VABBIT PRO CAC 21NX series
CRITICAL ASSET CARE
What’s it all about?

Wired sensor system: Optical fiber or Ethernet or Remote GSM mobile / cellular network

Wireless: Zigbee network that allows to receive data from 60 wireless sensors.
System Layout

With ENERGY HARVESTING Options
Wired System
Specifications

Input Channels
- 16 channels for Vibration (synchronous)
- 4 channels for Process information,
- 2 channels for tacho

Maximal output channels
- 1 channel relay output, dry contact

Vibration signal input
- Channels: Max. 16 Channels, 8,12,16 Optional
- Compatible sensors: Acceleration, velocity, displacement, voltage, 4～20mA

Temperature measurement
- Channels: 16 channels, isolation input
- Measurement range: -40～+125°C

Process measurement
- Channels: 4 channels, isolation input
- Signal range: 12V or 4～20mA

SPEED measurement
- Channels: 2 channels
- Compatible type: TTL, Eddy current, Hall
- Triggering level: ±4V ～ ±30Vpp

Relay output
- Channels: 1 channel
- Type: SPST, normally open or close
- Voltage, current: 250V AC, 2A

Communications
- Ethernet v2.0, IEEE802.3, TCP/IP, 10/100baseT
- Wireless network

Humidity
- 95% RH without condensate / Ambient Temp (-40 ～ 70°C)
Wired System

Maximal input Channels:
- 16 channels for Vibration / Temperature
- 8 channels for Process information,
- 2 channels for tacho
Wireless Sensor

Build-in acceleration and temperature sensor, collect velocity, acceleration, displacement and temperature signals simultaneously. The vibration signal can be displayed as spectrum waveform in software.

Zigbee communication, for on site use specially, strong anti-jamming capability, 150 meters transmission.

Φ42 mm* H 65mm, small volume, easy to fix and maintain.

Low consumption design, collect data by every two hours, sustainable work for 2 years or longer.

Intelligent self-inspect function, warning for abnormal any time, saved time to check on site.

Exia II CT4, can be installed Hazardous area, IP65, waterproof, dustproof.

Soon with ENERGY HARVESTING Options

2 YEARS
## Specifications

<table>
<thead>
<tr>
<th>Vibration Parameter</th>
<th>Description</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acceleration range</td>
<td>30g</td>
<td></td>
</tr>
<tr>
<td>Frequency range</td>
<td>5~10KHz (optional - Slow speed)</td>
<td></td>
</tr>
<tr>
<td>Linearity</td>
<td>1%</td>
<td></td>
</tr>
<tr>
<td>Resonant frequency</td>
<td>16KHz</td>
<td></td>
</tr>
<tr>
<td>Transverse Sensitivity</td>
<td>≤5%</td>
<td></td>
</tr>
<tr>
<td>Electrical Isolation</td>
<td>&gt;10^8Ω</td>
<td></td>
</tr>
<tr>
<td>Impact limit</td>
<td>1000g</td>
<td></td>
</tr>
<tr>
<td>Sensing Geometry</td>
<td>Shear</td>
<td></td>
</tr>
<tr>
<td>Signal type</td>
<td>Acceleration, velocity, displacement</td>
<td></td>
</tr>
<tr>
<td>A/D conversion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waveform sampling length</td>
<td>Max. 512K</td>
<td></td>
</tr>
<tr>
<td>FFT Lines (Resolution)</td>
<td>800, 1600, 3200, 6400</td>
<td></td>
</tr>
<tr>
<td>Wireless Communication type</td>
<td>Zigbee</td>
<td></td>
</tr>
<tr>
<td>Communicate frequency</td>
<td>2.4GHz</td>
<td></td>
</tr>
<tr>
<td>Transmission distance</td>
<td>150 meters (plane distance)</td>
<td></td>
</tr>
<tr>
<td>Dimensions</td>
<td>Height 80* mm, diameter 40 mm</td>
<td></td>
</tr>
<tr>
<td>Mounting Screw thread size</td>
<td>6 mm</td>
<td></td>
</tr>
<tr>
<td>Housing Material</td>
<td>Base: 316 L stainless steel</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Top: Aluminium alloy</td>
<td></td>
</tr>
<tr>
<td>Power supply</td>
<td>ER 34335</td>
<td></td>
</tr>
<tr>
<td>Protection grade</td>
<td>IP65, waterproof, dustproof</td>
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</tr>
<tr>
<td>Weight</td>
<td>217g</td>
<td></td>
</tr>
<tr>
<td>Storage capacity</td>
<td>128Kbytes</td>
<td></td>
</tr>
<tr>
<td>Working temperature</td>
<td>(-35~70) °C</td>
<td></td>
</tr>
<tr>
<td>Anti-explosion options</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anti-explosion identification</td>
<td>Exia II C T4 Ga</td>
<td></td>
</tr>
<tr>
<td>Temperature measurement options (not standard configuration, optional)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measurement range</td>
<td>(-55~125) °C</td>
<td></td>
</tr>
</tbody>
</table>

Using standard configuration parameter, collect data in every 2 hours (16K acceleration signal, 8K velocity signal), can work for more than 2 year.

The surface temperature can reach to 125°C

Used for 0 area, 1 area, 2 area.
The ZigBee system’s battery life depends on the beacon interval i.e. the time interval between bursts of communication between the sensor and the controller. For 2 hours interval – battery last 2 years.
Wireless Sensor

2.4 GHz frequency – for signal communication / transmissions, powerful anti-jamming performance

Soon ..., with Perpetual Power (by Energy Harvesting tech) for Wireless transmission unit
Wireless Sensor installation
MACHINERY MONITORING SYSTEM

MONITORING, TRENDING & DIAGNOSTIC SOFTWARE
http://127.0.0.1/VABBIT/main.aspx

Web enabled, No Client software installation needed
Multiple database servers configuration. Integrate various data collector stations such as adding and edit, measuring points configuration, setting automatic data acquisition time interval and data save strategy of each monitoring station.

Real-time dynamic display data acquisition data and overall trend data.

Configure channel acquisition parameters, select manual acquisition to collect a certain channel data, and the collected data can be saved in the corresponding measuring points.

Gather Acceleration, Velocity & Displacement waveform data, with maximal 6400 lines spectrum analysis.
Data Display Plots

- Time domain multiple index and frequency index trend graph, overall trend display
- Time domain waveform, spectrum analysis, cepstrum, envelope demodulation, multiple time / frequency domain / waterfall diagram, long time domain waveform analysis, cross-phrase spectrum, 2D / 3D data plots, shaft orbit and filter shaft orbit. Full spectrum, Nyquist chart, polar coordinate chart and cascade graph etc.
Graphic control tools: Single cursor, double cursors, harmonic cursor, Side frequency cursor, graphics resizing, graphics moving, marks.

- Automatic frequency calculation, bearing database.
- Fault case manager, diagnosis knowledgebase.
- Automatic report generation
Know more!

VABBIT® PRO
CRITICAL ASSET CARE-CAC 21NX

USER GUIDE

MACHINERY MONITORING SYSTEM

MONITORING, TRENDING & DIAGNOSTIC SOFTWARE

USER GUIDE