



Direct Thermal



Thermal Transfer

# WS4-2

World standard desktop printers for multiple applications

## EASY OPERATION

- Wide-open access
- One-touch control
- Simple label setting
- Clear user indicators
- Easy maintenance
- 30% faster than the elder WS4

## 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 WS4-2 Printer Series

| PRINTING SPECIFICATION                                                                                 |                          |                                                                                                                                                                                                                                                                                                                            | WS408-2                                                                                                      | WS412-2                                                                    |
|--------------------------------------------------------------------------------------------------------|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| 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 (600 MHz)                                                                                   |                                                                            |
| Printer Memory                                                                                         |                          |                                                                                                                                                                                                                                                                                                                            | Flash ROM: 16MB, RAM: 128MB<br>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                                                                                                                                                                                                                                      |                                                                                                              |                                                                            |
| Printer management                                                                                     |                          | SATO Settings Utility for printer, network & Wireless configuration. SNMPv2. USB firmware upgrading.                                                                                                                                                                                                                       |                                                                                                              |                                                                            |
| SATO SUPPORT                                                                                           |                          |                                                                                                                                                                                                                                                                                                                            |                                                                                                              |                                                                            |
| A full range of SATO-manufactured labels, tags and ribbons. SATO Value Support after-sales maintenance |                          |                                                                                                                                                                                                                                                                                                                            |                                                                                                              |                                                                            |