Futaba

In-mold measurement
Mold marshaling system

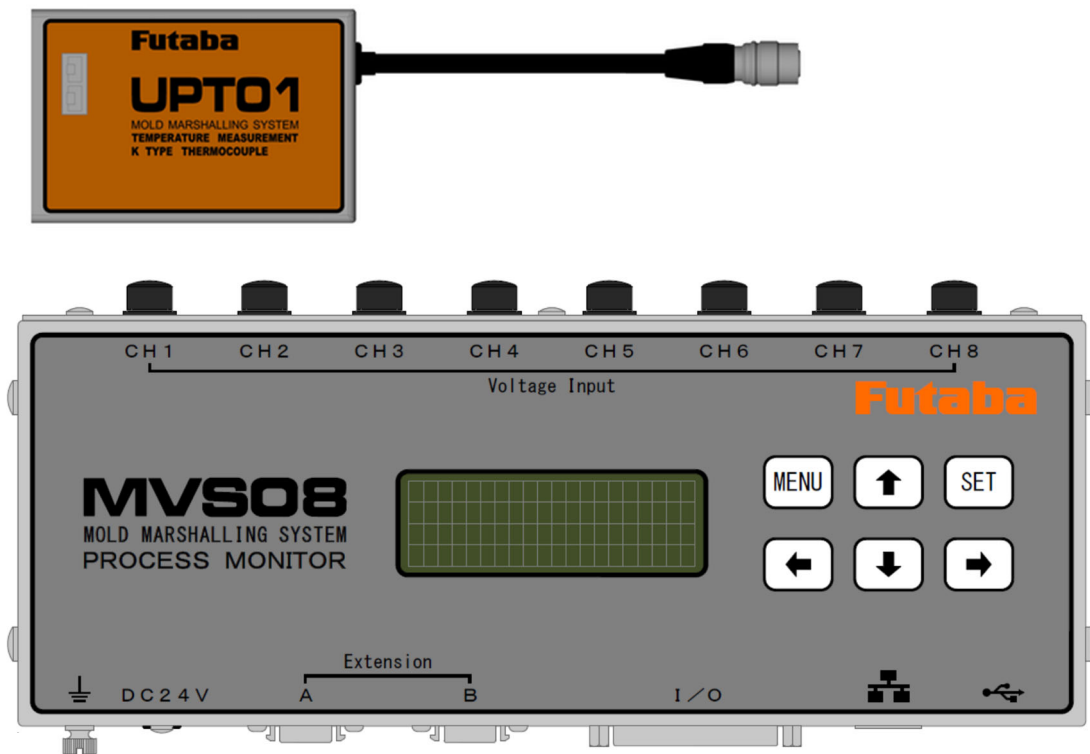**MVS08 Mold Surface
Temperature preamplifier**

UPT01

Instruction Manual

Thank you very much for purchasing the products of Futaba Corporation.

Please read this instruction manual thoroughly and use it for a long time.

Do not use the product in any way other than that described in the instruction manual.

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SAFETY PRECAUTIONS
(Be sure to read these precautions before using our products.)

■BEFORE USE

Read this "Safety Precautions" and the instruction manual carefully before use.
After reading this manual, keep it in a safe place for future reference.
Be sure to observe the following safety precautions when using the product.
Futaba Corporation assumes no responsibility or warranty for injuries caused by the use of the product contrary to these precautions.

■To ensure safe use of this product, the following warning messages are used in this manual.

Now.

⚠ Warning	In the column of this indication "the possibility of death or serious injury, etc. is assumed."

⚠ Caution	In the column of this indication, "only possible injury or property damage is assumed".

■General notes

● Before and during operations, be sure to check that this product functions properly.

● Provide adequate safety measures to prevent damage in the unlikely event that our products should fail.

● Use outside indicated specifications or purposes and modification of our products will void any warranty of the functions and performance as specified of our products.

● Use this product in combination with other devices only after careful consideration, as the product may fail to satisfy its functionality and performance capabilities as a result of the conditions and environment in which it is used.

■Precautions

⚠ Warning	Be sure to unplug the power cable from the outlet when installing or connecting the cable. Failure to do so may cause an electric shock or malfunction.

⚠ Warning	Do not use a cable that is broken or has a damaged cable coating. Failure to do so may cause a fire, electric shock, damage to the equipment or malfunction.

⚠ Caution	Do not splash water on the sensors, amplifiers, preamplifiers, or connection cables. Failure to do so may result in electric shock or damage to the equipment.

Preface

The Mold Marshalling System UPT01 is a dedicated accessory that connects to the Injection Molding Monitoring System MVS08 to measure mold surface temperatures. One preamplifier is required per mold surface temperature sensor for measurement.
Refer to MVS08 Operator's Manual for more information on the injection molding monitoring system.

Please read this instruction manual thoroughly to ensure correct use.
If you have any questions, please contact our sales department with any trouble.

Standard accessories

■This instrument has the following standard accessories.
  After unpacking, check that all accessories are included.

● Mold surface temperature preamplifier main unit "UPT01"·······························1 unit
● Instruction manual (this booklet)···1 pc.
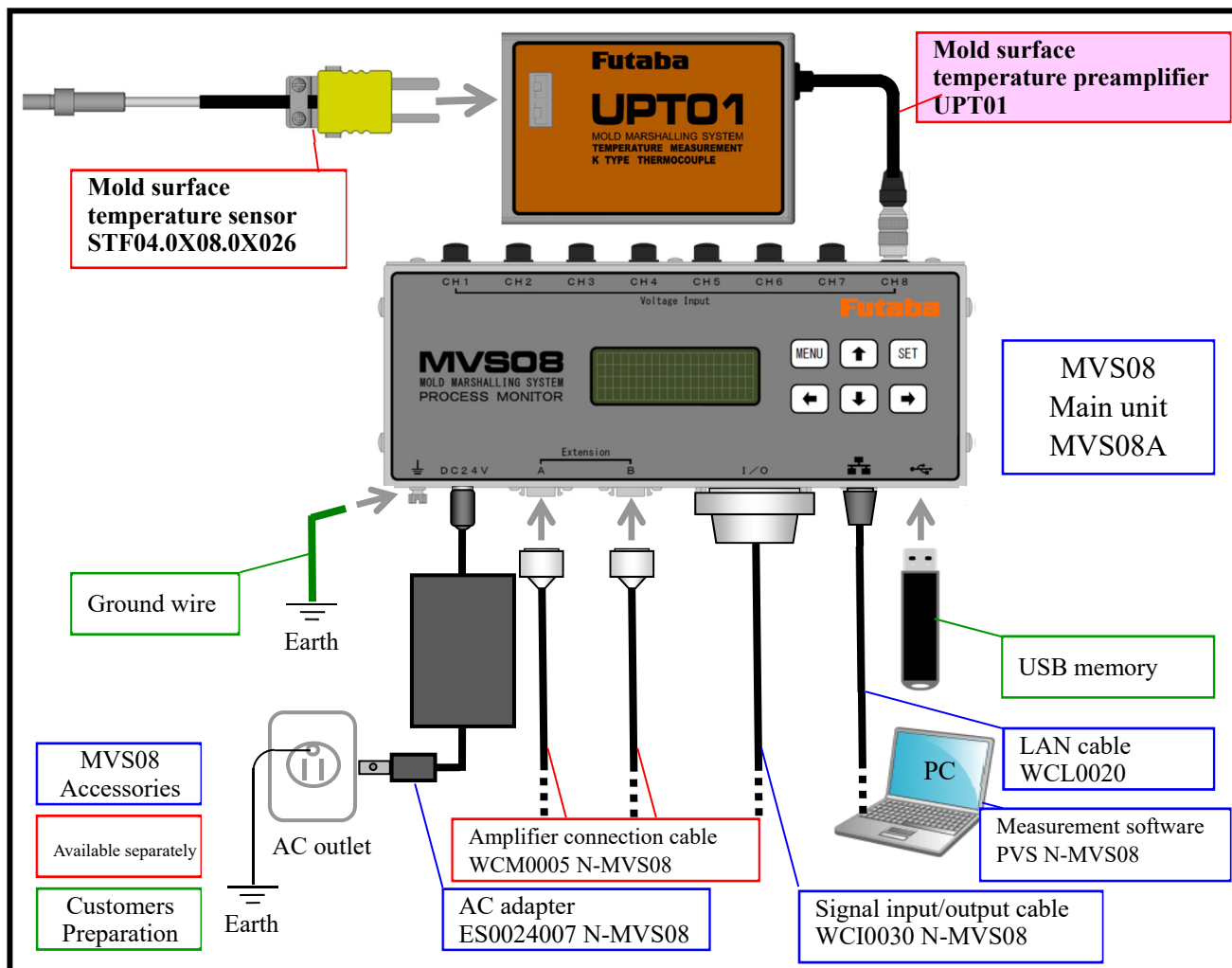
Handling Precautions

● Turn on the injection molding monitoring system (hereafter abbreviated as MVS08) after connecting the systems. Be sure to power MVS08 from an AC outlet. Never plug in or unplug the AC adapter jack to operate the power supply. Doing so may damage the unit and the AC adapter.

● Wait at least 5 seconds before turning the power on again after turning it off. If the power is turned on within 5 seconds or ON/OFF is repeated, it may fail due to the rush current (inrush current) that occurs when the power is turned on.

● Warm up the unit before use. Provide a warm-up time of about 30 minutes after the power is turned on.

● Avoid using the product in environments where temperatures are extremely high or low. The operating temperature range is 10 to 40°C. If it is unavoidable to expose the product to direct sunlight or use it in cold climates, shade the product or keep it warm.

● Use within the relative humidity range of 35 to 85%RH or less. If the product is used outside the operating humidity range or in an environment exposed to water droplets, performance may drop or malfunction may result.

● Do not use the product in dusty places. If dust gets inside, performance will deteriorate. Do not allow dust to enter not only during use but also during storage. Use the product in an environment where the PC can be used.

● Do not use the product immediately if the environment changes suddenly. Leave the product in the operating environment and use it after blend with its surroundings. Condensation may occur if the ambient temperature and humidity change suddenly due to movement, etc., and this may cause a drop in performance or malfunction.

● Do not use the product in an environment subject to vibration or impact. Continuous vibration or large impact may cause a drop in performance or malfunction.

● Do not use the product in a strong electromagnetic field. Use the product in an environment where the PC can be used. Use in the vicinity of wireless devices, microwave ovens, electric furnaces, and other devices that generate strong electromagnetic fields may cause performance degradation, malfunction, or failure.

● Do not use the product in locations with poor power supply conditions. Use a power supply with AC100 ~240V, 50/60Hz, and no instantaneous power failure or noise.

● Do not pull on the connection cable. Connect the connection cable with sufficient margin so that excessive force is not applied to the connection part. Pulling or applying excessive force may cause failure, interruption of measurement or abnormal measurement value.

1. System configuration

■ System Configuration with Injection Molding Monitoring System "MVS08 Set"

The following shows the basic configuration when measuring the mold temperature using the mold surface temperature relay amplifier (UPT01).

One UPT01 is required for each point measurement of a mold surface temperature sensor.
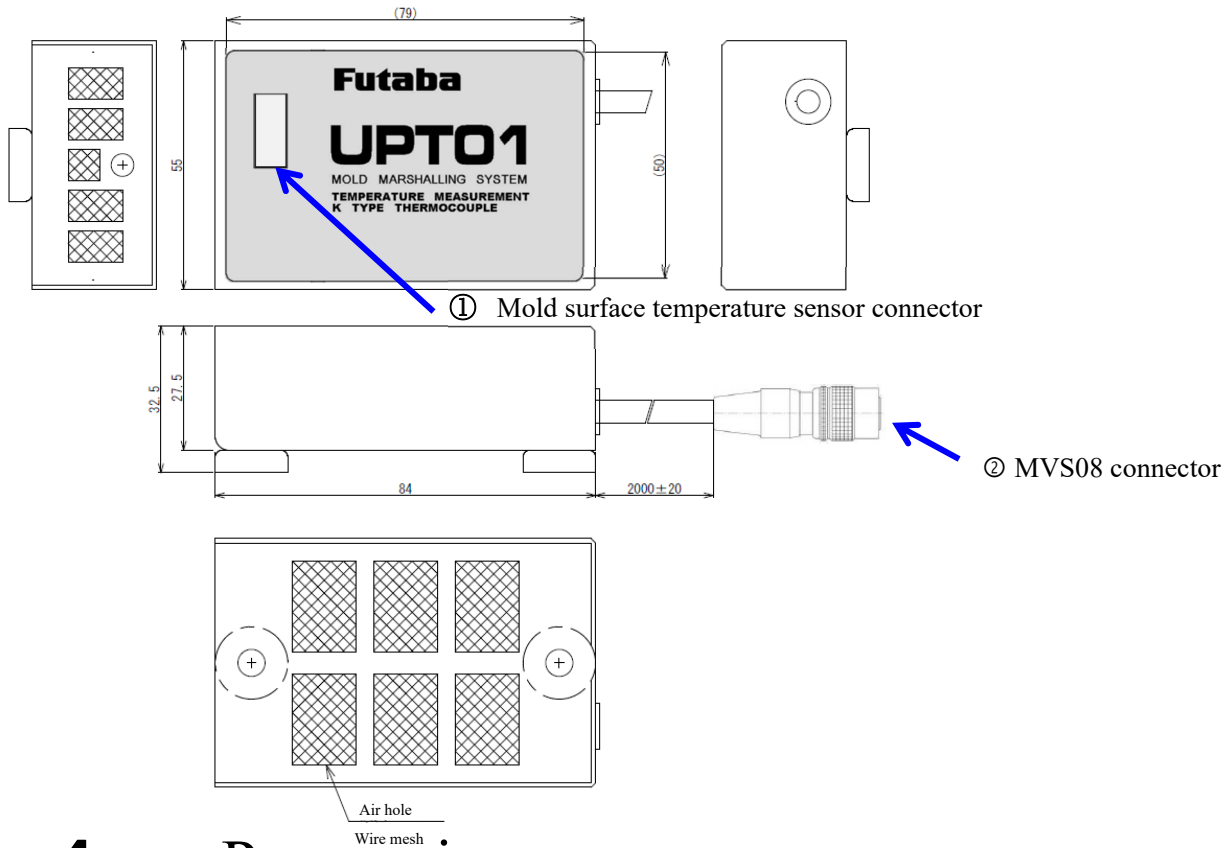

2. Specifications

■ Specifications <Mold Surface-Temperature preamplifier UPT01>

Product code		UPT01A
Number of measurement points		1
Measurement range		0～400℃
Accuracy		±2℃
Compatible sensor		Futaba mold surface-temperature sensor STF04OOB or K thermocouple
Cable length		2m
Mounting method		Installed with two magnets at the bottom
Environmental resistance	Operating temperature	0～+40℃
	Operating humidity	35 to 85%RH (non-condensing)
Weight		Approx. 300g

3. Part Names (Unit: mm)

① Mold surface temperature sensor connector

② MVS08 connector

Air hole
Wire mesh

4. Preparation

4-1 Installation of the system

A magnet is attached to the back of the preamplifier UPT01. Install on a flat surface near the mold.

When installing the sensor on the movable side, determine the position of UPT01 so that excessive force is not applied to the sensor cable in the mold open/close operation.

The operating temp. range of the preamplifier UPT01 is 0 to 40°C. For stable measurement

Do not install it on the body of the mold.

4-2 Connecting MVS08 Unit and preamplifier UPT01

Connect the preamplifier UPT01 to MVS08 main unit.

Insert the plug of UPT01 into the connector of MVS08. There is a rotation-stop.

Therefore, twist the plug left and right to find the fitting position,

and then insert it all the way in.

4-3 Connecting the preamplifier UPT01 and Mold Surface-Temperature Sensor

Connect the mold surface temperature sensor to the preamplifier UPT01.

(The thicker side metallic terminal width of sensor is the center side of UPT01.)

Insert the sensor connector into UPT01 connector as far as it will go.

Hold UPT01 firmly when removing the sensor,

Pull out the sensor connector part vertically.

4-4 MVS08 PC software condition settings

4-4-1 About Software Versions

UPT01 are available from the versions below.

PC Software ： Ver 1．0．0．23

Firmware ： Ver 01．00．34

<Checking method>

Please check by selecting "Software Version "→" Software Version "on the main menu.

※The latest version can be downloaded from our website.

Please refer to the following URLs.

http://www.futaba.co.jp/precision/mold_marshall/software

<How to update>

Refer to P8 of MVS08 Instruction Manual for how to update the software.

4-4-2 Conditioning

From the setting screen, set the following parts.

① Selects the input channel.

② Select the "Temperature UPT01" measurement subject.

(The upper and lower limits are automatically set to 400-0°C and 8-0V.)

Press "Save" after the setting is completed.

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The specifications are subject to change without prior notice for product improvement.   UPT01-1912W-A1J