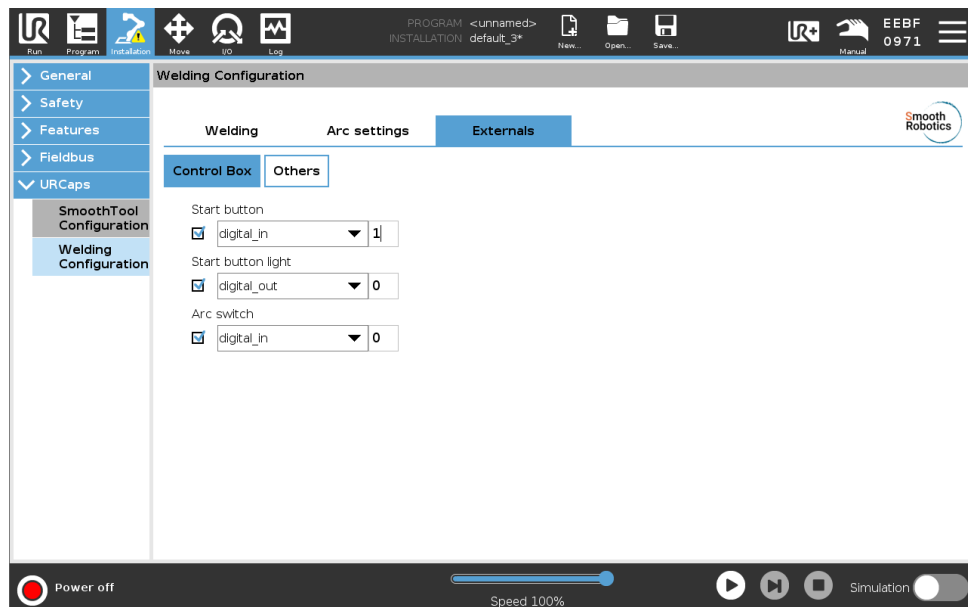


Figure 1: ControlBox setup

2.1 Start button

The input used by wire 3 must be configured in Welding configuration - External - Control Box - Start button. If the wiring diagram has been used follow the setup shown in figure 1 otherwise select the used.

2.2 Start button light

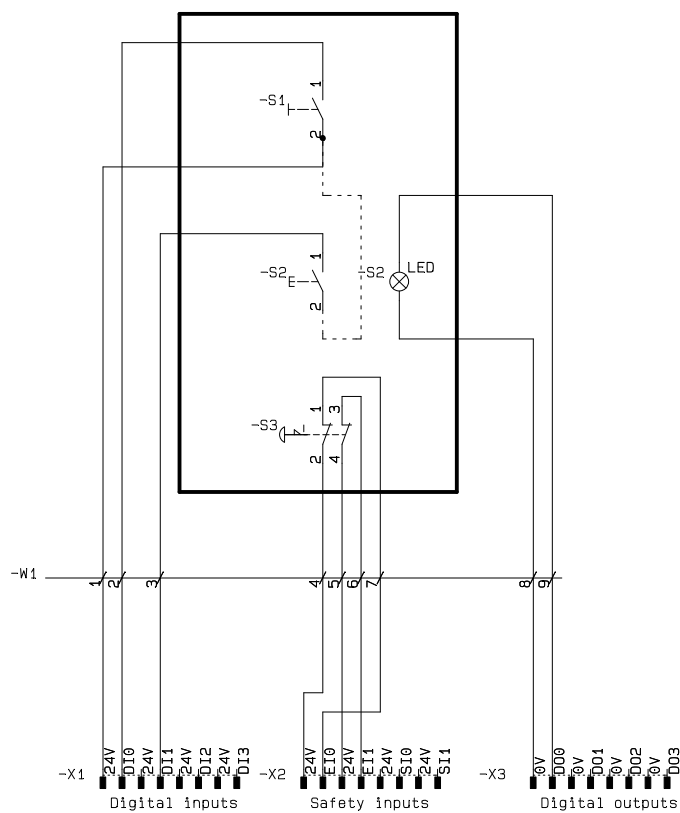
The output used by wire 9 must be configured in Welding configuration - External - Control Box - Start button light. If the wiring diagram has been used follow the setup shown in figure 1 otherwise select the used.

2.3 Arc switch

The input used by wire 2 must be configured in Welding configuration - External - Control Box - Arc switch. If the wiring diagram has been used follow the setup shown in figure 1 otherwise select the used.

2.4 E-stop

The input for the emergency stop is described by Universal Robot following this link
<https://www.universal-robots.com/articles/ur/application-installation/connecting-an-emergency-stop-device-vs-a-safeguard-protective-device/>



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Page:	1 of 2

/ Smooth Robotics ApS / SmoothTool Control Box				
POS	NAME	ORDER NO.	DESCRIPTION	QUANTITY
1	-C1	XALD03	Schneider kasse 3hul	1
2	-C2	1540.20	AGRO M20 FORSKRUNING 8-15 MM	1
3	-C3	8220.40	AGRO M20X1,5 MØTRIK 6KANT SORT	1
4	-S1	XB5AD21	Schneider drejeknap komplet	1
5	-S1/1	ZBY2367	Schneider skilt OFF ON	1
6	-S2	XB5AW33B5	Schneider lampetryk komplet	1
7	-S2/1	ZBY2303	Schneider skilt START	1
8	-S3	XB5AS8444	Schneider nødstop	1
9	-W1	1000450	0,75X10 PVC-JZ GRÅ	5
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			Revision no: Version 1.0	Page: 2 of 2

