

RIT9815 HART Impact Transmitter



Overview

RIT9815 is a smart HART protocol Impact Transmitter, applying piezoelectric sensors and micro-processing technology, in the loop 4-20mA output current superimposed HART protocol, it can set up or programmed through HART hand manipulator on site. RIT9815 is the most effective instrument for detecting the loosening of bolts or cylinder effusion faults in reciprocating compressors.

The 4-20mA current output from the RIT9815 is proportional to the number of 0-16 impact, the microprocessor's clock to determine the time period. The time period is determined by the speed of the reciprocating compressor, $T=960/CMP$.

The threshold voltage and time period of the impact transmitter are set at HART hand manipulator on site.

Product Feature

Smart HART Communication Protocol

Loop 4-20mA, Relatively connection

Integrated and explosion-isolation certification

Field Configurable

The 4-20mA current is proportional to the number of impacts

Digital circuit design

Anti-electromagnetic and RF interference

Integrated anti-surge protection

RSL Technology

HART version V7.0

Application

Reciprocating compressor

Engine

Reciprocating pumps



RIT9815 HART Impact Transmitter

Technical Specifications

Sensors: Piezoelectric Ceramics

Output: Loop 4-20mA current (0 = 4mA, 16 Times = 20mA)

Time Period: 0.4 - 6.4 sec Adjustable

Accuracy: $\pm 1\%$ (reproducible)

Linearity: $\pm 0.1\%$

Impact Limit: 100mV-1200mV

Enclosure material: 304SS & 316L

Mounting: Mounting Thread option available

Impact Limit: 500g peak

Temperature Range: $-40^{\circ}\text{C} \sim +75^{\circ}\text{C}$

Temperature Drift: $<0.05\%/^{\circ}\text{C}$

Cross axis Response: $<2\%$

Supply Voltage: 12-30VDC

Maximum Load Impedance (RL) : $R_L=50 \times (V_s-12) \Omega$

Sealing: Welded structure or epoxy resin seal

Electrical Connection: Overhead leads and 2 pins MIL-C-5015 connectors

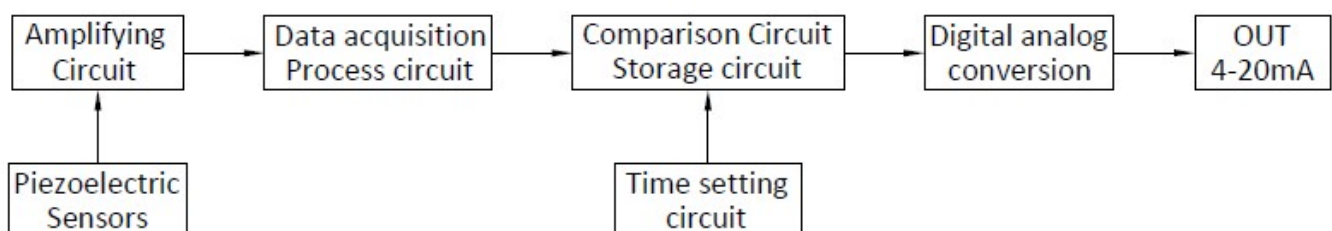
Insulation: 500Vrms, Circuit to case

Hazard Rating: NEPSI Exia IIC T4 Ga

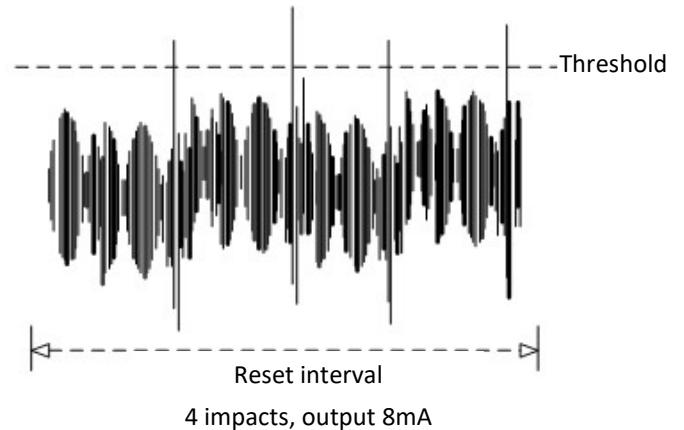
NEPSI Exd IIC T6 Gb

Enclosure Rating: IP66

Diagram



RIT9815 Impact Transmitter Detected Waveform



RIT9815 HART Impact Transmitter

Order Guide RIT9815-AAA-BCD-EF

AAA: 4-20 mA Full Scale Range

- 001 Rotating Speed <500RPM
- 002 Rotating Speed 500RPM~1000RPM
- 003 Rotating Speed >1000RPM

B: Connection

- 1 4-20mA flying leads
- 2 4-20mA 2- MIL connector

C: Hazardous Area

- 0 None
- 1 NEPSI Exia IIC T4 Ga
- 2 NEPSI Exd IIC T6 Gb
- 3 IECEx Exia IIC T4 Ga (Applying)
- 4 IECEx Exdb IIC T6 Gb (Applying)
- 5 ATEX Exia IIC T4 Ga (Applying)
- 6 ATEX Exdb IIC T6 Gb (Applying)

D: Mounting stud

- 0 Integral 1/4"NPT
- 1 Integral 1/2"NPT
- 2 3/8"-24UNF×1/2"
- 3 M8×1-12

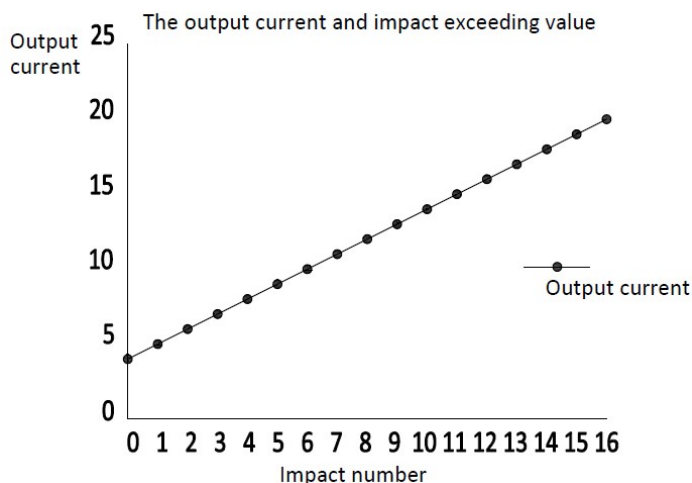
- 4 M10×1.25-12
- 5 1/4"-20UNC
- 6 1/4"-28UNF
- 7 M8×1.25-12
- 8 M10×1-12
- 9 M10×1.5-12
- 10 M12×1.75-12
- 11 M20×1.5-12
- X Customize, contact factory

E: Case material

- 0 Lower shell:304SS;Upper shell: alloy aluminum
- 1 Lower shell:316L;Upper shell: alloy aluminum
- 2 Integral 316L
- 3 Integral 304SS

F: Electrical interface

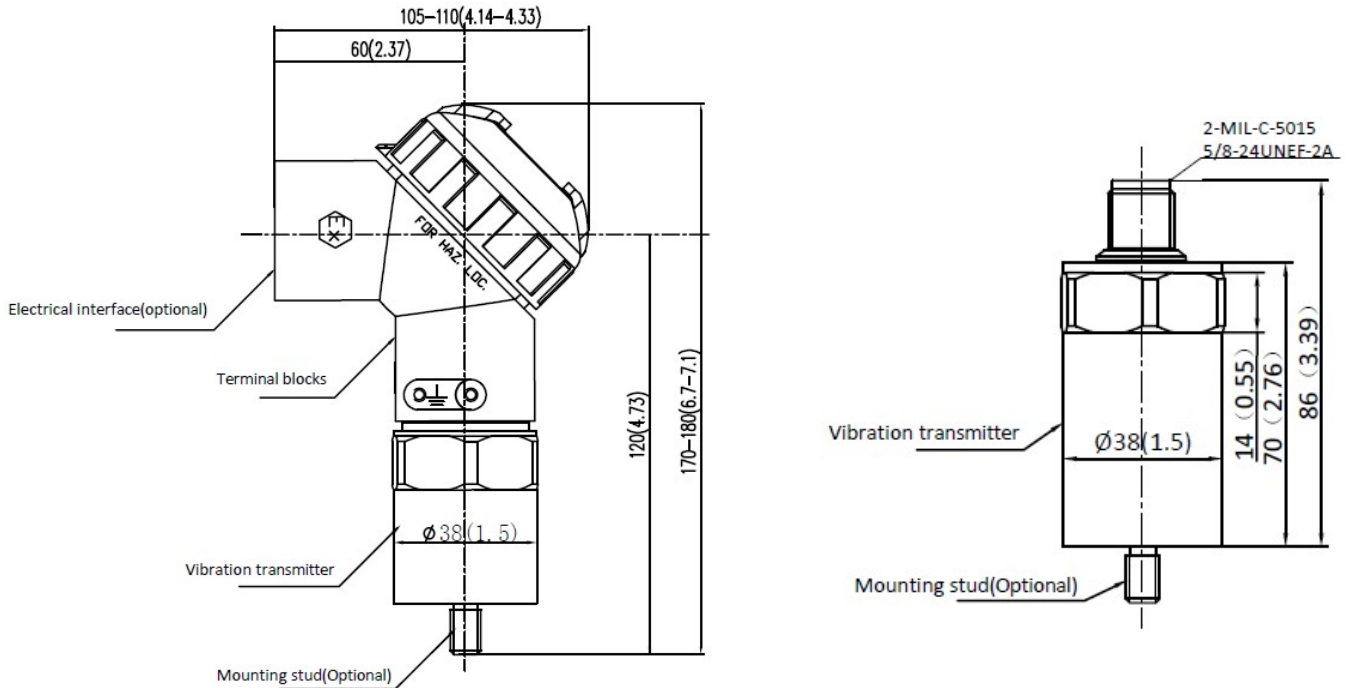
- 0 No (B=2)
- 1 1/2"NPT
- 2 3/4"NPT
- 3 M20×1.5
- 4 1"NPT



Impact	Output current
16 Impact> Threshold	20mA
14 Impact> Threshold	18mA
12 Impact> Threshold	16mA
10 Impact> Threshold	14mA
8 Impact> Threshold	12mA
6 Impact> Threshold	10mA
4 Impact> Threshold	8mA
2 Impact> Threshold	6mA
0 Impact> Threshold	4mA
Power	0mA

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Dimensions



单位: mm (in)

Installation Diagram

