Smart Control Socket 442 Quick Installation Guide

Connection of the Cavity Eye input/output signals on the IMM.
Applicable model: SCS442

1. Preparations

The following devices and components are required for installation.

Part	Pieces
SCS442 socket	1
Magnets (included) or M4 screws (not included) for fixing	4
M4 nuts (included)	4
Wire ferrules – 0,5 mm^2 (not included)	

The installation requires the following tools.

Tools
Wire stripping tool
Crimping plier
Snap knife
Allen key set (only for screw type fixing)
Wrench kit (only for screw type fixing)
Drilling machine with drill heads (only for screw type fixing, if making holes are necessary)

2. Placement

a) In the case of a fixed installation of the Cavity Eye measuring system, if the SCP plug does not need to be connected and disconnected frequently, it is advisable to place the SCS socket inside the low-voltage cabinet of the injection molding machine. In the case of a mobile measuring system, the socket can be placed outside the injection molding machine, on the side of the low-voltage cabinet or in another easily accessible place.

b) The socket can be fixed with screw type (self-tapping or M4 screws with nuts) or magnetic type fixing. The magnets are factory installed to the socket. For the screw type fixing, the necessary 4 pieces of M4 or self-tapping screws are not included.

3. Electrical wiring – 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.

4. Pinout of the 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 24 V) 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.

5. Optional analog signals

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.

6. Pinout of the analog signals

Pin	Wire No.	Name	Function
13	10	Analog In 1 -	Analog input 1-
14	11	Analog In 1 +	Analog input 1+
15	12	Analog In 2 -	Analog input 2-
16	13	Analog In 2 +	Analog input 2+
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 *Analog In 1* - and *Analog In 1 +* wires to the first 0-10 V analog output of the injection molding machine or external sensor to measure.

b) Connect the *Analog In 2* - and *Analog In 2 +* wires to the second 0-10 V analog output of the injection molding machine or external sensor to measure.

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 voltage output.

7. Check I/O signals

a) If the electrical connection of the SCS442 socket is completed, the Cavity Eye measuring system must be set up to check the output and input signals.

b) The procedure of assembling the measuring system and testing the signals is included in the ***Quick Start Guide*** supplied with the measuring system.

8. Add machine ID (IMM ID)

a) The injection molding machine identifier (IMM ID) must be written to the memory of the installed SCS442 socket at the first time it is connected to the measuring system. After each connection / start-up, the measuring system automatically reads from the socket memory to which injection molding machine it is connected.

b) The procedure of assembling the measuring system and entering the IMM ID is included in the ***Quick Start Guide*** supplied with the measuring system.