Find Root Cause Immediately

HS35iQ Encoder with PulseIQ™ Technology

Providing visual indication of encoder health
through fault specific LEDs and digital output.

Frustrated With Downtime And The Lack Of Ability To Find Root Cause?

The **HS35iQ Encoder with PulseIQ™ Technology** transforms the troubleshooting workflow by providing specific fault indication, allowing you to rule out the encoder or correct the root cause before unexpected downtime occurs.

▶ SPECIFIC FAULT INDICATION

See exactly what is at fault so you can find root cause with confidence. No more guessing or replacing only to have the problem occur again. Fault notification provided via on-board LEDs or dedicated fault output, which can be connected to PLC or other controlling device.

Insufficient Voltage

Sense supply voltage changes and low voltage conditions that are otherwise difficult to detect.

Cable Integrity

For 7272 differential line driver options, catch encoder cable 'open' faults such as cable breaks, shorts, or loose connectors.

Coupling Slip

Detect clamping collar slip, between the shaft and encoder physical connection, prior to coupling failure.
(Patent #US11353343B2)

Overspeed

Detect shaft speed exceeding predetermined limit.

Electronic Failure

Continuously monitor electronics which may result in irregular pulse output.

Over/Under-Temperature

Measure internal encoder temperature to provide early indication of operating condition changes.

Need To Keep Spare Units While Reducing Inventory Costs?

Customize encoder specifications to meet your needs with PulseIQ™ Technology. **Simplify and consolidate inventory** by stocking fewer encoder part numbers with programmable output.

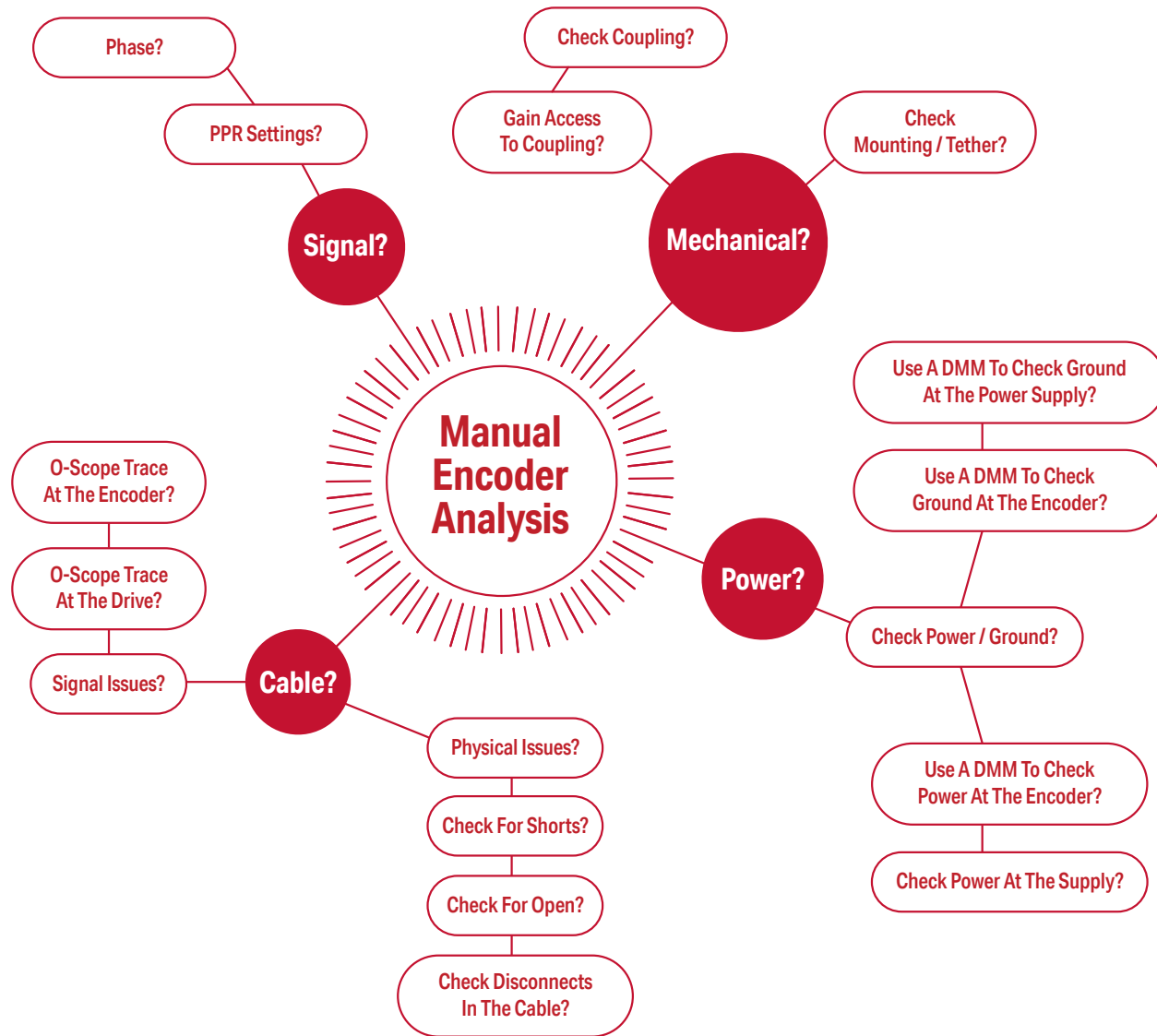## ▶ PROGRAMMABLE ENCODER OUTPUT

Optional programmability of encoder output characteristics possible via PulseIQ™ Technology Encoder Software. **This enables users to consolidate inventory** by stocking multiple configurations with a single part number and allows for substitution when needed.

Programming Options

- Pulses Per Revolution: Up to 20,000 PPR
- Phase: A leads B Clockwise or Counter-Clockwise
- Signal Output Voltage: Set to TTL or HTL
- Z Index Pulse Polarity: Standard High or Inverted Low
- Z Index Pulse Position and Gating: Set desired home position and gating
- Fault Signal Voltage: Set to TTL or HTL

Wasted Resources & Time Associated With Guesswork

Manual Encoder Analysis

- Signal?
  - Phase?
  - PPR Settings?
- Mechanical?
  - Check Coupling?
  - Gain Access To Coupling?
  - Check Mounting / Tether?
- Cable?
  - O-Scope Trace At The Encoder?
  - O-Scope Trace At The Drive?
  - Signal Issues?
  - Physical Issues?
  - Check For Shorts?
  - Check For Open?
  - Check Disconnects In The Cable?
- Power?
  - Use A DMM To Check Ground At The Power Supply?
  - Use A DMM To Check Ground At The Encoder?
  - Check Power / Ground?
  - Use A DMM To Check Power At The Encoder?
 - Check Power At The Supply?

PROBLEMS WITH THE CURRENT ENCODER TROUBLESHOOTING WORKFLOW:

- ✕ Encoder output is difficult to visualize and tough to effectively trouble-shoot without additional test equipment.
- ✕ Lack of visual indication that fault has been resolved until the machine is running.
- ✕ No way to catch temporary faults, trouble-shoot momentary hiccups, indicative of larger problems.
- ✕ Adjustments can often temporarily fix the issue but not the root cause, leading to repeat failures.

BINEX

Updated Troubleshooting Workflow With Specific Fault Output

▶ **REVOLUTIONIZE TROUBLESHOOTING WITH IMMEDIATE ROOT CAUSE DATA**

- See exactly what is at fault so you can find root cause with confidence.
- No more guessing or wasting time trying to determine the root cause of a problem only to have the problem occur again.
- Quickly review fault conditions and diagnostic data without wasting time.
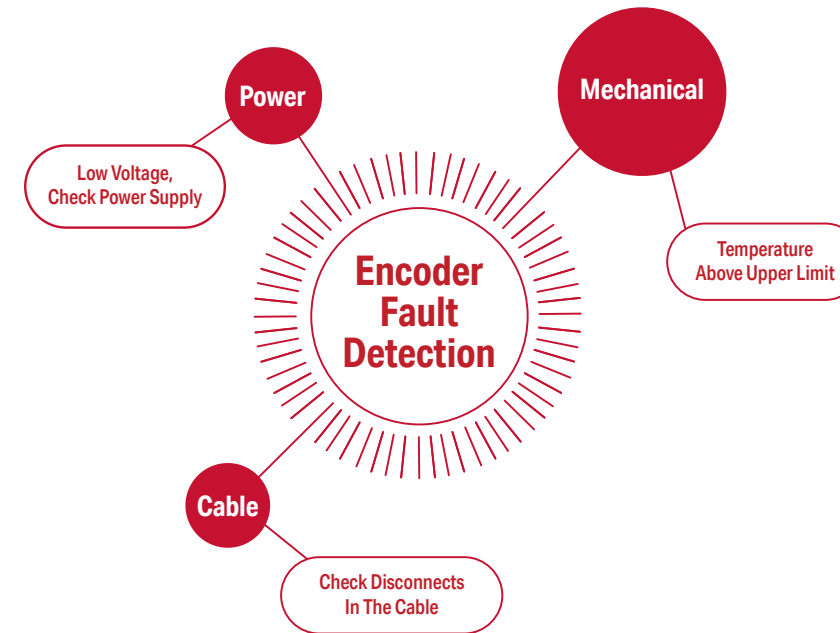
NEW WORKFLOW

- Fault output sends data to PLC, if connected.
- Use 4 LEDs to find specific fault area to troubleshoot.
- Probable root cause identified in minutes, without guesswork.
- Maintenance identifies detailed corrective actions by connecting to PulseIQ™ Software Tool.

Encoder Fault Detection

- Power
  - Low Voltage, Check Power Supply
- Mechanical
  - Temperature Above Upper Limit
- Cable
  - Check Disconnects In The Cable

WHAT OUR CUSTOMERS ARE SAYING

"The encoder isn't always the problem, but we need to check it almost every time.

ELECTRICAL ENGINEER
Steel Industry Customer

The troubleshooting capabilities free us to work on more complex issues and stop wasting time root causing simple faults.

APPLICATION MANAGER
Machine OEM Customer

See Encoder Health At A Glance

See exactly what is at fault so you can troubleshoot with confidence. No more guesswork or needless replacement of the encoder.

Embedded microprocessor evaluates pulses and aggregates running conditions.

LED status lights provide visual indication of potential faults.

Dedicated secondary connector for diagnostic data output and device configuration input.
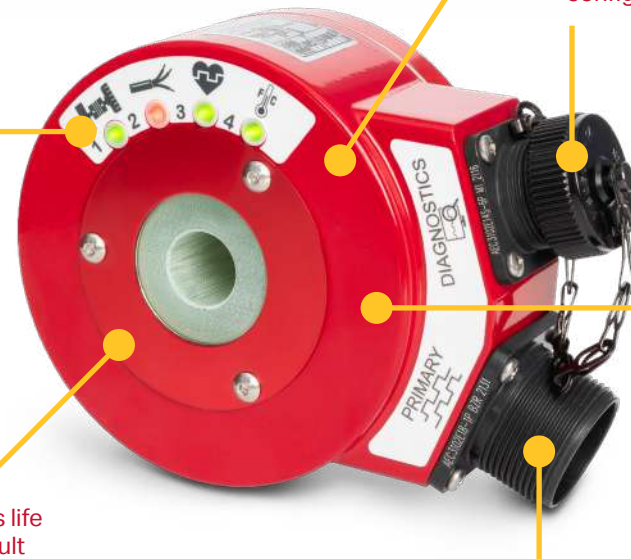
Rugged design withstands up to 400g shock, 20g vibration. Optional enclosure rating IP67, extended operating temp range available 0°C to +100°C. Imperial and Metric bore sizes up to 1-1/4" or 30mm.

Onboard memory stores life cycle data and recent fault status.

Primary connector provides standard incremental encoder output to drive, optional programmable resolution up to 20,000 PPR.

LED Status Indicators

White	Green	Red	Blue (Fault Recovery)	Orange (Warning)
LED pulses white when fault is disabled	LED pulses green during normal operation	LED pulses red during fault condition	LED "flickers* (rapidly flashes) blue for 30 minutes after fault is corrected or cleared. Event logged in onboard memory.	LED pulses orange for temperature warning / LED pulses orange for encoder health warning

Dive Deeper With PulseIQ™ Encoder Software Tool

Our intuitive PulseIQ™ Encoder Software Tool allows users to configure various aspects of the HS35iQ Encoder. Download the software from our website and connected to a PC via USB cable.

1. Device Info

See a general snapshot of the encoder including model number, operating time and number of rotations. View encoder fault status at a glance and quickly review for potential issues.

2. Fault Monitoring

Configure specific fault conditions such as temperature limits and overspeed thresholds. View more detailed information on which condition triggered a fault notification and clear faults once reviewed.
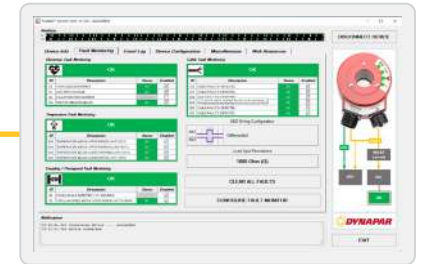
3. Event Log

View detailed information on the event that triggered a fault, the timestamp, and see recommended corrective actions. The event log saves historical data up to 128 entries with specific fault history.

4. Device Configuration

For optional programmable HS35iQ Encoder units only, select desired encoder output options such as resolution, index pulse characteristics, signal voltage and more.
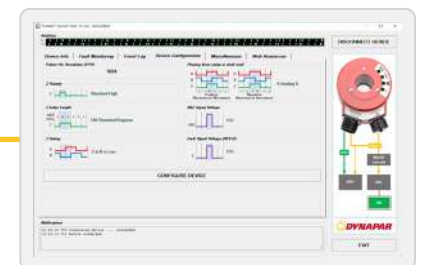
5. Miscellaneous

Save and load device configuration files to quickly program or set fault conditions. Quickly reboot and/or reset your encoder back to factory default settings. Generate a detailed report of all fault history.

View Our Helpful Videos And Resources Online

Visit us online for a comprehensive video library explaining the features of the HS35iQ Encoder and how to get started with the PulseIQ™ Technology Software Tool. Our video library includes videos topics such as:

- How to program encoder output
- How to customize fault condition
- How to save and load pre-configured settings
- And many more!

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