Converter

**VCD-020A**

Cable Length (combinations) | Silicon coated PCB
---|---
11 3m : 0.5m + 2.5m
12 5m : 0.5m + 4.5m
23 3m : 1.0m + 2.0m
24 5m : 1.0m + 4.0m

e.g. : 3m : 0.5m + 2.5m

Extension cable length
Sensor cable length
System cable length

Junction connector

**VZ-1A**

Sensor

**VS-020L**

Sensor cable length | Water-proof
---|---
1 0.5m
2 1.0m

Extension cable

**VW-100D**

Extension cable length
---
1 2.5m
2 4.5m
3 2.0m
4 4.0m

Sensor outer dimensions

Interchangeability

There is a possibility of performance degradation when any part of the combination of the sensor, the extension cable, the converter or the target is changed from what is specified in the test report. For more information, please refer to the instruction manual.
**VCD-A SERIES**

**SPECIFICATIONS**

**VCD-020A**

**DISPLACEMENT VIBRATION CONVERTER**

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>NUMBER OF INPUT SENSORS</th>
<th>2ch.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEASURING RANGE</td>
<td>0 to 2,000μm</td>
</tr>
<tr>
<td>TARGET MATERIAL</td>
<td>Standard: Select from JIS SS400 (steel) flat surface, JIS A5052 (Aluminum) flat surface or JIS SUS304 (stainless steel) flat surface. Option: Material or shape except standard target*1.</td>
</tr>
<tr>
<td>CALIBRATION</td>
<td>Calibratable to the GAP(0% to 100% (10%)step) by VCD-A calibration software.</td>
</tr>
</tbody>
</table>

**OUTPUT VOLTAGE**

<table>
<thead>
<tr>
<th>Measured value</th>
<th>Ch. A</th>
<th>Ch. B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linearity^2</td>
<td>Within ±0.5% of F.S. at 25 °C</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Calculated value</th>
<th>Ch. A + Ch. B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sum/difference signal</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ch. A – Ch. B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calculation error^2: Within ±1.0% of F.S. at 25 °C</td>
</tr>
</tbody>
</table>

**RESOLUTION**

0.005% of F.S. (When output voltage range is calibrated from –5 to 5V.)

**FREQUENCY RESPONSE**

DC to 10kHz (−3dB)

Response to the 400μm±μm sine wave at 100μm gap.

**S/N RATIO**

More than 55dB

**SENSOR ABNORMAL OUTPUT VOLTAGE**

-3% of F.S. - equivalent output voltages

**CONNECTING INTERFACE TO PC**

USB (Mini-B receptacle)

**PC READOUT**

Numerical value readout by VCD-A calibration software.

**OPERATING TEMPERATURE RANGE**

-40°C to 70°C

**POWER SUPPLY**^2, ^4

24VDC±10% (Voltage fluctuation such as ripple noise is 9mV±μV or less.) Current consumption: 0.1A

**MASS**

Approx. 300g

**ACCEPTABLE WIRE GAUGE**

<table>
<thead>
<tr>
<th>Output connector</th>
<th>0.3 to 1.4mm²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power supply connector</td>
<td>0.5 to 2.0mm²</td>
</tr>
</tbody>
</table>

**SYSTEM REQUIREMENTS FOR VCD-A CALIBRATION SOFTWARE**

<table>
<thead>
<tr>
<th>CPU</th>
<th>Intel® Celeron® dual-core 1200MHz or higher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Memory</td>
<td>Physical RAM: 512MB or more</td>
</tr>
<tr>
<td>OS</td>
<td>Microsoft Windows® XP or Microsoft Windows® 7 (except x64 Edition)</td>
</tr>
<tr>
<td>Hard drive space</td>
<td>1GB of free space</td>
</tr>
<tr>
<td>Display resolution</td>
<td>1024 x 768 or higher-resolution</td>
</tr>
<tr>
<td>Peripherals</td>
<td>CD-ROM Drive, One or more free USB port</td>
</tr>
</tbody>
</table>

**ACCESSORIES**

2 mounting brackets, USB cable (A to Mini-B), VCD-A Calibration software installation CD-ROM

**1**: User is able to change target material by VCD-A calibration software. When initial calibration by the option, please provide a test piece of the optional target for initial calibration.

**2**: It is not guaranteed for special material or shape.

**3**: A low ripple power supply such as linear power supply (e.g., MODEL G1-24 by COSEL Co., Ltd.) is recommended. Recommended power supply: G1-24, PBA30F-24-N and R15A-24-N (COSEL Co., Ltd.) HFS30-24 (DAITO ELECTRON CO., LTD.)

**4**: Be sure to install a surge protector on the power supply line when surge voltage might induced in the power supply line.

**CONFIGURATION**

![Configuration Diagram](image)

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SHINKAWA Sensor Technology, Inc.

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