

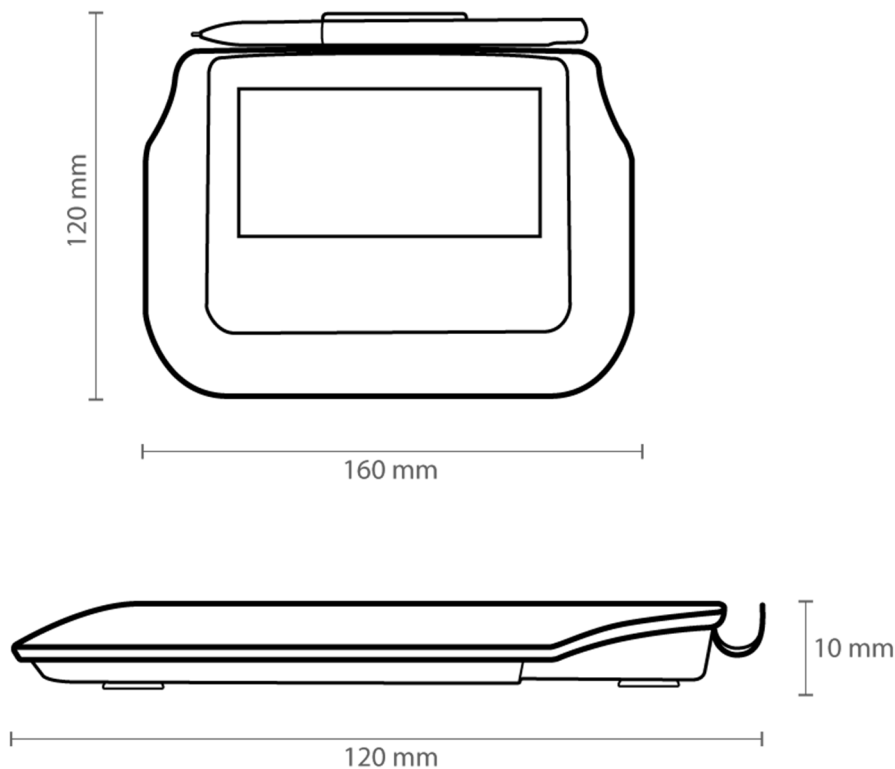
## signotec Sigma

# Highlights & Data Sheet



## HIGHLIGHTS

- Monochrome 4,5" (11,4 cm) TFT with optional back-light.
- Flat, light and cost-efficient build for stationary and mobile usage.
- Protective bag (soft case) included at delivery.
- Unique RSA-signature creation and RSA-encryption methods inside the pad.
- No special pen required (cheap replacement available).
- Battery-free pen with changeable pen tip.
- Signature capturing with 500 Hz 4D samples and 1.024 pressure stages (x, y, z, t).
- Compatible with all currently available Windows- and Linux- systems.
- Compatible with Windows Remote Desktop and Citrix ICA environments.
- Secure mode, to display the signature on the screen in real-time.
- Delivery comes with completely assembled USB cable, pen and cord.
- Including free of charge software packages.



# TECHNICAL DATA

## General data

|                   |   |
|-------------------|---|
| Dimensions        | 160 x 120 x 10 mm (W x D x H)   |
| Casing colours    | Upper shell: RAL 7021, black-grey<br>Lower shell: RAL 7021, black-grey  |
| Cable port        | USB   |
| Cable length      | Approx. 2 meters, optional 5 meters   |
| Power consumption | Standby status: <500 $\mu$ A,<br>Consumption without LCD-Backlight: 45 mA<br>Consumption with LCD-Backlight: 165 mA |
| Power supply      | USB   |
| Status-LED        | 2 coloured and freely programmable LEDs   |
| Stand             | Mounting stand on the backside, compatible Multigrip™ plate available.  |
| Weight            | Approx. 230 grams (incl. cable)   |
| Warranty          | 2 years, optional extension up to 5 years.  |
| Country of origin | Germany   |

## Display

|                            |  |
|----------------------------|--|
| Type                       | Monochrome TFT   |
| Size                       | 4" (10,4 cm)   |
| Colour space               | Monochrome   |
| Backlight                  | Optional, brightness: 158 cd/m <sup>2</sup>                        |
| Configuration of backlight | The backlight can be configured with an API or configuration file. |
| Resolution                 | 320 x 160 pixels $\pm$ 86 x 86 ppi                                 |
| Pixel size                 | 0,275 mm   |
| Visible area               | 95 x 47 mm   |
| Line of sight              | 6 o'clock  |
| Scroll-function            | No   |

## Sensor

|                            |   |
|----------------------------|---|
| Type                       | Resistive Touch Panel (RTP)   |
| Active signing area        | 91 x 45 mm  |
| Resolution                 | 4.096 x 4.096 pixels $\pm$ 2.214 x 1.130 ppi  |
| Linearity                  | $\pm$ 1,5 % in x-, y- and z- direction  |
| Method of input            | Special sensor for pen input  |
| Surface                    | Special foil surface with wear-protection.  |
| Surface hardness           | 3H  |
| Life expectancy            | Approx. 1 million signatures  |
| Pressure stages            | 1.024 pressure stages   |
| Output rate of coordinates | 500 Hz 4D-samples (x, y, z, t)  |
| Internal sampling rate     | 6.000 samples per second  |
| Stability of output rate   | Constant through integrated quartz  |
| Pen                        | Battery-less pen with special, springy mine (changeable).                             |
| Life expectancy of the pen | Approx. 150.000 signatures at 250 Gramm pressure and 2,5 cm length.                   |
| Pen tilt angle             | No  |
| Possible height of the pen | No  |
| Pen attachment             | Highly flexible textile-cord and horizontal pen holder.<br>(assembled at the factory) |

## Connection Types

|                     |  |
|---------------------|--|
| USB                 | HID-USB and WinUSB   |
| Serial              | Optional with internal USB-Serial-Converter (VCOM-Port) using FTDI or chargeable VCOM-Port-Driver. |
| USB-Standby-Support | Yes, if the corresponding signal is given, the device switches off.                                |
| Ethernet            | Yes, with an optionally available USB-to-Ethernet adapter.   |

## Driver and Software

|               |   |
|---------------|---|
| Driver        | No special driver is required for a USB connection.   |
| Plug and Play | Yes, available for all connection types.              |
| SDK (API)     | Several SDKs including updates and support available. |
| Tools         | Tools free of charge including updates and support.   |
| Software      | Further chargeable software available.                |

## System environment

|                            |   |
|----------------------------|---|
| Operating System           | Windows 7 and newer, Windows Server 2012 and newer, 32- and 64-Bit, Linux |
| Terminal Server and Citrix | <a href="#">Compatible with Windows Remote Desktop and Citrix ICA</a>     |
| Citrix Virtual Channel     | <a href="#">Optionally available</a>                                      |

## Security mechanisms

|                                      |  |
|--------------------------------------|--|
| Data transfer                        | AES-256 encrypted data transfer between host and pad via RSA key exchange.   |
| Encryption                           | RSA-Encryption unit inside the pad.  |
| Firmware                             | Flash memory is protected against data theft.  |
| Secure Mode                          | Real-time display of the signature without usable biometrics.  |
| Signature unit                       | RSA signature creation unit in the pad.  |
| Key storage                          | Creation and storage of certificates in the pad.   |
| Key size                             | 4096 Bit   |
| Certificate Signing Request (CSR)    | CSR can be generated in the pad and extracted.   |
| Trusted certificates                 | The CSR can be signed by a root authority.<br>Additional information: <a href="#">eIDAS Pad Signature Seal</a>     |
| Supported Hash-algorithms            | SHA-1, SHA-256 und SHA-512   |
| Signature-Performance                | Transmission and Signing of a SHA-256 Hash via WinUSB:<br>2048 Bit: 850 ms; 3072 Bit: 2.500 ms; 4096 Bit: 5.600 ms |
| signotec „Content-Signing“           | No   |
| Protection against forceful break in | The casing can be glued optionally.  |

## Miscellaneous

|  |   |
|--|---|
| Transport protection                             | Protective bag (soft case) included at delivery.  |
| Individualization                                | Change of casing colour and logo print (on request).  |
| Slideshow  | The standby image is freely configurable.   |
| Certifications and standards                     | CE, FCC, DIN EN 60950-1, DIN EN 61000-6-1, EN 61000-6-3, EN 55022, EN 55024   |
| RoHS   | RoHS-compliant according to EU-regulations.   |
| WEEE-Reg.-No. (German register for used devices) | DE 41995888   |
| Packaging law Reg.-No.:                          | DE 3470684644700  |
| Serial number                                    | Unique and retrievable, internal serial number.   |
| Device label                                     | There is a label on the packaging and the device with information regarding the article number, hardware revision and serial number, including a barcode. |

### Operating- and storage conditions

|  |                        |
|--|------------------------|
| Operating temperature                  | -10°C to +60°C         |
| Storage temperature                    | -25°C to +70°C         |
| Air humidity for operation and storage | <= 90%, non-condensing |
| Air pressure for operation and storage | > 700 hPa              |
| Degree of protection                   | IP 52                  |

### Reliability / Quality assurance

|   |  |
|---|--|
| Quality test                            | Individual testing of devices with test log.                               |
| High temperature test of the components | 240 hours at 80°C  |
| Low temperature test of the components  | 240 hours at - 40°C  |
| Humidity test of the components         | 240 hours at 60°C and 90% humidity   |
| Thermal shock test of the components    | 30 minutes at - 40°C and directly 30 minutes at + 80°C (10x in succession) |

### Article numbers

#### **Without** LCD-Backlight

|                  |   |
|------------------|---|
| ST-ME105-2-U100  | signotec Sigma with HID-USB and approx. 2 m USB-cable     |
| ST-ME105-2-FT100 | signotec Sigma with FTDI (VCOM) and approx. 2 m USB-cable |
| ST-ME105-5-U100  | signotec Sigma with HID-USB and approx. 5 m USB-cable     |
| ST-ME105-5-FT100 | signotec Sigma with FTDI (VCOM) and approx. 5 m USB-cable |

#### **With** LCD-Backlight

|                  |   |
|------------------|---|
| ST-BE105-2-U100  | signotec Sigma Backlight with HID-USB and approx. 2 m USB-cable     |
| ST-BE105-2-FT100 | signotec Sigma Backlight with FTDI (VCOM) and approx. 2 m USB-cable |
| ST-BE105-5-U100  | signotec Sigma Backlight with HID-USB and approx. 5 m USB-cable     |
| ST-BE105-5-FT100 | signotec Sigma Backlight with FTDI (VCOM) and approx. 5 m USB-cable |

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