

## Coupling of two stations

If you want to connect two Meclab - Stations together, the transfer points of the workpieces must go to each other without any problems. This usually is guaranteed through the design where the height of conveyor station, the stack magazine fit to each other as well as the different components on the stations.

Furthermore, a communication between the controls of the stations must be guaranteed, so that one station "knows" there is a station next to it and when it should start working once the handshake has been done from the previous station. For example the reception of a workpiece from the previous station to start working as well as sending info that the station is busy.

In principle, there are three different options:

1. The control of two stations happens in only one PC. However, all signals of both stations must be wired to it on a Multipol manifold.
2. Sensors on the stations register if workpieces get or leave the working area in the station. In this case, the stations actually work independently of each other. In this case, avoiding of possible collisions is made through the programming.
3. Data exchange between the controls. A particular cable is plugged between an input of a Multipol manifold to an output of the other Multipol manifold. If the output is activated, the other control can process this like a sensor signal (input). A simple communication (I/O or low level communication) between the controls is possible with it.

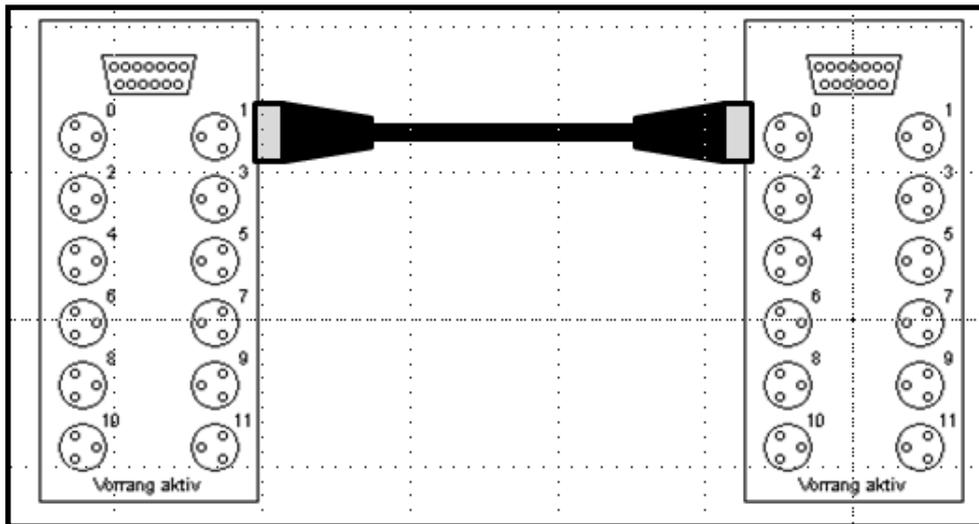
Option 1 has the disadvantage that only maximum 6 inputs and outputs are usable, because on the FluidSIM software no more canals are possible. The solution requires a different program which can be a lot bigger and more complicated than two small and individual programs. Therefore, this solution is only considered when the applications under control are fairly small regarding the number of signals (inputs and outputs) and the operations.

Option 2 doesn't have the restriction of option 1, but requires more sensors; however, those can be used also at other places or applications. The advantage of this option is that the station and its control could be simple and the station could be also tested by itself and placed into operation.

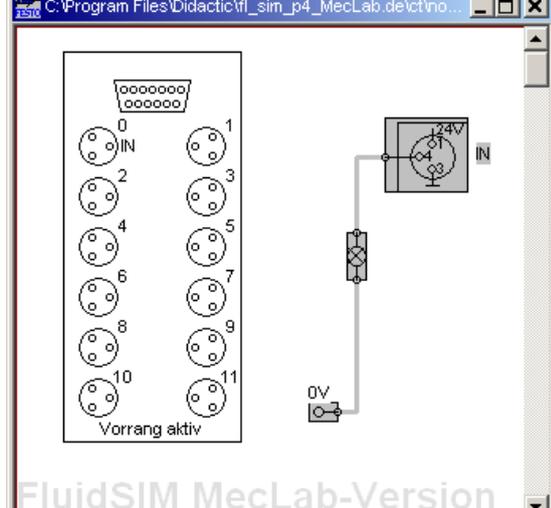
Option 3 is certainly the most universal and useful option. Here, a data are transferred between the stations and keep the movements and operations (like workpiece transfer) as independent as possible between them. However, it requires a data exchange cable.

(This connection cable always connects the ground connection 3 and the signal connection 4 to the respective input and output outlet. This cable could be easily made by the user or ordered because is available as an accessory).

The following images show, how the coupling between the stations is made utilizing the coupling- cable.

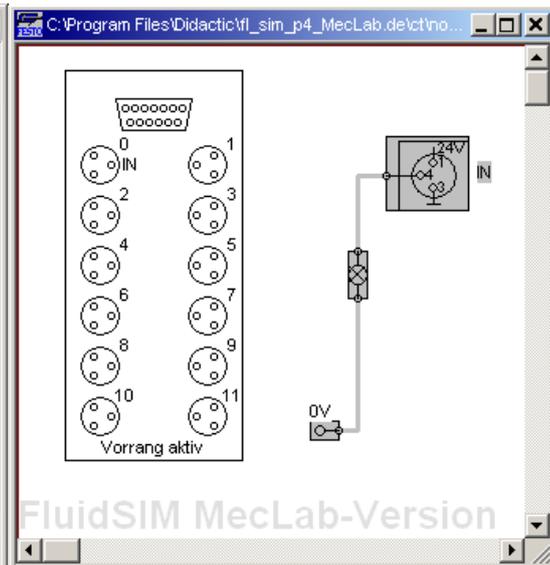
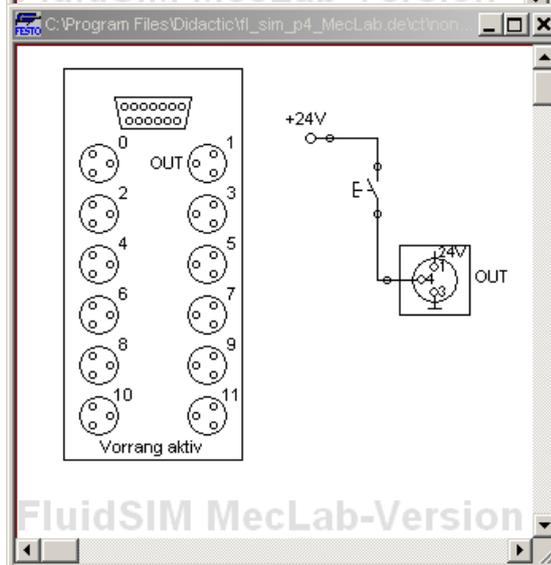


Connection of the coupling cable with two Multipol manifolds



the symbols signal-in, signal out on the library. The symbol output or as input, ever after, whether the symbol marker the specific side of the Multipol manifold. In the left picture, signal on the outlet 1 of the Multipol manifold. In the right picture signal at the connection point 0.

connected to the outlet 0 of the Multipol manifold on the receiving Multipol manifold on the sending station.



FluidSIM MecLab-Version

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