Pen-type electronic pipette with smartphone APP Pen-type electronic pipette with wireless communication function pipetty Smart APP (Dedicated application)



Operation Manual

Operation Manual Ver. 1.0.1 Firmware Ver. 6.0.2 Application Ver. 1.0.1.0 2020.12.28

Index

pipetty Smart App

1	Overview · · · · · · · · · · · · · · · · · · ·
	1.1 About this Operation Manual ••••••••• •••••••• 1
	1.2 Notes on using the application ••••••••••••••••••••••••••••••••••••
	1.2.1 About application • • • • • • • • • • • • • • • • • • •
	1.2.2 About connection • • • • • • • • • • • • • • • • • • •
	1.2.3 About Installation • • • • • • • • • • • • • • • • • • •
2	Features 2
3	Setup 2
	3.1 Setting APP permissions · · · · · · · · · · · · · · · · · · ·
4	Start the program · · · · · · · · · · · · · · · 4
	4.1 How to start •••••••••••••••••••••••••••••••••••
	4.2 Startup screen (Signup screen) • • • • • • • • • • • • • • • • • • •
	4.3 Main screen • • • • • • • • • • • • • • • • • •
5	Connection · · · · · · · · 6
	5.1 Registration of device in Smartphone • • • • • • • • • • • • • • • • • • •
	5.2 Registration of device in APP • • • • • • • • • • • • • • • • • •
6	Memory 11
	6.1 Registration of Memory • • • • • • • • • • • • • • • • • • •
7	Keypad/Voice · · · · · · · · · · · · · · · · · · ·
	7.1 How to use Keypad input • • • • • • • • • • • • • • • • • • •
	7.2 How to use Voice input ••••••••••••••••••••••••••••••••••••
8	Protocol · · · · · · · · · · · · · · · · · · ·
	8.1 Edit ••••••••••••••••••••••••••••••••••••
	8.2 Protocol File • • • • • • • • • • • • • • • • • • •
	8.3 Modification of Protocol File • • • • • • • • • • • • • • • • • • •
9	Logging function · · · · · · · · · · · · · · · · · 28
	9.1 Log File • • • • • • • • • • • • • • • • • • •
	Complete the operation · · · · · · · · · · · · 29
11	Troubleshooting · · · · · · · · · · · · · · · · · · ·

©2020 Icomes Lab Co., Ltd. Icomes Lab, Iogo mark of Icomes Lab, pipetty and pipetty Pro are registered trademarks of Icomes Lab. The name "Android", the Android Iogo, "Google Play" and the Google Play Iogo are registered trademarks of Google LLC. In the United States and other countries. Bluetooth Low Energy is a registered trademark of Bluetooth SIG Inc. in the United States and is used by Icomes Lab Inc. under license. In this Operation Manual, it may be abbreviated as follows. Bluetooth Low Energy is Bluetooth LE or BLE Other company names and product names are trademarks or registered trademarks of their respective companies.

The application specifications are subject to change without notice.

pipetty-Pro and pipetty Smart have built-in wireless equipment that has received construction design certification as a wireless station for low power data communication systems based on the Radio Law. EYSHCN: 001-A10745

Overview 1

1.1 About this Operation Manual

Please read this Operation Manual before using this product for the first time. We recommend that print this Operation Manual and store it near the product. This manual is for pipetty Smart or pipetty Pro Android [™] smartphone apps only. Compatible with ver.1.*.*.* software (application) and ver.PP-6.*.*, ver.PS-6.*.* software (device).

1.2 Notes on using the application

1.2.1 About application

[Note]

- •The log file is output as the operation result and does not guarantee the dispensed volume. Depending on the usage conditions, there may be a difference between the log file and the actual dispensed volume.
- •This application display does not have a tracking function. Therefore, we cannot guarantee that the pipetting portion will be wrong due to the work.
- We are not responsible for any trouble or damage caused by using this application.
- •The screen images in this manual are examples of use, so the contents may differ depending on the actual input contents.

1.2.2 About connection

[Note]

- In connection, when used around a wireless LAN, other wireless devices, around devices that emit radio waves such as microwave ovens, in places with many obstacles, or in other environments with poor radio wave conditions, the connection may be interrupted frequently, or communication may be lost. The speed may be extremely reduced, or an error may occur.
- If you repeatedly charge the battery without using it up, a phenomenon called the "memory effect" occurs in which the discharge voltage drops, and the connection may be interrupted or the communication speed may drop even after charging.
- •For other precautions regarding wireless communication, please read the pipetty series **Operation Manual.**

1.2.3 About Installation

The following system is required for installation.

OS

Android[™]8.1 ~



2 Features

The "pipetty Smart App" which is interlocking with a pen-type electric pipette with a wireless communication function supports reduce researcher' s burden and make efficient operation by the reduce time required for switching between difference volume pipettes, mode switching, dispensing volume switching and experiment log saving.

3 Setup

The application can be downloaded from the "Google Play [™] link on our website. [URL: https://www.icomes.co.jp/product/pipetty-smart/]

3.1 Setting APP permissions

* It is necessary to turn on the application permission from "Settings" on the smartphone start menu, "Apps and notifications" \Rightarrow "pipettySmartApp.Android" \Rightarrow "Permissions".





Turn on "Storage", "Microphone", and "Location" in APP permission screen. After completing the settings, tap

"Close" on the smartphone.

←	App permissions	0 :	←	App permissions	0 :	
pi prestry	PipettySmartApp.Andro	bid	e e e e e e e e e e e e e e e e e e e	PipettySmartApp.Android		
0	Location		0	Location		
ψ	Microphone		Ŷ	Microphone		
₹	Phone		e.	Phone		
	Storage			Storage		
					\square	
				Location Microphone Storage	Access	rity required for BT connection. authority for voice recognition. creation authority for saving logs.
	•	•		• •	1	

4 Start the program

4.1 How to start

(1) On smartphone Tap the "pipetty Smart" icon.



4.2 Startup screen (Signup screen)

When you run pipetty SmartApp, the startup screen (Registration screen) shown below is displayed. Proceed the User registration by inputting information from this startup screen. User registration is optional, but please be aware that if you do not register the necessary information, we may not be able to provide the service you desire.

Pipetty Smart App	Pipetty Smart App
	Name: icomes
	E-mail:
	icomes@co.jp Company or Lab:
Sign up	development
	Address: iwate.japan
	Revise
	Registration
< • B	< • E

Tap "Registration" to complete registration and move to the "Main" screen.

* Icomes Lab Co., Ltd. handles personal information obtained from customers in compliance with the Personal Information Protection Law and in accordance with the personal information protection policy. Regarding protection of personal information, tap "Menu" ⇒ "Terms of Service" to open "About protection of personal information" on Icomes Lab Website, so be sure to confirm the contents.







5 Connection

5.1 Registration of device in Smartphone

In order to use pipetty SmartApp, need to register pipetty device in smartphone. ①Open "Settings" in the start menu of the smartphone. ②Open "Settings" in the start menu of the smartphone.



③On the connected terminal (Bluetooth), tap "Pair with new device".

* At this time, turn on the pipetty device (the display screen of the pipetty is flashing for mode selection").

3	
÷	Connected devices Q
+	Pair new device
00	Previously connected devices
	Connection preferences Bluetooth
(j)	Visible as "ASUS_X01AD" to other devices

4

.



④"Nordic_UART" is displayed as "Available device" on the pairing screen with the new device.

(5) "Nordic_UART" Tap to switch to the connected terminal screen, and "Nordic_UART" is displayed in "Currently connected terminals". (Pairing completed)

[©]Tap "Nordic_UART" to switch to the detailed screen of the terminal and "Connect" will be highlighted.

(4) ←	Pair new device Q Device name ASUS_X01AD	© ← Connected devices Q Currently connected	6 ~	Device details	1 9
*	Available devices	 Nordic_UART Pair new device Previously connected devices Connection preferences Bluetooth Visible as "ASUS_X01AD" to other devices 	1	FORGET Device's Bluetooth address 55:47:D3	CONNECT BE: Connect
	< • #	< • #	7	4	

⑦Complete the pairing of pipetty and smartphone by "Back" or "Close" on the smartphone.



5.2 Registration of device in APP

Register the paired device in pipetty Smart App. Register the device (20 μ L, 250 μ L, 1000 μ L) and the application side with same volume.

[Registration procedure (Registration example: pipetty 20µL)]
①Tap the setting of 20µL display on the Main screen.
②If it is first setting, "Incorrect pipette information" is displayed, so tap "OK".
③Tap the information field of the device to register.

0	0	3
Pipetty Smart App	Pipetty Smart App	<u>Pipetty Smart App</u>
Иени 20µL ••• 250µL ••• 1000µL ••• Memory Keypad / Voice Protocol	20ul.	20L Dispense Hi 4 3 2 Lo Aspirate Hi 4 3 2 Lo Beep ON OFF
< ● ■	< ● ■	< ● ■

(a) Confirm the MAC address to register from Select a device and tap it.

⑤Confirm the connection preparation (make sure pipetty device is turned on), then tap "Yes".
⑥Confirm that the MAC address is registered in the information field.

④ <u>Pipetty Smart App</u>	(5) <u>Pipetty Smart App</u>	6 <u>Pipetty Smart App</u>
20ul. Select a device D7:F9:99:D1:66:BA Cancel ON OFF	20ul. Start connecting to device. Make sure turn on the device. Yes Cancel ON OFF	20uL. D7:F9:99:D1:66:BA Dispense HI 4 3 2 Lo Aspirate HI 4 3 2 Lo Beep ON OFF
< • ■	< ● ■	< • ■



<u> </u>	6
66	_
	J

[How to confirm pipetty Number] pipetty device Number can confirm by pressing the DOWN button while pressing the PUSH button while the mode selection is flashing. The lower 6 digits of the MAC address are saved in the shipping state. Also, can check the lower 6 digits of the factory-set MAC address by pressing the UP button while pressing the PUSH button.

Note: Cannot be displayed while connected to the application.

(Fig.1)

[About error messages]

•If the connection destination is incorrect

① When selecting a connection, if the device is incorrect, the following display will appear. Tap "OK" to reselect.

• If the pipetty is not turned on

(2) (3) The following display also appears when the pipetty is turned off. Turn on the pipetty and tap "OK" to reselect.





[Register multiple pipetty Smart device]

By registering up to 3 devices that are paired, can switch between capacities, modes, and dispensing volumes. * Please note that cannot register multiple items with the same capacity device.

After registering 20μL, 250μL and 1000μL respectively, the screen will be as shown below.
①The button color will change when device registration is completed.
②③ When you tap the capacity button and the button turns blue, the operation is ready.





6 Memory

Up to 5 types of dispensing settings can be stored in memory. By storing frequently used dispensing settings in memory, do not need to set every time.



How to register Memory





(2) To register from the Memory screen, tap "Edit" to enter the memory No. registration screen in (3).



* [Settings decimal point of dispensing volume]

- •250 μ \rightarrow 1.0-99.9 can be set. (However, the device display is up to 19.9)
- 1000 $\mu \rightarrow$ 5.0-99.9 can be set. (Same as above)

Display on the device is up to 19.9, but the application can set and operate up to 99.9 after the decimal point.



④ Tap 2nd to register the dispensing setting in memory No.2
 [Registration example: 20 μL, Dispense speed 4, Aspiration speed 4, Muiti-Mode, 1.5 μL, 6 times]
 ⑤ Volume 20μL, Dispense speed 4, Aspiration speed 4, select



	۰ ا			•	•			•	•		
--	-----	--	--	---	---	--	--	---	---	--	--

@ Tap the number of Multi-Mode dispensing volume μL and the number of times Time to input (input example: Dispense 1.5 μL 6 times)





[®]After confirming the completion of input, tap "Return" **4** to complete the dispensing setting registration and return to the Memory screen.





(1) The registered dispensing volume is displayed, and tap the corresponding memory No.2, The setting volume will be transferred to the device.

Ę

E

Μ





* Other memory No. inputs can be set from "Edit" as well.



[Error message]

• Incorrect memory entry

 $123 \rightarrow$ When the input value of Volume is incorrect



 $(456) \rightarrow$ When the input value is incorrect (Volume \times number of times exceeds the specified value)

4			A.
l	Pipetty S	Smart Aj	<u>op</u>
lst	2nd	3rd 4ti	h Sth
20µL.	2	50µL	1000µL
	It value. (Vo	exceeds the	
			ок
Single	e-mode	Mul	ti-mode
	U pt		5. O.
1	2	3	-
4	5	6	-
7	8	9	\otimes
,	0	•	
	7	•	

5			
I	Pipetty S	mart App	2
1st	2nd 3	rd 4th	5th
20µL	25(apit.	1000µL
Dispense			\sim
	etting value e It value. (Volu _)		Up to
		[ок
Single	e-mode	Multi-r	- 100
Single	e-mode	Mutti-r	node
Single			node
Single 1 4	Пи	200	node
1	∩⊭ 2	200 3	node
1	∩∝ 2 5	200 3 6	node Jua Alime

6	Pipetty S	mart Apj	2
1st	2nd 3	rđ 4th	Sth
20µL Dispense			1000µL
	It value. (Vol	exceeds the ume×Times	: Up to
			ок 🌙
Single	e-mode	Multi-	0.000
Single	e-mode	Mutti-	mode
single			mode
Single 1 4	∩	500	mode
1	∩⊭ 2	50r 3	mode
1	∩∝ 2 5	500 3 6	mode]u. O. ^{une}



In case of connection error
 When the device is not turned on or when the main screen switch (blue) is not turned on

	1000µL	Dis:Hi	Asp:+
	Multi	500µL.	2time
	20µL Multi	Dis:4	Aspo
	Multi	1.5µL	6time
	-μL	Dis:	Asp:-
5th	µL	υis: μL	Asp time

7 Keypad/Voice

Keypad input on the screen and voice input (Japanese / English) to set and enter the volume, dispensing mode, and dispensing volume of pipetty.

7.1 How to use Keypad



[Keypad input registration example: 1000µL, Single-Mode, 500µL]

①Tap 1000µL capacity and select Single-Mode in dispensing mode
 ②When tap the number part of the dispensing volume setting, the number disappear, and can proceed input.





- * [Settings below the decimal point of dispensing volume]
 - •250 $\mu \rightarrow$ 1.0 99.9 can be set. (However, the display of device is up to 19.9)
 - •1000 $\mu \rightarrow$ 5.0 99.9 can be set. (Same as above)

The display on device is up to 19.9, but the application can set and operate up to 99.9 after the decimal point.

3 After inputting a numerical value on the keypad, tap "Send" to transfer to device.



◀ ● ■

* Tap the "Back button" on the smartphone to reset the entered information.

[Error messages]

If the keypad value is entered incorrectly
 When the input value of Volume is incorrect

O When Volume \times number of times exceeds the specified value



pipetty smart App

7.2 How to use Voice input

[Voice input (Japanese)]

①Turn on the capacity button from the Main screen

②Turn on the VOICE button and tap "JP (Japanese)".

[Input example: Capacity 1000 μ L, Multi-mode, 100 μ L, when inputting voice for setting 5 times (Japanese)] ③Speak "1000 micro" into the microphone of your smartphone.

 \rightarrow The recognized words are displayed as a keypad and the capacity switches to 1000 µL.



(4) When you speak "multi", the keypad is displayed, and it switches to Multi-mode.

⑤The setting of the dispensing volume is called "volume" .





It can also specify the number of dispenses in the same way.
 The numerical value is called "5".

(9) When you say "Send" after completed the input, the data will be transferred to device.



8 Protocol

8.1 E

Edit

Create and input protocol files and edit. ①Tap "Edit" to open the edit screen. ②If there is no target file for "Save File" and "Delete File", an error will be displayed.









6 - 8 Select " Capacity" and "Mode"

6	0	8
Pipetty Smart App	Pipetty Smart App	<u>Pipetty Smart App</u>
File Name Sourt Prier Add Delete 2 20uL 250uL 1000uL None	File Name Seve Delete File Add Delete Ne Proceel Cepacity Mode Volume Times Dispense 500 1 micro of Reagent 1000µL	File Name Please select a mode. Single Multi Super Multi Mix
Cancel		None Cancel
< • E	< ● ■	< • •

* [Select Mode]

" Single" \rightarrow Quantitative dispensing operation "Multi" \rightarrow Equal volume continuous dispensing operation "Super Multi" \rightarrow Different volume continuous dispensing operation

" $Mix" \rightarrow Mixing$ (Pipetting) operation "None" \rightarrow No selection (When do not run device)

* [Selecting the number of times]

Only "Multi" can select the number of times.

"Mix" repeats aspiration and dispensing while pressing the operation button of device. (One-time operation)



(9) - (1)Then enter the "Volume (Dispensing volume)". Single mode is automatically set to once.

Pipetty Smart App	0	Pipetty	<u> Smart A</u>	<u>00</u>	Dipetty Smart App
File Name	File Name	e 🗌			File Name
Seve Defete Add Delete File Add Delete Dispense 500	Ple 50	ease enter th	e volume.	05	Save Delete Add Delete No Protocol Capacity Mode Volume Times Dispense 500 Capacity Mode Volume Times
1 micro of Reagent A into the tube	1		Cancel	ок	1 micro of Reagent A into the tube
	1	2	3	-	
	4	5	6	_	
	7	8	9	$\left(\times\right)$	
	,	0		\checkmark	
< ● ■		•	•		< • =

* [Settings below the decimal point of dispensing volume]

•250 $\mu \rightarrow$ 1.0 - 99.9 can be set. (However, the display of device is up to 19.9)

•1000 $\mu \rightarrow$ 5.0 - 99.9 can be set. (Same as above)

The display on device is up to 19.9, but the application can set and operate up to 99.9 after the decimal point.

⁽¹⁾Continue tapping "Add" to add necessary items and input.

(* In the case of Super Multi mode, enter the volume to be dispensed into each item once.) ③After entered the file name, "Save File" is enabled.

1	10
Pipetty Smart App	Pipetty Smart App Pipetty Smart App
File Name	File Name Protocol A
Seve Delete File File td Delete	Please enter the filename. Protocol A Delete Add Delete File Add Delete
Tap twice to enter characters	Ne Proceel Capacity Mode Volume Times Dispense 500 I micro of Reagent 1000µL S 500.0 1 Cancel OK
Dispense 20 2 micro of Reagent 20µL S 20.0 1	2 micro of Reagent 20µL S 20.0 1 2 micro of Reagent 20µL S 20.0 1
3 of mixed liquid 20µL M 5.0 4	Dispense 5 micro of mixed liquid 20µL M 5.0 4 3 of mixed liquid 20µL M 5.0 4
Dispense Reagent C 1000µL SM 100.0 1 interviewelle bu	A Reagent C 1000µL SM 100.0 1 A Reagent C 1000µL SM 100.0 1
5 1000µL SM 125.0 1	s 1000µL SM 125.0 1 > of into the ♥
6 1000µL SM 150.0 1	6 1000µL SM 150.0 1
7 1000µL SM 175.0 1	q ¹ w ² e ³ r ⁴ t ⁵ y ⁶ u ⁷ i ⁸ o ⁹ p ⁹ 7 1000µL SM 175.0 1
	asd fghjkl
	☆ z x c v b n m ⊗
	?123 [©] 🜐 English .
- • B	V 0 E E 0 E



⁽¹⁵⁾Tap "Save File" to complete and save to a file.

(6) If the same file name exists, a confirmation screen for overwriting will be displayed.

 $OK \Rightarrow Overwritten$

Cancel \Rightarrow Please enter a new name

Name	Prof	iocol A	S.		File	Name		Prof	locol A	ś
Save File File		Add	De	elete		Save The	Defet			
Protocol Dispense 500 micro of Reagent	Capacity 1000µL	Mode S	Volume 500.0	Times 1	No.	Dispens micro o		Cesso1y 1000µL	Moda S	Valuria 500.0
A into the tube Dispense 20 micro of Reagent	20µL	s	20.0	1	2	Ainte I	v	s same n	ama fi	la.
p Dispense 5 micro of mixed liquid into wells Atimes	20µL	М	5.0	4	3		vrite the	file?		
Dispense Reagent C	1000µL	SM	100.0	1	4	inter sam	Ter has		Cancel	OK
	1000µL	SM	125.0	<u>.</u>	5				SM	
	1000µL	SM	150.0	1	6				SM	
	1000µL	SM	175.0	1	7				SM	

8.2 File (Call protocol file)

Calls the entered protocol file and transfers it to device. (Example: Protocol 1) ①Before opening File, turn on the connection button.

0	
Pipetty Smart App	
Menu	Turn on the button of device
20µL 💿 🗱	
250µL	
1000µL 🥌 🏟	
Memory	
Keypad / Voice	
Protocol	Tap Protocol





2 Tap File first. And tap3 "File Name" twice to display 4 "Please select a file".

Pipetty Smart App	③ <u>Pipetty Smart App</u>	④ Pipetty Smart App
File Edit	File Name	File Name Start Done End Please choose a file. Protocol A Cancel
< • ■	< ● ■	< ● ■

⁽⁵⁾Select the specified file and tap "Start" to start the protocol.

Press the PUSH button on device, and after operation in item 1 is complete, check mark will appear in "Done".

e	Name	Protoco	IA]		File	Name	Protoco	IA		J		File	Name	Protoco	A		J	
	Start	Done		E	nd			Start	Done		E	nd			Start	Done		E	nd	
io i	Protocol	Capacity	Mode	Volume	Time 5	Done	No	Protocol	Capacity	Mode	Volume	Tirne B	Done	No	Protocol	Capacity	Mode	Volume	Time 5	D
	Dispense 500 micro of Reagent	1000µL	s	500.0	3		810	Dispense 500 micro of Reagent	1000µL	s	500.0	1		-81	Dispense 500 micro of Reagent	1000µL	s	500.0	ল	
	Dispense 20 micro of Reagent	20µL	s	20.0	1		2	Dispense 20 micro of Reagent	20µL	s	20.0	1		2	Dispense 20 micro of Reagent	20µL	s	20.0	1	
i.	Dispense 5 micro of mixed liquid	20µL	м	5,0	4		3	Dispense 5 micro of mixed liquid	20µL	м	5.0	4		3	Dispense 5 micro of mixed liquid	20µL	М	5.0	4	C
	Leave for 1 minute	3	1				4	Leave for 1 minute	3	1		1		4	Leave for 1 minute	3	2	12		C
	Dispense Reagent C	1000µL	SM	100.0	ä		5	Dispense Reagent C	1000µL	SM	100.0	ä		5	Dispense Reagent C	1000µL	SM	100.0	1	
		1000µL	SM	125.0	1		6		1000µL	SM	125.0	1		6		1000µL	SM	125.0	1	C
		1000µL	SM	160.0	1		7		1000µL	SM	160.0	7		7		1000µL	SM	160.0	7	C
		1000µL	SM	175.0	Ť		8		1000µL	SM	175.0	1		8		1000µL	SM	175.0	Ť.	C



(1) If enter only the protocol characters as in No. 4, tap "Done" manually. (1) A check mark is added and be able to proceed to the next section.

[®]When the last check mark is completed, a PDF file will be output as a record in the log file in the smartphone.

* If operation canceled in the middle of the protocol, a PDF file that records the time until the check mark is output.

ile	Name	Protoco	IA]		File	Name	Protoco	IA]		File	Name	Protoco	IA]	
	Start	Done		E	nd			Start	Done		E	nd			Start	Done		E	nd	
No	Protocol Dispense 500	Capacity	Mode	Volume	Time 5	Done	No	Protocol Dispense 500	Capacity	Mode	Volume	Time 5	Done	No	Protocol Dispense 500	Capacity	Mode	Volume	Time 5	• t
1	micro of Reagent	1000µL	S	500.0	9	\mathbf{Z}	1	micro of Reagent	1000µL	S	500.0	া		- 1	micro of Reagent	1000µL	S	500.0	9	ŀ
2	Dispense 20 micro of Reagent	20µL	s	20.0	1		2	Dispense 20 micro of Reagent	20µL	s	20.0	1		2	Dispense 20 micro of Reagent	20µL	s	20.0	1	1
3	Dispense 5 micro of mixed liquid	20µL	М	5,0	4		3	Dispense 5 micro of mixed liquid	20µL	М	5,0	4		з	Dispense 5 micro of mixed liquid	20µL	М	5.0	4	1
\$	Leave for 1 minute						4	Leave for 1 minute	3	1	2			4	Leave for 1 minute	3	1	2		1
12	Dispense Reagent C	1000µL	SM	100.0	ä		5	Dispense Reagent C	1000µL	SM	100.0	9		5	Dispense Reagent C	1000µL	SM	100.0	ä	
		1000µL	SM	125.0	1		6		1000µL	SM	125.0	1		6		1000µL	SM	125.0	1	
63		1000µL	SM	160.0	7		7		1000µL	SM	160.0	Ħ		7		1000µL	SM	160.0	7	1
		1000µL	SM	175.0	Ť		8		1000µL	SM	175.0	Ť.		8		1000µL	SM	175.0	Ť	1

[Display of popup]

If the following message is displayed during protocol operation, press the "PUSH" button on device to turn on.
 When Cancel is selected, "Failed to connect device" is displayed and the screen returns to the protocol screen. If so, start the protocol over again.

0	0	3
Pipetty Smart App	Pipetty Smart App	Pipetty Smart App
File Name Protocol A Start Done End Rel Connecting to pipetty (1000uL). Make sure turn on t Yes	File Name Protocol A Start Done End To End Start Connecting to pipetty (20uL). Make sure turn on the Yes	File Name Protocol A Start Done End No Protocol Country Made Volume Tarte Done Dispense 500 Dispense 500 Connection Failed OK
4 Cancel	Cancel	A Dispense 4 Reagent C interviewille ber 1000µL SM 100.0 1 5 1000µL SM 125.0 1
Confirm the device is turned on	6 1000µL SM 150.0 1 7 1000µL SM 175.0 1	6 1000μL SM 150.0 1 7 1000μL SM 175.0 1
< ● ■	< ● ■	< ● ■



④If the following message appears while the protocol is operating, and the message⑤ "... mode start failed" appears after tapping "Yes", the device may not in the mode selection state. Set the device to standby state and try the protocol again.



[In case communication is interrupted]

•If "Incorrect pipette information" or "Failed to connect" is displayed on the application screen, please try again from Section 5.2 (pipetty Smart registration).

In that case, please remove the battery from device once, and re-insert it.

Pipetty Smart App	<u>Pipetty Smart App</u>
250ut.	Мепи 20µL • • • • • • • • • • • • • • • • • • •
The device could not be detected.	Connection Failed
ON OFF	Keypad / Voice Protocol



8.3 Modify the protocol file

When need to modify the item of the called file, tap Edit and "Tap File Name" twice.

*If tap only once, the screen "Enter file name" will appear, and the protocol file will be created. Return with Cancel and tap twice to try again.

File Nat	me	Pipe e ente			ame.		<u>р</u> Ок	
				ŕ				
<	U	GI	F		\$:	•••	Ŷ
q ¹ v	v ²	e [°] I	4	t⁵ y	/° (」 7	i° c	° p°
а	s	d	f	g	h	j	k	I
仑	z	х	с	v	b	n	m	(\times)
?123	© ,			Eng	lish			\checkmark
				•		1		

[File modification]①Tap Edit.②Tap the File Name field twice.③Tap the file name need to modify.





④ The selected protocol is displayed.

 Tap twice on the part need to modify. (Example: Volume in Section 7 changed from 160 to 150 μ L) Enter the value to be modified.

ile	Name	Prof	tocol A	Ň.		File	Name	Prof	ocol A	š.		File	Name		Protocol A		
and a second	Save File File		Add	De	elete		Save File File		Add	De	lete	ſ	Please er	iter the v	olume.		
No 1	Dispense 500	Capacity		Volume	Times	No	Protocol Dispense 500	Capacity	Mode S	Volume	Times	- 10	150				
ź	micro of Reagent A into the tube Dispense 20 micro of Reagent		s	20.0	1	2	micro of Reagent A into the tube Dispense 20 micro of Reagent		s	20.0	1	2			Cancel	ок	
	p Dispense 5 micro of mixed liquid	20µL	м	5.0	4	з	p Dispense 5 micro of mixed liquid	20µL	м	5.0	4	3	Dispense 5 of mixed liq		iµL M	5.0	
ŝ	Leave for 1 minute					4	Leave for 1 minute					.4	Leave for 1 minute				
1	Dispense Reagent C into wolle hu	1000µL	SM	100.0	1	5	Dispense Reagent C	1000µL	SM	100.0	1	5	Dispense Reagent C		OUL SM		
ß		1000µL	SM	125.0	1	6		1000µL	SM	125.0	1	16		100	0.0 514	125.0	
8		1000µL	SM	160.0	1	7		1000µL	SM	160.0	1		1	2	3		-
		1000µL	SM	175.0	1	8		1000µL	SM	175.0	1		4	5	6	3	-
													7	8	9	4	(X)

⑦Confirm that the value has been changed, and tap "Save File".

([®]A confirmation message for overwriting the file will be displayed. OK \Rightarrow Overwrite.

If set a new file name, Cancel \Rightarrow Return, tap the File Name field once to enter a new name, and tap OK (③ is the correction completion screen)



9 Logging function

In the logging function mode, basic operations are performed by device, and only the operation results are recorded in the log.



Log files

Operation result log is from the shared storage in the smartphone file. The execution result log is output as a pdf file to the shared storage \Android \data \jp.co.icomes.pipettysmartapp \files \PipettySmartApp in the smartphone file. The following is the output of the operation result by the protocol of 8.2.

Protocol A

No	Protocol	Capaci ty	Mode	Volume	Times	EndTime
1	Dispense 500 micro of Reagent A into the tube	1000µ L	Si ngl e	500.0	1	2020/06/03 11:17:37
2	Dispense 20 micro of Reagent B	20µ L	Si ngl e	20.0	1	2020/06/03 11:17:51
3	Dispense 5 micro of mixed liquid into wells 4times	20µ L	Multi	5.0	4	2020/06/03 11:18:08
4	Leave for 1 minute	-	-	-	-	2020/06/03 11:18:09
5	Dispense Reagent C into wells by 100,125,150, 175 micro	1000µ L	SuperMulti	100.0	1	2020/06/03 11:18:15
6		1000µ L	SuperMulti	125.0	1	2020/06/03 11:18:17
7		1000µ L	SuperMulti	160.0	1	2020/06/03 11:18:19
8		1000µ L	SuperMulti	175.0	1	2020/06/03 11:18:26

The following operations are saved as the operation result log.

 \bigcirc Protocol (Item) \bigcirc Capacity (Device volume) \bigcirc Mode \bigcirc Volume (Dispensing volume)

 \bigcirc Times (Number of times) \bigcirc End Time (Completion recording time)

* EndTime is output for the part with the "Done" check mark on protocol operation.

[File storage destination for protocol and memory registration] Shared storage \ Android \ data \ jp.co.icomes.pipettysmartapp \ files \ PipettySmartApp.

[Notes]

Depending on the smartphone model, the "Protocol file", "Memory file", and "Log file" may not be viewable from the PC. In that case, please restart your smartphone or tablet device.

[Notes]

If an error (Err004) is displayed on device during aspiration, the device has exceeded the normal operating temperature range, so suspend the operation and place the device in a cool place for a certain period of time or change the dispensing volume.



10 Complete the operation

After completed the operation, return to main screen and tap button of used capacity to disconnection.

<u>Pipetty Smart App</u>							
Menu							
20µL		\$					
250µL		0 0 0 0					
1000µL		\$					
Memory							
Keypad / Voice							
Protoc	Protocol						



11 Troubleshooting

If the problem cannot be solved by the following method or if any other abnormality occurs, please contact us or distributor.

Problem	Inferred factors	Solutions				
	No battery inserted in device	Insert the battery				
	The device display is not the mode setting screen	Switch the display of device t o the mode setting screen (initial screen)				
	Low battery	Replace with a charged battery				
Cannot connect to device	Battery has memory effect	After discharging the battery on the 1st scale as a guide, repeat charging 2-3 times.				
	Battery has reached cycle life	Replace with a new battery				
	Battery is inserted in the opposite direction	Insert the battery correctly				
	No location permissions in Smartphone	Setting location information authority of smartphone				
	Low battery	Replace with a charged battery				
	Battery has memory effect	After discharging the battery on the 1st scale as a guide, repeat charging 2-3 times.				
Easy to disconnect	Battery has reach	Replace with a new battery				
	Affected by peripherals	Check if there is any influence of other wireless communication				



Problem	Inferred factors	Solutions			
	The device and smartphone are too far apart	Reduce the distance between device and the smartphone			
Easy to disconnect	There is a wall or other shield between device and the smartphone	Make sure there is no obstruction between device and smartphone			
	The timing to operate is early	Operate according to the display of the application			
Cannot find protocol data / log data	Storage settings are hidden in Smartphone	Show storage settings of Smartphone			
Cannot input voice	No microphone authority	Set microphone permission on Smartphone			
Cannot create folder	There is no permission for storage (Create log)	Set storage permissions on Smartphone			
"Incorrect pipette information" is displayed	Incorrect settings or device selection	Check the device capacity and MAC address and try again in Section 5.2			
	Device is not turned on	Press the PUSH button to turn on			
"Connection failed" is displayed	Low battery	Replace with a charged battery			
	Problems on the smartphone side	Retry the "pipetty smartphone registration" in section 5.1.			

Customer Support

Icomes Lab Co., Ltd.



2-4-23, Kitaiioka, Morioka, Iwate, 020-0857 JAPAN Healthtech Innovation Hub TEL: +81-19-601-8228 FAX: +81-19-601-8227 E-mail: globalinfo@icomes.co.jp Website: https://www.icomes.co.jp/en