

# FUJITSU Component Thermal Printer FTP-638WSL100 series (Easy Loading Method)

Fujitsu compact, battery drive, 3" high speed, standalone thermal printer

## PRELIMINARY

### Overview

The supply voltage of the FTP-638WSL Series is 120/240VAC (via AC adaptor) or battery. The unit uses 3 inch wide paper. The mechanism and interface board is a standard multiple purpose unit.

The semi-rugged printer unit is most suitable for applications such as handheld, mobile and portable devices, as well as for various other equipment.



FTP-638WSL100

### Features

- Light weight and ultra small size
- Easy paper loading
- Bluetooth® infrared interfaces
- 7.4 Lithion battery, 120 or 240VAC adaptor
- Drop-resistant - 1.5 meters
- Water resistant
- Prints 2-D barcodes and stacked barcodes
- 3 hour charge cycle
- Up to 3 paper rolls / charge
- Linerless label capability
- RoHS compliant
- IP54 compliant
- Windows®XP, CE 6.0, 7.0, 8.0 PC and tablet, Linux and Bluetooth drivers

### ■ Interface specification at host side

Item	Specifications	
Bluetooth V2.1 +EDR	Profile	SPP
	Modulation	FHSS/GFSK, 8DPSK (EDR)
	Data speed	460kbps, 1306.9kbps
	Maximum distance	10m
	Protocol stack	IrAP, IrLMP, IrLAS, TinyTP, IrCoMM
IrDA (Ver. 1.2, IrCMM)	Data speed	115,200 / 57,600 / 38,400 / 19,200 / 9,600bps

### ■ Part numbers

Item	Part Number	Adaptor	Included
Bluetooth, IrDA interfaces	FTP-638WSL110#10	120/240 VAC	With AC cable, belt clip

### ■ Power supply

- Battery

Item	Specifications
Type	Lithium Ion, 2 cell
Manufacturer	Fujitsu
Model	KD54004-L301
Rated voltage	7.4V, 2,090mAh
Life	300 cycles, 35 hours
Weight	110g

- AC adaptor

Item	Specifications
Type	Switching regulator
Manufacturer	Fujitsu
Model	KD02902-5420
Rated voltage	12V
Weight	325g

## ■ Specifications

Item	Specifications	
Part number	FTP-638WSL100 series	
Dot structure	576 dots/lines	
Dot pitch (horizontal)	0.125mm	
Dot pitch (vertical)	0.125mm	
Effective printing area	72 mm	
Paper width/diameter	80mm / ID 8mm, OD 50mm maximum	
Paper thickness	60-80 $\mu$ m* <sup>1</sup>	
Maximum printing speed	Battery 80mm/sec. at 8.4V, AC adaptor, 80mm/sec. at 12V (640 dotlines/s) at 12% print ratio	
Character types	Alphanumeric KANA: 159 International characters: 195 Registered characters: 224 JIS KANJI: approx. 6800	
Character dimensions (W x H), number of characters	12 x 24 dots (1.5 x 3.0mm), 48 columns 24 x 24 dots (3.0 x 3.0mm), 28 columns 8 x 16 dots (1.0 x 2.0mm), 72 columns 16 x 16 dots (2.0 x 2.0mm), 36 columns	
Power	Battery (Lithium Ion)	7.4VDC lithium, 2200mAh
	AC adaptor	12V - 3.75A 100VAC to 240VAC adaptor#20 (AC cable included)
Power consumption	1.6 - 1.7A printing (print ration 12.5%) standby 30-60mA communication 90-170mA	
Dimensions	106 x 116 x 58mm (WxDxH)	
Case color	White	
Weight	Printer with battery	Approximately 340g
	Battery & paper included	Approximately 380g
Expected life	Head	Pulse durability: 100 million pulse/dot (12.5% print ratio) Wear resistance: 50km
	Battery	One charge: 100m, 300 charge cycles
	Paper holder	5,000 times open/close
MTBF	Mechanism	3,000 hours
	Interface board	500,000 hours

\*<sup>1</sup>: there may be exceptions

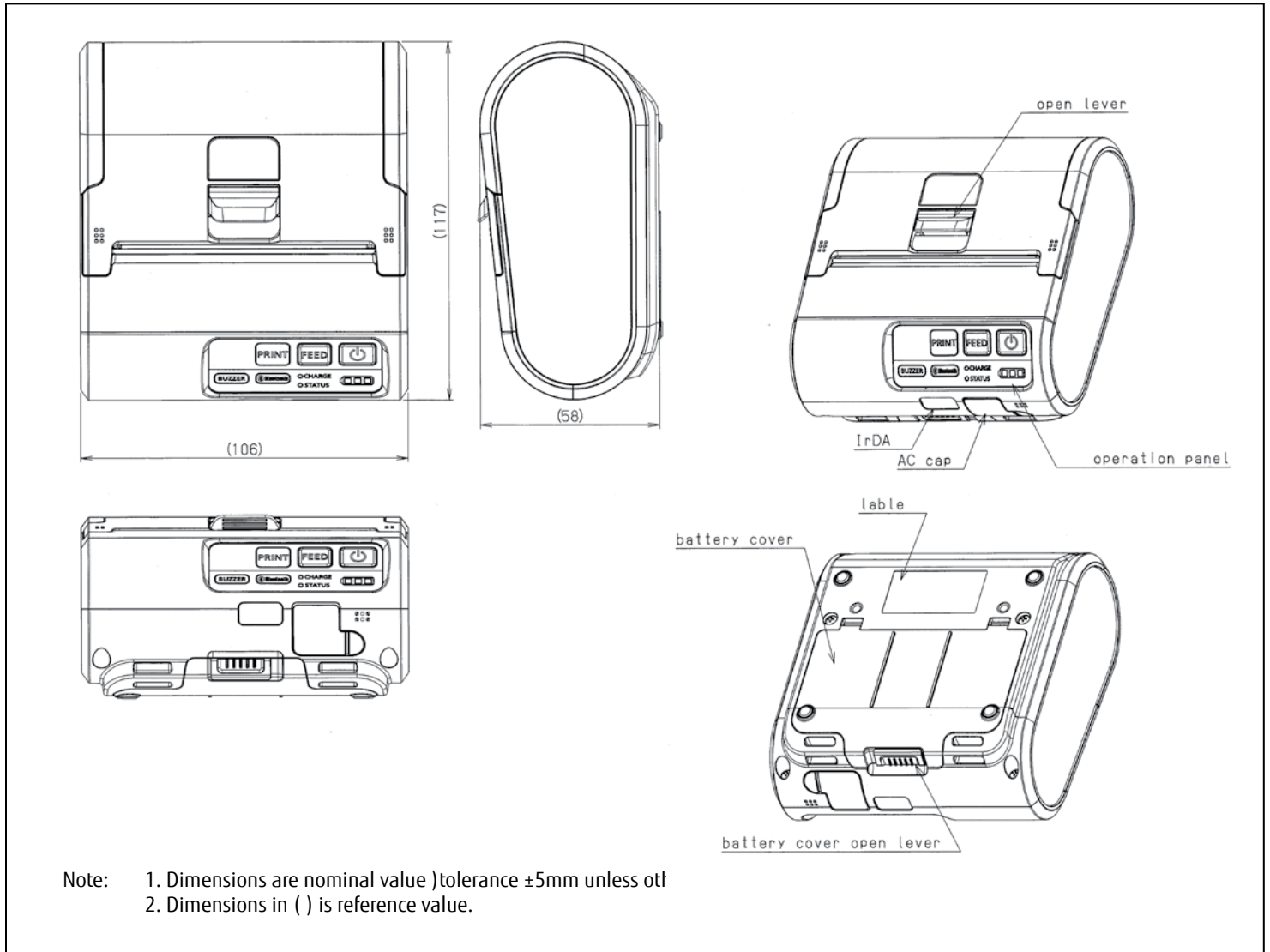
Item	Specifications		
Bar code type	Standard	UPC-A, UPC-E, JAN13, JAN9, CODE38, ITF, CODABAR, CODE 128, GSI DataBar-14, Limited, Truncated	
	2-D	MAXI, PDF417, QR, GSI DataBar-14 Stacked, Omnidirectional	
Interface	IrDA	Version 1.2 (Ir COMM protocol)	
	Bluetooth*2	Version 2.1 + EDR	
Safety standard	Noise	FCC Class B, FCC Part 15	
	Water resistant	JIS C0920 Class 2	
Environmental conditions	Operating temperature	0°C to +50°C*4	
	Operating humidity	30 to 85% RH (no condensation)	
	Storage temperature	-20°C to +60°C	
	Storage humidity	5 to 90% RH (no condensation)	
Detection functions	Head temperature	Detected by thermistor	
	Head detect	Detected by photo-interruptor	
	Paper out	Detected by photo-interruptor	
	Cover open	Detected by micro-switch	
Major functions	Page mode Registration of character and image Enlarge characters Auto status reply		
Recommended thermal sensitive paper	High sensitive paper	FT50KS-E4 (Nippon paper)	
	Standard paper	FTP-020P0704 TF-60KS-E (Nippon paper) PD150R (Oji paper)	
		Medium term paper	TF-60KS-F1 (Nippon paper) PD170R (Oji paper) P220VBB-1 (Mitsubishi paper)
		Long term paper	(Oji paper) HA220AA (Mitsubishi paper)
	Label paper	HW54T (Nippon paper)	

\*2: FTP-638WSL110 (standard)

\*3: 0° to +40°C guarantee of print quality

## ■ Dimensions

- Printer mechanism: 3-inch



Note: 1. Dimensions are nominal value )tolerance  $\pm 5\text{mm}$  unless otf  
2. Dimensions in ( ) is reference value.

## ■ Commands

Command	Content
HT	Horizontal tab
LF	Line feed with printing
FF	Feeds forms (new page)
ECS RS	Sets reverse printing
ESC US	Resets reverse printing
ESC FF	Data printing in page print mode
ESC SP + n	Character space setting
ESC ! + n	Sets print mode
ESC \$ + n <sup>1</sup> + n <sup>2</sup>	Horizontal absolute position setting
ESC % + n	External registration character specification / cancellation
ESC & + y + c <sup>1</sup> + c <sup>2</sup> + x + d <sup>1</sup> ~ d <sup>n</sup>	External registration character definition
ESC * + m + n <sup>1</sup> + n <sup>2</sup> + [d <sup>1</sup> ~ d <sup>n</sup> ]	Bit image mode registration
ESC - + n	Underline setting
ESC 3 + n	Sets the line feed length
ESC ? + n	External registration character deletion
ESC @	Printer initialization
ESC A + n	Set the space between lines
ESC C + n	Sets the page length by character line
ESC D + n <sup>1</sup> to nk + null	Set the tab position
ESC E + n	Printing specification / cancellation
ESC J + n	Feeds paper in forward direction and prints
ESC K + n	Reverse paper feed
ESC L	Page print mode selection
ESC Q + n + ! + j	Frame overlay detection
ESC R + n	Selects international character
ESC S	Line print mode selection
ESC T + n	Print direction setting in page mode
ESC V + n	Right rotation 90° specification / cancellation
ESC W + x <sup>1</sup> + x <sup>2</sup> + y <sup>1</sup> + y <sup>2</sup> + D <sub>x</sub> <sup>1</sup> + dx <sup>2</sup> + dy <sup>1</sup> + dy <sup>2</sup>	Print area setting in page print mode
ESC X + m + n	Sleep mode time setting
ESC ¥ + n <sup>1</sup> + n <sup>2</sup>	Internal process setting
ESC c + 1 + n	Set internal processing
ESC s + n	Print speed setting
ESC { + n	Sets/resets upside down printing
FS ! + n	Kanji printing mode collective specification
FS &	Kanji printing mode specification
FS - + n	Kanji underline specification / cancellation
FS .	Kanji printing mode cancellation
FS 2 + c <sup>1</sup> + c <sup>1</sup> + d <sup>1</sup> ~ d <sup>n</sup>	User defined character definition

Command	Content
FS 9+n	Sets the detection functions
FS C+n	Kanji code system selection
FS E+n	Correction of impressed energy
FS r+n	Parameter transmission (valid for non-protocol mode)
GS \$+n+1+2	Vertical absolute position specification in page print mode
GS &+m+x+y <sup>1</sup> +y <sup>2</sup> + [d]k	Registration of image data
GS " +m+n	Prints registered image data
GS <	Line feeds to the next mark
GS A+m+n	Sets the line feed length after mark detection
GS B+n	Bar code angle setting
GS E+n	Print quality setting
GS L+n <sup>1</sup> +n <sup>2</sup>	Left margin setting
GS W+n <sup>1</sup> +n <sup>2</sup>	Print area width setting
GS ¥+ n <sup>1</sup> +n <sup>2</sup>	Vertical relative position setting in page mode
GS a+n	Setting and cancellation of status transmission (non-protocol mode)
GS e+n+m	Bar code width setting
GS h+n	Bar code height setting
GS k+m+n+d <sup>1</sup> ~dN	Bar code printing
GS k+m+k <sup>1</sup> +k <sup>2</sup> +k <sup>3</sup> +k <sup>4</sup> +d <sup>1</sup> ~dn	Two dementional code printing (QR)
GS k+m+n+k <sup>1</sup> +k <sup>2</sup> +k <sup>3</sup> +k <sup>4</sup> +k <sup>5</sup>	Barcodes (GS1 databar) printing (Maxicode)
GS k+m+n+k <sup>1</sup> +k <sup>2</sup> +k <sup>3</sup> +k <sup>4</sup> +k <sup>5</sup> +k <sup>6</sup>	Barcode (GS1 databar) setting (PDF417)
GS k +m+n+k+pL+pH+d <sup>1</sup> to d <sup>n</sup>	Barcode (GS1 databar) print
GS k+m+n+k <sup>1</sup> +k <sup>2</sup> +k <sup>3</sup> +k <sup>4</sup>	Barcode (GS1 databar) setting
GS (A+ETX+n	Bluetooth link time setting
GS (A+ACK+m+n	Bluetooth security mode setting
GS (A +HT+n+d <sup>1</sup> to dn	Bluetooth device name setting
GS (A+ENQ	Bluetooth information printing (WSL110 only)
GS (+A+B5+n+ d <sup>1</sup> to dn	Bluetooth PIN code setting
ESC Y+SOH+ESC+x+a+DC1+m	Bluetooth automatic connection/specification/cancellation

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