CAVITY EYE
INTELLIGENCE IN MOLDING

Smart Control Plug
Data sheet

SCP442

Description
The Cavity Eye Smart Control Plug (SCP) device was developed for the Smart Moulding Control system. It is a special data processing and communication unit, with the role of ensuring the communication between the Cavity Eye pressure measuring system and the injection molding machine. The device can control bad part sorting, detect the cycle start and can stop the injection machine in case of an error. The SCP442 is the upgraded version of the SCP412, which is now able to measure and process analog data.

Application
It is essential in the Cavity Eye pressure measuring system. The device communicates with the injection moulding machine through digital and analog signals.

How does it work?
The device receives the signals from the injection moulding machine, processes and transmits them to the central unit. Furthermore, it is responsible for transforming the signals sent by Cavity Eye system to 24V signals and forwarding them to the injection molding machine.

The device can read the data of the injection moulding machine and the pin allocation from the connecting plug's built in memory, making the replacement of the system to another machine and the start of the production easier. The SCP442 gets power supply through UTP cable based on standard PoE protocol.

The analog inputs can only receive 0-10V signals from the injection moulding machine and external sensors. It can provide 5V and 12V power supply for external sensors, so there is no need for separate power supply.

Technical data

SCP442		
Weight	g	322
Main Dimensions	mm	110x70x36
Operating temperature range	°C	0 - +65
Power supply	IEEE 802.3af	max. 56 V
Protection rating	IEC 60529:1989	IP64
Number of digital inputs	pcs	4
Number of digital outputs	pcs	4
Number of analog inputs	pcs	2
Connection		RJ-45
Outgoing power supply	V	5 and 12

Placement
An injection moulding machine equipped with Cavity Eye Smart Control Socket (SCS442) is necessary to the SCP to operate properly.
Connect the SCP device to the Cavity Eye data processing unit with the help of the standard RJ-45 socket. The device connects with a bayonet lockable UTP cable to the adequate socket of the Switch device. The UTP cables can be found in the Cavity Eye's catalogue in different lengths.

Connection
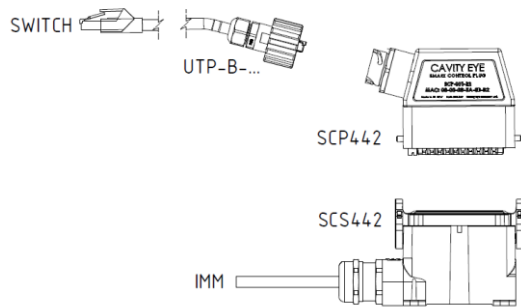
1. Figure: The connection of the device

Pin allocation

Pin	Name	Function
1	Memory GND	
2	Memory Data	
3	IMM GND	GND
4	IMM 24V	24V from the machine
5	IMM Trigger	Injection signal from the machine
6	IMM Autocycle	Auto cycle
7	IMM OKNOK	Bad part cycle
8	In 4	(empty)
9	CE OKNOK	Good part signal
10	CE Switch	Switch over
11	CE Cycle Stop	Cycle stop
12	CE Prompt Stop	Immediate stop
13	Analog In 1 -	Analog input 1-
14	Analog In 1 +	Analog input 1+
15	Analog In 2 -	Analog input 2-
16	Analog In 2 +	Analog input 2+
17	12V GND	12V – output
18	12V EXC	12V + output
19	5V GND	5V – output
20	5V EXC	5V + output

Orange → Input signals for Cavity Eye
Blue → Analog inputs for Cavity Eye
Green → Excitation voltage