



Industrial Print Engine

S84 **ex** / S86 **ex**

Maximise productivity for 24/7 mission critical

SATO, Beyond Expectations

As a pioneer, SATO's flagship print engine pursues automatic print and apply machine's needs to expand its use in the world.

S84_{ex} / S86_{ex}

Print Engine Family

- S84-ex and S86-ex cover the needs of 4 inch or 6 inch printing applications. Direct Thermal only model and Ribbon Saver model (S84-ex only) also available.

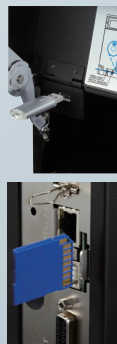
Ease of Operation

- ▶ 2 Colour LCD and LED
 - The 2 colour LCD and LED help operators to easily understand the status of the printer from a significant distance from the print and apply station.
- ▶ Face-in /Face-out Ribbon support
 - No setting change required to use either face-in and face-out ribbons
- ▶ Auto Sensor Calibration Function
 - No sensor level setting required



Ease of Setting, Download and Upload

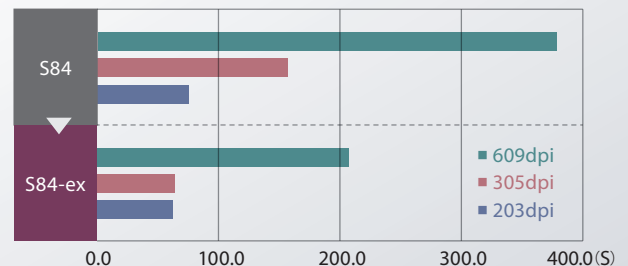
- ▶ Downloadable printer settings, font and firmware via SD / USB
 - Allows customers to set up printers easily without software tools
- ▶ Uploadable printer buffer data and operation log via SD / USB
 - Helps analyze print operations and trouble shooting.
- ▶ Remote Printer Setting
 - Web Browser
 - SATO All-In-One Utilities



Fast Throughput and Print Speed

- ▶ S84/86-ex has best in class print speed (16 ips).
- ▶ The new PCB increases first label print speed and overall throughput.

Graphic 50 items printing



	S84		S84-ex	
609dpi	375.6	-167.4	208.2	
305dpi	156.7	-93.7	62.3	
203dpi	75.6	-14.2	61.4	(S)

Simple Standalone Mode

- Upgraded simple standalone mode provides independent operation via LCD.

Environmentally Friendly

- ▶ Ribbon Saver Model
 - The ribbon saver function reduces the use of thermal transfer ribbon.

applications



Easy to Use

Enhanced Connectivity

Quick Maintenance

Connectivity

Increased connectivity supports both legacy and future host environments

- ▶ Standard Multiple Interfaces
 - RS232C, IEEE1284, USB and LAN
- ▶ Optional Interfaces
 - Wireless LAN IEEE 802.11 b/g/n • Bluetooth
- ▶ D-SUB 25 pin External Signal Interface
 - 14pin Conversion Cable included
 - NPN/PNP Connection



Standard Emulations Onboard

- ▶ Support SZPL and SDPL
- ▶ LCD Selectable

Multiple Language Support

- ▶ Unicode
 - UTF8, UTF16 • WGL4
- ▶ Built-in Asian Font Support
 - Simplified Chinese • Traditional Chinese • Korean • Thai • Arabic
- ▶ TTF Download Function
 - 1 byte and 2 byte • Max 11.7MB Capacity
- ▶ Multi Language LCD Menu
 - 7 languages

Ease of Maintenance

▶ Print Head Replacement

- No tools required for print head replacement. Opening cable cover helps to change from both front or side.



▶ Roller Replacement

- Locking slide cover allows for fast and easy replacement of rollers.



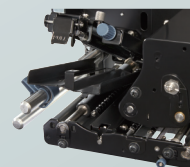
▶ Back Side Structure

- Convenient access to PCB, gears and power supply. The revised layout provides more room for easier maintenance to the back of the printer.



▶ Sensor Cover

- Non stick surface prevents label jams and the tool-less design makes cover removal and cleaning easy.



▶ Gear Box Design

- Universal gearbox supports all print resolutions and reduces inventory and simplifies the ordering process.

Stable Operation

▶ Strong against vibration and static

- Anti vibration and static design protects the power supply and main boards.
- Allowing the print engine to tolerate harsh environments.

▶ Reinforced belt design

- The new belt and gear design reduce the belt wear and increase durability.

TECHNICAL INFORMATION

PRINTING SPECIFICATION		S84-ex			S86-ex	
Printing Method		Thermal and Direct Transfer or Direct Thermal Only Model				
Print Resolution		8 dots / mm (203 dpi)	12 dots / mm (305 dpi)	24 dots / mm (609 dpi)	8 dots / mm (203 dpi)	12 dots / mm (305 dpi)
Max. Print Speed		16 ips (406.4 mm/sec)	14 ips (355.6 mm/sec)	6 ips (152.4 mm/sec)	14 ips (355.6 mm/sec)	12 ips (304.8 mm/sec)
Max. Print Area	Width, mm (inch)	104 mm (4.1")			167.5 mm (6.59")	
	Length, mm (inch)	2500 mm (98.43")	1500 mm (59.06")	400 mm (15.75")	2500 mm (98.43")	1249 mm (49.17")
Processor		32-bit RISC-CPU 500MHz				
Printer Memory		48 MB Flash ROM, 64 MB SDRAM				

CONSUMABLES SPECIFICATION (Recommended to use printer supplies manufactured or certified by SATO)

Sensor Type			I-Mark Sensor (Reflective), Label Gap Sensor (Transmissive)				
Media Type			Roll or fan-fold die cut labels, Plain paper face stock, Synthetics and Continuous stock				
Media Thickness			0.05 ~ 0.31 mm (0.002" to 0.012")				
Label Size (including liner)	Continuous	Width	13 to 131 mm (0.51" to 5.16")			54 to 180 mm (2.13" to 7.09")	
		Length	9 to 2503 mm (0.35" to 98.54")	9 to 1503 mm (0.35" to 59.17")	9 to 403 mm (0.35" to 15.87")	9 to 2503 mm (0.24" to 98.54")	9 to 1252 mm (0.35" to 49.29")
	Dispense	Width	13 to 131 mm (0.51" to 5.16")			54 to 180 mm (2.13" to 7.09")	
		Length	Thermal Transfer Model: 13 to 359 mm (0.51" to 14.13") Direct Thermal Model: 18 to 359 mm (0.71" to 14.13")				
Ribbon	Width		25 mm to 128 mm (0.98" to 5.04")			59 mm to 177 mm (2.32" to 6.97")	
	Length		450 m (1476.4 ft.) when width is less than 39.5 mm (1.56") 600 m (1968.5 ft.) when width is equal or more than 39.5 mm (1.55")			600 m (1968.5 ft.)	
	Roll diameter		108 mm (4.25")				
	Core		Core diameter: Ø 25.4 mm (1")				
	Wind direction		Face-in/out, No Setting Change Required				
Ribbon Saving			Factory option (S84-ex only)				

FONTS / SYMBOLOGIES

Internal Fonts	Standard Bitmap	U, S, M, WB, WL, XU, XS, XM, XB, XL, OCR-A, OCR-B, Chinese (GB18030, BIG5), Korean (KSX1001)
	TTF Fonts	CG Times, CG Triumvirate, SATOGAMMA, SATOVICA
	Encoding	Major Latin and Pan-European Code Pages (WGL4), GB18030 (simplified Chinese), BIG5 (traditional Chinese), KSX1001 (Korean), Thai (CP874), Arabic, UTF-8 and UTF-16BE (downloaded fonts)
Downloadable fonts support		Bitmap, True Type (1byte/2byte), Maximum 11.7 MB
Barcode	Linear	Code 39, Code 93, Code 128, CODABAR (NW7), EAN8/13, GS1-Databar™, GS1-128(UCC/EAN128), Interleaved 2/5, Industrial 2/5, JAN8/13, Matrix 2/5, MSI, Bookland, POSTNET™, Bookland, UPC-A/E Intelligent Mail Barcode
	2D Symbolologies	PDF417, Micro PDF, Maxi Code, GS1 Data Matrix, QR Code, Micro QR Code, Security QR code, Aztec Code and Composite Symbolologies
Print Direction		Character data rotation: 0°, 90°, 180°, 270° / Barcode rotation: 0°, 90°, 180°, 270°

INTERFACE CHARACTERISTICS AND INTEGRATION

Standard Interfaces	USB	USB 2.0 type-B
	LAN	Ethernet 10/100 Mbps / DHCP / Protocol: TCP/IP, LPR, FTP, TELNET, SNMP
	RS232C	RS232C Standard (XON/XOFF, RTS/CTS)
	IEEE1284	IEEE1284
	EXT (I/O)	DSUB 25 pin (female) / Amphenol 14 pin (female) conversion cable is attached
Optional Interfaces	Wireless LAN	IEEE 802.11/b/g/n autoswitching / Security: WEP, WPA, WPA2, Dynamic WEP
	Bluetooth	Ver.2.0+EDR Class 2 (10 m) / Profile: SPP (Serial Port Profile)
External Memory	USB	USB type-A (USB Host)
	SD card slot	SD/SDHC
Supported printer protocols		Standard: SBPL (SATO Barcode Printer Language) / Emulation Language: SZPL, SDPL
Remote Setting		Web Browser, SATO All-in-One Printer Utilities
Drivers		Windows, Linux, SAP, MAC OS

OPERATING CHARACTERISTICS

Power Requirements		Universal Auto-ranging Power Supply, AC100V±AC240V±10±, 50/60Hz
Dimensions		W245mm (9.65") x D408mm (16.06") x H300mm (11.81")
Weight	Thermal Transfer Model: 13.7 kg	
	Direct Thermal Model: 12.3 kg	
Environment	Operating	-5° ~ 40 °C / 15 ~ 80 % RH (without condensation)
	Storage	-20 ~ 60 °C / 15 ~ 90 % RH (without condensation)
Display Panel		Graphic LCD (Horizontal 128 dots x Vertical 64 dots) with backlight (White/Orange switchable)

MISCELLANEOUS

Standards & Agency Approvals		IEC 60950, CE Marking, EN 60950-1, EN 55022 Class A, EN 55024, R&TTE, NEMKO-GS, cMETus, UL60950-1, CSA C22.2, EN 60950-1, FCC, ICES-003, NMB-003, RCM, CCC, SRRC, KC, ROHS compliant
Functions – Useful features		Simple Standalone Mode, Multi Language support LCD message (7 Languages), USB Memory or SD card for data copy, Status return
Functions – Self Diagnosis Checking		Thermal head check, Ribbon end detection, Test print, Head Lift detection, Auto Sensor Calibration

OPTIONS

Accessories	WLAN Kit, Bluetooth Kit, Ribbon Saver (factory option, S84-ex only)
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