TRIGGERED ROD DROP SYSTEM

Istec RecipSys 200

ADVANCED PISTON ROD DISPLACEMENT MONITORING FOR RECIPROCATING COMPRESSORS

The RecipSys 200 is a compact monitoring system that delivers accurate, real-time data on rider band wear. It eliminates the need for manual inspections or periodic shutdowns and provides a versatile and competitive monitoring solution that suits a wide range of reciprocating compressors.

INCREASED UPTIME

The compact monitoring system increases uptime by eliminating the need for manual inspections and periodic shutdowns.

ANY COMPRESSOR

The transmitter layout has a small technical and financial footprint, and supports extension of monitoring coverage to almost any compressor.

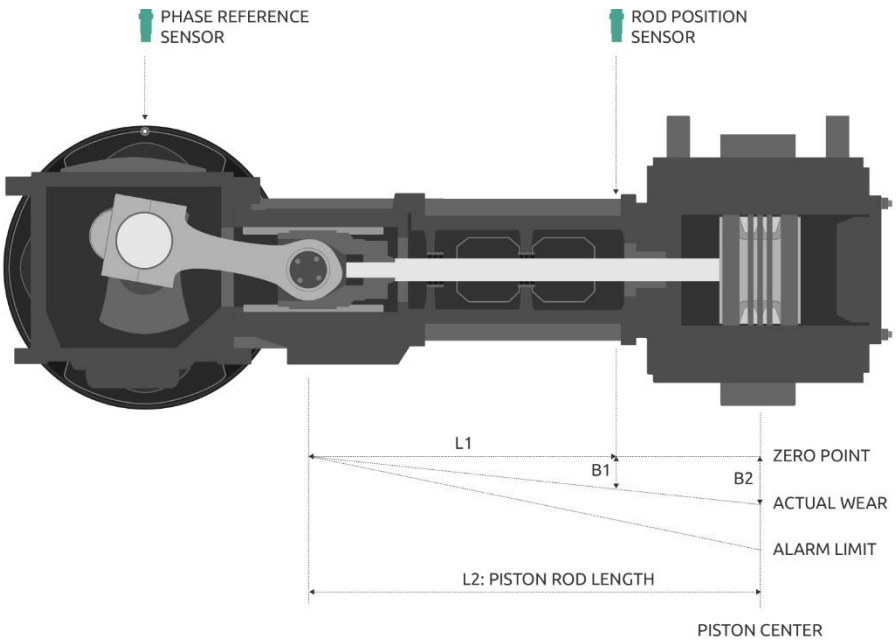
ANY CONFIGURATION

The system is expandable to any cylinder configuration, compatible with any sensor brand and integrable to any existing monitoring system.

TRIGGERED ROD DROP CONCEPT

RecipSys indicates the vertical movement of a piston inside a cylinder by measuring the rod displacement on the vertical axis. Rod drop measurements provide crucial information on the wear of the rider bands.

The position of the rod changes through the course of the cycle, influenced by the internal forces. To ensure accuracy of a rod drop measurement, the position should be measured at a specific point in the cycle. By using a phase trigger, the RecipSys is able to filter the displacement signal to the right phase angle. The triggered signal can be more accurate than any overall measurement and can monitor both machines with fixed RPM and variable RPM.



VERSATILE ARCHITECTURE

The compact design of the RecipSys 200 offers excellent scalability to fit every monitoring need. A single module can monitor two cylinders and multiple modules can be linked to monitor three or more cylinders. The DIN rail layout and industry standard interfaces support easy integration with other transmitter systems, control systems or advanced monitoring systems to create effective, application suited monitoring solutions.

STANDARDS

Industrial standards

- API670: Designed for phase triggered piston rod monitoring as described in the API standard
- Hazardous areas: Only with additional measures, contact your supplier for more information

International standards

- Europe: CE

SPECIFICATION

Input	
Dynamic input channels (rod displacement)	
Number of channels	2
Sensor type	Proximity (eddy current)
Isolation	Galvanic isolated input
Measurement range	0…-24 Vdc
Sensor power supply	-24 Vdc; max 55 mA
Dynamic input channel (phase reference)	
Number of channels	1
Sensor type	Proximity (eddy current)
Isolation	Galvanic isolated input
Measurement range	0…-24 Vdc
Power supply to signal conditioner	-24 Vdc; max 55 mA

Settings	
Type	Software programmable phase reference angle
Function	Degrees from negative/positive reference edge
Trigger angle range	0…360°

Processing	
Processor	32 bit ARM chip
Signal analysis module	Processor driven signal calculations
Auto speed adjustable	Yes
Speed range	120-2400 RPM (2-40 Hz)
Sampling accuracy	Up to 1°

Output	
Analog output	
Type of signal	Triggered output signal
Number of channels	2
Assigned to	Rod displacement input channels 1 and 2
Programmable signal range	0…20mA / 4…20mA / 0…10V 24Vdc active power on mA output
Raw signal output (rod displacement)	
Type of signal	Raw rod displacement signal
Number of channels	2
Assigned to	Phase trigger input channel
Signal range	0…-24 Vdc; 10 mA max
Application	External analysis
Raw signal output (phase reference)	
Type of signal	Raw phase reference
Functional	Open collector output
Number of channels	1
Signal range	0…-24 Vdc
Power	External negative power supply required
Relay output (rod displacement)	
Type of contact	Single-pole double-throw (SPDT)
Number of outputs	2
Application	Channel alarm, programmable
Switching capacity	1 A 24 Vdc
Relay output (system)	
Type of contact	Single-pole double-throw (SPDT)
Number of outputs	1
Application	System status
Switching capacity	1 A 24 Vdc

System	
Power supply	
Supply	24 Vdc +/- 10%
Power consumption	300 mA (0,3 A)
Housing	
Type	Weidmuller CH20-45 casing
Dimensions (W x H x D)	45 x 117 x 114
Connectors	Plug-in connectors with screw terminals
Number of terminals	36 (9x4)
PC interface	USB-micro B
Environmental conditions	
Operating temperature	-20 to 55 Celsius
Operating humidity	0 to 80% non-condensing
Storage temperature	-20 to 70 Celsius
Storage humidity	0 to 80% non-condensing
Protection rating	IP20 according to IEC 60529
Use	Indoor use or use in a protective enclosure
Altitude	Max 2000 m
Other	OVC II, pollution degree 2

ABOUT ISTEC

We ensure maximal value generation of your critical machinery with advanced protection and monitoring solutions. Every Istec product is designed to meet the increasing demands of industrial applications and taps into our 50 years of experience in the industry.

Our expertise is to support and maintain these critical sensors and systems in the field throughout their operational life; to increase safety, maximize machine availability and to provide new monitoring data and machine insights.

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