

MOLDi Quick installation guide

Applicable model: MOLDi8 / MOLDi16
 Valid for models marketed from 2023.12.01 without Waterflow measuring system.

1. MOLDi components

Name	Item number
*1/2 pcs of SMP8 measuring plug	SMP8
SCP442 IMM control plug	SCP442
SCS442 IMM control socket	SCS442
Local PC	PC-RPI
**Tablet	SCR-POE-10/15
PoE Switch	SWITCH-8
***UTP cables	UTP-X
****Power supply for Switch (48V)	PSU-SWITCH or DIN-48
Other components (monitor holder, DIN rail, screws, magnets, SMP holder)	DRM, SCR-MOUNT, SMP-HOLDER

*1 piece of SMP8 for MOLDi8, 2 pieces for MOLDi16 is needed.

**The measuring plugs are connected to the system with a UTP cable with a bayonett lock. This type of cable is available in different length.

*** The tablet is available in two sizes

***See paragraph 4

2. Placement of the components

- Fix the PC and the Switch in to the low-voltage cabinet of the injection moulding machine.
- Fix the touchscreen on to the machine, to an easily accessible place with the supplied magnets and spacers or a cantilever.
- Check if the mould is equipped with Cavity Eye sensors and SMS8 mould socket.

3. Electrical connections – 24V signals

The connection of the SCS442 socket's wires to the IMM should be performed according to the labeling on the yellow shrink tubes. The socket works with 24V signals.

The socket is equipped with an integrated memory module. The memory module is connected to the Pin 1-2 of the insert.

Pin	Wire No.	Name	Function
3	G/Y	IMM GND	Grounding
4	1	IMM 24V	Constant 24V from IMM
5	2	IMM Trigger	Trigger from IMM
6	3	IMM Autocycle	IMM automatic cycle active
7	4	IMM OKNOK	IMM scrap signal
8	5	In 4	(empty)
9	6	CE OKNOK	Good part signal from CE
10	7	CE Switch	V-P switchover signal
11	8	CE Cycle Stop	Stop IMM at the end of cycle
12	9	CE Prompt Stop	Stop IMM immediately

a) The connection of the following signals is necessary for operation:

- IMM GND
- IMM 24V
- IMM Trigger

b) Connect the **green/yellow GND** wire to the grounding of the IMM.

c) Connect the **IMM 24V** wire to the constant 24 V voltage power supply of the IMM. The socket receive power from the

machine, without the connection of this wire the system will not start.

- d) Connect the **IMM Trigger** wire to the injection signal (24V) of the machine. If injection signal is not available, connect the wire to a programmable output of the machine and set the output to give out signal when the injection starts.
- e) Connecting the following signals is strongly recommended, and is required if you want to use the related features:
 - CE OK/NOK
 - CE Cycle Stop
 - CE Switch
 - CE Prompt Stop
- f) Connect the **CE OK/NOK** wire to a quality supervision or scrap input of the machines. If it is not available connect to a programmable input and set it for separate good and bad parts. If there is no appropriate input signal on the machine it can be connected directly to the robot or other separator unit. **Please note that the Cavity Eye system give out the CE OK/NOK signal (high 24V) in case of good parts.**
- g) Connect the **CE Cycle Stop** wire to the stop at the end of the cycle input or a programmable input of the IMM and set it to stop the machine at the end of the cycle.
- h) Connect the **CE Switch** wire to the external V-P switchover input of the IMM.

- i) Connect the **CE Prompt Stop** wire to the immediate stop or the emergency stop input of the IMM.

4. Electrical connections – analog signals (optional)

The last 8 contacts of the socket provide optional functions, which include 2 pieces 0-10V analog differential inputs and 12V and 5V power outputs for external sensors.

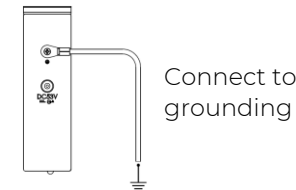
Pin	Wire No.	Name	Function
13	10	IMM Pressure -	IMM Pressure -
14	11	IMM Pressure +	IMM Pressure +
15	12	Screw Position -	Screw Position -
16	13	Screw Position +	Screw Position +
17	14	12V GND	12V - power supply
18	15	12V EXC	12V + power supply
19	16	5V GND	5V - power supply
20	17	5V EXC	5V + power supply

- a) Connect the IMM Pressure - and IMM Pressure + wires to the IMM's 0-10 V analog output of the machine pressure.

- b) Connect the Screw Position - and Screw Position + wires to the IMM's 0-10 V analog output of the screw position.
- c) If an external sensor is connected to the analog inputs, it is possible to supply it with 5V or 12V from the socket. In this case, connect the external sensor supply wires to the appropriate (5V or 12V) voltage output.

5. Connection of the power supply

- a) Connect the grounding cable of the Switch to the grounding point of the machine.

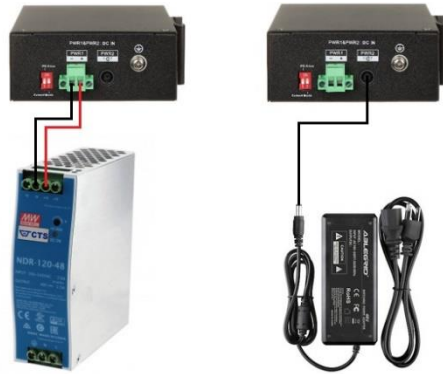


- b) Possible power supply methods
 - 1, Connect the DIN-48 power supply to the POE Switch PWR1 outlet. Connect the power supply's 48V DC output to the Switch. Connect the power supply to 110/230V 50/60Hz AC power supply.

OR

 - 2, Connect the 230V power supply to the POE Switch PWR2 outlet.

1, 2,

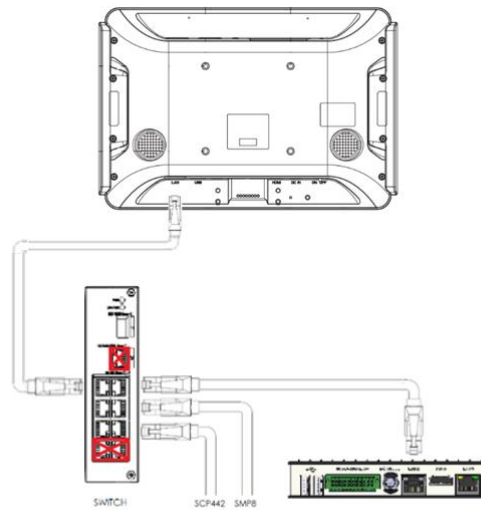


Check that the power LED light up on the PC and the SWITCH.
Do not use both power supply method simultaneously!

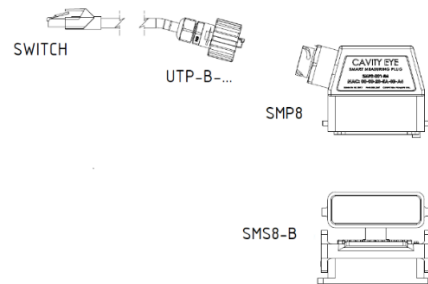
6. Connection of the components

- a) Connect the PC to the Switch via UTP-0,5 cable. Use the **MEASUREMENT** or **ETH2** ethernet input on the PC and one of the inputs on the Switch from 3-8.
- b) Connect the SMP and SCP devices to the Switch via own bayonet lock UTP cables. The SCP and SMP should be connected to one of the inputs on the Switch from 3-8.

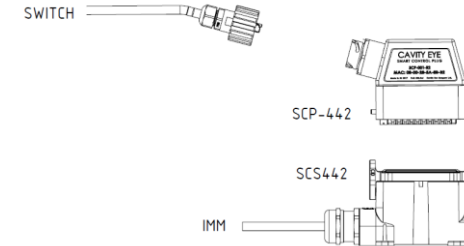
DO NOT USE port 1, 2 and 9!



- c) Connect the SMP device to the SMS socket on the mould, and then fix securing clip.



- d) Connect the SCP device to the SCS socket on the machine, and then fix securing clip.



- e) Connect the tablet (10" vagy 15") to one of the inputs on the Switch from 3-8 (POE) using a UTP cable. In the case of the 15" model use the input marked as LAN.

7. Starting and checking

- a) The system starts after connection to the power supply. If not, the PC should be started manually. The power button lights up orange when it is off, and green when it is working.








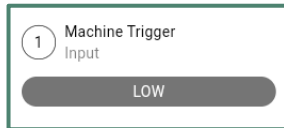
- b) Login by clicking on the icon on the top right corner and open the Settings → Instruments menu. (Machine, Mould, Waterflow)
- c) Check if the system can detect the **SCP** control plug. If the message „Connect SCP plug to the socket” appears check the connection between the plug and the socket.
- d) Check if the system can detect the **SMP** measuring plug. If the message „No socket connected” appears check the

connection between the plug and the socket.

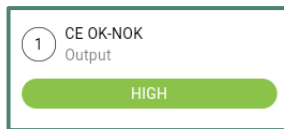
- e) If the system does not recognize the plug:
 - Detach and attach again the plug, check if it receives power supply.
- f) If everything was connected the message „Waiting for trigger” should appear.

8. Checking of I/O signals

- a) Open  Settings →  Instruments →  Machine →  scp442 →  I/O, I/O signals (machine communication) menu. Check if the „Machine Trigger” signal lights up after the injection moulding machine sends the signal.











- b) Check the output signals by toggling them to 'High' state. Monitor the output and input panel of the injection moulding machine or robot to see if the correct signal is received if you manually activate it.



9. Add machine ID (IMM ID)

The MOLDi system automatically reads the IMM ID from the control socket's (SCS442) memory. In the case of the system's first usage or the installation of the system to another injection moulding machine the IMM ID should be written onto the memory of the SCS442. The measurement and supervision can not be started until there is no valid IMM ID added.

- a) Open Settings  menu and choose Instruments  → Machine  →  scp442 → Socket  option:
 - In the „Group” settings click on the  edit button and enter „Size 1” and "Sequence number" 1
 - In the „Machine” option add the name/ID of the injection moulding machine, and in the „selector” setting enter the length of the selector signal as percentage of the current cycle time.

The new system version can be installed from a USB data storage. The update option can be found on the  Settings  Update menu.

10. System updates

For further details, please contact us. <https://cavityeye.com/software-downloads>
info@cavityeye.com