Features:
- Hand-held portable, 153(L) x 93(W) x 23(H) mm.
- Provide GPIO interface.
- Open source hardware interface to support expansion modules.
- Provide software interface protocol for secondary development.
- USB 2.0 interface, USB powered with no additional power required.
- Free Windows PC software for both oscilloscope and data logger.
- Available oscilloscope software on Android Mobile Phone.
- Large screen display and convenience of operating PC software.
- Support Serial bus decoding.

APPLICATIONS:

- General-purpose and precision testing.
- Embedded in teaching equipment or industrial testing equipment for use.
- Powersupply ripple and noise detection.
- Multi-sensor systems and Serial bus decoding.
- Secondary development of analog data acquisition and DIO control.
- Diagnosis device for filed engineers.
- Basic equipment for DIY makers to develop their own modules.
SPECIFICATIONS:

- **Connector type:** 2 channels with BNC sockets, 20 mm spacing.
- **Vertical resolution:** 8 Bit.
- **Maximum sampling rate (S/s):**
  - OSC48x: 50M, 80M, 100M, 1G
  - OSC80x: 50M, 80M, 100M, 1G
  - OSCA02: 50M, 80M, 100M, 1G
  - OSC2002: 50M, 80M, 100M, 1G
- **Bandwidth (−3 dB):**
  - OSC48x: 20M Hz, 25M Hz, 35M Hz, 50M Hz
  - OSC80x: 20M Hz, 25M Hz, 35M Hz, 50M Hz
  - OSCA02: 20M Hz, 25M Hz, 35M Hz, 50M Hz
  - OSC2002: 20M Hz, 25M Hz, 35M Hz, 50M Hz
- **Input sensitivity (10 vertical divisions):**
  - OSC48x: 20 mV/div to 2 V/div.
  - OSC80x: 20 mV/div to 2 V/div.
  - OSCA02: 20 mV/div to 2 V/div.
  - OSC2002: 20 mV/div to 2 V/div.
- **Input ranges (probe x1):**
  - OSC48x: ±100 mV to ±5 V full scale, in 7 ranges.
  - OSC80x: ±100 mV to ±5 V full scale, in 7 ranges.
  - OSCA02: ±100 mV to ±5 V full scale, in 7 ranges.
  - OSC2002: ±250 mV to ±5 V full scale, in 6 ranges.
- **Timebase selection (10 horizontal divisions):**
  - OSC48x: 50 ns/div ~ 2 s/div, in 19 ranges.
  - OSC80x: 50 ns/div ~ 2 s/div, in 19 ranges.
  - OSCA02: 50 ns/div ~ 2 s/div, in 19 ranges.
  - OSC2002: 50 ns/div ~ 2 s/div, in 21 ranges.
- **Input coupling:** AC/DC.
- **Input characteristics:** 1MΩ || 25pF.
- **PC OS requirements:** Windows XP, Win 7, Win 8.1, Win10 (32 bit and 64 bit).
- **Overvoltage protection:** ±60.0v (x1), ±600.0v (x10). (DC + AC peak)
- **Triggering type:** Rising/falling edge according to trigger level.
- **Triggering mode:** None, auto, normal, single.
- **Pre-trigger capture:** 50% of capture size.
- **Automatic measurements:** Maximum, minimum, average, RMS, frequency, period, positive pulse width, negative pulse width, duty cycle, rise time, peak-to-peak value.
- **Samples Interpolation:** Linear or sin(x)/x.
- **FFT:** 1024 points.
- **FFT window function:** Rectangle, Hanning, Hamming, Blackman.
- **Math:** A+B, A-B, AxB, X-Y.
- **Acquisition Modes:** High Resolution mode / Peakdetect mode.
- **Waveform recording and playback:**
  - File format: *.oscxxx.
  - Record depth: 50 ~ 450 frames.
  - File size: 6 MB ~ 20GB.
- **Data logger Sampling Interval:** 1 second to 1 hour.
- **Data logger Record Duration:** 1 minute ~ 72 hours.
- **Temperature range:**
  - Operating: 0 °C to 40 °C (20 °C to 30 °C for stated accuracy).
  - Storage: −20 °C to +60 °C.
- **Reference Output:** 1K Hz, 1.5 V square wave output with 50% duty cycle.
- **Size:** 153(L) x 93(W) x 23(H) mm.
- **Languages (full support):** English, Chinese (simplified).
- **Compliance:** CE, FCC.
<table>
<thead>
<tr>
<th>noise (peak to peak voltage):</th>
<th>50 mv/div</th>
<th>100 mv/div</th>
<th>200 mv/div</th>
<th>500 mv/div</th>
<th>1 v/div</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.4 mv</td>
<td>6.4 mv</td>
<td>21 mv</td>
<td>32 mv</td>
<td>101 mv</td>
<td></td>
</tr>
<tr>
<td>4.8 mv</td>
<td>7.2 mv</td>
<td>19.4 mv</td>
<td>34.8 mv</td>
<td>87.8 mv</td>
<td></td>
</tr>
<tr>
<td>5.8 mv</td>
<td>8 mv</td>
<td>22 mv</td>
<td>38.8 mv</td>
<td>88.2 mv</td>
<td></td>
</tr>
</tbody>
</table>

- **GPIO:**
  - 4 I/O
  - 3 I/O
  - 3 I/O

- **Memory depth (byte /ch):**
  - 512 ≤1 us/div
  - 1k 4 us/div
  - 2k 20 us/div
  - 32k 0.2 ms ~ 5 ms /div
  - 64k 10 ms /div
  - 256k 100 ms /div
  - 512k 200 ms /div
  - 1M 0.5 s/div
  - 2M 1 s/div
  - 5M 2 s/div
  - 64k ≤100 ms/div
  - 64k ≤100 ms/div
  - 1k 4 us/div
  - 2k 20 us/div
  - 32k 0.2 ms ~ 5 ms /div
  - 64k 10 ms /div
  - 256k 100 ms /div
  - 512k 200 ms /div
  - 1M 0.5 s/div
  - 2M 1 s/div
  - 5M 2 s/div

- **Trigger type:**
  - Software
  - Hardware
  - Hardware

- **Trigger source:**
  - Channel A/B
  - Channel A
  - Channel A

- **Power consumption:**
  - 5 v || (238~253) mA
  - 5 v || (324~355) mA
  - 5 v || (248~279) mA

- **Protocols decoding:**
  - UART/RS-232, I²C
  - UART/RS-232, I²C
  - UART/RS-232, I²C

<table>
<thead>
<tr>
<th>AT A GLANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model:</strong></td>
</tr>
<tr>
<td>Input channels:</td>
</tr>
<tr>
<td>Maximum sampling rate (S/s):</td>
</tr>
<tr>
<td>Bandwidth (~3 dB):</td>
</tr>
<tr>
<td>FFT:</td>
</tr>
<tr>
<td>Data logger:</td>
</tr>
<tr>
<td>I/O extension:</td>
</tr>
<tr>
<td>Serial bus decoding:</td>
</tr>
<tr>
<td>Hardware trigger:</td>
</tr>
<tr>
<td>Ext trigger module support:</td>
</tr>
<tr>
<td>Signal generator module support:</td>
</tr>
<tr>
<td>Logic analyzer module support:</td>
</tr>
</tbody>
</table>
INTERFACES:

**Description:**
- Input channel A.
- Input channel B.
- Power LED (red), Status LED (green).
- USB 2.0 interface, Type B female.
- DE15 interface for expansion modules.

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>L</th>
<th>U</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input channel A.</td>
<td>Input channel B.</td>
<td>Power LED (red), Status LED (green).</td>
<td>USB 2.0 interface, Type B female.</td>
</tr>
<tr>
<td>DE15 interface for expansion modules.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### OSC48x

- **6: 1.5 VPP 1K HZ**
  - 1: NC
  - 2: IO1
  - 3: IO2
  - 4: IO3
  - 5: AIN
  - 11: NC
  - 12: 3.3V
  - 13: -5V
  - 14: 5V
  - 15: AGND

### OSC80x/OSCA02/OSC2002

- **6: 1.5 VPP 1K HZ**
  - 1: NC
  - 2: IO1
  - 3: IO2
  - 4: IO3
  - 5: AIN
  - 11: NC
  - 12: 3.3V
  - 13: -5V
  - 14: 5V
  - 15: AGND
Accessories:

<table>
<thead>
<tr>
<th>type</th>
<th>quantity</th>
<th>model</th>
<th>details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passive voltage probe, 60 MHz x1/x10</td>
<td>2</td>
<td>P2060</td>
<td>10x: 60M Hz, 10MΩ, 600 V CAT II</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1x: 6M Hz, 1MΩ, 300 V CAT II</td>
</tr>
<tr>
<td>USB cable</td>
<td>1</td>
<td>U2100</td>
<td>USB 2.0 Printer Cable. Type A Male to B Male.</td>
</tr>
</tbody>
</table>

Optional expansion modules:

<table>
<thead>
<tr>
<th>type</th>
<th>model</th>
<th>interface</th>
<th>Host device</th>
<th>details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signal generator module</td>
<td>S01</td>
<td>DE15</td>
<td>OSC482</td>
<td>1 channel, Sine wave, Triangle wave, Square wave. 1 Hz ~ 13M Hz (Sine wave) output frequency range. 48M sampling rate.</td>
</tr>
<tr>
<td>Logic analyzer module</td>
<td>L01</td>
<td>DE15</td>
<td>OSC802/OSCA02/OSC2002</td>
<td>4 channels, TTL level, consistent with the performance of the host device.</td>
</tr>
</tbody>
</table>