Systems and Hardware for Plant Reliability

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Few facts about Monitran

- Established in 1986, Monitran remains a privately owned company
- 40 employees on site
- 3+ million annual turnover
- Manufacture solely here in United Kingdom
- Flat management structure enables us to respond quickly to demand of both standard and bespoke products
- Engineering flexibility and expertise has helped promote the MTN/5032 condition monitoring system

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Systems & Hardware Reliability

- The MTN/5032 monitoring system was developed in conjunction with Drive Management, marrying their front line know how, with our manufacturing experience
- The 5032 is an off the shelf version. Larger and bespoke systems are currently out in industry both in the UK and Europe

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Introduction to our MTN/5032

- Microcontroller-based system featuring high resolution monitoring of multiple analogue channels, which can be configured to work with voltage or current.

- Signal values displayed on a touch screen can be user selected as data-grid, bar graph, analogue meter and time plot through the touchscreen interface

- Alarm threshold, alarm delay and alarm control output can be independently set for each channel

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Monitoring systems

MTN/5032

- Housed in a stainless steel enclosure (IP57)
- 5 inch TFT touch screen
- High performance processor
- Enables users to set data sampling periods, ranges and accuracy levels
- 96 alarms (user-configurable alarm level and alarm delay)
- Vibration threshold (alarm) levels on a channel-by-channel basis
- 32 digital I/O channels that can be used for multiple alarms or a communication channel
- 32 door mounted BNC's for external analysis

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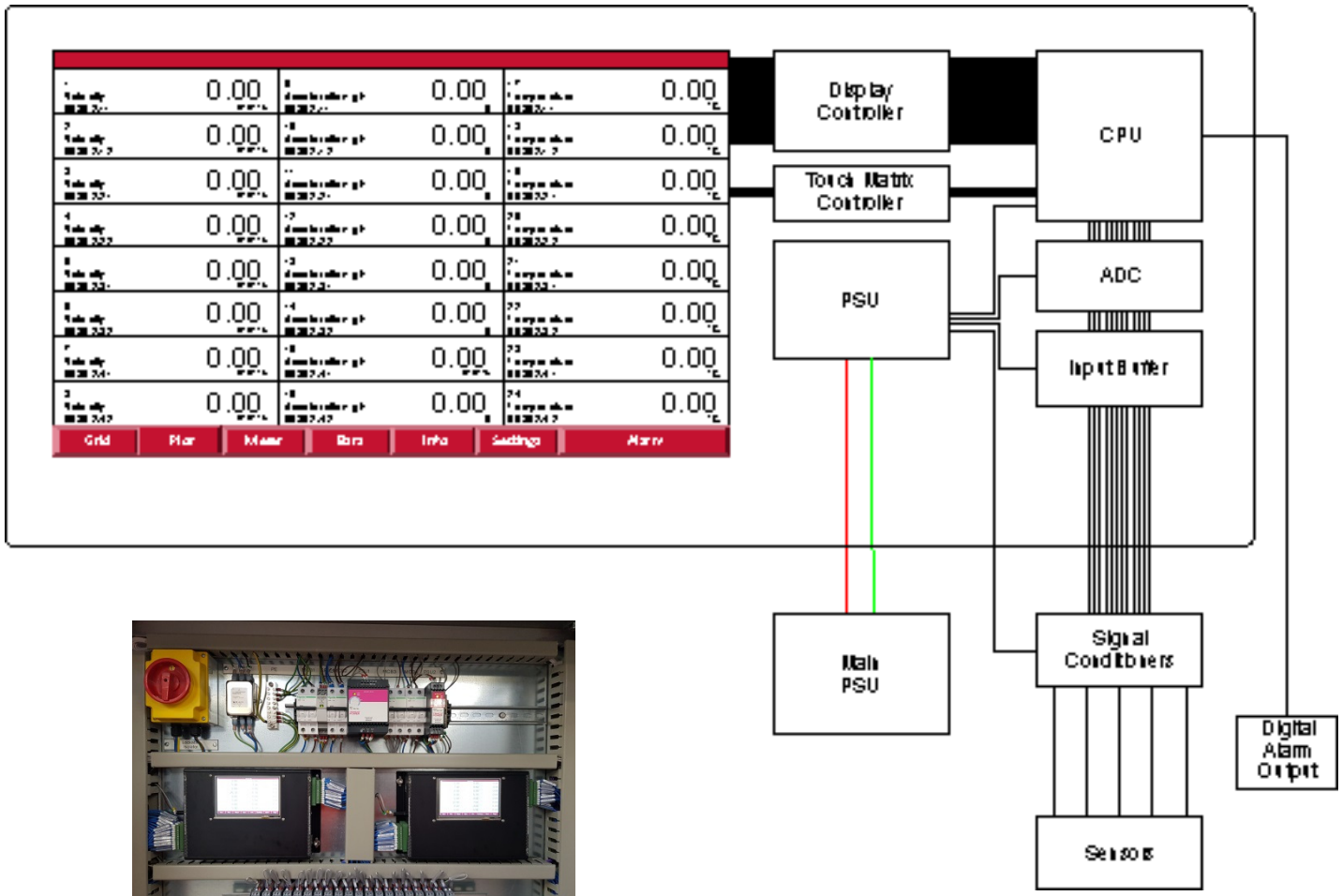
MTN/5032 system diagram



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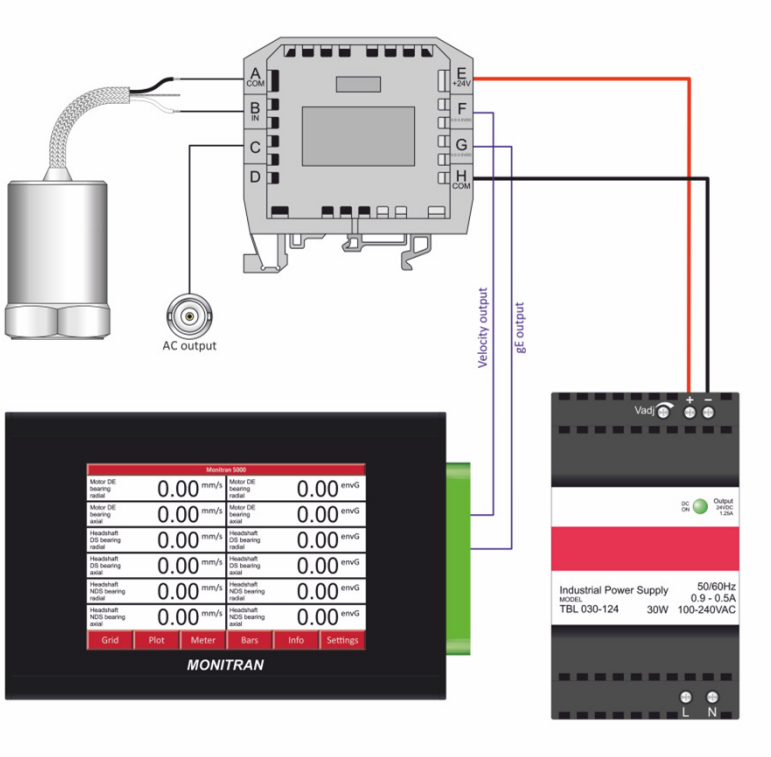
Hardware



DIN rail-mounted single-sensor signal conditioning unit providing early warning of bearing and gear faults, imbalance, misalignment and looseness.

- Features:
  - Accelerometer input
  - 0.0 – 3.0VDC protected output signal proportional to Velocity
  - 0.0 – 3.0VDC protected output signal proportional to envelope g
  - Buffered AC output
  - Optional custom filtering
  - DIN rail mounting

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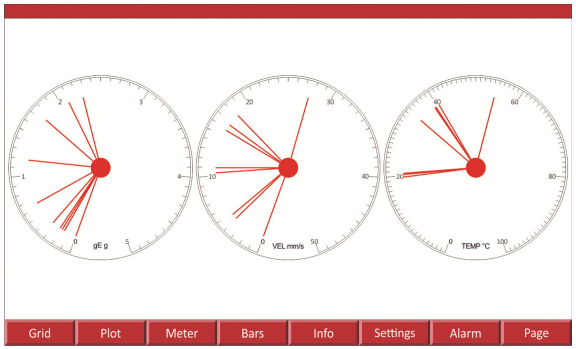
Screens

A grid of data readings, with appropriate parameter units

Radial meters indicating channel levels against their corresponding parameters



An easy-to-interpret bar chart of signal levels; colour coded to show relativity to alarm levels

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Network Communications

- External ID network being connected onto is used to factory set the MTN/5032 (IP address)
- In addition to IP address, Modbus TCP/IP system requires a slave ID, a port number to connect through and the location of data registers
- Connection speed 100Mbit/s via a standard RJ45 connector and Cat 5e cable
- Ethernet can be used with Monitran's proprietary software and allows remote viewing and logging of one or many systems on a remote computer

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Key Points

- Sensor type
  - Acceleration
  - Velocity
  - Dual
  - Temperature
- Stand alone networked system
- Alarm levels; understanding you're own equipment
- Equipment
  - critical (engineering)
  - process critical
- Ownership

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Any questions?