Desktop Mini Injection Molding Machine User Manual

Description

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Unpacking the machine

Basic model of mini desktop injection molding machine comping to the customer with the machine, controller, molds (as per order), power cable.

After placement of the machine in a robust table you need to tighten the base plate to the table. According to the type of base plate, this will be done by screws from the upper side or down side. In aluminum base plates there are sluts on the base plate so that you can tighten to the table using T nuts and screws from down side of the table.

If the base plate is cast iron, you can do the same using screws from upper side of the base plate.

Power

The main power for this model is less than 500W in a single phase. The power cable will come to you that is 16A capacity and you need to use a proper safety fuse between the main power and the machine.

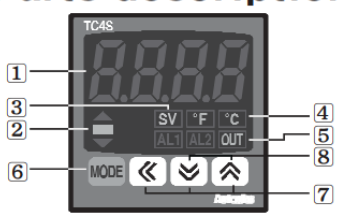
You can order the machine with your specific type of connectors. Unless it will come with a double-pin socket excluding the earthing connection(The earth connection will be connected to the machineâ€™s body separately).

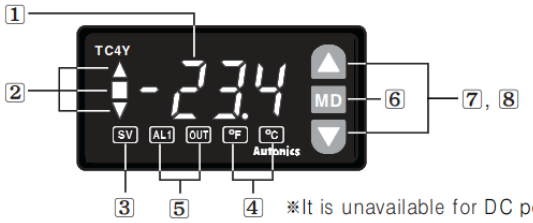
Setting the temperature

After you connect the electricity, you can set the temperature according to the type of polymer you are using.

How to set SV temperature and PV bias for calibration purposes

▣ Parts description





※It is unavailable for DC power type.

① Temperature display
It shows current temperature(PV) in RUN mode and parameter and set value for each setting group in parameter change mode.

② Deviation and Auto tuning indicator
It shows current temperature(PV) based on set temperature(SV) by LED.
Deviation indicators(▲, ■, ▼) are flashed by every 1sec when operating auto tuning.

③ Set temperature(SV) indicator
Press any front key once to check or change current set temperature(SV).
SV indicator will be ON and preset SV value will be flickering.

④ Temperature unit indicator(℃/°F) : It shows current temperature unit.

⑤ Control/sub output indicator
−OUT : It will light up when control output(Main Control Output) is on.
※In case of CYCLE/PHASE control, it will light up when MV is over 3.0%.(Except for DC power type)
−AL1/AL2 : It will light up when alarm output AL1/AL2 are on.

⑥ MODE Key : Used when entering into parameter setting group, returning to RUN mode, moving parameter and saving setting values.

⑦ Adjustment : Used when entering into set value change mode, Digit moving and Digit Up/down.

⑧ FUNCTION key : Press ▼ + ▲ keys for 3 sec to operate function(RUN/STOP, alarm output cancel) set in inner parameter [dI -Y].
※Press ▼ + ▲ keys once in set value operation to move digit.

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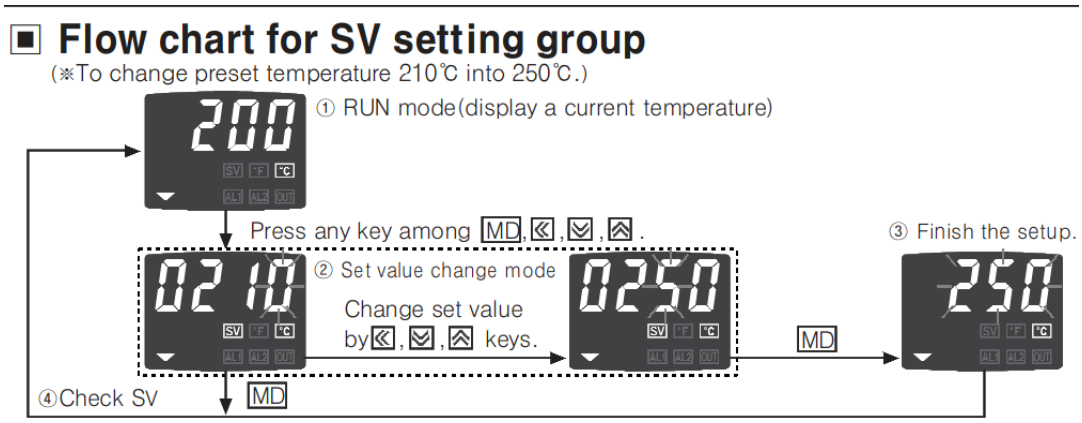
▣ Input sensor and range[In-t]

●Select proper input sensor type by user application.

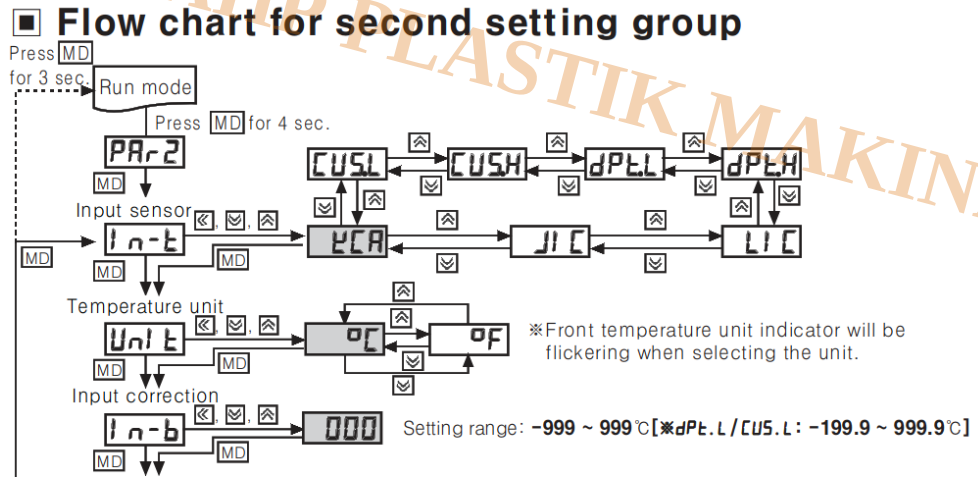
Input sensor			Display	Input range (℃)	Input range (°F)
ThermoCouple	K(CA)		YCA	−50 ~ 1200	−58 ~ 2192
	J(IC)		JI C	−30 ~ 500	−22 ~ 932
	L(IC)		LI C	−40 ~ 800	−40 ~ 1472
RTD	DIN rated	DPt 100Ω	dPt.H	−100 ~ 400	−148 ~ 752
			dPt.L	−100.0 ~ 400.0	−148.0 ~ 752.0
	CU50Ω		CU5.H	−50 ~ 200	−58 ~ 392
			CU5.L	−50.0 ~200.0	−58.0 ~ 392.0

●Setting range : [YCA / JI C / LI C / dPt.H / dPt.L / CU5.H / CU5.L] (Default : [YCA])

Set the requested temperature SV as below:



How to set input bias for PV display of controller. For this purpose, you need to measure requested temperature with calibrated temperature reading device and set offset value in parameter Inb as below:



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How to operate

After you set the temperature, wait for about 15 min for the cylinder completely heat up to the set temperature.

Put the mold under the brass nozzle and adjust the height of the heat using grip on the main shaft of the body (Figure 1). After you set the proper height, tighten the screw for the grip to hold the head tight on the shaft.

Turn the head to the right, Fill the material into the funnel, and then when you turn it to the left, material will be filled into the cylinder. Wait for about 5 min for material to be fully melted.

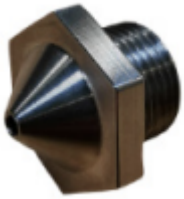
During the melting of the material, you need to put the nozzle on the flat surface of the mold to restrict melt-through. After 5 minutes, just put the lever a little so that the cold material inside the nozzle is emptied. Then bring the mold gate under the nozzle and press the lever with high speed to fill the material into the mold rapidly. After you see the material coming out of the air release gates of the mold, means the material is filled into the mold and you can reduce the force on the lever. Just hold the force a little time for compensation for the shrinkage of the material.

After some about two minutes you can open the mold and take sample out.

Nozzle types

There are two types of nozzle coming to the customer. One is auto lock for very high flow materials and the other is normal type. Auto lock nozzle, open the hole when you press the nozzle onto the mold.

Auto-lock nozzle



Normal nozzle

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Nozzle stopper

Use a nozzle stopper when you want to make the cylinder empty. Just put the nozzle stopper under the nozzle and press the lever to make the cylinder empty.

Nozzle stopper

Category

1. How to Use