

# *IMon-W100*

## Intelligent Data Acquisition Unit

*Datasheet*

*November 12, 2025  
CN Rev.v1.1.4*

The intelligent data acquisition unit (IMon-W100) is the data acquisition unit of the intelligent monitoring, analysis and diagnosis system. Together with sensors and supporting software, it forms a complete unit condition monitoring, analysis and diagnosis system. During continuous operation of the unit, it supplies power to various sensors and continuously collects parameters such as vibration, speed and process variables. It is equipped with rich interfaces including DO output, Gigabit Ethernet, RS485 channel, Type-C debug port, integrated vibration-temperature input and speed input. It also supports powerful functions such as remote power-off reset, satisfying various application scenarios of online unit condition monitoring.

### Main Features

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- **Intelligent monitoring:** Compatible with acceleration, velocity, displacement sensors, and process signals such as voltage and current.
- **Intelligent protection:** Provides signal isolation and protection for differential input channels.
- **Intelligent algorithms:** Provides advanced feature extraction algorithms, such as envelope analysis, frequency band energy capture, kurtosis, etc.
- **Intelligent alarm:** Provides machine self-learning alarm to minimize false alarms and maximize early fault detection.
- **Intelligent browsing:** Based on HTML5 technology (B/S architecture), no client software installation required, enabling quick browsing anytime and anywhere via any terminal.
- **Complete solution for powerful remote monitoring and diagnosis.**

## Technical Parameters

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<b>Model</b>	IMon-W100	
<b>Basic Information</b>	Installation method	Wall-mounted
	Dimensions	268mm×220mm×40mm
	IP grade	IP65 (with protective enclosure)
	Operating voltage	24VDC (21-30VDC)
	Power consumption	≤20W
	Reset	Support 10S hardware reset
	Remote power-down reset	Supported
<b>Signal Analysis</b>	Max sampling frequency	102.4KHz
	Max analysis frequency	40KHz
	Max spectral lines	409600
<b>Communication Interface</b>	TCP/IP	1 100M/1000M Ethernet port
	Bandwidth usage (per unit)	2KB/S (factory default)
	RS485	2 × isolated RS485 channels
	CAN	1 CAN channel
	Type-C	1 Type-C debugging port
<b>Vibration Process Input Channel</b>	Number of channels	16 integrated vibration and temperature channels
	A/D conversion	Delta-Sigma, 24-bit parallel acquisition
	Signal input range	±25V
	Signal type	Vibration (acceleration, velocity, displacement) Support 4 mA IEPE acceleration sensor power (optional)

		4-20mA / 1-5V
	Input impedance	>100KΩ
	Measurement error	<±0.5%
	Channel crosstalk	100dB
	Measurement accuracy	0.1%
<b>Key Phase Input Channels</b>	Number of channels	1
	Max frequency range	100KHz
	Sensor type	Supports 2048 encoder, proximity switch, eddy current sensor etc.
	Trigger level	(0-24V adjustable),
	Frequency accuracy	0.1%
	Speed range	0-6000k RPM
	Switching quantity output	4-channel DO
<b>Data Output Channel</b>		
<b>Intelligent Storage</b>	Fixed interval storage	Configurable interval and operating condition storage
	Alarm triggered storage	Data storage on alarm
	Hardware storage space	8G, offline storage for approximately 6 months (factory default)
		Supports SPI FLASH, NAND FLASH, MMC and SD card
<b>Analysis Diagrams</b>	Overall diagram	Unit monitoring point summary
	Bar chart	Vibration/impulse value display
	Waveform spectrum diagram	Displays waveform and spectrum
	Cepstrum diagram	Displays waveform cepstrum
	Trend chart	Displays historical trend of characteristic values
	Spectrum waterfall	Displays 3D spectrum

	chart	
	Speed-time chart	Displays key-phase trend
	Key-phase waveform chart	Displays key-phase waveform display
	Characteristic value list	Displays real-time and historical data of measuring points
<b>LED Indication</b>	Power indicator	1 pc
	System indicator	1 pc
	Key-phase indicators	2 pcs
	Alarm indicator	1 pc
	Channel valid indicator	1 per channel
<b>Environmental Test</b>	Temperature range	-40-85°C
	Relative humidity	10~95%, no condensation
	Impact test	15g for 10 ms, 3 directions
	Vibration test	1.5mm (5-28Hz), 5g (28-150Hz), three directions
	Atmospheric pressure	70kPa ( $\leq 3000\text{m}$ )
	Drop test	100 mm bottom drop without package
<b>Product Certification</b>	Pollution class	2
	CE certification	Passed
	Electromagnetic compatibility test	Passed
	Surge immunity	Passed

## Product Dimension Diagram

Dimensional drawing:

