

# Smart Measuring Plug

## Description

The Cavity Eye Smart Measuring Plug (SMP) device was developed for the Smart Moulding Control system. It is a special data processing unit, with the role of ensuring the communication with the injection moulds equipped with Cavity Eye's pressure cells. It receives and processes the pressure cell's signals, then transmits the data to the central unit.

## Application

The device is capable of measuring the cavity pressure in moulds if it is equipped with the Cavity Eye's pressure sensors. It is a necessary accessory of the Cavity Eye mould pressure measuring system.

Fulfills the industry's requirements by having a heavy-duty design with IP64 protection rating.

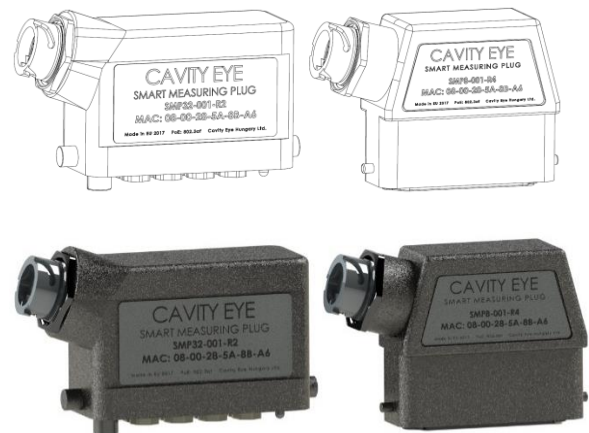
## How does it work

The Cavity Eye system is uniquely designed to process the pressure cells' data and the mould memory's data in the Measuring Plug, thereby granting more precise measurement, as well as helps quickening the production start process and mounting the mould on other injection machines.

The memory reading/writing, the sensor signal processing and transmitting takes place in the SMP device. It receives the pressure values acting in the cavity of the injection mould and the microprocessor inside processes and evaluates the data. The pressure sensor's excitation caused signals 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, lets the software calculate the pressure inside the cavity.

## Data sheet

### SMP8 SMP32



## Technical data

### 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

### 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

## Types

There are two types of Smart Plugs you can choose from, depending on how much sensors' signal you want it to handle. SMP8 type can be used up to 8 sensors with the corresponding counterpart placed on the mould, the MPM8-B. Over 8 sensors, more SMP8 device can be applied – adjusted to the number of sensors – each with an MPM8-B socket. (up to 16 sensors: 2 pieces of SMP8; up to 24 sensors: 3 pieces of SMP8; etc.)

In case of higher sensor number, the SMP32 device can be used with the corresponding counterpart placed on the mould, the MPM32-A. This type can handle 32 sensors at the same time. In case of using more, than 32 sensors, more SMP32 device can be used – adjusted to the number of sensors – each with an MPM32-A socket.

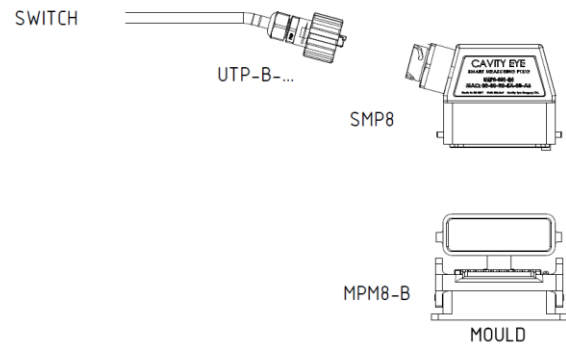
## Placement

A mould equipped with Cavity Eye pressure cells is necessary to the SMP to operate properly. The counterpart (the MPM) of the SMP must be placed on the mould. Connect the SMP device on the MPM socket and secure the connection with the locking lever. (1. figure)

Connect the SMP 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.

## Optional accessories

Name	Item Number
UTP cable 5 m	UTP-B-5
UTP cable 10 m	UTP-B-10
UTP cable 15 m	UTP-B-15



1. Figure: Connections of the device

## Pin allocation

Pin	Function
1	Memory GND
2	Memory Data
3	Excitation GND
4	Excitation 5V
5	1. Sensor +
6	1. Sensor -
7	2. Sensor +
8	2. Sensor -
9	3. Sensor +
10	3. Sensor -
11	4. Sensor +
12	4. Sensor -
13	5. Sensor +
14	5. Sensor -
15	6. Sensor +
16	6. Sensor -
17	7. Sensor +
18	7. Sensor -
19	8. Sensor +
20	8. Sensor -