



Direct Thermal



Thermal Transfer

WS4

World standard desktop printers for multiple applications

EASY OPERATION

- Wide-open access
- One-touch control
- Simple label setting
- Clear user indicators
- Easy maintenance

FLEXIBLE MEDIA

- 4" Direct & Thermal Transfer models
- Ribbon up to 300M
- Face-in/Face-out media
- Adjustable I-mark sensor
- Auto-calibration

EASY INTEGRATION

- 5 emulations as standard
- Bluetooth & WLAN options
- Cutter, Dispenser, Offwinder options
- Management utilities
- USB firmware upgrade

TECHNICAL INFORMATION WS4 Printer Series

PRINTING SPECIFICATION		WS408	WS412
Printing Method		Direct Thermal and Thermal Transfer models	
Print Resolution		8 dots / mm (203 dpi)	12 dots / mm (305 dpi)
Max. Print Area	Width mm (inch)	104mm (4.09")	104mm (4.09")
	Length mm (inch)	996mm (39.33")	996mm (39.33")
Print Speed, mm/sec (ips)		Up to 152.4mm/sec (6 ips)	Up to 102mm/sec (4 ips)
CPU		32-bit 9260 RISC	
Printer Memory		Flash ROM: 16MB, RAM: 32MB User Memory: 2MB External USB User Memory: 16GB	

CONSUMABLES SPECIFICATION				
Sensor Type		Adjustable I-Mark Sensor (Reflective), Label Gap Sensor (Transmissive), Label Taken sensor, Head Open sensor		
Media Type		Roll or fan-fold die cut labels, Plain paper face stock, Continuous stock, Tag, Ticket		
Media Thickness		0.06 – 0.19mm (0.002" – 0.007")		
Label Shape	Diameter	Roll Max. outside diameter: Ø 127mm (5"), Core diameter: 25.4mm / 38mm (1" / 1.5")		
	Wind Direction	Face-in / Face out		
Label Size	Continuous	Width	22.4 – 115mm (0.88" – 4.53")	22.4 – 115mm (0.88" – 4.53")
		Length	8 – 996mm (0.31" – 4.53")	8 – 996mm (0.31" – 4.53")
	Tear-Off	Width	22.4 – 115mm (0.88" – 4.53")	22.4 – 115mm (0.88" – 4.53")
		Length	DT: 30 - 996mm, TT: 8 - 996mm (DT: 1.18" – 4.53", TT: 0.31" – 4.53")	DT: 30 - 996mm, TT: 8 - 996mm (DT: 1.18" – 4.53", TT: 0.31" – 4.53")
	Cutter	Width	22.4 – 115mm (0.88" – 4.53")	22.4 – 115mm (0.88" – 4.53")
		Length	DT: 35 – 993mm TT: 19.4 - 993mm (DT: 1.38" – 39.09" TT: 0.76" – 39.09")	DT: 35 – 993mm TT: 19.4 - 993mm (DT: 1.38" – 39.09" TT: 0.76" – 39.09")
	Dispenser	Width	22.4 – 115mm (0.88" – 4.53")	22.4 – 115mm (0.88" – 4.53")
		Length	DT: 35 – 150.4mm TT: 23.4 – 150.4mm (DT: 1.38" – 5.92" TT: 0.92" – 50.92")	DT: 35 – 150.4mm TT: 23.4 – 150.4mm (DT: 1.38" – 5.92" TT: 0.92" – 50.92")
Ribbon TT Model	Length	Max. 300 metres. Centre justified		
	Width	40mm - 110mm (1.57" – 4.33")		
	Core Diameter	12.7 mm (0.5") for 74/91/100m ribbons. 25mm (1") for 300m ribbon		
	Wind Direction	Face-in / Face-out		

FONTS / SYMBOLOGIES		
Internal Fonts Unicode supported	Standard Bitmap	Bitmap Fonts XS, XU, XM, XB, XL, OCR A, OCR B,
	Scaleable fonts	CG Times, CG Triumvirate
Barcode	1D Barcode	UPC-A/E, JAN/EAN-8/13, Code 39, Code 93, Code 128, GS1-128 (UCC / EAN128), Codabar (NW-7), Interleaved 2 of 5, MSI, GS1 Databar: Omni, Truncated, Stacked, Stacked Omni, Limited, Expanded, Expanded stacked. UPC Add-on, Postnet, Industrial 2 of 5. Composite: JAN/EAN-8/13, UPC A/E, GS1 Databar, Truncated and Stacked.
	2D Barcode	PDF417 including Micro pdf, MAXI Code, QR Code, GS1 Data Matrix (ECC200)
Print Rotation	Character Data / Barcode	0°, 90°, 180°, 270°

COMMUNICATION INTERFACES	
Interfacing	LAN model: USB + LAN, Standard Model: USB + RS232C + LAN, Options: Wireless LAN b/g/n and Bluetooth
	LAN protocols: ARP, IP, ICMP, UDP, TCP, HTTP, DHCP, Socket, LPR, SNMPv2
Command languages (Printer language emulations)	SBPL SATO Barcode Printer Language, SZPL, SEPL, SDPL, SIPL

OPERATING CHARACTERISTICS		
Power Requirements	Input voltage adapter: AC100V-240V (auto switching)/60W (peak) – Input voltage printer: 19V/3A	
Environment	Operating	5 – 40°C / 25 – 85% RH (without condensation)
	Storage	-40 – 60°C / 10 – 90% RH (without condensation)
Dimension (W x D x H)	DT Model: 183.8 x 225.9 x 166mm	TT model: 220.6 x 278.5 x 187.5mm
Weight	DT model: 1.74Kg	TT model: 2.48Kg
Indicators	2 x 3-colour LED	

MISCELLANEOUS	
Certifications	FCC, UL, CSA, CE, TUV GS, EAC, ROHS compliant. Cerner Validated.
Self-diagnostics	Error detection functions, Printhead overheat function, Printhead element check
Ease of service	Thermal printhead and Platen roller easily replaced

OPTIONS & MANAGEMENT	
Accessories	Dispenser, Full cutter, Wireless LAN, Bluetooth Interface, Large Media Roll Offwinder

SATO SUPPORT	
A full range of SATO-manufactured labels, tags and ribbons. SATO Value Support after-sales maintenance	