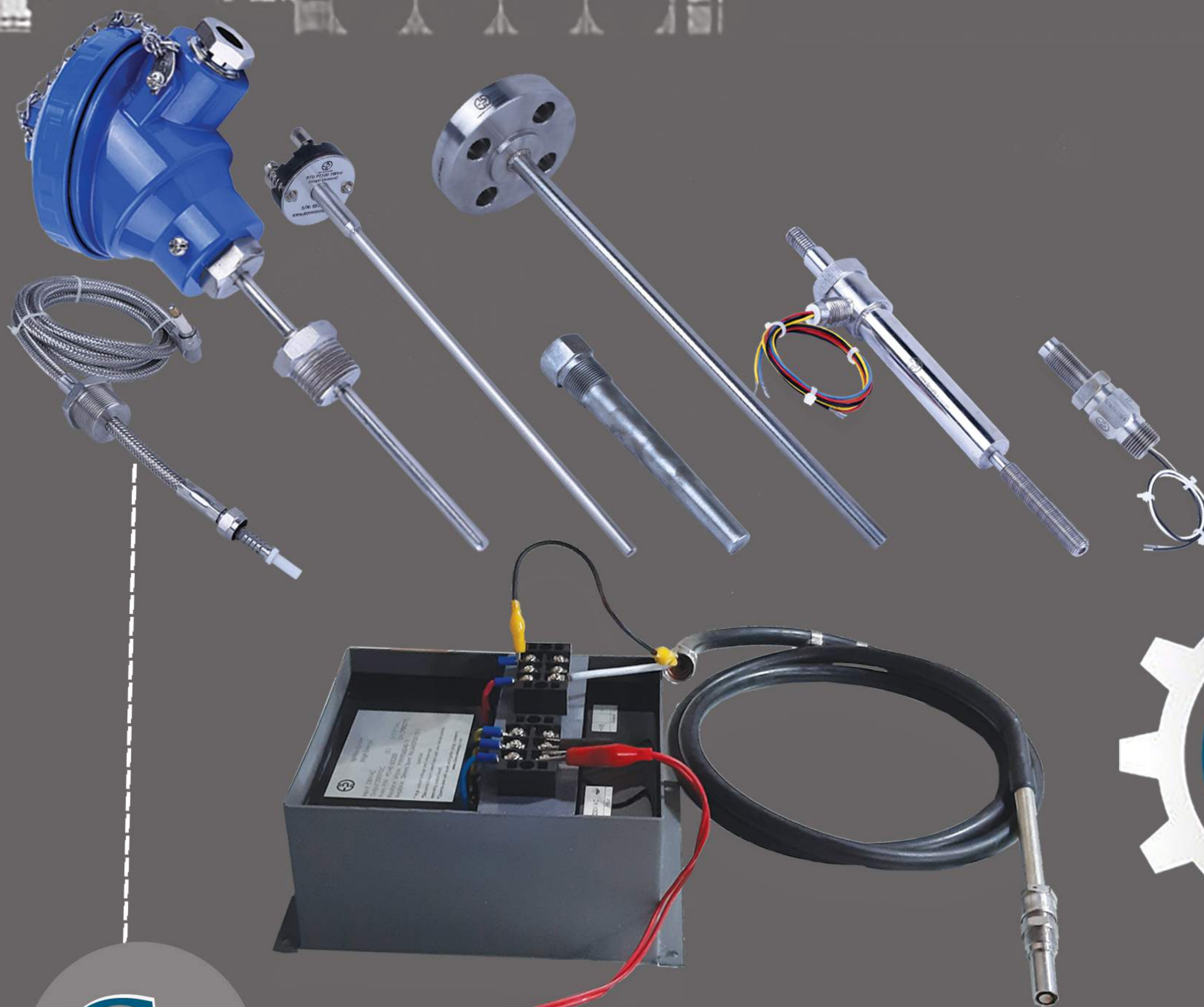


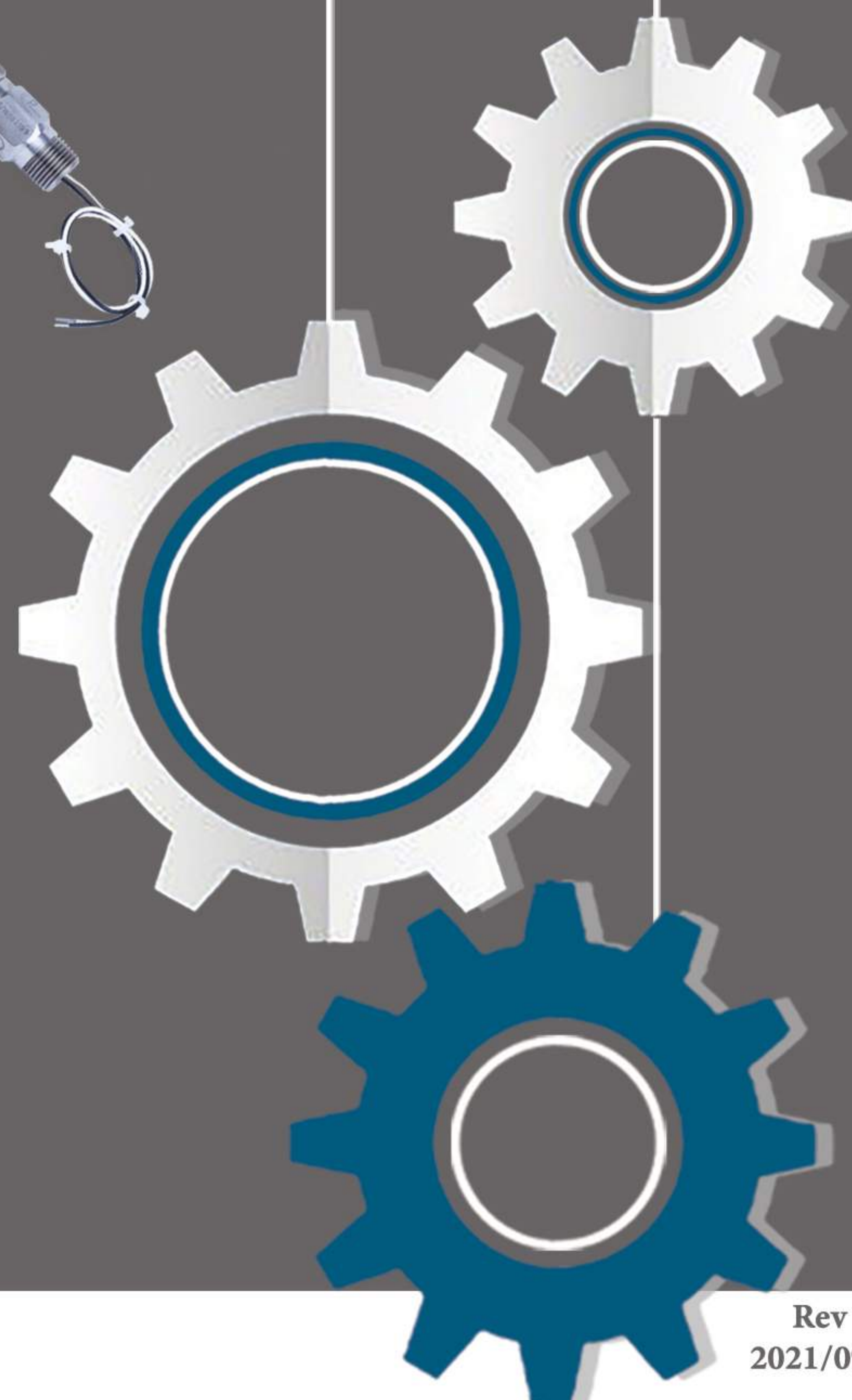


# ETRO DAVVAR ENERGY

## Introduction To Petro Davvar Energy Pajohan



## Company Products



If there is a will, there is a way...

Rev E  
2021/09/05



# Introduction To Company

## Petro Davvar Energy Pajohan Company

Petro Davvar Energy based in 2010 in Tehran, Iran, is a leading company in researching and producing instrument special in high technology industries. Our Strategy is being better than customer's expectation with producing qualified and high grade products and guaranty and after sales services for satisfying customer's compliancy with international standards. Manufacturing with environmental respects.

### **Our Products are in below 5 fields:**

1. Temperature Measurement: Thermowell, RTD, Thermocouples
2. Magnetic Speed Pickup Sensors
3. Vibration Measurement: Velocity, Proximity systems
4. Linear Variable Differential Transducer (LVDT)
5. Combustion Chamber's Parts: Igniters, Exciters, Ignition LEAD, Flame Detector





# Temperature Measurement

Our products in temperature equipment's are in 3 major groups, thermocouple, RTD's and thermowell including: gas turbine thermocouple, custom made thermocouples, extension cables, thermocouple transmitter, thermocouple socket, Our products produced in compliancy with IEC 60584 and are in special limit error limitation.

## Thermocouples

01

Many combinations of materials have been used to produce acceptable thermocouples, each with its own particular application spectrum. However, the value of interchangeability and the economics of mass production have led to standardisation, with a few specific types now being easily available, and covering by far the majority of the temperature and environmental applications.





# Gas Turbine Thermocouples

02

- Ruston gas turbine thermocouple model TB 5000, TB 4000, TA 1750, TA 1500, TA 1250 & EM85
- Solar gas turbine thermocouple model Saturn & Centaur
- Nouvopignone gas turbine thermocouple model PGT5, MS 1002 & MS 5002 D
  - Rolls Royce gas turbine thermocouple model 1533, 1534 & 1535
  - Sulzer gas turbine thermocouple type S3 & S7
  - Siemens gas turbine thermocouple SGT-100, SGT-200 & ...
  - General Electric (GE) gas turbine exhaust, weel space, sword & spring thermocouple Model F5 & F9.

## Rolls Royce Gas Turbine Thermocouple MOD4458



## Rolls Royce Gas Turbine Thermocouple MOD4551



## Sulzer Gas Turbine Radial Bearing Thermocouple



## Ruston TA Gas Turbine Thermocouple



## Sword (Short) Thermocouple For GE Gas Turbine





03

# Resistance Temperature Detectors (RTD)

Custom made RTDs (PT100, PT500, PT1000, CU50 & ...)  
Bearing RTDs



04

## Thermowell

Thermowell are used to guard temperature sensors against damage from pressure and corrosion and allow sensor replacement without stopping of thermowell.

We have 2 type of thermowell:

Thread thermowell model TN and flanged thermowell model TF. Our products are according ASME PTC 19.3 expectations.

### Thermowell Design

### Styles (Threaded & Flanged)

#### Threaded

Machined from solid Thermowell with male and female threaded connections. Tapered or parallel sheath available.

TN



#### Flanged

Welded flange onto a welded end fabricated Thermowell with female threaded connection. Parallel sheath.

TF





# Speed pick up sensor

The magnetic speed pick up is used to detect the speed (rpm) of a prime mover in rotary equipment. Our products have IP & Explosion proof certificates.

- Ruston gas turbine speed pick up sensor
- Solar gas turbine speed pick up sensor
- Nouvopignone gas turbine speed pick up sensor
- Rolls Royce gas turbine speed pick up sensor
- Sulzer gas turbine speed pick up sensor
- GEC gas turbine speed pick up sensor
- General Electric gas turbine speed pick up sensor
- Werkspoor gas turbine speed pick up sensor
- Cooper Bessemer gas turbine speed pick up sensor
- Siemens gas turbine speed pick up sensor

## IP & EX Certificate

Our Sensor Have IP67 Certificates and EX ecIIA T4 Approvals By EPIL Co.





# Vibration Measurement

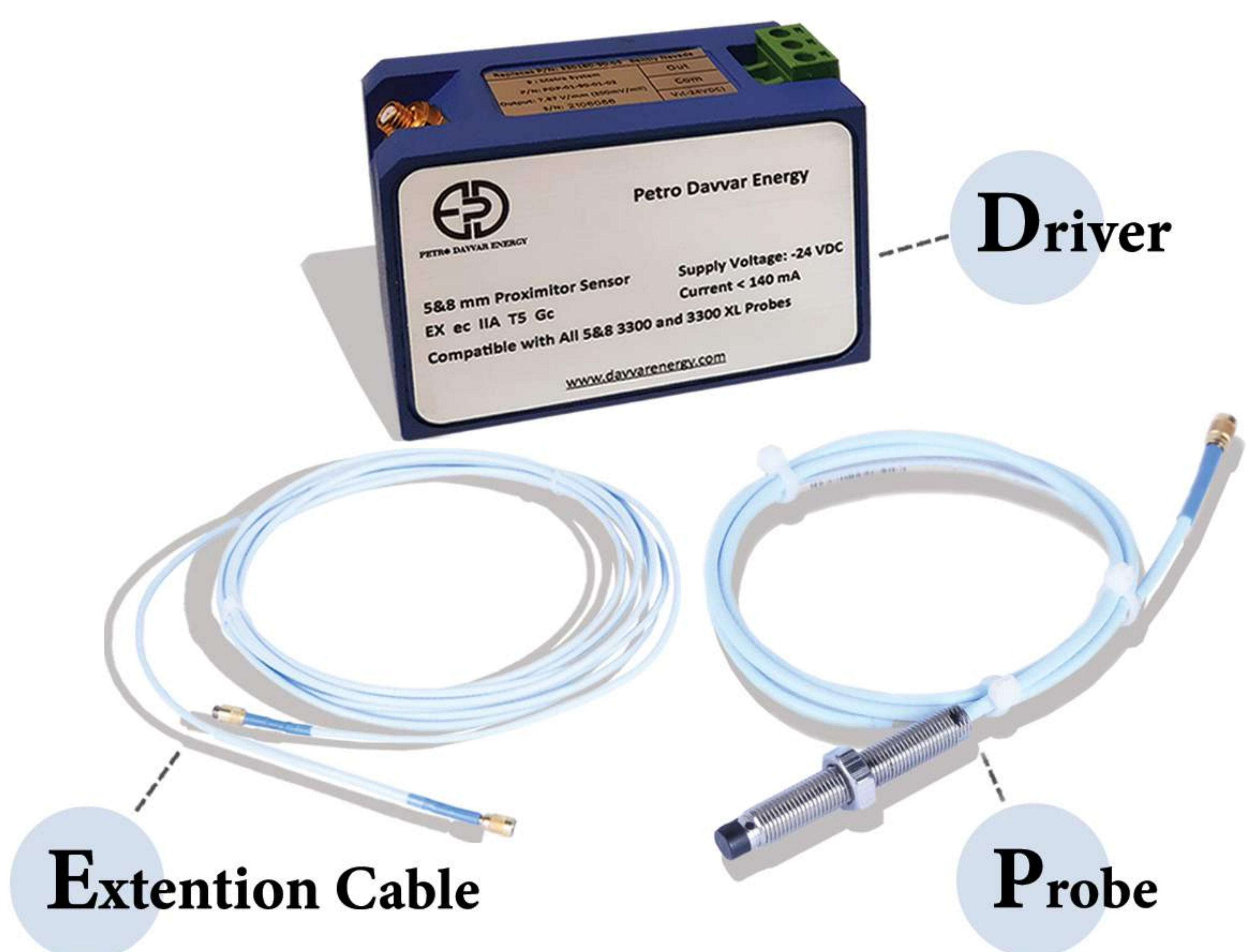
## Proximity system

01

Vibration and measuring it's carefully is one of the most important factors in monitoring of rotary equipment. Our proximity systems are beyond API 670 limitations and fully replace with Bently Nevada 7200 & 3300 system.

### EX Protection

Our probe, proximator and extension cable have Ex ecIIA T5 Gc protection.



## Velocity System

02

Our Velocity sensor model VTS-24 is produced to assure long life and reliability, it is usable in industrial application like gas turbine due to it's high temperature, 10 W impedance and self-generator constriction. It is used with high temperature cable model VTSC-24.



Velocity Sensor



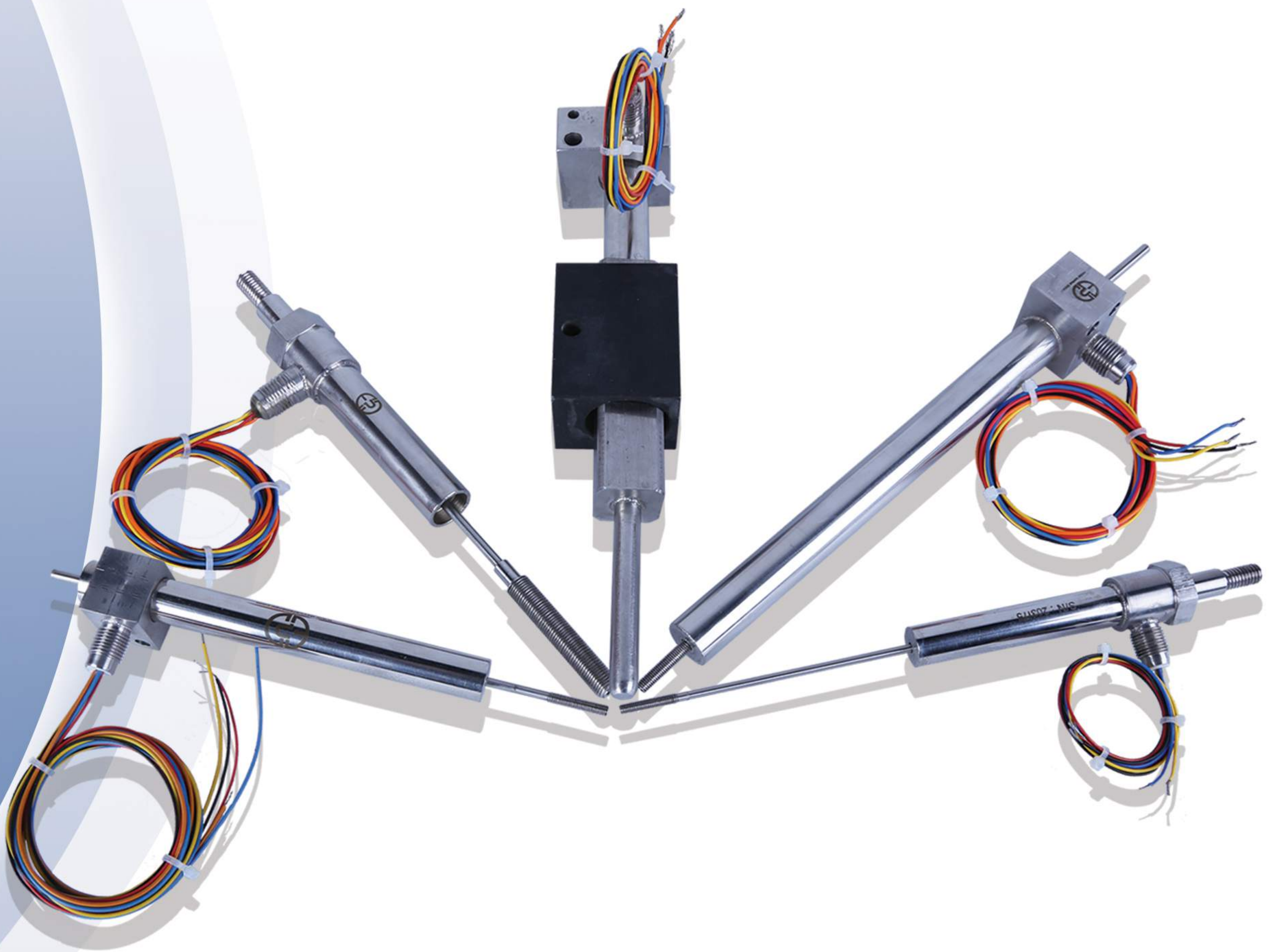
High Temperature Extension Cable for Velocity Sensor



# Linear Variable Differential Transducer

## LVDT

LVDT is an acronym for Linear Variable Differential Transducer, we manufactured very reliable LVDTs Compliant with API 670 for GE & Nouvopignone gas turbines in fuel section, IGV and stop Valves.





# Ignition System

We have designed and manufactured a range of ignition leads, ignition exciter (high energy & high voltage) and igniter torches. We provide our exciter in EX boxes where needed.

- Ruston & Solar gas turbine igniter
- Ruston & Solar gas turbine ignition exciter card
- Sulzer gas turbine flame detector
- Sulzer, Siemens & Rolls Royce gas turbine ignition exciter card (Up to 16 Jules, high energy)
- Sulzer, Siemens (SGT-100) & Rolls Royce gas turbine high energy igniter

## 01 Ignition Cable For Gas Turbine Ignition Systems

**P**art For Solar Gas Turbines



**P**art for GE Gas Turbines



**P**art for Rolls Royce Gas Turbines





# Igniter For Gas Turbine Ignition Systems

02

**P**art For Solar Centaure MDG 4000 Gas Turbines

**P**art For Rolls Royce Gas Turbines

**P**art For Ruston Gas Turbines

**P**art For Hispano Suiza Gas Turbines

**P**art For Solar Saturn 1200 Gas Turbines

**P**art for Hitachi Gas Turbines





## 03 Exciter For Gas Turbine Ignition Systems

High Voltage Nouvopignone Gas Turbines Exciter



Part for Ruston Gas Turbines Exciter



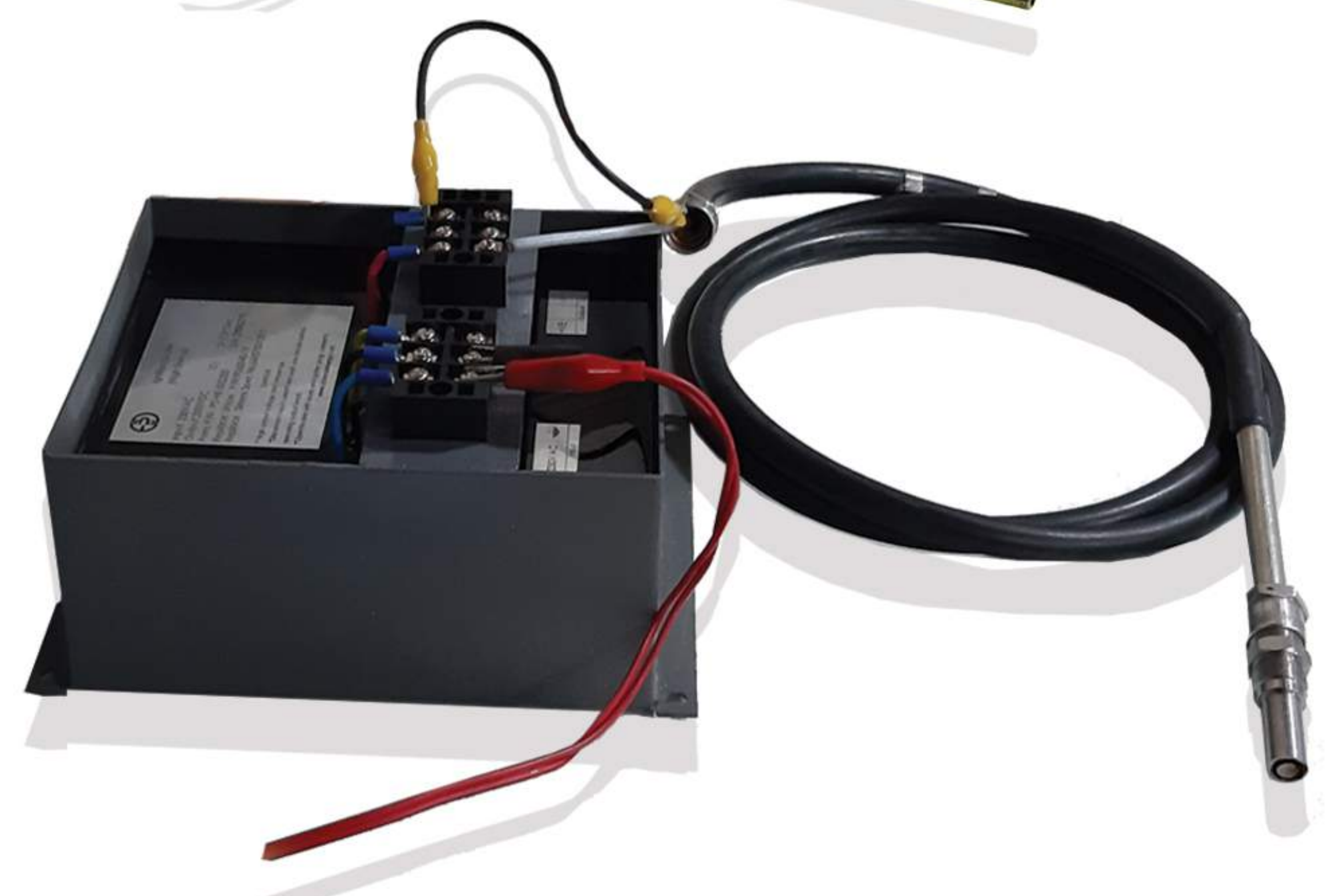
High Energy Exciter



Part for Siemens SGT-100 Typhoon Exciter



Part for Siemens SGT-200 Tornado Exciter





# Flame Detector For Gas Turbine And Flares

04



3D VIEW



VIEW1



VIEW2



VIEW3





If there is a will, there is a way..



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