Data sheet

4K

HDBaseT installation authentication

Product: 4K-9000 HDBaseT tester

Flexible and comprehensive professional tester for HDBaseT installations

- HDBaseT Pass/Fail verification indicator
- Integral HDBaseT Transmitter/Receiver
- HDCP & HDMI compliant
- Detailed LCD display
- Real time data gathering
- Cable length measurement
- Signal strength indicator
- Bit error rate (BER) measurement
- Mean Square Error
- Max Error Measurement
- HDBaseT mode
- Simple LED indicators for:
  - HDBaseT Link
  - HDMI present
  - HDCP present
  - HPD/5V
- Compact lightweight design
- HDMI signal pass-through
- 2 models available TX and RX

Identify and quickly rectify problems in your HDBaseT installations with this handy tester

The Smart-e **4K-9000** (HDBaseT Install Tester) is a comprehensive test tool for any installer working with HDBaseT products. Using the tester enables problems on site to be easily identified, diagnosed and quickly rectified. The **4K-9000** is able to work as a TX/RX pair, measuring cable distance, bit error rate or simply provide a HDBaseT pass/fail indication. Compatible with any make of HDBaseT system, the 4K-TX9000 or 4K-RX9000 can also be used independently with any make of HDBaseT device including direct connection to displays and projectors.

During testing the **4K-9000** can output full HDMI digital video and embedded audio, with complete support for HD 720p, 1080p, UHD 2K and 4K resolutions and pass-through support for EDID, HDCP, CEC and control protocols.

Control of the **4K-9000** is achieved through the 3 buttons on the front of the product and feedback can be read through the 4 LEDs and the 2-line LCD display. The **4K-9000** has been designed to be simple to operate with just a few buttons with all the most important information on the home screen. Any more advanced operations are easily accessible through a simple menu system.

The 4K range is from a family of digital extenders & matrices using standard CAT 6-8 STP cable to transmit UHD signals over long distances

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SPECIFICATION - GENERAL

Video – Digital

Standards	DVI 1.0, HDMI 1.2. HDCP 1.2
Maximum data rate	1..65Gbps per colour
Maximum pixel clock	165MHz
Resolution range - DTV	480i, 480p, 720p, 1080i,1080p
Resolution range - PC	VGA, SVGA, XGA, SXGA, UXGA
Frame rate	24, 25, 30, 50 & 60 Hz
Colour depth	8 bits per colour
Formats	RGB and YCrCb
Colour space	4:4:4, 4:2:2, 4:2:0

Audio – Digital

Standards	Embedded within the HDMI signal
Maximum audio channels	8
Maximum sample rate per channel	192 kHz
Sample size	16-24 bits

Power

DC Voltage	5V PSU
Connector	2.1mm DC jack
AC Voltage	100-230 VAC
AC frequency	50/60 Hz
Current	1A5

Cat cable connectivity

Protocol	HDBaseT
Number of cables	1 x Cat 6/6A screened twisted pair cable
Termination standard	TIA/EIA T568B
Cable requirements	Solid conductor, 24 AWG or better
Cable recommendations	400 MHz bandwidth STP (shielded twisted pair)
Transmission distance	100m using shielded twisted pair CAT 6/6A

Dimensions

Height	25mm
Width	90mm
Depth	145mm

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Power jack

Connection for app

RS232 pass-through

HDMI pass-through

DC 5V   USB   RS232   HDMI out

Menu selection buttons

Smart-e

—LENGTH—   — SIGNAL —

063m

Video BER   10 ^ -6

—MEASUREMENTS—

▲
M
▼

Scroll up

Sub menu

Scroll down

Measurement display

4K-9000-RX HDBaseT Tester

● LINK
● HDMI
● HDCP
● HPD/5V

Status LEDs

145mm

HDBaseT tester unit

90mm   25mm

made in uk
CE

REMOTE HDBaseT

4 Konnect
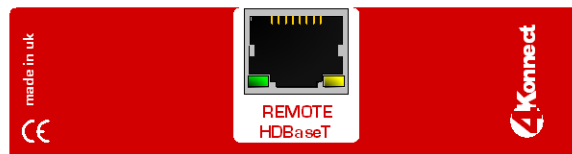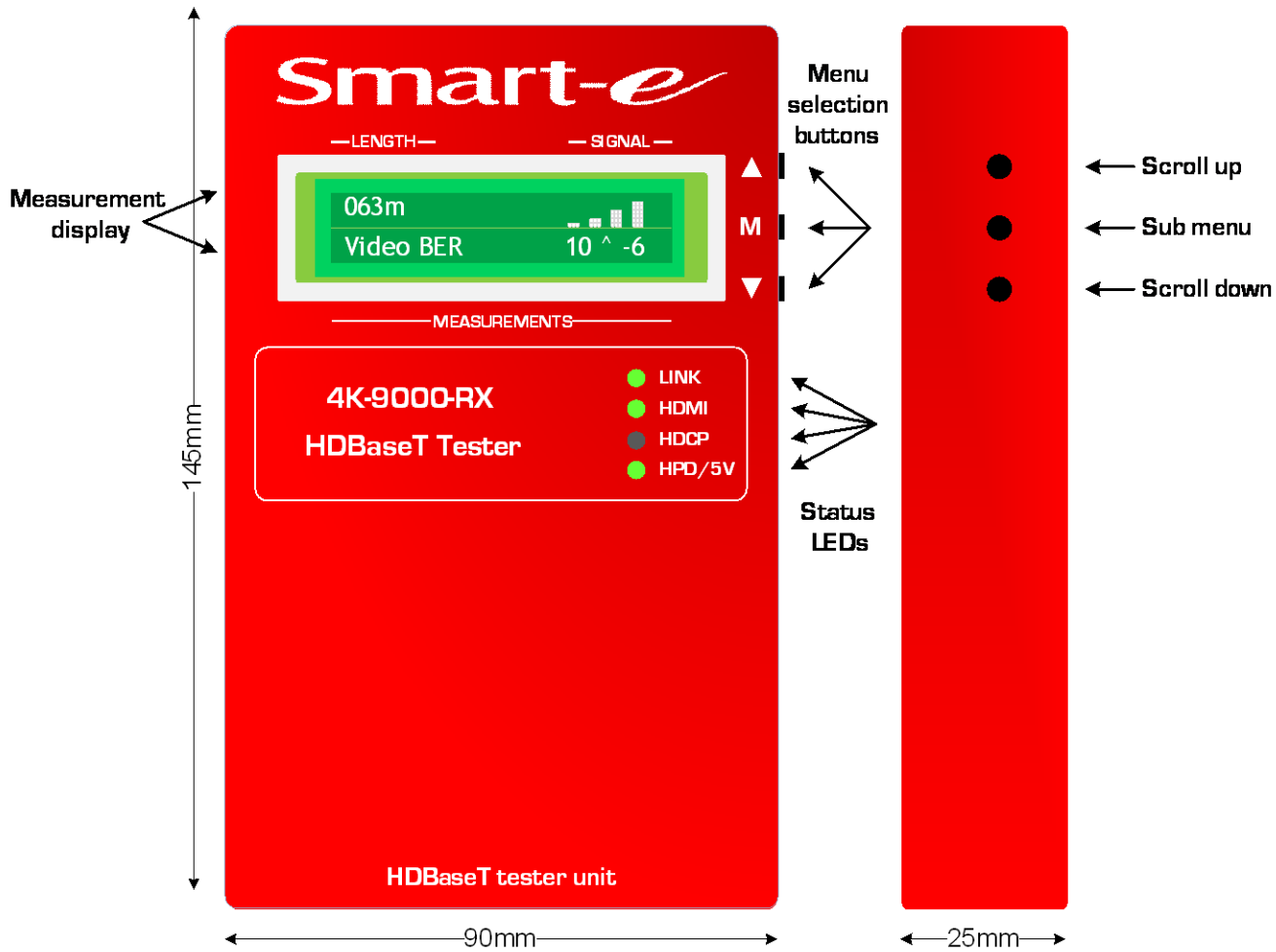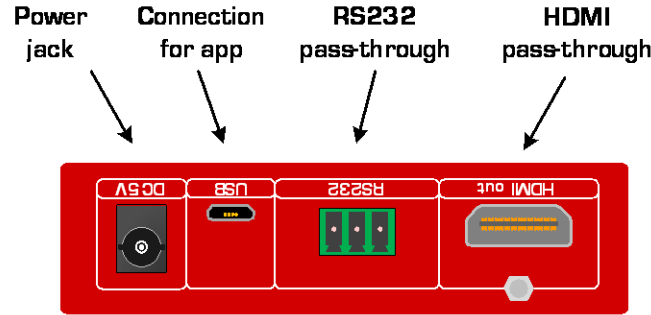
HDBaseT input

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HDBaseT installation authentication

LCD display

Estimated cable length

Signal strength

```
━LENGTH━          ━ SIGNAL ━
084m
Video BER          10 ^ -6
```
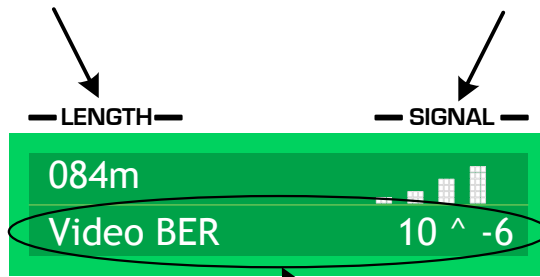
Measurement status window, controlled by the scroll buttons

Bit Error Rate (BER)

```
━LENGTH━          ━ SIGNAL ━
084m
Total BER          10 ^ -6
```

```
Audio BER          10 ^ -6
```

```
Video BER          10 ^ -6
```

```
Control BER        10 ^ -6
```
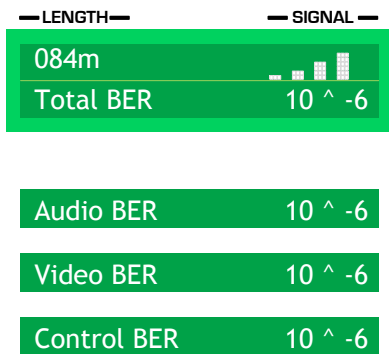
The Bit Error Rate (BER) of each channel is measured and shown as individual values, the Total BER is only relevant for the transmitter
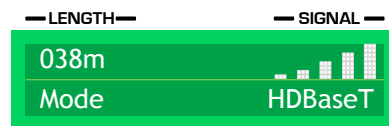
Mean Square Error

```
━LENGTH━          ━ SIGNAL ━
023m
MSE Ch A           - 16 dB
```

```
MSE Ch B           - 15 dB
```

```
MSE Ch C           - 17 dB
```

```
MSE Ch D           - 16 dB
```
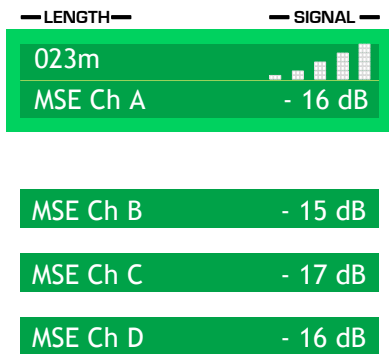
The Secondary quality indicator represent the Mean Square Error (MSE) and is measured for each channel of the cable

Max Error

```
━LENGTH━          ━ SIGNAL ━
038m
Max Error              37
```

The Max Error measurement estimates the quality of each channel

Operation Mode

```
━LENGTH━          ━ SIGNAL ━
038m
Mode             HDBaseT
```

Mode status: Disconnected, HDBaseT, Low power modes and Ethernet fallback

Firmware version

```
━LENGTH━          ━ SIGNAL ━
023m
Firmware         1.31.20.F
```

Firmware version can be read back from the remote device

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