OPTOWARE
Optical Handheld Tester Sets
### WPM Specifications

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiber type</td>
<td>Single-mode, 9/125um</td>
</tr>
<tr>
<td>Optical interface</td>
<td>SC/PC or FC/PC (PC/APC selectable)</td>
</tr>
<tr>
<td>Operation</td>
<td>Wavelength Power Meter / Insertion Loss Meter</td>
</tr>
<tr>
<td>Auto wavelength detection</td>
<td>1270~1625nm for CWDM 19 wavelength (WPM-19)</td>
</tr>
<tr>
<td>Measurement range</td>
<td>+6 ~ -40dBm</td>
</tr>
<tr>
<td>Resolution</td>
<td>0.01dB</td>
</tr>
<tr>
<td>Measurement accuracy</td>
<td>±0.5dB @ -20dBm</td>
</tr>
<tr>
<td>Display unit</td>
<td>nm, dB, dBM</td>
</tr>
<tr>
<td>Type</td>
<td>Li-ion Polymer Rechargeable</td>
</tr>
<tr>
<td>Power</td>
<td>3.7V</td>
</tr>
<tr>
<td>Life</td>
<td>25hrs (Continuous usage)</td>
</tr>
<tr>
<td>Charging time</td>
<td>2.5hrs</td>
</tr>
<tr>
<td>Size(HxWxD) &amp; Weight</td>
<td>138x73x30mm, 205g</td>
</tr>
<tr>
<td>Temperature (operating)</td>
<td>-10℃ to 50℃ (0~90%)</td>
</tr>
<tr>
<td>Temperature (storage)</td>
<td>-30℃ to 60℃ (0~90%)</td>
</tr>
<tr>
<td>Display</td>
<td>LCD with LED backlight</td>
</tr>
<tr>
<td>Data storage</td>
<td>1600 measurements</td>
</tr>
<tr>
<td>Accessories</td>
<td>5V AC adapter &amp; Manual</td>
</tr>
</tbody>
</table>

### WPM-1nm Specifications

<table>
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<tr>
<th>Parameters</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiber type</td>
<td>Single-mode, 9/125um</td>
</tr>
<tr>
<td>Optical interface</td>
<td>SC/PC or FC/PC (PC/APC selectable)</td>
</tr>
<tr>
<td>Operation</td>
<td>Wavelength Power Meter / Insertion Loss Meter</td>
</tr>
<tr>
<td>Auto wavelength detection</td>
<td>1270~1625nm for WDM 1nm wavelength</td>
</tr>
<tr>
<td>Measurement range</td>
<td>+6 ~ -40dBm</td>
</tr>
<tr>
<td>Wavelength Resolution</td>
<td>1nm</td>
</tr>
<tr>
<td>Power Resolution</td>
<td>0.01dB</td>
</tr>
<tr>
<td>Measurement accuracy</td>
<td>±0.5dB @ -20dBm</td>
</tr>
<tr>
<td>Display unit</td>
<td>nm, dB, dBM</td>
</tr>
<tr>
<td>Type</td>
<td>Li-ion Polymer Rechargeable</td>
</tr>
<tr>
<td>Power</td>
<td>3.7V</td>
</tr>
<tr>
<td>Life</td>
<td>25hrs (Continuous usage)</td>
</tr>
<tr>
<td>Charging time</td>
<td>2.5hrs</td>
</tr>
<tr>
<td>Size(HxWxD) &amp; Weight</td>
<td>138x73x30mm, 205g</td>
</tr>
<tr>
<td>Temperature (operating)</td>
<td>-10℃ to 50℃ (0~90%)</td>
</tr>
<tr>
<td>Temperature (storage)</td>
<td>-30℃ to 60℃ (0~90%)</td>
</tr>
<tr>
<td>Display</td>
<td>LCD with LED backlight</td>
</tr>
<tr>
<td>Data storage</td>
<td>1700 measurements</td>
</tr>
<tr>
<td>Accessories</td>
<td>5V AC adapter &amp; Manual</td>
</tr>
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</table>
**Specifications**

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiber &amp; Connector type</td>
<td>Single-mode, SC/APC or FC/APC</td>
</tr>
<tr>
<td>Operation mode</td>
<td>Power Meter / Insertion Loss</td>
</tr>
<tr>
<td>Wavelength</td>
<td>1310nm, 1550nm or 1310/1550nm ±15nm</td>
</tr>
<tr>
<td>Spectral width (rms)</td>
<td>&lt;5nm</td>
</tr>
<tr>
<td>Measurement range</td>
<td>0~60dB</td>
</tr>
<tr>
<td>Resolution</td>
<td>0.01dB</td>
</tr>
<tr>
<td>Measurement accuracy</td>
<td>±0.5dB @-20dB, ±1.0dB @20±3°C</td>
</tr>
<tr>
<td>Wavelength</td>
<td>1310nm, 1550nm or 1310/1550nm ±15nm</td>
</tr>
<tr>
<td>Spectral width (rms)</td>
<td>&lt;5nm</td>
</tr>
<tr>
<td>Output power range</td>
<td>-3 ~ -40dB</td>
</tr>
<tr>
<td>Stability</td>
<td>±0.2dB/15minutes at 23±3 °C</td>
</tr>
<tr>
<td>Wavelength range</td>
<td>1100 ~ 1650nm</td>
</tr>
<tr>
<td>Calibrated wavelength</td>
<td>1310/1490/1550nm</td>
</tr>
<tr>
<td>Measurement range</td>
<td>+6 ~ -65dB</td>
</tr>
<tr>
<td>Resolution</td>
<td>0.01dB</td>
</tr>
<tr>
<td>Measurement accuracy</td>
<td>±0.5dB @ -20dB</td>
</tr>
<tr>
<td>Size(Height x Width x Depth) &amp; Weight</td>
<td>138x73x30mm, 205g</td>
</tr>
<tr>
<td>Temperature (operating)</td>
<td>-10 °C to 50 °C (0~90%)</td>
</tr>
<tr>
<td>Temperature (storage)</td>
<td>-30 °C to 60 °C (0~90%)</td>
</tr>
<tr>
<td>Batteries</td>
<td>Lithium-Ion Rechargeable, AC Adapter</td>
</tr>
<tr>
<td>Battery life</td>
<td>11hrs (for ORL Meter), 30hrs (for Power Meter)</td>
</tr>
<tr>
<td>Display</td>
<td>LCD with LED backlight</td>
</tr>
<tr>
<td>Data storage</td>
<td>300 measurements</td>
</tr>
</tbody>
</table>

**General Spec**

- **Display unit**: nm, dB, dBm
- **Battery**: Li-ion Polymer Rechargeable
- **Power**: 3.7V
- **Life**: 25hrs (Continuous usage)
- **Charging time**: 2.5hrs
- **Size(Height x Width x Depth) & Weight**: 138x73x30mm, 205g
- **Temperature (operating)**: -10 °C to 50 °C (0~90%)
- **Temperature (storage)**: -30 °C to 60 °C (0~90%)
- **Display**: LCD with LED backlight
- **Data storage**: 300 measurements
- **Accessories**: 5V AC adapter & Manual

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**Optical Power Measurement**

- Optical network power measurement
- Power measurement for components & system

**Stabilized Laser Source**

- Reference light source for loss test
- Wide variable range of output power

**Return Loss Measurement**

- FTTx/PON return loss measurement
- Optical component return loss measurement

**Insertion Loss Measurement**

- FTTx/PON connector IL measurement
- Optical network & component IL measurement

**Smartphone Interface**

- Controlled by smartphone via bluetooth
- Displayed on smartphone via bluetooth
- Smartphone-application software

**Power Meter & Light Source**

Smartphone Apps & Bluetooth Interface

**Simultaneous λ detection & Calibration**

3λPM - 3-Lambda Power Meter

B/G/E -PON 3wavelength Power Meter & Insertion Loss Tester (1310/1490/1550nm)
Specially designed for distinguishing the connection status of ONT with bidirectional PON power meter function

- Easy to check the ONT connection status at FTTH drop box
- Unused port detection at FTTH drop terminal side
- Indicator for signal presence or absence of OLT and ONT
- Bidirectional power meter between OLT and ONT
- Optical power measurement of ONT signal in burst mode
- General power meter for 1310/1490/1550nm in CW mode

- Portability & Universal adapter applied
- Support to recharge by USB port
- Compact size and Very low cost
- Robust, shock-proof, splash-proof design for field operation

Application

<table>
<thead>
<tr>
<th>OLT Signal on</th>
<th>OLT Signal on</th>
<th>OLT Signal on</th>
<th>ONT Signal off or line cut off</th>
</tr>
</thead>
<tbody>
<tr>
<td>OLT Signal on</td>
<td>OLT Signal on</td>
<td>OLT Signal off</td>
<td>ONT Signal on or off or line cut off</td>
</tr>
</tbody>
</table>

*LED Status Light

Specs

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adapter type</td>
<td>Default: PC/Universal Adapter (Option: APC/FC, APC/SC)</td>
</tr>
<tr>
<td>Fiber type</td>
<td>Single-mode</td>
</tr>
<tr>
<td>Laser type</td>
<td>Default: 1310nm ± 20nm (FP-LD)</td>
</tr>
<tr>
<td>Measurement Range</td>
<td>CW: +10 ~ -60dBm / Burst: +10 ~ -30dBm</td>
</tr>
<tr>
<td>Power meter</td>
<td>FOC-100-3: 1310nm Burst, 1310, 1490 &amp; 1550nm</td>
</tr>
<tr>
<td></td>
<td>FOC-100-CWDM: 1310nm Burst, 1310, 1430, 1450, 1470, 1490, 1510, 1530, 1550, 1570, 1590 &amp; 1610nm</td>
</tr>
<tr>
<td>Display</td>
<td>LCD w/LED backlight / 2color LED (OLT &amp; ONT Indicator)</td>
</tr>
<tr>
<td>Battery type</td>
<td>Li-ion rechargeable</td>
</tr>
<tr>
<td>Charging</td>
<td>Micro-USB power cable</td>
</tr>
<tr>
<td>Size (HxWxD) &amp; Weight</td>
<td>128.2x66.2x30mm, 150g</td>
</tr>
</tbody>
</table>