



SHINKAWA

# SHINKAWA Electric Company introduces the next generation of wireless systems

# ZARK X8II



**Provides reliable, repeatable measurements for wide range monitoring points**

**Cloud based system**

**Supports both wireless and wired signals**

**Up to 16 Wireless Nanos and 8 Wired Sensors**

**Supports Wifi 802.11b/g/n WPA-2**

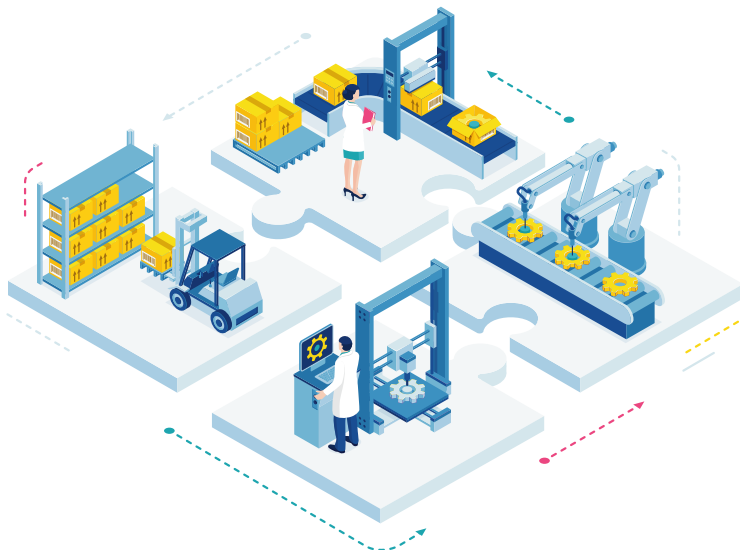
**Encrypted communication for added security**

**Support RJ45 connections**

**Alerts via text message and email**

**Improve speed and efficiency with RTOS Real Time Operating System** (SEE SPEC SHEET FOR RTOS LICENSING INFO\*)

**Class 1 Div 2 C-UL In Process**



## The Unified Theory of Reliability

At SHINKAWA Electric Corporation of America, our goal is to make reliability accessible and attainable to all. We believe this can only be achieved when motivated teams share common goals and are empowered by great technology to collaboratively solve problems.

Harmonizing the human, machine and data resources that impact your operation is the very essence of the Unified Theory of Reliability... that's why we created the Machine Dossier Reliability Ecosystem.



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# ZARK Nano

## Wireless Condition Monitoring IIoT Technology - Industry 4.0

- Triaxial vibration and surface temperature sensor
- Bluetooth 5.0 communication
- Easily Replaceable Lithium Ion Battery
- Quick and easy to install
- Low cost
- Cloud Based Software

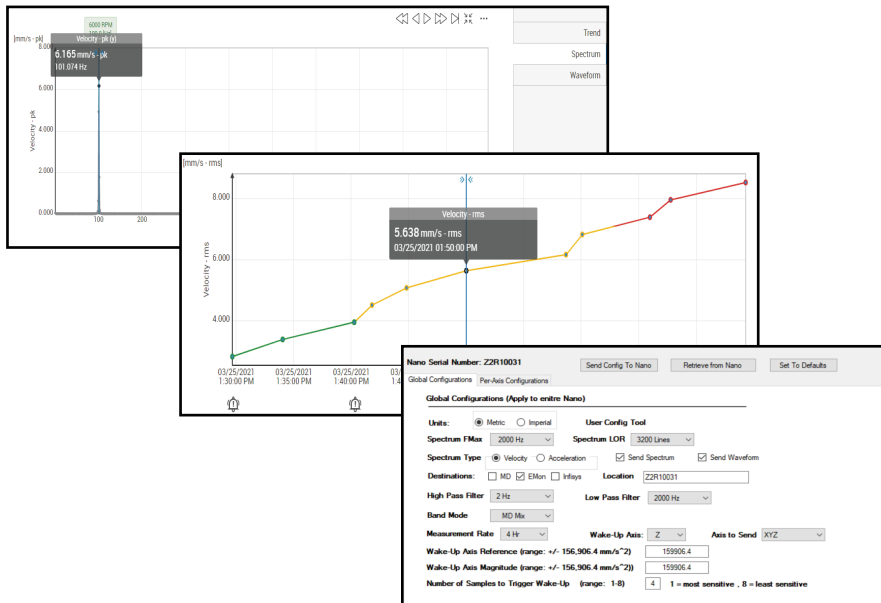


### The ZARK Family of Wireless Machine Fitness Devices

Wearable fitness devices are all the rage for human health tracking, so why should tracking the fitness of your assets be any more difficult?

ZARK makes the process easy and extends our applications right onto your plant floor.

The ZARK Nano and ZARK X8 II pair for drama free reliability.



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Your **assets**  
Monitored by the **Nano**,  
Wirelessly Connected by the **X8 II**



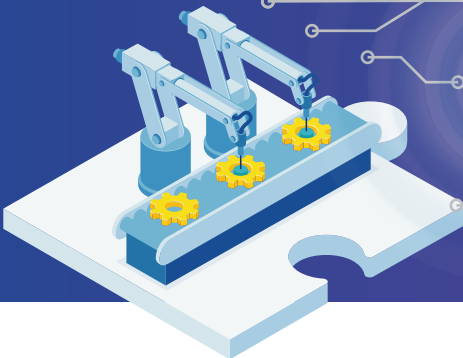
**ZARK  
Nano**



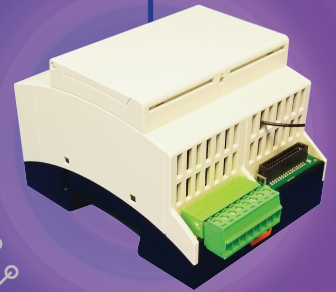
**ZARK  
Nano**



**ZARK  
Nano**



**ZARK  
X8<sup>II</sup>**



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# Zark Hub X8 II

Hardware Capacity	Max Sensor Count	Eight (8) Wired Sensors/Sixteen (16) Wireless Zark Nano Sensors, One (1) Speed
	Sensor Types	Accelerometer/Prox Probe/Temperature/Strain Sensor
		Process signals: (0-5 VDC/1-5VDC / 0-10 VDC/1-10VDC and 4-20mA with added 249 ohm terminating resistors per channel on the 4-20mA inputs
	Frequency Range	2Hz(120 cpm) to 20KHz (1,200,000 cpm ) ±3dB
Bias Measurement	0 to +24 V or 0 to -24 V user selectable	
Functions	Vibration Measurement Type	Acceleration: g or mm/s <sup>2</sup> ; Velocity: in/s or mm/s
	Vibration Amplitude Type	RMS, True Peak, Calculated Peak
	Waveforms	With wired sensors: 8192 floating point data With wireless Zark Nano sensors: 2048 floating point data
	Number of Resolution Lines (FFT)	800, 1600, 3200 (default -3200)
	Fmax (Sampling rate)	1,500, 3,000, 5,000, 10,000, 18,300 (Default 3000)
	Frequency Bands	Six (6) Frequency Bands with Independent Alarms
	Other Measurement Types	Temp: °F (°C), Frequency: Hz (CPM), Volt: V, Strain: µε, Speed: RPM
	Alarming	Machine OFF, OK, WARNING and ALARM
Activation Method	By Scheduled Time	1,2,3,4,6,12 Hours/1 Day Interval changes based on Alarms to 1 hour interval
	By Detected Event	Immediate activation when set alarm limits are exceeded
Communication	Wi-Fi / Wireless	Standard: IEEE 802.11b/g/n
		Frequency Band:2.4000~2.4840 GHz for Wi-Fi
		Certification: CE/FCC/IC/TELEC/SRRC//NCC
		Wireless Security: WPA/ WPA2 support for powerful encryption for and authentication AES in WLAN hardware for faster data encryption and IEEE 802.11i compatibility (For wireless module only)
		Transmit Power: Typ. 14 dBm ± 2 at 802.11b CCK Mode 1M Typ. 12 dBm ± 2 at 802.11g OFDM Mode 54M Typ. 12 dBm ± 2at 802.11n OFDM Mode MCS0
		Reception Sensitivity: -65 dBm
		RF Data Rate:Up to 65 Mbps
	Antenna connector: MHF4 connector	
	Wired	RJ45 Ethernet
	Wireless Range	Bluetooth 5.0 communication to the Zark Nano: Maximum of 100 meters with linear vision. (The actual range depends on the obstacles present)
Power	Power Supply Voltage	5.0 Vdc , 6 Amps
Environmental	Operating temperature	-4°F to +140°F (-20°C to +60°C)
	Operating humidity	5% ~ 95% Relative Humidity, non-condensing
Physical	Weight	12 oz (340 gr)
	Dimension	ZARK X8 Housing: 54x71x90 2 1/8" x 2 13/16" x 3 35/64"
	Material	ZARK X8 Housing: Polycarbonate
	Mounting	DIN Rail
Software	SHINKAWA	Machine Dossier
ROFTS Real Time Operating System	Amazon	<p>The FreeRTOS kernel is released under the MIT open source license, the text of which is provided below.</p> <p>This license covers the FreeRTOS kernel source files, which are located in the /FreeRTOS/ Source directory of the official FreeRTOS kernel download. It also covers most of the source files in the demo application projects, which are located in the /FreeRTOS/Demo directory of the official FreeRTOS download. The demo projects may also include third party software that is not part of FreeRTOS and is licensed separately to FreeRTOS. Examples of third party software includes header files provided by chip or tools vendors, linker scripts, peripheral drivers, etc. All the software in subdirectories of the /FreeRTOS directory is either open source or distributed with permission, and is free for use. For the avoidance of doubt, refer to the comments at the top of each source file.</p> <p>License text: .....</p> <p>Copyright (C) 2019 Amazon.com, Inc. or its affiliates. All Rights Reserved. Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions: The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.</p>