ETC®
EXTREME TELEMATICS CORP.

Cyclops®
PLUNGER ARRIVAL SENSOR

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EXTREME TECHNOLOGY FOR EXTREME CONDITIONS

INNOVATIVE

Cyclops is not your average plunger arrival sensor. Utilizing modern Geomagnetic Sensing Technology™, market-leading Cyclops is the most advanced and reliable sensor available.

Within the rugged enclosure lies a geomagnetic “eye” and a tiny yet powerful microprocessor. When powered, Cyclops is actively watching for a change in the earth’s magnetic field around it to signal plunger arrival. Constantly filtering out “background noise” from nearby equipment or environmental changes, Cyclops is able to consistently detect any type of plunger as it arrives at surface.

Want to see what Cyclops sees? Every Cyclops comes equipped with a communication port for testing and troubleshooting with Vision Device Management software for PC. With unrivaled accuracy and reliability, it’s no wonder so many of North America’s top producers have standardized on Cyclops for plunger detection.

CYCLOPS SEES

WHAT OTHER ***PLUNGER SENSORS*** MISS.

RELIABLE

Designed for reliable operation in extreme conditions, Cyclops detects plunger arrivals from up to 3 feet away, and operates within a temperature range of -40˚C to +70°C (-40°F to +160°F). For utmost accuracy, Cyclops allows operators to adjust sensitivity levels easily with a built-in 7 setting dial. Lower sensitivity to eliminate false detects caused by nearby equipment or tools. Raise sensitivity to increase visibility of a plunger that doesn’t fully enter the lubricator, or to detect well movements caused by a non-ferrous plunger entering the lubricator.

Iris™ WIRELESS BRIDGE

The Iris Wireless Bridge provides the ability to use Cyclops plunger arrival sensors in applications where wire is not an economically viable or easily attainable option. Installation is quick and easy. Simply terminate Cyclops to the Iris Wireless Bridge Plunger Sensor Node and connect the output on the Gateway to any standard control system. To get more out of your Iris Wireless Bridge at a single well site, connect an additional switch to the second discrete input to wirelessly monitor pressures or tanks. For use in multi-well applications, connect up to two Cyclops sensors per Node, or use the Modbus interface on the Gateway with additional nodes to expand the number of linked devices.

RUGGED

Cyclops features an NPT port to securely fasten either a Teck connector and armored cable, or a standard cable gland and instrumentation cable. Cyclops operates over a wide range of input voltages, simplifying inventory management.

The intrinsically safe Cyclops IS and ATX models are protected by a rugged watertight aluminum enclosure filled with hardened epoxy. Built-in mounting legs support a standard hose clamp for easy and secure installation. Captive screws in the enclosure lid avoid lost time searching for fallen screws in water, snow or mud.

The explosion proof Cyclops ExP is protected by a rugged weather-resistant aluminum explosion proof enclosure. Two hose clamps are included for easy and secure installation.

OPERATION

Cyclops operates as a normally open dry contact. Simply connect the 3 wire interface to power, ground, and signal, and Cyclops is ready to detect any plunger. Cyclops uses Geomagnetic Sensing Technology as opposed to a traditional coil. This sensor allows Cyclops to detect slow moving, or even static plungers. In addition, the plunger does not have to fully travel past Cyclops to be “seen”; allowing a wider range of mounting locations. Geomagnetic Sensing Technology™ provides additional advantages including the ability to control the sensitivity and provide a digitally controlled 5 second switch closure. Like all ETC products, Cyclops is designed to be extremely low power. On average, Cyclops draws less than 800 uA of current, fitting into all power budgets.

SPECIFICATIONS

Supply Voltage	5 V – 24 V DC
Current Draw	Typ. - 0.77 mA, Max. - 0.80 mA
Switch Interface	Dry contact, normally open, 100 Ω impedance
Communications Interface	1 wire RS-485 test interface
Operating Temperature	-40°C to +70°C (-40°F to +160°F)
Certification *(IS Model)*	Class I, Zone 0, AEx ia IIB T4 Class I, Division 1, Groups C, D T4; Ex ia IIB T4 Class I, Zone 2, Group IIC T4 Class I, Division 2, Groups A, B, C, D T4
Certification *(ATX Model)*	CE Ex II 3G Ex nA IIC T4 Gc
Certification *(ExP Model)*	Class I, Zone 1, AEx d IIB T4 Class I, Division 1, Groups C, D; Ex d IIB T4