APOLLO SEIKO

MANUAL SOLDERING STATION
TTM-3000N

Operation and Maintenance Manual

Thank you for purchasing the TTM-3000N.
Read these instructions thoroughly for proper use of this machine.
Make sure to read "Safety Notes" before you use machine. This information protects you from possible dangers during use.

Apollo Seiko Ltd.

Contents

Revision

Ver.	Date	Content
1.00	2009・2・15	First edition
2.00	20010・11・4	3. Parameter Description,The LoC(Key lock setting mode) was added.

Safety Notes

This manual includes the important information to use machine safely.
This also includes useful information to prevents avoiding injury or damaging property.
Please read this manual carefully prior to connecting or operating the TTM-3000N.

Keep this manual nearby the machine all the time.

Supply only specified voltage

Do not connect to a power supply greater than the specified voltage.
If not, electrical shock and /or damage to the unit may occur.

Make sure that the electrical outlet is properly grounded.
If the outlet is not properly grounded, electrical shock and/or damage to the unit may occur.

Working ambient temperature and relative humidity

This machine have been designed to use between 0℃～40℃、10%～90%.
Do not use this machine under the condition exceeding here-in.

Handle with care

This machine is designed to use solder feeder and heating iron for soldering.
If you touch a heated soldering iron, it will burn yourself.
So, make sure the iron is cool down before you are touching it for replacing the Iron Tip.

Please handle this machine with care.
If you drop or make a big impact vibration, it may cause malfunction.

If you do not use the machine for a long time

Please turn off the power, remove the power cable and keep it in dry and cool place.

If you note malfunction on machine

If the machine become a malfunction, turn off the power immediately and contact a dealer you purchased machine from.

Immunity from responsibility

We do take NO responsibility on a damage caused by misuse, mistake, accident, uses in abnormal condition or natural disaster such as an earthquake, a fire etc.

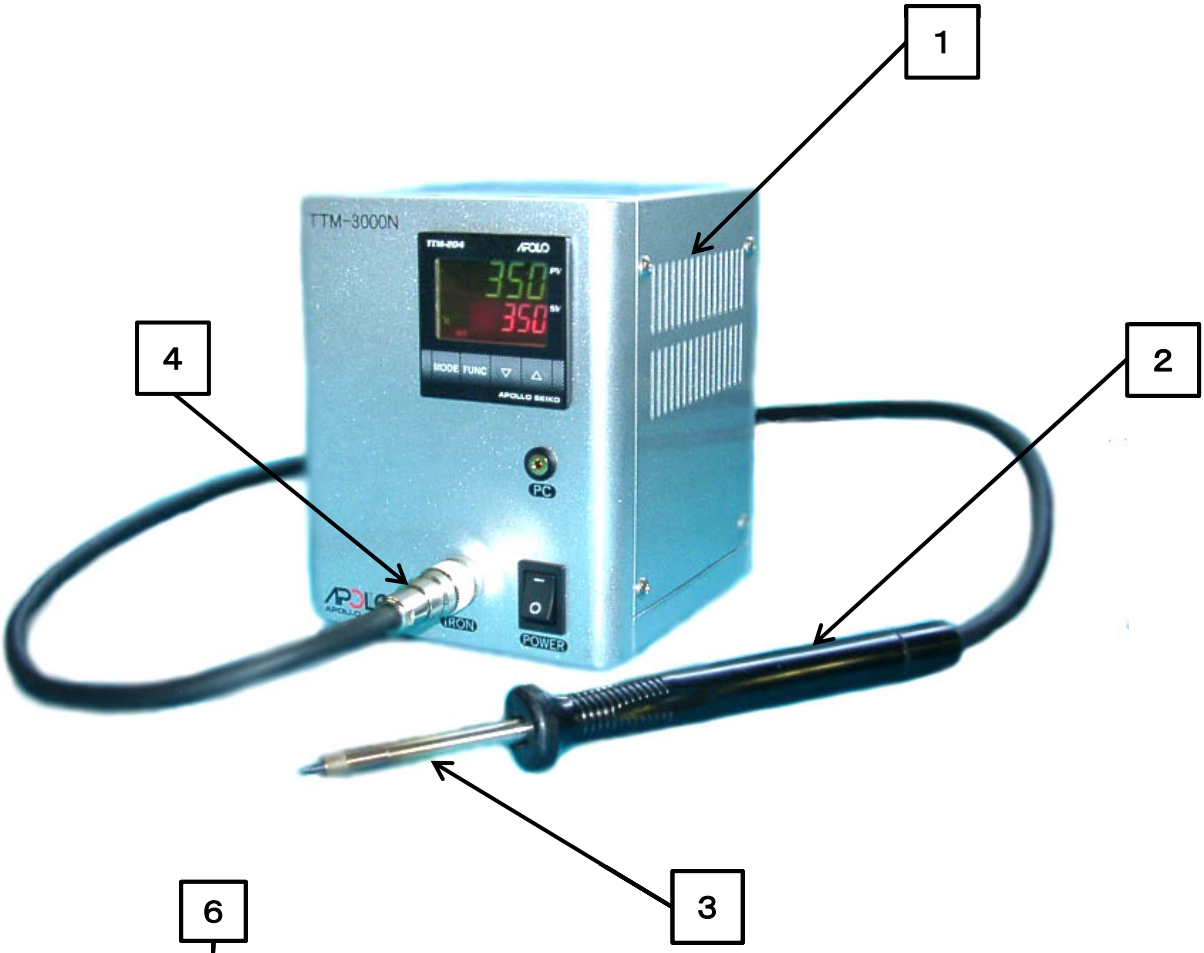
We do take NO responsibility on contingency loss (Business loss、Business stop) caused by machine stop.

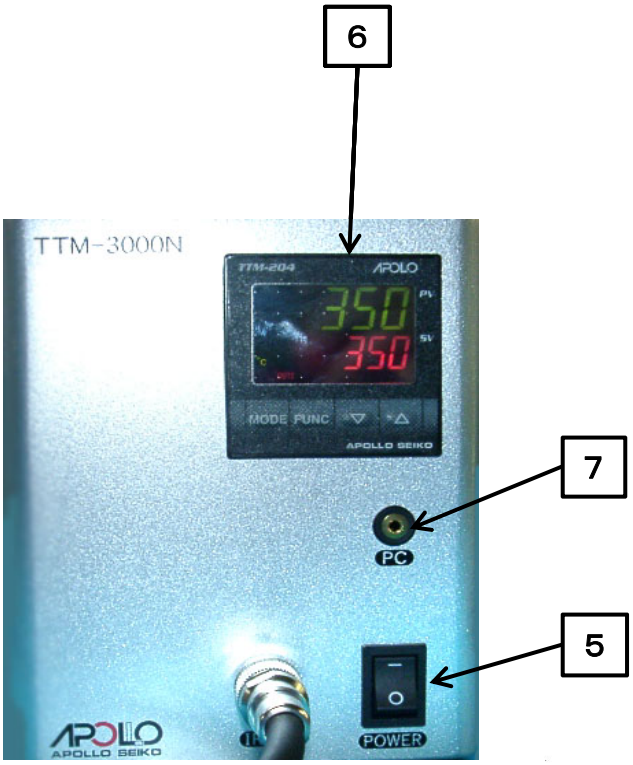
We do take NO responsibility on a loss caused by the operation not mentioning on this manual.
We do take NO responsibility on a loss caused by a wrong connection with other

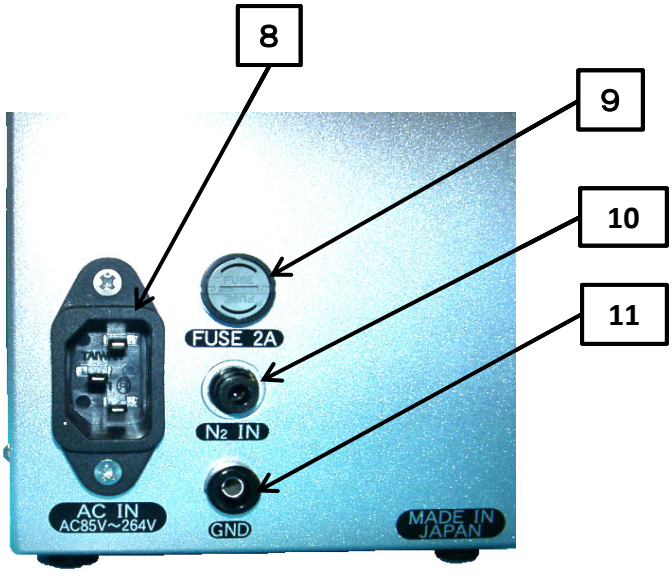
If for any reason the internal circuitry is tampered with altered or repaired without written consent of Apollo Seiko, the warranty is null and void.
The customer is allowed to make necessary tooling adjustment, replace solder iron tips and make any necessary adjustments to the temperature controller.

Description

TTM-3000N







1 Controller （TTM-3001）

The main power turing on/off and temerature setting can be done.

2 Iron Unit （TTM-3002）

Iron caridge holder and handle

3 Iron Cartridge (One piece is included)

The iron cartridge which heater and thermo-couple are built-in.

4 Iron Cartidge Connector

The Iron Unit is connected with the controller.

5 Power on/off Switch

Switch to turn on and off the power.

6 Digital Temperature Controller

Temperature and various settings can be changed.

7 PC Connector

The connector for communicating with PC. (Optional USB cable for data taking is required, TTM-3000N-USB)

8 Power Supply Inlet Plugg

The main power supply plug is connected.

9 Fuse 2A

Fuse holder of 2A.

10 N2 IN

N2 (Nitrogen Gas) can be suppied via this plug. (Optional N2

11 GND

An earth terminal should be onnected.

The specified Iron cartridge and N2 generator are to be used to avoid breakdown.

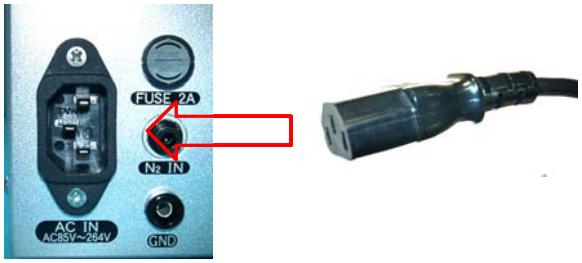
Accessory

Power supply cable	AC100V or 220V Power supply cable
Fuse 2A	1
GND Cable Connector	1
Iron Tip(DCN or DCS)	1
Iron Holder Stand	1
Tip removable pad	1

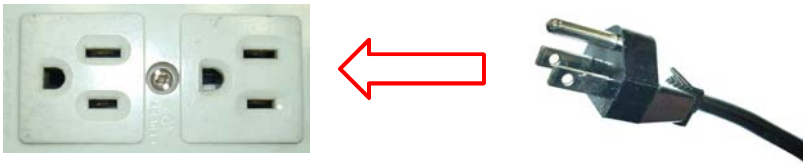
Preparation and Operation

1.Power supply cable

・The power supply connector should be connected with AC IN terminal at the back.



・The power supply plug is connected to the power supply.



2. Iron Unit is connected with the controller.

In order to attach the cable to the controller, turn it to fit the connector groove at first. Then, turn the outside nut until fixing firmly.

3.Power on and Power off.

Before the turning on power

Please confirm the following before turing on the power.

- Make sure the iron cartridge is firmly inserted.
- Make sure the iron cartridge is not touching temperature sensitive objects.

Power on.

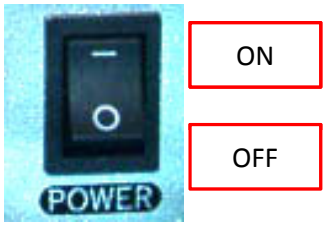
Turn on the front power switch.

The screen of "Digital Temperature Controller" is displayed.

Power off.

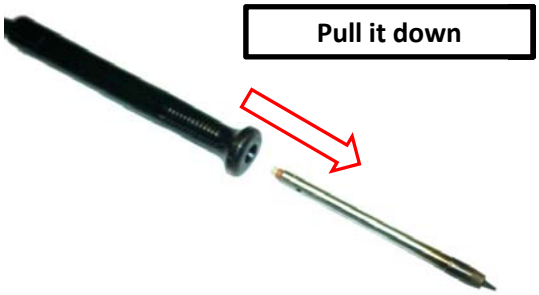
Turn off the front power switch.

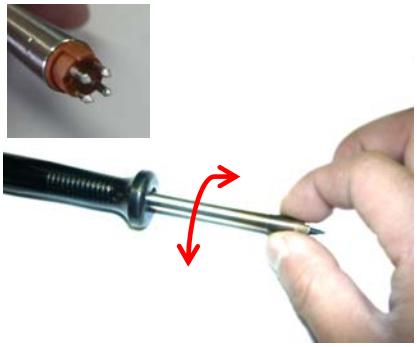
The screen of "Digital Temperature Controller" is turned off.



4. How to attach the iron cartridge

⚠ ※ Please make sure to turn the power off and coll down the iron cartridge room temparature.





Pull down the iron cartridge to replace a new one. If it does not come out , using silicone ring pull it down strongly.

Insert gently to fit and push it in when you feel a clicking.

To attach a new one, insert it gently unitl the holder end. Then, turn it until you feel the position key in the position. When you feel clicking, insert it firmly.

Please carry out "Auto Tuning" after replacing iron carridge

Push & hold for 4 seconds. | **Push once** | **Push once** | **Push once** | **Push and hold for 2 seconds to finish the "Auto Turning".**

5. How to use Digital Temperature Controller

PV **Present value**

SV **Set Value**

Changing parameter

Refer to the page 7, how to change the parameter.

Preset temperature change

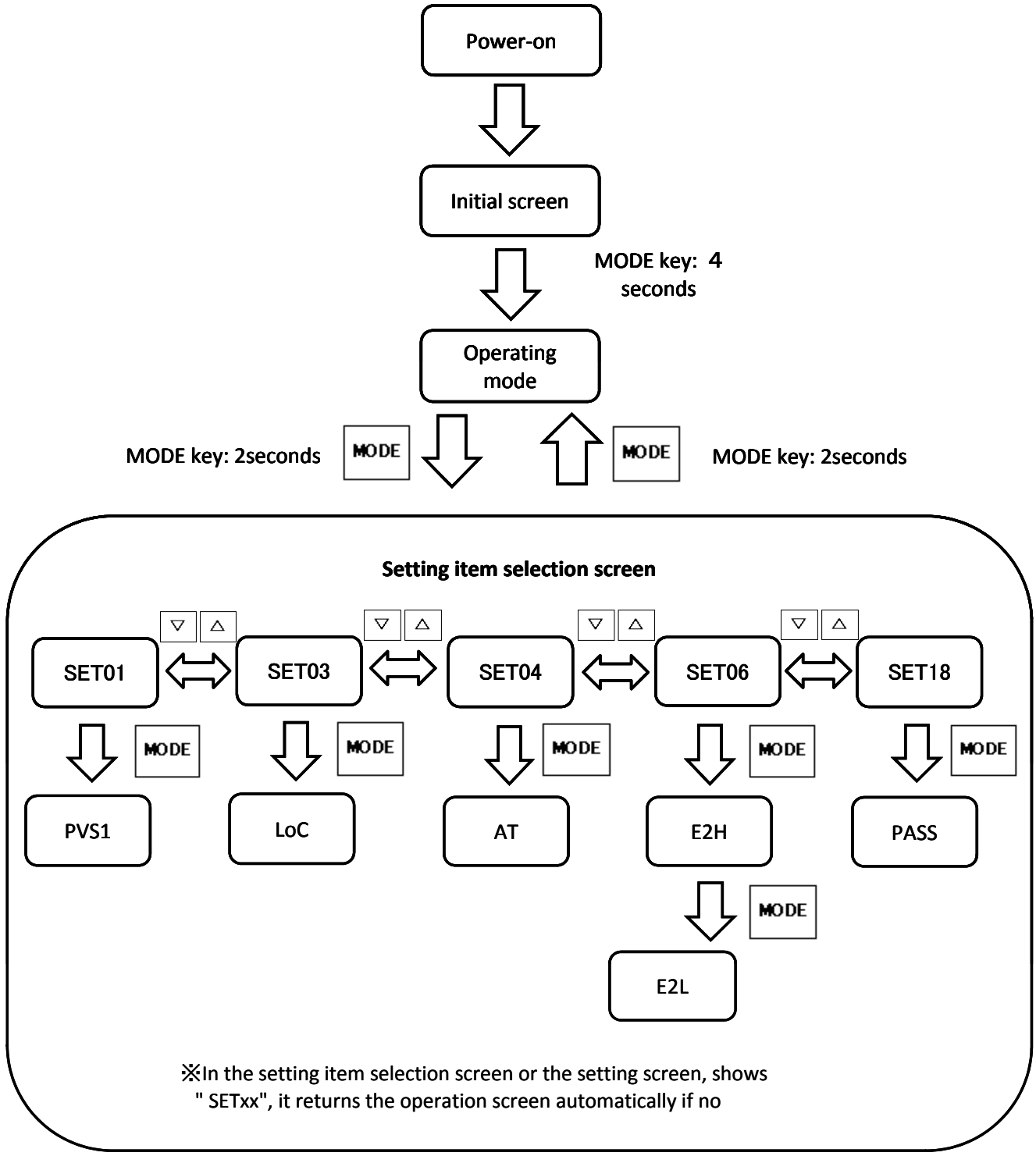
The SV value can be changed by pushing ▼▲.

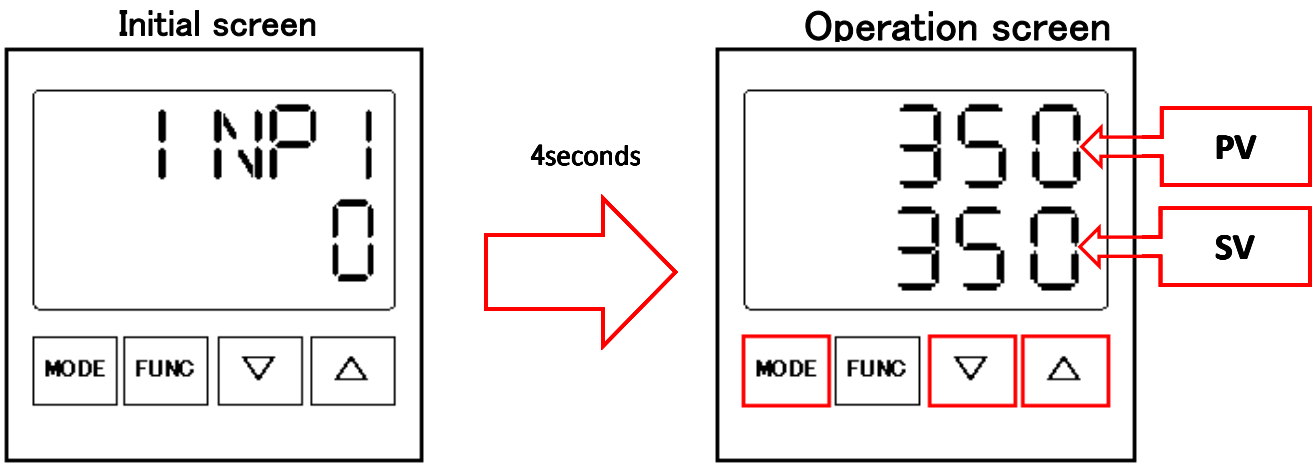
(0℃～500℃)

How to change the parameter

1. Explanation on statuses

1.1 Status flow chart





PV・・・Present Value

SV・・・The SV value can be changed by pushing ▼▲.

※ PV value shows green color if the temperatur is inside the setting value. It displays orange color if it is outside the range.

（**Please change Max or Min in the PV alarm with SET06→E2H/E2L.** ）

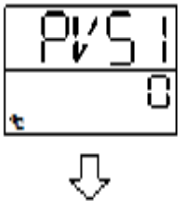
Press and hold MODE key for 2 seconds and it return to the operating mode.

2. Operation flow

2.1 Setting item selection screen

Input 1setting mode

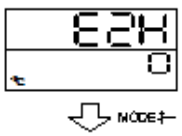
Setting item selection screen



PV calibration zero

OUT2 setting mode

Setting item selection screen



PV alarm Max.

PV alarm Min.

Controlsetting mode

Setting item selection screen

Auto Tuning setting

Initial setting mode

※The password proteciton can be done for PV alarm value and the alarm display color.

Setting item selection screen

Password screen

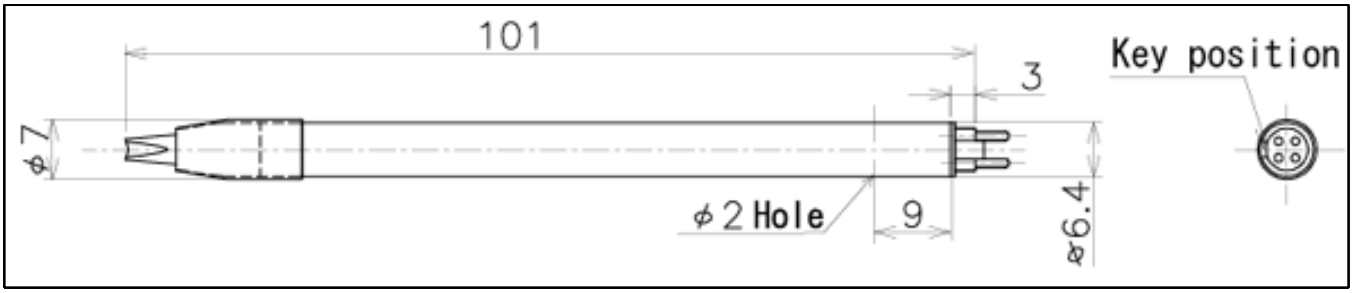
3. Parameter Description

	Name	Setting range	Initial value
PVS1	PV calibration zero setting	It changes with ▲ or ▼ key. −500～500(℃)	−35
LoC	Key lock setting mode	It changes with ▲ or ▼ key. 0:OFF 1:all lock 2:Run mode lock 3:All mode except run mode	0
AT	Auto Tuning setting	It starts with ▲ or ▼ key. The SV display shows AT blinking during the AT setting. ↓ It ends after the display shows oFF. (Iron cartridge may not inserted properly when ERR02 appears.)	oFF
E2H	PV alarm Max.	It changes with ▲ or ▼ key. Setting range 0～500(℃)	10
E2L	PV alarm Min.	It changes with ▲ or ▼ key. Setting range 0～500(℃)	10
PASS	Password screen	Not available	—

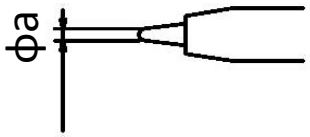
4. 11-segment characters

11-segment	Mincho	11-segment	Mincho	11-segment	Mincho	11-segment	Mincho
0	0	A	A	K	K	U	U
1	1	b	b	L	L	V	V
2	2	C	C	M	M	W	W
3	3	d	d	N	N	X	X
4	4	E	E	o	o	Y	Y
5	5	F	F	P	P	Z	Z
6	6	G	G	Q	Q	/	/
7	7	H	H	R	R		
8	8	I	I	S	S		
9	9	J	J	t	t		

Standard Iron cartridge Selection

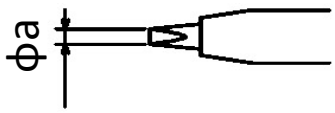


DCN-xxB



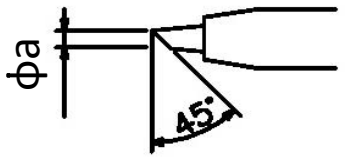
Name	a
DCN-05B	φ0.5
DCN-10B	φ1.0
DCN-16B	φ1.6
DCN-20B	φ2.0

DCN-xxD



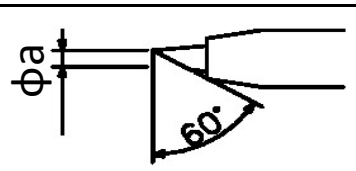
Name	a
DCN-10D	φ1.0
DCN-13D	φ1.3
DCN-16D	φ1.6
DCN-20D	φ2.0
DCN-24D	φ2.4
DCN-30D	φ3.0
DCN-40D	φ4.0

DCN-xxBC



Name	a
DCN-10BC	φ1.0
DCN-16BC	φ1.6
DCN-20BC	φ2.0
DCN-30BC	φ3.0
DCN-40BC	φ4.0
DCN-50BC	φ5.0

DCN-xxBC60



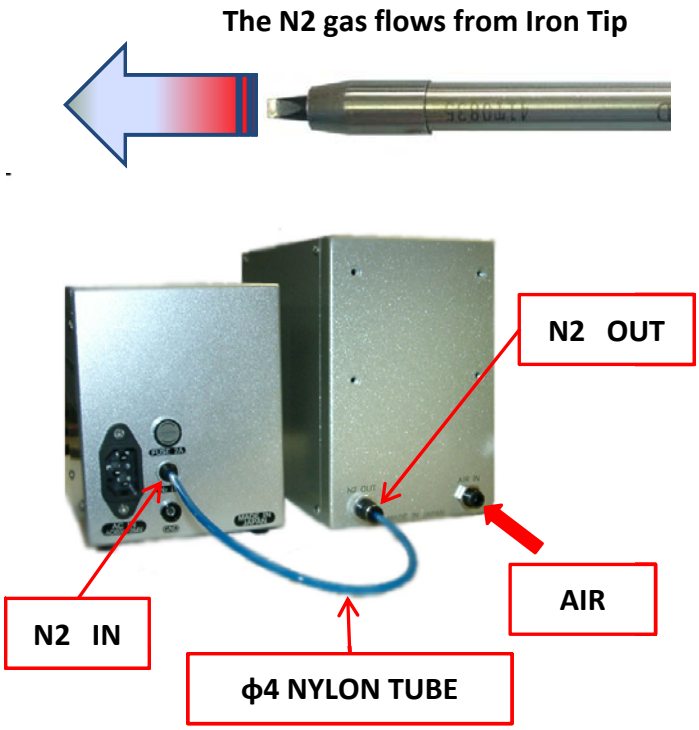
Name	a
DCN-10BC60	φ1.0
DCN-16BC60	φ1.6
DCN-20BC60	φ2.0

Option Part

1. Miniature N2 Generator ALN-005 (Optional)

It is an ultra small N2 generator can be used with TTM-3000N. 0.5 liter per minutes nitrogen flowing clean the soldering surface and eliminate oxidation.

Miniature N2 Generator (ALN-005)



2. USB cable for data TTM-3000N-USB (Optional)

The USB cable can used to download the temperature data to PC.
Please download the software from the following URL.

Driver software URL:

http://www.toho-inc.com/soft/loaderSoft.html

Operation environment

English version operating systems Windows XP

Computer mainframe
Personal computer with Pentium CPU
(Pentium 300 MHz or faster recommended)

Connection
Use the USB cable, TTM-3000N-USB

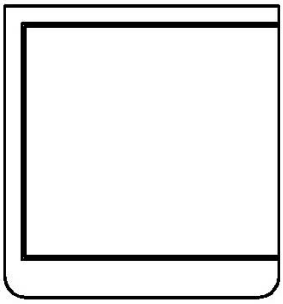
Specification and Dimensions

TTM-3000 Specification

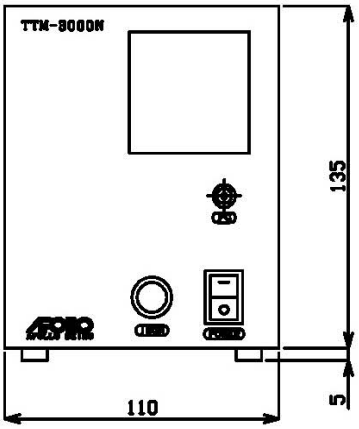
Input Power Supply	AC90V～264V
Max Power Consumption	150W
Heater Capacity	100W
Heater Ground Resistance	2Ω or less
Controller Weight	2Kg
Iron Unit Weight	0.7Kg
Iron Tip Type	DCN/DCS

Dimensions

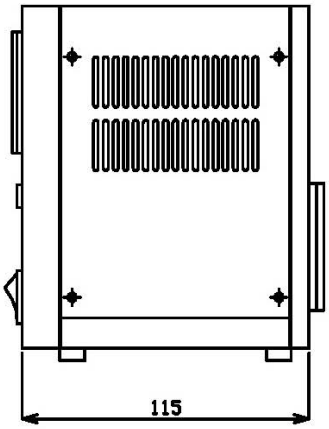
Top view



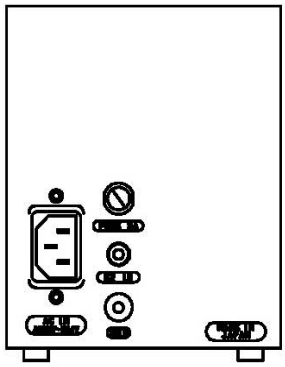
Front view



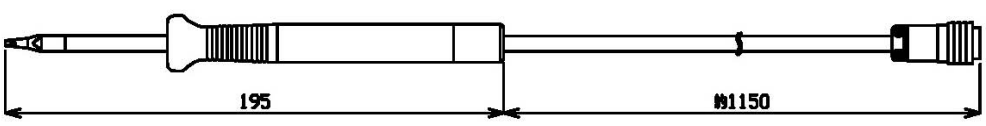
Right view



Back view



Iron Unit



Memo

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