



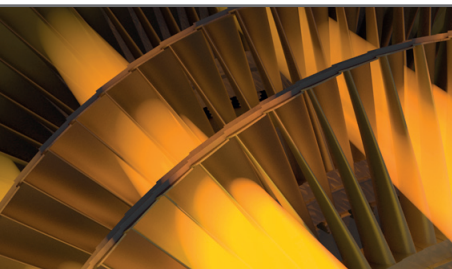
FLAME SCANNERS DEVELOPED BY ITS

RELIABILITY IS A MATTER OF QUALITY

ITS 967X7179M379
ITS 184X0254M029



International version. Please contact your local dealer for country specific information.



ACCURATE AND RELIABLE

ECONOMY IS BORNE BY DURABILITY

The flame scanner is an important and integral part of safety systems for industrial heavy duty gas turbine operation. It is one of the most expensive consumable parts on which the reliable operation of a gas turbine depends.

One of its main tasks is to detect potentially dangerous "flame off" situations which occur in the event of an ignition failure. If unchecked, the supply of fuel is continually fed during "flame off" event. The results could be catastrophic, in worse case scenarios leading to an explosion, putting the safety of operators at risk or causing damage to property and equipment. Therefore, the monitoring of the flame is vital for a safe working environment, particularly during at the start-up or shut-down procedures of the gas turbine.





INFORMATION NETWORK

DECISIONS HAVE TO BE TAKEN BASED
ON AUTHENTIC FACTS

The Flame Scanner Systems from ITS, are the outcome of years of dedicated research and development by our experienced field service, control and technical advisors.

They have been designed for the safe operation of GE Frames 1, 3, 5, 6, 7 and 9 industrial gas turbines. They stand for maximum flexibility, user friendliness and well-proven reliability.

ITS Flame Scanners rely on proven technologies to generate an accurate flame analysis, maximising the cost effectiveness to the customer.





ITS FLAME SCANNERS

PRECISION COMBINED WITH
LONG-TERM STABILITY

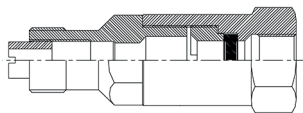


What makes the Flame Scanners from ITS so special? Is it our proven experience? Is it our know-how in the manufacturing of precision equipment? Is it our engineering that provides long lasting durability? Is it our optimized production processes that provide both value and quality?

Great ideas come from the synergy of the ordinary combining to make the perfect result.

Learn more about the flame scanners from ITS:

<http://www.turbineservices.at/flame-scanner>



TECHNICAL DATA

PRODUCED WITH DEVOTION

ITS 967X7179M379



1" NPT male

1.4571 Stainless Steel

CE II 3 G Ex d IIC T3

Dimensions fit to OEM part

3/4" internal NPT female



Manufacturer

ITS Industrial Turbine Services

Sensor
Window

UV flame scanner
Quartzglass

Average Spectral Sensitivity
Sensitivity
Output

190 - 290nm
 $250\text{cpm} \cong 10^{-13}\text{W/cm}^2 \lambda:200\text{nm}$
 @ continuous flame > 15Hz
 background @ norm. Room/Daylight less than 5min^{-1}

Response Time
 Power Requirements
 Pulse Output
 Temperature Range
 Temperature At Mount
 Relative Humidity
 Process Pressure
 Vibration

< 200ms
 260 - 350VDC from Amplifier, recomm. 325VDC +/- 25VDC
 $275\text{sec}^{-1} \pm 25\text{sec}^{-1}$
 -28°C (-18°F) to 177°C (350°F)
 427°C (800°F) Max.
 100%
 300psig (2.1MPa) at 315°C (600°F)
 up to 18mm/sec @ 200Hz
 up to 9mm/sec @ 500Hz
 or equivalent of 2.5g acceleration
 0.07 p-p displacement 5 to 15Hz 1g +/- 0.2g 15 to 120Hz



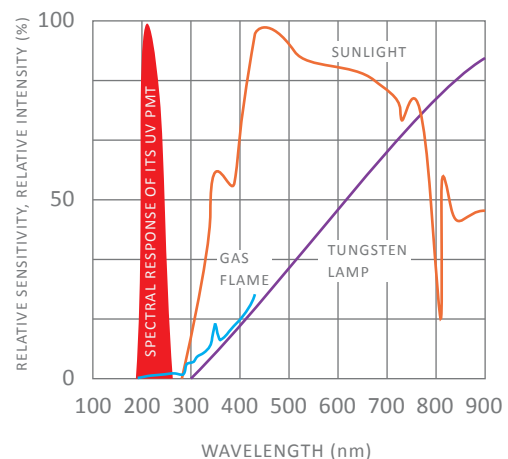
ITS 967X7179M379

SUCCESSFUL AND COST EFFECTIVE

Compared to the OEM part the Temperature sensitivity, the spectrum, the measurement sensitivity and the lifetime has been significantly increased.

Neither structural changes nor mechanical or electrical modifications are necessary to mount ITS flame scanners.

Short delivery lead time combined with lower inventory costs turn them into a long term cost saving and reliable alternative.



Replace Honeywell

GE Part Number	Honeywell Part Nr.	Description
261A1812P003		Replaced by 261A1812P013
261A1812P004		Replaced by 261A1812P013
261A1812P005		Replaced by 261A1812P013
261A1812P006		Replaced by 261A1812P013
261A1812P007		Replaced by 261A1812P013
261A1812P008		Replaced by 261A1812P013
261A1812P009	LG1093AA05	Replaced by 261A1812P013
261A1812P010	LG1093AA04	Replaced by 261A1812P012
261A1812P011	LG1093AA06	Replaced by 261A1812P013
261A1812P012	LG1093AA24	Flame scanner 16 ft (4,9m) cable
	LG1093AA25	Flame scanner 42 ft (12,8m) cable
261A1812P013	LG1093AA26	Flame scanner 61 ft (18,6m) cable
	LG1093AA34	Flame scanner 16 ft (4,9m) cable
	LG1093AA35	Flame scanner 42 ft (12,8m) cable
261A1812P014	LG1093AA36	Flame scanner 61 ft (18,6m) cable
	LG1093AA44	Flame scanner 16 ft (4,9m) cable
	LG1093AA45	Flame scanner 42 ft (12,8m) cable
261A1812P015	LG1093AA46	Flame scanner 61 ft (18,6m) cable

EC Declaration of Conformity

EU - Equipment and protective systems intended
for use in potentially explosive atmospheres

We hereby certify that the following product

Flame Scanner

Model No.: ITS 967X7179M379

(Product identification)

complies with the related protection requirements of the European Parliament and of the Council Directive 94/9/EC Explosive Atmospheres (ATEX) developed by the European Standardization Organization CENELEC in parallel to the Directive 1999/92/EC concerning equipment and protective systems intended for use in potentially explosive atmospheres.

In consultation with **TÜV AUSTRIA** itsI0070-LUG-SDO, 2012-02-29

CE  **II 3 G Ex d IIC T3**

EN 1127-1:2011, EN 60079-0:2007, EN 60079-1:2008
EN 61000-6-2:2005, EN 61000-6-4:2011, EN 61326-1:2006, EN 61326-2-3:2007
(Identification of regulation / standards)

ITS Industrial Turbine Services GmbH

Fabriksplatz 1, 4662 Steyrermühl

AUSTRIA

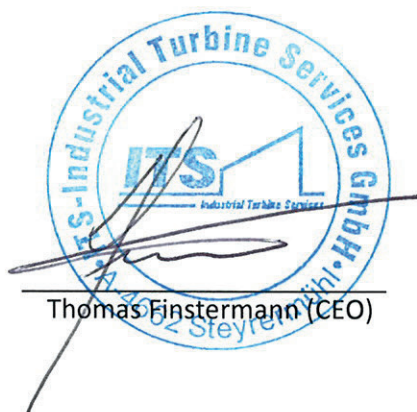
(Name / Address)

For the Manufacturer

Date of issue: 2012-02-29



Mark Neeb (CTO)

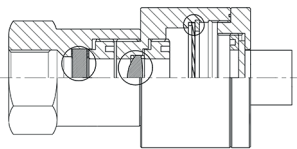


Thomas Finstermann (CEO)



Ing. Jochen Burgstaller (CQO)





TECHNICAL DATA

OUR DEDICATION

ITS 184X0254M029



MIL-DTL 38999 Series III
038999/27Y-15-05PN 1041
B Thread

Red band indicates
fully mated connection

1.4571 Stainless Steel

CE II 3 G Ex nL IIC T3

Dimensions fit to OEM part,
compatible with the original
cooling system

3/4" internal NPT female



Manufacturer

ITS Industrial Turbine Services

Sensor
Window

Silicon Carbide photodiode
Quartzglass

Average Spectral Sensitivity

210 - 380nm

Sensitivity

> 4mA @ 1×10^{10} photons/in²/sec. @ 295nm

Output

4 - 20mA DC current loop @ 24VDC

Response Time

< 20ms

Power Requirements

12 - 35VDC Reverse polarity protection

Temperature Range

-30°C (-20°F) to 150°C (302°F)

up to 235°C (455°F) with specified water cooling

Temperature at Mount

427°C (800°F) Max.

Relative Humidity

100%

Process Pressure

400psig (2.8MPa)

Vibration

3mm DA 10 - 40Hz, 8g continuous 40 - 2000Hz, 14g Peak



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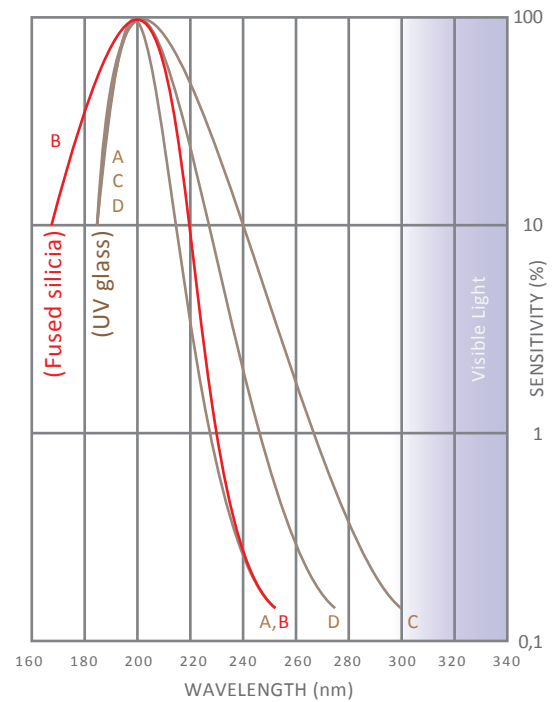
INNOVATIVE AND PROGRESSIVE

Silicon Carbide (SiC) Photodiode

ITS flame scanners are compatible with a wide range of industrial fuels, such as natural gas, kerosene, diesel, oil, coal, and mixtures thereof. They can continuously monitor the flame status with high temperature electronics via a view port. In addition to flame ON / OFF display, the data output provides real time information as required, for combustor/burner management systems of flame intensity.

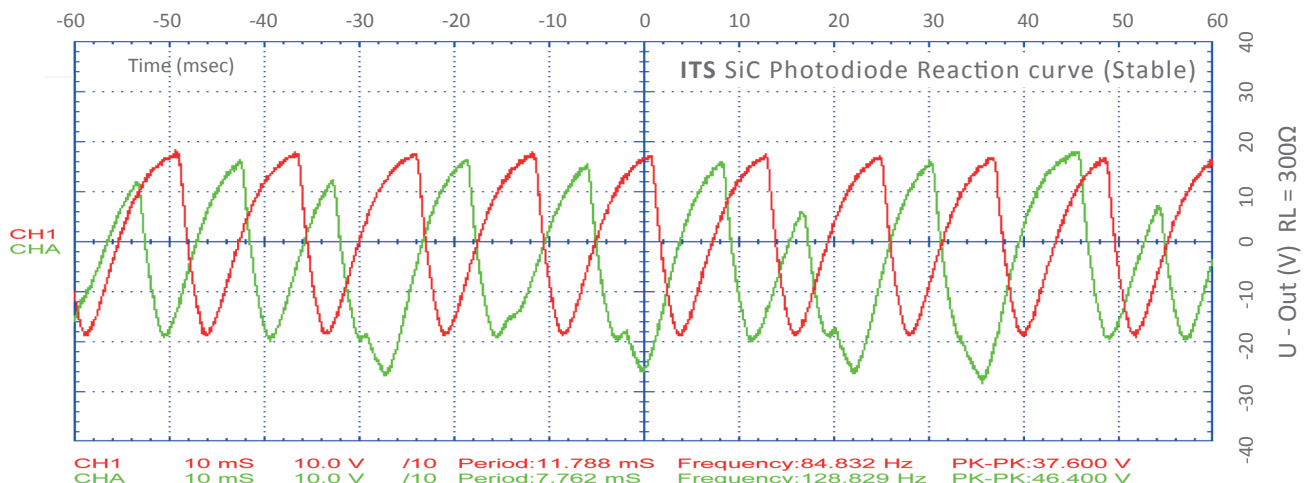
ITS Flame Scanners are at the top end of the safety, cost effectiveness and reliability scale. All this, combined with a modern flame scanning technology, provide you with excellence in function and flexibility.

Typical Spectral Response



Replace Reuter-Stokes

GE Part Number	Reuter-Stokes Part Nr.	Description
362A1052P104	RS-FS-9001	Silicone Carbide (SiC) Photodiode
362A1052P105	RS-FS-9004	Silicone Carbide (SiC) Photodiode



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EN 61000-6-2:2005, EN 61000-6-4:2011

(Identification of regulation / standards)

ITS Industrial Turbine Services GmbH

Fabriksplatz 1, 4662 Steyrermühl

AUSTRIA

(Name / Address)

For the Manufacturer

Date of issue: 2012-02-29



Mark Neeb (CTO)



Thomas Finstermann (CEO)



Ing. Jochen Burgstaller (CQO)





RELIABILITY CREATES CONFIDENCE

EXCERPT FROM OUR LIST OF CUSTOMERS

Flame scanners of ITS have been used successfully for years worldwide. So far more than 1000 Flame Scanners from ITS have been installed in gas turbines by multiple operators all over the world.

Our customers have been placing their trust in the experience and know-how of ITS for over a decade. This is the most honoured evidence of our companies commitment to quality and is working proof of the reliability of our product.



PETRONAS



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LANCO



WACKER



ATMAS
Turbine Services



The Biofore Company



SULZER



SWM
Stadtwerke München



KNOW-HOW AND EXPERIENCE

OUR CONTACTS ARE YOUR ADVANTAGE



Scan to import our contact informations into your mobile device.

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