

Flutter TSPL Program Manual

v1.2.0

1.Instruction

By reading this manual, developers can quickly learn how to use Flutter to implement TSPL printing functions and apply them to actual development. This manual includes the use of the PrinterManager class and the TSPLCommand class, as well as the meaning and usage of the constants in the TSPLConst 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]

➤address

Bluetooth Address

➤callback

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]

➤path

usb path

➤callback

Connection status callback

2.4.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

2.5.searchCallback

Bluetooth search callback

searchCallback(Map args)

[Return]

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

2.6.sendTSPL

This method is used to send label instructions

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

2.7.checkPermissions

This method is used to check Android Bluetooth authorization

Future<bool> checkPermissions()

[Return]

Bool object

2.8.startScan

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

Future<void> startScan()

2.9.disconnect

Disconnect

Future<void> disconnect()

2.10.PrinterLabelStatus

Get label printer status

Future<int> printerLabelStatus(int timeout)

[Parameter]

➤ timeout

Receive timeout, Unit is ms, Default is 5000ms

[Return]

status(HEX)	Description
00	Normal
01	Head opened
02	Paper Jam
03	Paper Jam and head opened

04	Out of paper
05	Out of paper and head opened
08	Out of ribbon
09	Out of ribbon and head opened
0A	Out of ribbon and paper jam
0B	Out of ribbon, paper jam and head opened
0C	Out of ribbon and out of paper
0D	Out of ribbon, out of paper and head opened
10	Pause
20	Printing
80	Other error
-1	Receive timeout

2.11.checkIsConnect

Query connection status

Future<int> checkIsConnect()

[Return]

status	Description
STS_CONNECT	connect
STS_DISCONNECT	disconnect

3.TSPLCommand

3.1.TSPLCommand

Constructor to create TSPL objects. TSPLCommand()

3.2.size

This method defines the label width and length.

TSPLCommand sizeInch(int width, int height)

TSPLCommand sizeMm(int width, int height)

[Parameter]

➤width

Label width (inch/mm)

➤height

Label height (inch/ mm)

[Return]

TSPLCommand Instance

3.3.gap

This method defines the gap distance between two labels

TSPLCommand gapInch(double m, double n)

TSPLCommand gapMm(double m, double n)

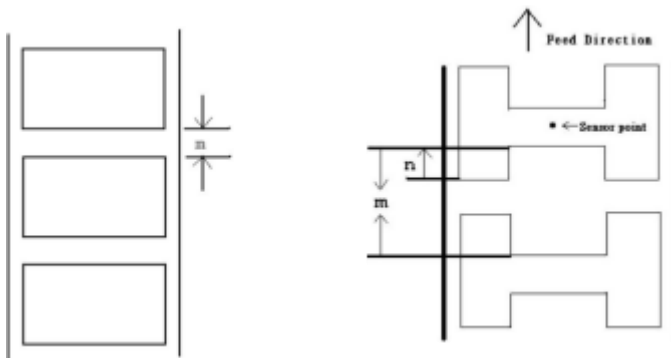
[Parameter]

➤m

The gap distance between two labels

➤n

The offset distance of the gap



[Return]

TSPLCommand Instance

3.4.speed

This method defines the print speed

TSPLCommand speed(double speed)

[Parameter]

➤speed

Printing speed in inch per second

[Return]

TSPLCommand Instance

3.5.density

This method sets the printing darkness.

TSPLCommand density(int density)

[Parameter]

➤Density Darkness level,

0~15.

[Return]

TSPLCommand Instance

3.6.cls

This method clears the image buffer.

TSPLCommand cls()

[Return]

TSPLCommand Instance

3.7.offset

This command defines the selective, extra label feeding length each form feed takes, which, especially in peel-off mode and cutter mode, is used to adjust label stop position, so as for label to register at proper places for the intended purposes. The printer back tracks the extra feeding length before the next run of printing.

TSPLCommand offsetInch(double offset)

TSPLCommand offsetMm(double offset)

[Parameter]

➤ offset

The offset distance (inch or mm)

$-1 \leq \text{offset} \leq 1$ (inch)

[Return]

TSPLCommand Instance

3.8.direction

This method defines the printout direction and mirror image. This will be stored in the printer memory.

TSPLCommand direction(int direction, {bool isMirror = false})

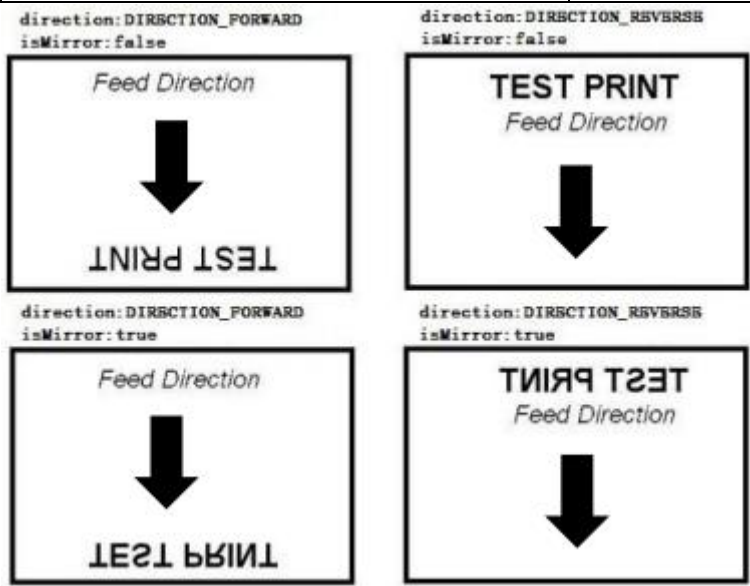
[Parameter]

➤ direction Printout

direction

Variable	Description
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DIRECTION_FORWARD	FORWARD
DIRECTION_REVERSE	REVERSE



➤isMirror
 mirror image(true or false),Default value:false.

[Return]
 TSPLCommand Instance

3.9.feed

This method feeds label with the specified length. The length is specified by dot.
 TSPLCommand feed(int length)

[Parameter]
 ➤length
 Length,unit: dot

1 ≤ length ≤ 9999

[Return]
 TSPLCommand Instance

3.10.reference

This method defines the reference point of the label. The reference (origin) point varies with the print direction.
 TSPLCommand reference(int x, int y)

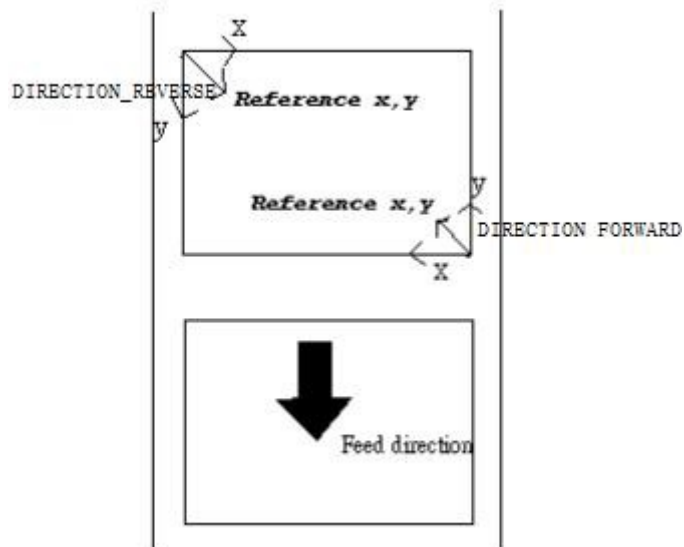
[Parameter]

➤x

Horizontal coordinate (in dots)

➤y

Vertical coordinate (in dots)



[Return]

TSPLCommand Instance

3.11.bar

This method draws a bar on the label format.

TSPLCommand bar(int x, int y, int width, int height)

[Parameter]

➤x

The upper left corner x-coordinate (in dots)

➤y

The upper left corner y-coordinate (in dots)

➤width

width Bar width (in dots)

➤height

height Bar height (in dots)

[Return]

TSPLCommand Instance

3.12.box

This method draws rectangles on the label.

TSPLCommand box(int x, int y, int width, int height, int thickness)

[Parameter]

➤x

Specify x-coordinate of upper left corner (in dots)

➤y

Specify y-coordinate of upper left corner (in dots)

➤width

width rectangles width (in dots)

➤height

height rectangles height (in dots)

➤thickness

line thickness Line thickness (in dots)

[Return]

TSPLCommand Instance

3.13.backFeed

This method feeds the label in reverse. The length is specified by dot.

TSPLCommand backFeed(int length)

[Parameter]

➤length Length

unit: dot

$1 \leq \text{length} \leq 9999$

[Return]

TSPLCommand Instance

3.14.formFeed

This method feeds label to the beginning of next label.

TSPLCommand formFeed()

[Return]

TSPLCommand Instance

3.15.home

This method will feed label until the internal sensor has determined the origin. Size and gap of the

label should be defined before using this method.

TSPLCommand home()

[Return]

TSPLCommand Instance

3.16.print

This method prints the label format currently stored in the image buffer.

TSPLCommand print({int count = 1})

[Parameter]

➤count

Specifies how many sets of labels will be printed. Default value:1.

[Return]

TSPLCommand Instance

3.17.codePage

This method defines the code page of international character set.

TSPLCommand codePage(String page)

[Parameter]

➤page

Name or number of code page.

7-bit code page		8-bit code page		Windows code page		ISO code page	
page	Name	page	Name	page	Name	page	Name
USA	USA	437	United States	1250	Central Europe	8859-1	Latin 1
BRI	British	737	Greek	1251	Cyrillic	8859-2	Latin 2
GER	German	850	Multilingual	1252	Latin I	8859-3	Latin 3
FRE	French	851	Greek 1	1253	Greek	8859-4	Baltic
DAN	Danish	852	Slavic	1254	Turkish	8859-5	Cyrillic
ITA	Italian	855	Cyrillic	1255	Hebrew	8859-6	Arabic
SPA	Spanish	857	Turkish	1256	Arabic	8859-7	Greek
SWE	Swedish	860	Portuguese	1257	Baltic	8859-8	Hebrew
SWI	Swiss	861	Icelandic	1258	Vietnam	8859-9	Turkish
		862	Hebrew	932	Japanese Shift-JIS	8859-10	Latin 6
		863	Canadian/French	936	Simplified Chinese GBK	8859-15	Latin 9
		864	Arabic	949	Korean		

		865	Nordic	950	Traditional Chinese Big5		
		866	Russian	UTF-8	UTF 8		
		869	Greek 2				

[Return]

TSPLCommand Instance

3.18.sound

This method controls the sound frequency of the beeper. There are 10 levels of sounds. The timing control can be set by the "interval" parameter.

TSPLCommand sound(int level, int interval)

[Parameter]

➤level Sound

level:0~9

➤interval

Sound interval: 1~4095.(in ms)

[Return]

TSPLCommand Instance

3.19.limitFeed

Limit the maximum length of the fixed clearance correction execution, and if the gap presence cannot be measured within this length range, set the sensor mode in the continuous paper mode.

TSPLCommand limitFeedInch(int length)

TSPLCommand limitFeedMm(int length)

[Parameter]

➤length

The maximum length for sensor detecting

[Return]

TSPLCommand Instance

3.20.barCode

This method prints 1D barcodes.

TSPLCommand barcode(int x, int y, String codeType, int height,String content,
{int readable = TSPLConst.READABLE_LEFT, int rotation = TSPLConst.ROTATION_0,

```
int narrow = 2, int wide = 2}}
```

[Parameter]

➤x

Specify the x-coordinate bar code on the label

➤y

Specify the y-coordinate bar code on the label

➤codeType Code

type

Variable	Description
CODE_TYPE_128	Code 128, switching code subset automatically.
CODE_TYPE_128M	Code 128, switching code subset manually.
CODE_TYPE_EAN128	EAN128, switching code subset automatically.
CODE_TYPE_25	Interleaved 2 of 5.
CODE_TYPE_25C	Interleaved 2 of 5 with check digit.
CODE_TYPE_39	Code 39, switching standard and full ASCII mode automatically.
CODE_TYPE_39C	Code 39 with check digit.
CODE_TYPE_93	Code 93.
CODE_TYPE_EAN13	EAN 13.
CODE_TYPE_EAN13_2	EAN 13 with 2 digits add-on.
CODE_TYPE_EAN13_5	EAN 13 with 5 digits add-on.
CODE_TYPE_EAN8	EAN 8.
CODE_TYPE_EAN8_2	EAN 8 with 2 digits add-on.
CODE_TYPE_EAN8_5	EAN 8 with 5 digits add-on.
CODE_TYPE_CODA	Codabar.
CODE_TYPE_POST	Postnet.
CODE_TYPE_UPCA	UPC-A.
CODE_TYPE_UPCA_2	UPC-A with 2 digits add-on.
CODE_TYPE_UPCA_5	UPC-A with 5 digits add-on.
CODE_TYPE_UPCE	UPC-E.

CODE_TYPE_UPCE_2	UPC-E with 2 digits add-on.
CODE_TYPE_UPCE_5	UPC-E with 5 digits add-on.
CODE_TYPE_CPOST	China post.
CODE_TYPE_MSI	MSI.
CODE_TYPE_MSIC	MSI with check digit.
CODE_TYPE_PLESSEY	PLESSEY.
CODE_TYPE_ITF14	ITF14.
CODE_TYPE_EAN14	EAN14.
CODE_TYPE_11	Code 11.
CODE_TYPE_TELEPEN	Telepen.

CODE_TYPE_TELEPENN	Telepen number.
CODE_TYPE_PLANET	Planet.
CODE_TYPE_CODE49	Code 49.
CODE_TYPE_DPI	Deutsche Post Identcode.
CODE_TYPE_DPL	Deutsche Post Leitcode.

➤height

Bar code height (in dots)

➤readable

human readable , Default value:READABLE_LEFT

Variable	Description
READABLE_NONE	not readable
READABLE_LEFT	human readable aligns to left
READABLE_CENTER	human readable aligns to center
READABLE_RIGHT	human readable aligns to right

➤rotation

Default value:ROTATION_0

Variable	Description
ROTATION_0	No rotation
ROTATION_90	Rotate 90 degrees clockwise
ROTATION_180	Rotate 180 degrees clockwise
ROTATION_270	Rotate 270 degrees clockwise

➤narrow

Width of narrow element (in dots), Default value:2

➤wide

Width of wide element (in dots),Default value:2

➤content Content of
barcode

[Return]

TSPLCommand Instance

3.21.bitmap

This method draws bitmap images.

TSPLCommand bitmap(int x, int y, int mode, int width, Uint8List bitmap)

Transferring images to printers through compression, only applicable to some models

TSPLCommand bitmapCompression(int x, int y, int mode, int width, Uint8List bitmap)

[Parameter]

➤x

Specify the x-coordinate

➤y

Specify the y-coordinate

➤mode

Graphic modes listed below:

Variable	Description
BMP_MODE_OVERWRITE	OVERWRITE,Only applicable to bitmap method
BMP_MODE_OR	OR,Only applicable to bitmap method
BMP_MODE_XOR	XOR,Only applicable to bitmap method
BMP_MODE_OVERWRITE_C	OVERWRITE, Only applicable to bitmapCompression method
BMP_MODE_OR_C	OR, Only applicable to bitmapCompression method
BMP_MODE_XOR_C	XOR, Only applicable to bitmapCompression method

➤width

Print width of picture

➤bmp

Bitmap data

[Return]

TSPLCommand Instance

3.22.qrcode

This method prints QR code.

TSPLCommand qrcode(int x, int y, int cellWidth, int rotation, String data, {String ecLevel = TSPLConst.EC_LEVEL_L, String mode = TSPLConst.QRCODE_MODE_AUTO, String model = TSPLConst.QRCODE_MODEL_M1, String mask = "S7"})

[Parameter]

➤x

The upper left corner x-coordinate of the QR code

➤y

The upper left corner y-coordinate of the QR code

➤ecLevel

Error correction recovery level

Variable	Description
EC_LEVEL_L	Error correction Level L (7%)
EC_LEVEL_M	Error correction Level M (15%)
EC_LEVEL_Q	Error correction Level Q (25%)
EC_LEVEL_H	Error correction Level H (30%)

➤cellWidth

size:1~10

➤mode

Auto / manual encode

Variable	Description
QRCODE_MODE_AUTO	Auto
QRCODE_MODE_MANUAL	Manual

➤rotation

Clockwise rotation angle, Default value:ROTATION_0

Variable	Description
ROTATION_0	0 degree
ROTATION_90	90 degree
ROTATION_180	180 degree
ROTATION_270	270 degree

➤model

Variable	Description
QRCODE_MODEL_M1	(default), original version
QRCODE_MODEL_M2	enhanced version (Almost smart phone is supported by this version.)

➤mask

S0~S8, default is S7

➤data

QRCode data content.

[Return]

TSPLCommand Instance

3.23.text

This method prints text on label.

TSPLCommand text(int x, int y, String font, String content, {int rotation = TSPLConst.ROTATION_0, int xRatio = 1, int yRatio = 1})

[Parameter]

➤x

The x-coordinate of the text

➤y

The y-coordinate of the text

➤font Font

name

Variable	Description
FNT_8_12	8 x 12 fixed pitch dot font

FNT_12_20	12 x 20 fixed pitch dot font
FNT_16_24	16 x 24 fixed pitch dot font
FNT_24_32	24 x 32 fixed pitch dot font
FNT_32_48	32 x 48 dot fixed pitch font
FNT_14_19	14 x 19 dot fixed pitch font OCR-B
FNT_14_25	14 x25 dot fixed pitch font OCR-A
FNT_21_27	21 x 27 dot fixed pitch font OCR-B
FNT_SIMPLIFIED_CHINESE	Simplified Chinese 24x24
FNT_TRADITIONAL_CHINESE	Traditional Chinese 24x24
FNT_KOREAN	Korean text 24x24

➤rotation

Clockwise rotation angle, Default value:ROTATION_0

Variable	Description
ROTATION_0	0 degree
ROTATION_90	90 degree
ROTATION_180	180 degree
ROTATION_270	270 degree

➤xRatio

Horizontal multiplication, up to 10x Available

factors: 1~10

➤yRatio

Vertical multiplication, up to 10x

Available factors: 1~10

➤content

Content of text string

[Return]

TSPLCommand Instance

3.24.erase

This method clears a specified region in the image buffer.

TSPLCommand erase(int x, int y, int width, int height)

[Parameter]

➤x

The x-coordinate of the starting point (in dots)

➤y

The y-coordinate of the starting point (in dots)

➤width

The region width in x-axis direction (in dots)

➤height

The region height in y-axis direction (in dots)

[Return]

TSPLCommand Instance

3.25.reverse

This method reverses a region in image buffer.

TSPLCommand reverse(int x, int y, int width, int height)

[Parameter]

➤x

The x-coordinate of the starting point (in dots)

➤y

The y-coordinate of the starting point (in dots)

➤width

X-axis region width (in dots)

➤height

Y-axis region height (in dots)

[Return]

TSPLCommand Instance

3.26.cut

This command activates the cutter to immediately cut the labels without back feeding the label.

TSPLCommand cut()

[Return]

TSPLCommand Instance

3.27.setPeel

This method is used to enable/disable the self-peeling function. The default setting for this function is false. When this function is set true, the printer stops after each label printing, and does not print the next label until the peeled label is taken away. This setting will be saved in printer memory when turning off the power.

TSPLCommand setPeel(bool isOpen)

[Parameter]

➤isOpen

true:Enable the self-peeling function false:Disable
the self-peeling function

[Return]

TSPLCommand Instance

3.28.setTear

This method is used to enable/disable feeding of labels to gap/black mark position for tearing off. This setting will be saved in printer memory when turning off the power

TSPLCommand setTear(bool isOpen)

[Parameter]

➤isOpen

true:The label gap will stop at the tear off position after print.

false:The label gap will NOT stop at the tear off position after print. The beginning of label will be aligned to print head.

[Return]

TSPLCommand Instance

3.29.bline

This method sets the height of the black line and the user-defined extra label feeding length each form feed takes.

TSPLCommand blineInch(double m, double n)

TSPLCommand blineMm(double m, double n)

[Parameter]

➤m

The height of black line either in inch or mm

➤n

The extra label feeding length $0 \leq$

$n \leq$ label length

[Return]

TSPLCommand Instance

3.30.setCharSet

Set character encoding

TSPLCommand setCharSet(String charSet)

[Parameter]

➤charSet

Character set name.

[Return]

TSPLCommand Instance

3.31.sendData

This function is used to send data to the printer

TSPLCommand sendData(UINT8List data)

[Parameter]

➤data

Byte array to be sent

[Return]

TSPLCommand Instance