

## Is your connection perfect ? EX 30M gives the answer !



### APPLICATIONS

**EX 30M** is a handheld, cost-effective test set to check DSL services and the copper cable capability. The "golden" reference modem of EX 30M can be remote controlled by an android application through Bluetooth connection.

### MAIN FEATURES

#### • Golden Modem

The modem of EX 30M is able to qualify ADSL or VDSL lines installed and connected to the DSLAM. Having synchronized with DSLAM EX 30M provides useful information about the training process and the state of line:

- Actual bit rate (downstream / upstream)
- Line capacity
- SNR / Hlog / QLN / bit allocation / per tone
- Transmitted power
- Line attenuation
- Line alarms (LOS, LOF, LOP, LOM)
- Line errors (FEC, CRC, HEC)
- Ping test / trace route

The EX 30M "Golden" modem supports the most commonly used connection types

#### • Interfaces

Ethernet interface and WiFi-N are provided for PC or other user device connection.

The EX30MC android application controls the EX 30M modem through Bluetooth connection. The application compatible with 4.0 or higher version of android running on a tablet or smart phone.

#### • ADSL & VDSL Tests

##### Bridge Mode

The modem provides an ADSL or VDSL link to the DSLAM and connects the LAN segment to the WAN.

##### Router Mode

In router mode the modem connects to the ISP and makes the authentication if necessary. It acts as a DHCP server on the LAN side and works as a DHCP client on the WAN side. Available connection types: IPoE, PPPoE, IPoA, PPPoA/ADSL only

##### Test Results

EX 30M shows the main parameters of ADSL or VDSL connection. The detailed line diagnosis helps the experts to verify the problem of a DSL connection.

##### Ping & Browser Functions

That functions allows EX 30M to check the connection to the ISP on IP level.

The PING utility used to test the reachability of a host on an Internet Protocol (IP) network and to measure the round-trip time of messages

The BROWSER can be used for retrieving, presenting and traversing information on the World Wide Web

### SPECIFICATIONS

#### ADSL Compliance

##### Over POTS Version

- G.992.1 (G.dmt), Annex A compliant
- G.992.2 (G.lite), Annex A compliant
- G.992.3 (ADSL2), Annex A, L and M compliant
- G.992.5 (ADSL2+), Annex A and M compliant
- Reach-Extended ADSL (RE ADSL)

##### Over ISDN Version

- ITU-T G.992.1 (G.dmt), Annex B compliant
- ITU-T G.992.2 (G.lite), Annex B compliant
- ITU-T G.992.3 (ADSL2), Annex B compliant
- ITU-T G.992.5 (ADSL2+), Annex B compliant
- Reach-Extended ADSL (RE ADSL)

**VDSL Compliance**

<p><b>Over POTS Version</b></p> <ul style="list-style-type: none"> <li>• ITU.T G.993.1 VDSL1</li> <li>• ITU.T G.993.2 VDSL2 (Profile 8a/b/c/d, 12a/b and 17a support)</li> <li>• Supports VDSL band plan, 997, 998, over POTS</li> <li>• Downstream up to 100 Mbps</li> <li>• Upstream up to 45 Mbps</li> <li>• Rate adoptions</li> <li>• SRA (Seamless Rate Adoptions)</li> <li>• UPBO (Upstream Power Back-Off)</li> <li>• Dual latency support in VDSL mode</li> <li>• INP values up to 16</li> <li>• Trellis coding</li> <li>• PhyR PHY level retransmission technology</li> <li>• PTM mode</li> <li>• PPPoE (RFC2516)</li> </ul>	<p><b>Over ISDN Version</b></p> <ul style="list-style-type: none"> <li>• ITU-T G.993.1 VDSL1</li> <li>• ITU.T G.993.2 VDSL2 (Profile 8a/b/c/d, 12a/b and 17a support)</li> <li>• Supports VDSL band plan, 997, 998, over ISDN</li> <li>• Downstream up to 100 Mbps</li> <li>• Upstream up to 45 Mbps</li> <li>• Rate adaption</li> <li>• SRA (Seamless Rate Adoptions)</li> <li>• UPBO (Upstream Power Back-Off)</li> <li>• Dual latency support in VDSL mode</li> <li>• INP values up to 16</li> <li>• Trellis coding</li> <li>• PhyR PHY level retransmission technology</li> <li>• PTM mode</li> <li>• PPPoE (RFC2516)</li> </ul>
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**Protocols over ADSL**

<ul style="list-style-type: none"> <li>• Support VC-based and LLC-based multiplexing</li> <li>• ADSL physical connection ATM AAL5 (ATM Adaptation Layer type 5)</li> <li>• Support multi-protocol over AAL5 (RFC2684/1483)</li> <li>• PPP over ATM AAL5 (RFC2364)</li> </ul>	<ul style="list-style-type: none"> <li>• PPPoE (RFC 2516)</li> <li>• MAC encapsulation routing</li> <li>• Support up to 8 PVCs</li> <li>• I.610 F4/F5 OAM</li> </ul>
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**xDSL Measurements**

<p><b>Measurements and displayed information</b></p> <ul style="list-style-type: none"> <li>• Actual bit rate (downstream/upstream)</li> <li>• Line capacity</li> <li>• Visualization of SNR /Hlog /QLN /bits /per tone</li> <li>• Transmitted power</li> <li>• Line attenuation</li> <li>• Line alarms (LOS, LOF, LOP, LOM)</li> <li>• Line errors (FEC, CRC, HEC)</li> </ul>	<p><b>IP Ping / Trace Route</b></p> <ul style="list-style-type: none"> <li>• Set-up of the remote IP: In URL, IP address format</li> <li>• Number of PING requests to be sent 1 to 100</li> <li>• Size of PING packets 10 to 1000 bytes</li> <li>• Average response time in msec</li> </ul>
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**General Specifications**

<p><b>Power supply</b></p> <p>Battery .....rechargeable Lithium-ion battery pack          Operation time ..... approx. 8 hours          Charging (without taking the battery out)          From 230 V mains ..... with mains adapter</p> <p><b>Connectors</b></p> <p>USB connector for connecting a PC .....USB-MC5P          Line connector ..... RJ 11          Ethernet ..... 10/100 BaseT, RJ 45</p>	<p><b>Mechanical data</b></p> <p>Dimensions (W x H x D).....224 x 160 x 44 mm          Weight (Including battery pack) .....approx. 0.9 kg</p> <p><b>Ambient temperature ranges</b></p> <p>Reference..... 23±5°C          Rel. humidity 45% to 75%</p> <p>Normal operation..... 0 to +45°C          Rel. humidity 5% to 95% *( &lt;25g/m<sup>3</sup>)</p> <p>Storage and transport ..... -40 to +70°C          Rel. humidity 95% at +45°C *( &lt;35g/m<sup>3</sup>)</p> <p>* without condensation</p>
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**Ordering information**

<p><b>xDSL Test Modem</b></p> <p><b>EX 30M</b>.....461-000-000 / Over POTS</p>	<p><b>Including:</b></p> <p>Operating manual and Calibration Certificate          Mains adapter          Test lead (RJ11 / RJ11 plugs)</p> <p><b>Option:</b></p> <p>7' Android tablet          Car lighter power adapter EAA 20</p>
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ELEKTRONIKA reserves the right to change specifications without prior notice

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