DISCONTINUED - April 2025

FCL Components Thermal Printer
FTP-628MCL101#80/103#80 series

FCL Components 2” high speed (up to 80mm/s) thermal printer mechanisms

Overview

The ultra compact, high speed FTP-628MCL101#80/103#80 utilize 2" paper width (58mm) and provide a removable platen allowing for easy paper loading and maintenance.

The specially design platen roller allows the FTP-628MCL101#80/103#80 to be used for liner-less label applications in addition to it's normal receipt style applications like portable terminals, POS, ticket issuing terminals, banking, test and measurement and medical equipment.

FTP-628MCL103#80

Features

- High-speed printing
  It can print up to 80mm/s (640 dotlines/s) maximum by using FCL Components’ unique head drive control
- Easy loading type
  FCL Components’ unique platen release mechanism allows for a straight paper path and easy head maintenance
- Liner-less label print
  Special platen roller prevents sticking by liner-less labels.
- Ultra compact
  Depth: 33.0mm, width: 70.2mm, height: 15.5mm
- High resolution
  8 dots/mm head provides clear print
- RoHS compliant

■ Part numbers

Item		Part Numbers
Printer mechanism		FTP-628MCL101#80 without platen detect switch FTP-628MCL103#80 with platen detect switch
LSI for driving		FTP-628CU311 *1
Interface board*2	Serial/USB	FTP-628DSL311 *2
	Serial/USB	FTP-628DSL312 *2
Interface cable	Serial	FTP-628Y302
	USB	FTP-629Y301#01
Power supply cable	Logic, head, motor	FTP-628Y403

*1: Applied energy is set for standard paper by default. Please adjust applied energy by energy adjustment command in the LSI when using with liner-less label.
*2: Please see page 3 for basic interface board information. More detailed information can be obtained from your local FCL Components sales representative.

■ Specifications

Item		Specifications	
Part number		FTP-628MCL101#80	FTP-628MCL103#80
Printing method		Thermal sensitive line dot method	
Dot structure		384 dots/lines	
Dot pitch (horizontal)		0.125mm (8 dots/mm) - Dot density	
Dot pitch (vertical)		0.125mm (8 dots/mm) - Line feed pitch	
Effective printing area		48mm	
Paper width		58mm +0/-1	
Paper thickness		60-100µm (some paper in this range may not be used because of paper characteristics	
Printing speed		Max. 80mm/s (640 dot lines/s) at 9.5V	
Power	For head	4.2VDC to 9.5VDC, 2.4A, at 25°C, concurrent applied dots: 64 dots, Rav=176Ω	
	For printer motor	4.2VDC to 9.5VDC, 0.75A maximum (average 0.56A)	
	For logic	3.3VDC±10% or 5VDC±10%, 0.1A maximum	
Dimensions	Printer mechanism	70.2 x 33.0 x 15.5mm (WxDxH)	
Weight	Printer mechanism	Approx. 40.2g	
Expected life	Head	Pulse durability: 100 million pulse/dot (using FCL Components' standard driving method) Wear resistance: 50km (at 25% or less print ratio)	
Environmental conditions	Operating temperature*	0°C to +50°C	
	Operating humidity	20 to 85% RH (no condensation)	
	Storage temperature	-20°C to +60°C (excluding paper)	
	Storage humidity	5 to 95% RH (no condensation)	
Detection functions	Head temperature	By thermistor	
	Paper out/Mark detect	By photointerrupter	
	Platen release/rocker arm detection	-	By mechanical switch
Recommended thermal sensitive paper	Linerless paper	E623-404-J002 (Nakagawa paper)	

*: +5°C to 40°C printing density assurance range

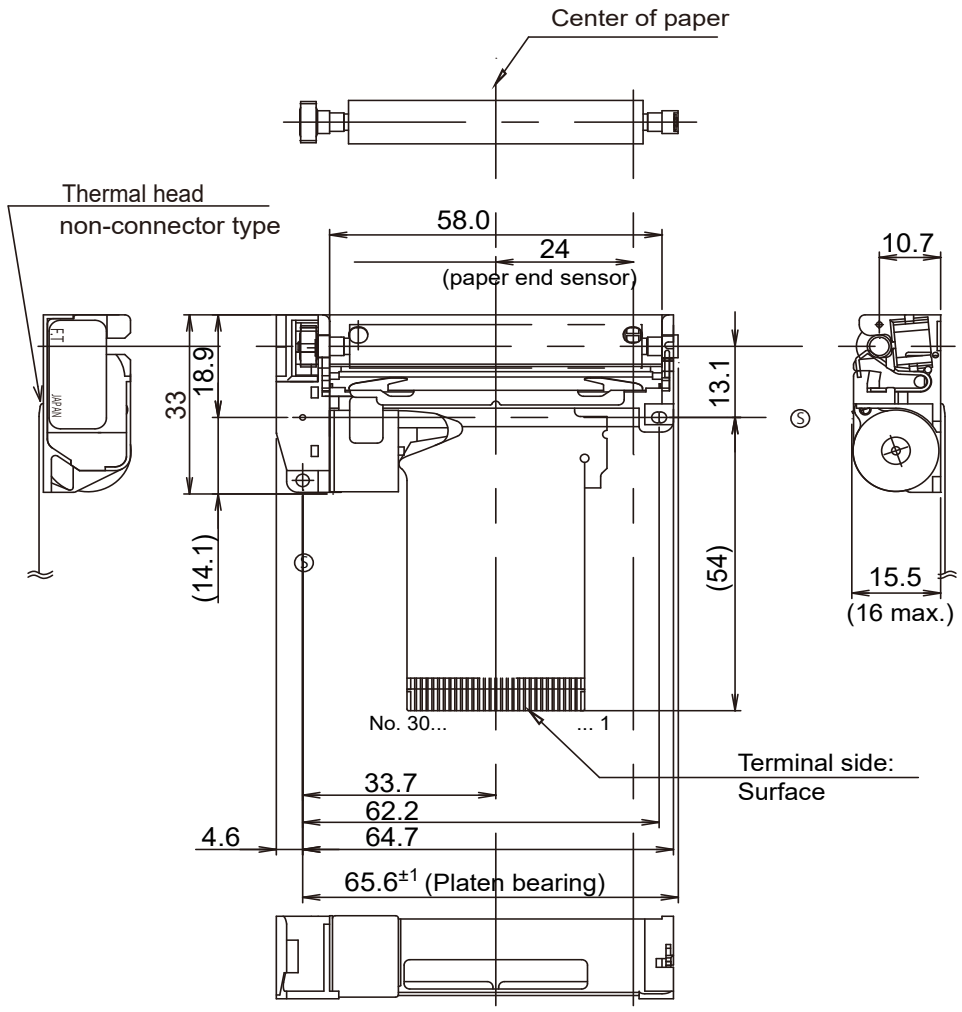
■ Interface boards

Item	Specifications	
Part number	FTP-628DSL311	FTP-628DSL312
Power	4.2 to 9.5V	21.6 to 26.4V
Characteristic dimensions (W x H)	12 x 24 dots, 8 x 16 dots	
Character type	Alphanumeric, Kana, International and special, download character	
Interface	RS232C, USB	
Dimensions (W x D)	67.2 x 32 mm	

■ Dimensions

- Printer mechanism 2-inch

FTP-628MCL101#80



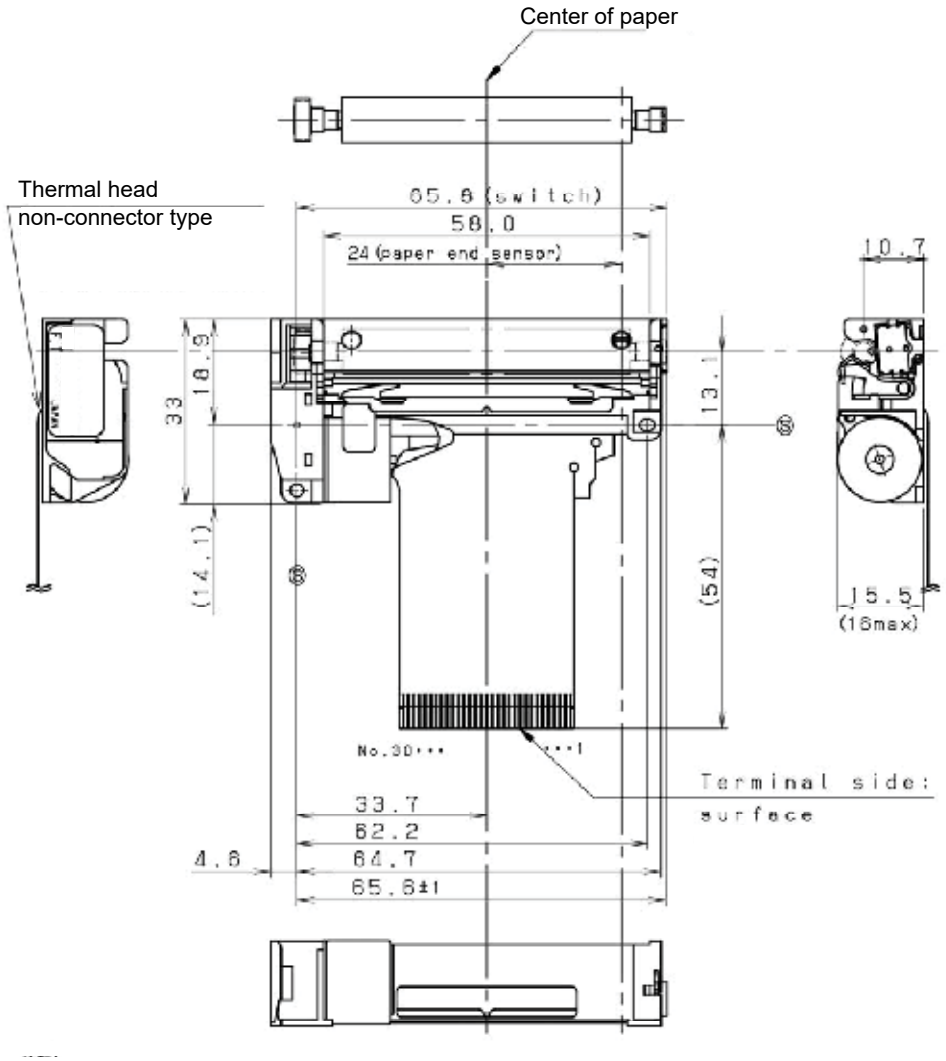
Note: 1. Dimensions are nominal value)tolerance ±0.5mm unless otherwise specified.
2. Dimensions in ( ) is reference value.

Unit: mm

■ Dimensions

- Printer mechanism 2-inch

FTP-628MCL103#80



Note: 1. Dimensions are nominal value)tolerance ±0.5mm unless otherwise specified.
2. Dimensions in ( ) is reference value.

Unit: mm

■ Connector pin assignments of printer mechanism (FPC)

No	Signal	Content	I/O	
			FTP-628MCL101#80	FTP-628MCL103#80
1	PHK	Cathode for photo interrupter	OUT	
2	VSEN	Paper sensor power	IN	
3	PHE	Emitter for photo interrupter	OUT	
4	SW	Platen release switch	-	OUT
5	SW	Platen release switch	-	OUT
6	COM	Head drive power	-	
7	COM	Head drive power	-	
8	SI	Data in	-	
9	CLK	Clock	IN	
10	GND	Head ground	-	
11	GND	Head ground	-	
12	STB6	Strobe6	IN	
13	STB5	Strobe5	IN	
14	STB4	Strobe4	IN	
15	VDD	Logic power	IN	
16	TM	Head thermistor	OUT	
17	TM	Head thermistor	OUT	
18	/STB3	/Strobe3	IN	
19	/STB2	/Strobe2	IN	
20	/STB1	/Strobe1	IN	
21	GND	Head ground	-	
22	GND	Head ground	-	
23	/LAT	/Data latch	IN	
24	SO	Data out	-	
25	COM	Head drive power	-	
26	COM	Head drive power	-	
27	MT_A	Excitation signal A	SINK/SOURCE	
28	MT_/A	Excitation signal /A	SINK/SOURCE	
29	MT_B	Excitation signal B	SINK/SOURCE	
30	MT_/B	Excitation signal /B	SINK/SOURCE	

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