Smart Moulding Control

Data Sheet
SMC

Description
The Cavity Eye Smart Moulding Control (SMC) system is responsible for receiving and processing the signals from the Pressure Cells, storing the measured data and managing the input and output signals to the injection moulding machine as well. The self-developed software installed on the PC is capable of is saving the data and visualizing them on the Display. The SMP device receives and processes the pressure cell's signals, then transmits the data to the Switch, which is responsible for the network communication. The SCP device 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.

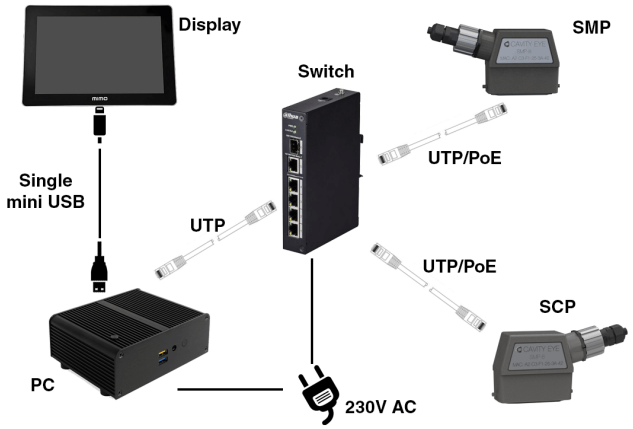
Application
Using the Cavity Eye Smart Moulding Control system, the central production control can be achieved based on cavity pressure measuring in injection moulds.

Fulfills the industry's requirements by having a heavy-duty design. It is specially made for industrial applications.

How does it work
The memory reading/writing, the sensor signal processing and forwarding is accomplished by the SMP device. The mould's cavity pressure is measured by the pressure cells and the signals are received by the SMP, and the processed signals are forwarded to the software on the PC.

The pressure sensor's emitted signals – caused by the excitation – are directly proportional to the force acting on the sensor's measuring pin. Knowing the area of the measuring ejector pin's surface in the cavity, whereat the cavity pressure is acting on, the pressure inside the cavity can be calculated. The pressure values in function of time are shown on a graph of each injection cycle.

The Measuring Plug forwards the data via an UTP cable to a central unit, which consists of a Switch, a PC and a Display. The Switch is an industrial PoE switch, which provides power to the Plugs by the IEEE802.3af standard. The PC runs the unique Cavity Eye software, which is responsible for visualizing, saving the data, and lets you set the running options.



Technical data

a. SMP

SMP8		
Weight	g	327
Main Dimensions	mm	110x70x36
Operating temperature range	°C	-40 - +85
Power supply	IEEE 802.3af	max. 56V
Protection rating	IEC 60529:1989	IP64
Number of channels	pcs	8
A/D resolution	bit	32
Sampling frequency	SPS	100
Connection		RJ-45

Cavity Eye Hungary Kft.,
Szellő utca 1, H-6000 Kecskemét, Hungary
TEL: +36 76 951 966 | INFO@CAVITYEYE.COM | WWW.CAVITYEYE.COM

SMP32		
Weight	g	532
Main Dimensions	mm	126x70x43
Operating temperature range	°C	-40 - +85
Power supply	IEEE 802.3af	max. 56V
Protection rating	IEC 60529:1989	IP64
Number of channels	pcs	32
A/D resolution	bit	32
Sampling frequency	SPS	100
Connection		RJ-45

b. SCP412

SCP412		
Weight	g	311
Main Dimensions	mm	110x70x36
Operating temperature range	°C	-40 - +85
Power supply	IEEE 802.3af	max. 56 V
Protection rating	IEC 60529:1989	IP64
Number of inputs	pcs	4
Number of outputs	pcs	12
Connection		RJ-45

c. PC

PC		
Main Dimensions	mm	140x111x51
Operating Voltage, Current	V, A	19V 3.4 A
Operating temperature	°C	40°C
Power Supply	V	230 V
CPU		Celeron J3455
Memory	GB	4
Tárhely	GB	min. 60GB
Consumption	W	10-12
Protection rating	IEC 60529:1989	IP54

d. Switch

Switch		
Main Dimensions	mm	200x160x40
Operating temperature	°C	40
Power Supply input	V; hz	230V 50 hz
Protection rating	IEC 60529:1989	IP54
Consumption	W	7,5
Input ports		1 VAN port
Output ports		4 LAN port
Operating Voltage PoE output	IEEE 802.3af	48 VDC

e. Monitor

Monitor		
Main Dimensions	mm	250x180x28
Operating temperature	°C	40
Power Supply	V	max. 56V
Protection rating	IEC 60529:1989	IP54
Input connections		mini-USB
Consumption	W	12
Operating Voltage	V	12

f. UTP-B cable

The UTP-B cable is available in 5, 10, 15, 20 metres. The cabling is shown on the figure above. Two pin pairs are providing the data, the other two pairs are responsible for power supply (PoE).

The UTP-B cable is connected to the Plug on one end, and the other end is connected to the Switch, which provides power supply. The PoE Switch devices creates the opportunity for the SMP and SCP to have Power over the Ethernet cable.

Types

There are multiple options available in case of SMC systems, depending on how many sensor signals needs to be measured. The SMC8 consists Plugs (SMP8) that can be used up to 8 sensors. Over 8 sensors and up to 16 sensors, the SMC16 is the right choice. Over 16 sensors, the SMC32 and SMC64 depending of the number of sensors, but then the system consists SMP32 and MPM32-A.

Cavity Eye Hungary Kft.,
Szellő utca 1, H-6000 Kecskemét, Hungary
TEL: +36 76 951 966 | INFO@CAVITYEYE.COM | WWW.CAVITYEYE.COM