

# Flutter POS Program Manual

V1.2.0

## 1.Instruction

By reading this manual, developers can quickly learn how to use Flutter to implement the receipt printing function and apply it to actual development. This manual includes the use of the PrinterManager class and the POSCommand class, as well as the meaning and usage of the constants in the POSConst class.

## 2.PrinterManager

### 2.1.PrinterManager

Constructor, create a printer management object

PrinterManager()

### 2.2.connectBt

This method is used for Bluetooth connection (Android uses classic Bluetooth, iOS uses BLE)

Future<void> connectBt(String address, Function(int result) callback)

[Parameter]

Øaddress

Bluetooth Address

Øcallback

Connection status callback

### 2.3.connectUsb

This method is used for USB connection (only supports Android)

Future<void> connectUsb(String path, Function(int result) callback)

[Parameter]

Øpath

usb path

Øcallback

Connection status callback

## 2.4.connectNet

This method is used for Net connection (only supports Android)

Future<void> connectNet(String path, Function(int result) callback)

[Parameter]

Øpath

ip address

Øcallback

Connection status callback

## 2.5.getUsbPaths

This method is used to obtain the currently connected USB device list (only supports android)

Future<List> getUsbPaths()

[Return]

Usb List object: usb address list collection

## 2.6.searchCallback

Bluetooth search callback

searchCallback(Map args)

[Return]

Map dictionary object of Bluetooth information: key: address, value: name

## 2.7.sendESC

This method is used to send pos instructions

Future<void> sendESC(List<Map<String, dynamic>> data)

## 2.8.checkPermissions

This method is used to check Android Bluetooth authorization

Future<bool> checkPermissions()

[Return]

Bool object

## 2.9.startScan

This method is used for Bluetooth search (Android: Classic Bluetooth search, iOS: BLE search)

Future<void> startScan()

## 2.10.disconnect

Disconnect

Future<void> disconnect()

## 2.11.posprinterStatus

Query connection status

Future<int> posPrinterStatus()

status	Description
STS_CONNECT	connect
STS_DISCONNECT	disconnect

## 2.12.checkIsConnect

Query connection status

Future<int> checkIsConnect()

[Return]

status	Description
STS_CONNECT	connect
STS_DISCONNECT	disconnect

## 2.13.GetSerialNumber

Obtain the serial number of the printer

Future<String> getSerialNumber()

[Return]

Get the SN code queried by callback.

## 2.14.setBluetooth

Set Bluetooth information

void setBluetooth(String name, String pin)

[Parameter]

Øname

bluetooth name

Øpin

bluetooth pin code

[Return]

void

## 2.15.cashBoxCheck

This method is used to query the cash drawer status.

Future<int> cashBoxCheck()

The status-values are shown in the table below.

STS_UNKNOWN	Unknown state, read data timeout or received data length is not 1.
STS_CASH_OPEN	Cash drawer is open.
STS_CASH_CLOSE	Cash drawer is close.

## 3.POSCommand

### 3.1.POSCommand

Constructor to create print objects.

POSCommand()

## 3.2.printString

This function is used for text-printing.

POSCommand printString(String data)

[Parameter]

Ødata

Printed text string

[Return]

POSCommand Instance

## 3.3.printText

This function is used for format-specific text printing.

POSCommand printText(String text, {int alignment = POSConst.ALIGNMENT\_LEFT, int attribute = POSConst.FNT\_DEFAULT, int textSize = POSConst.TXT\_1WIDTH | POSConst.TXT\_1HEIGHT})

[Parameter]

Ødata

Printed text string

Øalignment

The alignment of the text, and the default is ALIGNMENT\_LEFT

Note: When using alignment, data needs to end with "\n", otherwise it may become invalid.

Variable	Description
ALIGNMENT_LEFT	Align left
ALIGNMENT_CENTER	Align center
ALIGNMENT_RIGHT	Align right

Øattribute

This value is text attributes. It sets text attributes to print. default is FNT\_DEFAULT

Variable	Description
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FNT_DEFAULT	FontA, Set up as a standard
FNT_FONTB	Set up as FontB
FNT_BOLD	bold font
FNT_REVERSE	Set up as reverse print attribute
FNT_UNDERLINE	Set up as Underline attribute
FNT_UNDERLINE2	Set up as Bold Underline attribute

ØtextSize

The font size of the printed text font,default is TXT\_1WIDTH|TXT\_1HEIGHT

Variable(Set up width ratio)	Description
TXT_1WIDTH	Set up width ratio as x1
TXT_2WIDTH	Set up width ratio as x2
TXT_3WIDTH	Set up width ratio as x3
TXT_4WIDTH	Set up width ratio as x4
TXT_5WIDTH	Set up width ratio as x5
TXT_6WIDTH	Set up width ratio as x6
TXT_7WIDTH	Set up width ratio as x7
TXT_8WIDTH	Set up width ratio as x8

Variable(Set up height ratio)	Description
TXT_1HEIGHT	Set up height ratio as x1
TXT_2HEIGHT	Set up height ratio as x2
TXT_3HEIGHT	Set up height ratio as x3
TXT_4HEIGHT	Set up height ratio as x4
TXT_5HEIGHT	Set up height ratio as x5
TXT_6HEIGHT	Set up height ratio as x6
TXT_7HEIGHT	Set up height ratio as x7
TXT_8HEIGHT	Set up height ratio as x8

[Return]

POSCommand

Instance

### 3.4.printBitmap

This function is used for printing image files.

```
POSCCommand printBitmap(UInt8List bitmap,int width, {int alignment =  
POSCConst.ALIGNMENT_LEFT,int mode = POSConst.BMP_NORMAL})
```

[Parameter]

Øbitmap

Bitmap Object.

Øalignment

The alignment mode of the pictures.

Variable	Description
ALIGNMENT_LEFT	Align left
ALIGNMENT_CENTER	Align center
ALIGNMENT_RIGHT	Align right

Øwidth

Print the picture width.

Ømodel

Print mode

Variable	Description
BMP_NORMAL	Original(Normal) size
BMP_WIDTH_DOUBLE	Double width
BMP_HEIGHT_DOUBLE	Double height
BMP_WIDTH_HEIGHT_DOUBLE	Double size

[Return]

POSCCommand Instance

## 3.5.printBarCode

This function is used for supporting barcode printing.

```
POSCCommand printBarCode(String data, int codeType, {int width = 1, int height =  
1, int alignment = POSConst.ALIGNMENT_LEFT, int textPosition =  
POSCConst.HRI_TEXT_BELOW})
```

[Parameter]

Ødata

Barcode string to be printed

ØcodeType

Barcode type

Variable	Description
BCS_UPCA	UPC A
BCS_UPCE	UPCE
BCS_EAN8	EAN-8
BCS_EAN13	EAN-13
BCS_JAN8	JAN-8
BCS_JAN13	JAN-13
BCS_ITF	ITF
BCS_Codabar	Codabar
BCS_Code39	Code 39
BCS_Code93	Code 93
BCS_Code128	Code 128, For this type, the data must be added with {A, {B, {C, etc

Øheight

Barcode height, range [1,255].Default is 162

Øwidth

This values barcode width in Dot Units, range [2, 6], Default is 3

Øalignment

It sets barcode alignment, Default is ALIGNMENT\_CENTER

Variable	Description
ALIGNMENT_LEFT	Align left
ALIGNMENT_CENTER	Align center
ALIGNMENT_RIGHT	Align right

ØtextPosition

This value is printing position of barcode HRI letters(barcode data).Default is HRI\_TEXT\_BELOW.

Variable	Description
HRI_TEXT_NONE	Do not print barcode data
HRI_TEXT_ABOVE	Print barcode data above the barcode
HRI_TEXT_BELOW	Print barcode data below the barcode



HRI_TEXT_BOTH	Print barcode data top and bottom
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[Return]

POSCommand Instance

## 3.6.feedLine

This function is used for sending feeding command to printer.

POSCommand feedLine({int lineCount = 1})

[Parameter]

ØlineCount

This value is the number of lines for line feeding. Default is 1

[Return]

POSCommand Instance

## 3.7.printQRCode

This function is used for supporting QRCode barcode printing.

POSCommand printQRCode(String content,{int moduleSize = 8, int ecLevel = POSConst.QRCODE\_EC\_LEVEL\_L, int alignment = POSConst.ALIGNMENT\_CENTER})

[Parameter]

Ødata

QRCode data to print

ØmoduleSize

Module size. Range[1, 16], Default is 8.

ØecLevel

Error Correction Level, Default is QRCODE\_EC\_LEVEL\_L

Variable	Description
QRCODE_EC_LEVEL_L	Error correction Level L (7%)
QRCODE_EC_LEVEL_M	Error correction Level M (15%)
QRCODE_EC_LEVEL_Q	Error correction Level Q (25%)
QRCODE_EC_LEVEL_H	Error correction Level H (30%)

Øalignment

It sets QRCode alignment, Default is ALIGNMENT\_CENTER

Variable	Description
ALIGNMENT_LEFT	Align left
ALIGNMENT_CENTER	Align center
ALIGNMENT_RIGHT	Align right

[Return]

POSCommand Instance

### 3.8.cutPaper

This method is used for cutting the paper

POSCommand cutPaper({int model = POSConst.CUT\_HALF})

POSCommand cutHalfAndFeed(int distance)

[Parameter]

Ømodel

Cut paper mode, Default is CUT\_HALF.

Variable	Description
CUT_ALL	Full cut
CUT_HALF	Half cut

Ødistance

Feed distance

[Return]

POSCommand Instance

### 3.9.openCashBox

Open a cash drawer.

POSCommand openCashBox(int pinNum, {int onTime = 30, int offTime = 255})

[Parameter]

ØpinNum

Pin number to generate pulse.

Variable	Description
----------	-------------

PIN_TWO	PIN 2
PIN_FIVE	PIN 5

ØonTime

Start tiime to generate pulse. onTime\*2ms, range [0,255], Default is 30

ØoffTime

Stop time to generate pulse. offTime\*2ms, range [0,255], Default is 255

[Return]

POSCommand Instance

## 3.10.setCharSet

Set character encoding

POSCommand setCharSet(String charSet)

[Parameter]

ØcharSet

Character set name.

## 3.11.setAlignment

This method is used for set up the alignment of the text  
 POSCommand setAlignment(int alignment)

[Parameter]

Øalignment

The alignment of the text, and the default is ALIGNMENT\_LEFT

Variable	Description
ALIGNMENT_LEFT	Align left
ALIGNMENT_CENTER	Align center
ALIGNMENT_RIGHT	Align right

[Return]

POSCCommand Instance

## 3.12.setPrintArea

Set up the print area in page mode.

POSCCommand setPrintArea(int width, int height, {int x = 0, int y = 0})

[Parameter]

Øx

The x-coordinate of the starting position,Default is 0.

Øy

The y-coordinate of the starting position,Default is 0.

Øwidth

Width of printing area.

Øheight

Height of printing area.

[Return]

POSCCommand Instance

## 3.13.setPageModel

Change to page mode or standard mode.

POSCCommand setPageModel(bool isOpen)

[Parameter]

ØisOpen

Enable or Disable page mode. (TRUE, FALSE)

[Return]

POSCCommand Instance

## 3.14.printPageModelData

Print and return to standard mode in page mode. POSCommand printPageModelData()

[Return]

POSCommand Instance

## 3.15.setPrintDirection

Select print direction in page mode.

POSCommand setPrintDirection(int direction)

[Parameter]

Ødirection

Print direction

Variable	Description
DIRECTION_LEFT_TOP	From top left to right
DIRECTION_LEFT_BOTTOM	From bottom left to top
DIRECTION_RIGHT_BOTTOM	From bottom right to top
DIRECTION_RIGHT_TOP	From top right to bottom

[Return]

POSCommand Instance

## 3.16.setAbsoluteHorizontal

Set absolute horizontal print position . (X axis)

POSCommand setAbsoluteHorizontal(int position)

[Parameter]

Øposition

Starting position.

[Return]

POSCommand Instance

## 3.17.setRelativeHorizontal

Set relative horizontal print position. (X axis)

POSCommand setRelativeHorizontal(int position)

[Parameter]

Øposition

Starting position.

[Return]

POSCommand Instance

## 3.18.setAbsoluteVertical

Set absolute vertical print position in page mode. (Y axis)

POSCommand setAbsoluteVertical(int position)

[Parameter]

Øposition

Starting position.

[Return]

POSCommand Instance

## 3.19.setRelativeVertical

Set relative vertical print position in page mode. (Y axis)

POSCommand setRelativeVertical(int position)

[Parameter]

Øposition

Starting position.

[Return]

POSCCommand Instance

## 3.20.downloadNVImage

This function is used for save the NV images in flash.

POSCCommand downloadNVImages(List<Uint8List> bitmaps, int imageWidth)

[Parameter]

Øbitmaps

The bitmap list

ØimageWidth

This value is image width.

[Return]

POSCCommand Instance

## 3.21.printNVImage

This function is used to support the Bitmap Image printing stored in Flash Memory. POSCommand printNVImage(int index, int model)

[Parameter]

Øindex

It sets the index image stored in Flash Memory to print,range[1,255]

Ømodel

Print model

Variable	Description
BMP_NORMAL	Normal size
BMP_WIDTH_DOUBLE	Double width
BMP_HEIGHT_DOUBLE	Double height
BMP_WIDTH_HEIGHT_DOUBLE	Double size

[Return]

POSCCommand Instance

## 3.22.initializePrinter

Initialize Printer, This function clears the print buffer data.

POSCommand initializePrinter()

[Return]

POSCommand Instance

## 3.23.selectBitmapModel

Select bitmap model

POSCommand selectBitmapModel(int model, int width, Uint8List bmp)

[Parameter]

Ømodel

Bitmap model

ØBitmap

model

Variable	Description
SINGLE_DENSITY_8	8-point single density
DOUBLE_DENSITY_8	8-point double density
SINGLE_DENSITY_24	24-point single density(76 impact printers does not support)
DOUBLE_DENSITY_24	24-point double density(76 impact printers does not support)

Øwidth

Print the picture width.

Øbmp

Bitmap image

[Return]

POSCommand Instance

## 3.24.feedDot



Print buffer data and run n points

POSCCommand feedDot(int n)

[Parameter]

Øn

The paper distance, in horizontal or vertical moving units. The default is point.

[Return]

POSCCommand Instance

## 3.25.setLineSpacing

Set line-height

POSCCommand setLineSpacing(int space)

Øspace

Line-height, If you want to restore to the default height, use SPACE\_DEFAULT.

[Return]

POSCCommand Instance

## 3.26.setTurnUpsideDownMode

Select / cancel the inverted printing mode.

POSCCommand setTurnUpsideDownMode(bool on)

[Parameter]

Øon

True indicates selection, false indicates cancel.

[Return]

POSCCommand Instance

## 3.27.selectCodePage

Select character code page

POSCommand selectCodePage(int page)

[Parameter]

Øpage

Code page

Value	Description	Value	Description
0	PC437(Std.Europe)	56	PC861(Icelandic)
1	Katakana	57	PC863(Canadian)
2	PC850(Multilingual)	58	PC865(Nordic)
3	PC860(Portugal)	59	PC866(Russian)
4	PC863(Canadian)	60	PC855(Bulgarian)
5	PC865(Nordic)	61	PC857(Turkey)
6	West Europe	62	PC862(Hebrew)
7	Greek	63	PC864(Arabic)
8	Hebrew	64	PC737(Greek)
9	East Europe	65	PC851(Greek)
10	Iran	66	PC869(Greek)
16	WPC1252	67	PC928(Greek)
17	PC866(Cyrillic#2)	68	PC772(Lithuanian)
18	PC852(Latin2)	69	PC774(Lithuanian)
19	PC858	70	PC874(Thai)
20	IranII	71	WPC1252(Latin-1)
21	Latvian	72	WPC1250(Latin-2)
22	Arabic	73	WPC1251(Cyrillic)
23	PT1511251	74	PC3840(IBM-Russian)
24	PC747	75	PC3841(Gost)
25	WPC1257	76	PC3843(Polish)
27	Vietnam	77	PC3844(CS2)
28	PC864	78	PC3845(Hungarian)
29	PC1001	79	PC3846(Turkish)
30	Uigur	80	PC3847(Brazil-ABNT)
31	Hebrew	81	PC3848(Brazil)
32	WPC1255(Israel)	82	PC1001(Arabic)
255	Thai	83	PC2001(Lithuan)
33	WPC1256	84	PC3001(Estonian-1)
50	PC437(Std.Europe)	85	PC3002(Eston-2)

51	Katakana	86	PC3011(Latvian-1)
52	PC437(Std.Europe)	87	PC3012(Tatv-2)
53	PC858(Multilingual)	88	PC3021(Bulgarian)
54	PC852(Latin-2)	89	PC3041(Maltese)
55	PC860(Portuguese)		

[Return]

POSCommand Instance

## 3.28.selectCharacterFont

Select font

POSCommand selectCharacterFont(int font)

[Parameter]

Øfont

Font type

Variable	Description
FONT_STANDARD	Standard ascii font (12 × 24)
FONT_COMPRESS	Compress ASCII font (9 × 17)

[Return]

POSCommand Instance

## 3.29.sendData

This function is used to send data to the printer

POSCommand sendData(UInt8List data)

[Parameter]

Ødata

Byte array to be sent

[Return]

POSCommand Instance

