

ESMS-ECM

Equipment Condition
Monitoring System



ES Systems has developed a complete smart system solution for condition monitoring of industrial equipment. The ESMS-ECM system features synchronous sensor sampling with wireless communication enabling optimal vibration and condition monitoring of equipment. The wireless capability enables installation at remote locations with minimal installation cost. ESMS-ECM supports WiFi and BLE 4.0 wireless protocols allowing installation and communication integration in existing wireless infrastructures.

ESMS-ECM is the first condition monitoring system worldwide that supports wireless and synchronous multichannel data sampling, a necessary feature for vibration monitoring and frequency pattern analysis. ESMS-ECM can integrate any kind of sensor that communicates with 0-10V, 4-20mA, MODBUS-RTU, RS-232, Digital I/O, I²C.

The data collected from the ESMS-ECM system are transferred to the cloud or to secure servers where end users can execute their predictive maintenance algorithms.



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ECM1



ECM2

Specifications

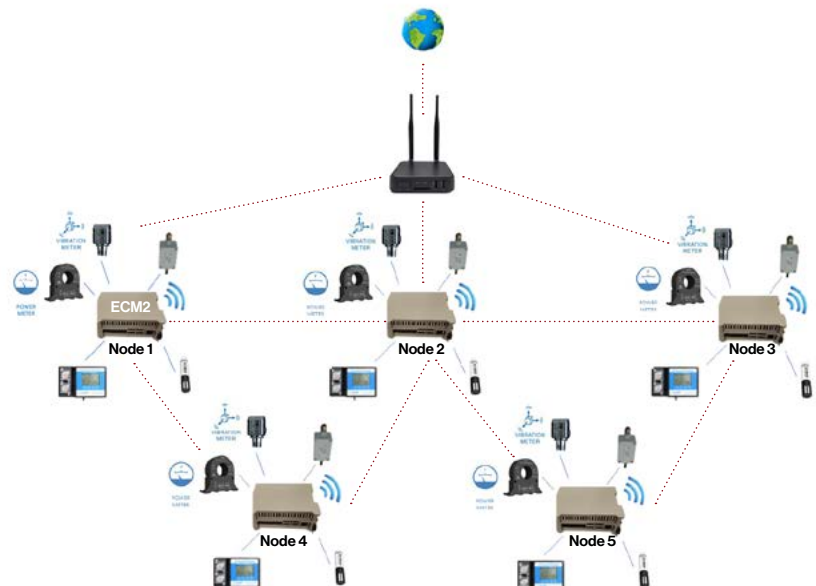
ECM1

Channel Configuration	12 IEPE Channels in banks of 4 channels with simultaneous sampling
Analog Signal Resolution	24 bit resolution ADC
Sampling Rate	Up to 50.2ksps
Power Supply	24V DC power supply
Core Processor	ARM Cortex -M4 32BIT 225DMIPS Processor
Memory	512Mb onboard Memory for Data storage
Interfaces	High Speed SPI bus for data transfer

ECM2

Digital I/Os	1 x Modbus RTU (RS-485 Isolated), 1 x RS-232 Isolated, 1 x I2C Isolated, 8 x DI/Os Isolated
Low bandwidth analog interface	6 x 4-20mA, 2 x 0-10V
Storage	32 GB Flash based storage for data files, 1-4 Gbytes of DDRAM
Communication Interfaces	WiFi, Bluetooth 5.0, Gigabit Ethernet
Power	220V 50Hz mains power, 12V DC, Onboard power management and online power monitoring, Back up using automatically rechargeable lithium battery
Processor and Operating System	ARM processor, Linux operating system, All software services (containers) run on top of linux and are remotely managed/updated
On Board Sensors	Intelligent sensor diagnostics (open, short), Current sensors, On board temperature and humidity, Onboard 3-axis accelerometer for position change detection, GPS (Optional)

Network Architecture



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