



POWERLINE SOLUTIONS MANUFACTURING

POWERLINE DETECTION SOLUTIONS

PDS is a subsidiary of Powerline Solutions, which was established in 2007, Powerline Solutions has set the standard for excellence in niche industrial segments, leveraging our expertise and in-depth knowledge. With a proven track record spanning almost two decades in the Saudi Arabian market, we have successfully completed several projects in core industrial segments, with the majority characterized by their challenging nature.

At **Powerline Solutions,** we are founded on the principles of leadership and impeccable commitment to our values, which form the bedrock of our operations. Our core values include Ethics, Safety, Quality, Environmental Integrity, Rigorous Training & Employee Welfare.

POWERLINE SOLUTIONS



Solutions Services and Products Offered



System Integration Capabilities



Manufacturing Capabilities (PDS)

PDS KSA: Advanced Gas Detection Solutions

PDS KSA, in partnership with Teledyne Gas & Flame Detection, delivers state-of-the-art gas detection systems and controllers for monitoring flammable, toxic and oxygen gases. Designed to meet the demands of industries such as Oil & Gas, Petrochemicals, Utilities, Mining, and Fertilizers, our solutions ensure reliable performance even in the most challenging environments.

Offering a comprehensive range of fixed and compact gas detection systems, we look to combine exceptional durability with user-friendly functionality. Distinguished by superior quality, low power consumption and robust design, these products are ideal for extreme operating conditions.

The local manufacturing facility in Saudi Arabia stands as a cornerstone of our commitment to delivering high-quality products, promoting localization and providing comprehensive customer support within the Kingdom. By aligning with IKTV objectives, we not only uphold global standards of excellence but also contribute to the development of local capabilities. Key benefits of our local manufacturing facility include:

- **Alignment with IKTV Objectives:** Supporting the Kingdom's vision for local content and economic growth.
- **Timely Delivery of High-Quality Products:** Ensuring that projects are completed efficiently and without delay.
- **Promotion of Localization:** Enhancing the availability of locally manufactured and assembled products in KSA.
- **Provision of Local Service and Support:** Delivering dependable after-sales service and technical assistance within the region.

Certified to the highest international standards, CSA and ATEX IECEx, the manufacturing and assembly facility reflects a commitment to exceptional production standards, ensuring products meet the highest levels of safety, quality and reliability for critical applications.

Gas detection systems are designed with ease of use and reliability in mind. Key features include:

- Fully protected sensor electronics to prevent water ingress and corrosion.
- Plug-in components for easy field replacement.
- Intuitive, menu-driven configuration and calibration processes.
- Non-intrusive operation via a compact handheld magnet.
- Integrated alphanumeric LED screen for real-time status updates.

The LEL Series intelligent sensor modules enhance flexibility with dual redundant outputs, including a linear 4-20 mA analog signal and a Modbus RS-485 serial output, enabling seamless communication and integration across various applications.

PDS is offering a comprehensive range of gas detection solutions including:

- **FP-LEL:** Combustible Gas Sensor (Catalytic Bead)
- **IR-LEL:** Combustible Gas Sensor (NDIR)
- **DM-TOX:** Toxic Gas Sensor
- **Model X40:** Integrated Alarm & Control System
- **RAM:** Remote Control/Alarm Relay Module
- **HART Module:** Digital communication interface



PDS KSA – Your Partner in Gas Detection

FP-LEL

Combustible Gas Sensor

Description

FP-LEL is a non-intrusive “Smart” sensor designed to detect and monitor combustible gases in air over the range of 0-100% LEL using catalytic bead sensor technology. The plug-in, field replaceable detector is poison-resistant and features oversized gold-plated connections that help prevent corrosion. The FP-LEL’s rugged framework includes an electro-polished 316 stainless steel housing with fully encapsulated electronics and dual layer surge protection. This innovative design virtually eliminates sensor failure due to water ingress, corrosion, vibration, and transient spikes. A primary feature of the Model FP-LEL is embedded intuitive software that simplifies operator interface by guiding the user through routine calibration, configuration, and fault diagnostic functions using a built-in alpha/numeric display. The Model FP-LEL is equipped with standard analog 4-20mA, and HART outputs. Teledyne Gas and Flame Detection’s combustible gas sensor has an infinite shelf life and is supported by a 2-year warranty



Scrolling Full Message/Text Display



Matched Pair Catalytic Bead
(shown as PN KSA-9H7-525421-100C in SS junction box)



Applications

- Oil and Gas Drilling Rigs
- Oil and Gas Production Sites
- Offshore Production Platforms
- FPSOs
- LNG/CNG Plants
- Refining and Petrochemical
- Pulp and Paper Mills
- Waste Water Treatment Plants

Features

Failsafe User-Friendly Interface

- LED Display (With Antiglare Cover)
- Full Text Display Method
- Non-intrusive Interface
- Auto Zero/Auto Span
- Pre-emptive Fault Diagnostics

Environmentally Bulletproof

- Electropolished 316SS Construction
- 100% Epoxy Encapsulated Circuitry
- Bulletproof I/O Protection
- Water-Proof, Corrosion-Proof, Vibration-Proof

Modular and Serviceable

- Modular Design
- Plug and Play Components
- Quick Thread Release (For Sensor Replacement)
- Integral Calibration Por

IR-LEL

Combustible Gas Sensor

Description

Model IR-LEL is a non-intrusive “Smart” sensor designed to detect and monitor combustible hydrocarbon gases in air over the range of 0-100% LEL using miniature non-dispersive Infrared Optical (NDIR) sensor technology. As compared to catalytic bead sensors, with NDIR there is no risk of sensor poisoning, no risk of high concentration saturation, and no need for O2 to be present. The plug-in, field replaceable detector features oversized gold-plated connections that help prevent corrosion. The IR-LEL’s rugged framework includes an electro-polished 316 stainless steel housing with fully encapsulated electronics and dual layer surge protection. This innovative design virtually eliminates sensor failure due to water ingress, corrosion, vibration, and transient spikes. A primary feature of the Model IR-LEL is embedded intuitive software that simplifies operator interface by guiding the user through routine calibration, configuration and fault diagnostic functions using a built-in alpha/numeric display. The Model IR-LEL is equipped with standard analog 4-20mA, and HART outputs. Teledyne Gas and Flame Detection’s combustible gas sensor has an infinite shelf life and is supported by a 5-year warranty.



Scrolling Full Message/Text Display



Non-dispersive Infrared Optical
(shown as PN KSA-9H7-214520-100C in SS junction box)



Applications

- Oil and Gas Drilling Rigs
- Oil and Gas Production Sites
- Offshore Production Platforms
- FPSOs
- LNG/CNG Plants
- Refining and Petrochemical
- Pulp and Paper Mills
- Waste Water Treatment Plants

Gas Detected

- | | |
|---------|-------------------|
| Methane | Hexane |
| Ethane | Ethylene |
| Propane | Gasoline Vapor |
| Butane | Diesel Fuel Vapor |
| Pentane | Jet Fuel Vapor |

Features

Failsafe User-Friendly Interface

- LED Display (With Antiglare Cover)
- Full Text Display Method
- Non-intrusive Interface
- Auto Zero/Auto Span
- Pre-emptive Fault Diagnostics

Environmentally Bulletproof

- Electropolished 316SS Construction
- 100% Epoxy Encapsulated Circuitry
- Bulletproof I/O Protection
- Water-Proof, Corrosion-Proof, Vibration-Proof

Modular and Serviceable

- Modular Design
- Plug and Play Components
- Quick Thread Release (For Sensor Replacement)
- Integral Calibration Por

DM-TOX

Description

DM-TOX Sensors are non-intrusive “Smart” sensors designed to detect and monitor H₂S in air using electro-chemical sensor technology.

The intelligent plug-in, field replaceable cell provides automatic recognition of gas type and range, and features oversized gold-plated connections that help prevent corrosion.

The DM-TOX’s rugged framework includes an intrinsically safe electro-polished 316 stainless steel housing with fully encapsulated electronics and dual layer surge protection.

This innovative design virtually eliminates sensor failure due to water ingress, corrosion, vibration and transient spikes.

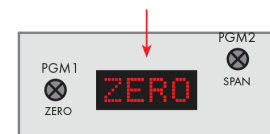
A primary feature of the DM-TOX is its embedded intuitive software that simplifies operator interface by guiding the user through routine calibration, configuration and fault diagnostic functions using a built-in alpha/numeric display.

The DM-TOX is equipped with standard analog 4-20mA, and HART outputs.

Teledyne Gas and Flame Detection’s H₂S sensors have a long shelf life and are supported by an industry-leading warranty.



Scrolling Full Message/Text Display



(shown as PN KSA-9H7-303094-100M in SS junction box)



Applications

- Oil & Gas
- Chemical Plants
- Food & Beverage
- Steel Mills
- Pulp and Paper
- Refineries
- Wastewater Treatment Plants
- Utilities

Features

Failsafe User-Friendly Interface

- LED Display (With Antiglare Cover)
- Full Text Display Method
- Non-intrusive Interface
- Auto Zero/Auto Span
- Pre-emptive Fault Diagnostics

Environmentally Bulletproof

- Electropolished 316SS Construction
- 100% Epoxy Encapsulated Circuitry
- Bulletproof I/O Protection
- Water-Proof, Corrosion-Proof, Vibration-Proof

Modular and Serviceable

- Modular Design
- Plug and Play Components
- Quick Thread Release (For Sensor Replacement)
- Integral Calibration Por

RAM

Remote / Alarm Module

Description

FP-LEL is a non-intrusive “Smart” sensor designed to detect and monitor combustibles in air over the range of 0-100% LEL using catalytic bead sensor technology. The plug-in, field replaceable detector is poison-resistant and features oversized gold-plated connections that help prevent corrosion. The FP-LEL’s rugged framework includes an electro-polished 316 stainless steel housing with fully encapsulated electronics and dual layer surge protection. This innovative design virtually eliminates sensor failure due to water ingress, corrosion, vibration, and transient spikes. A primary feature of the Model FP-LEL is embedded intuitive software that simplifies operator interface by guiding the user through routine calibration, configuration, and fault diagnostic functions using a built-in alpha/numeric display. The Model FP-LEL is equipped with standard analog 4-20mA and HART outputs. Teledyne Gas and Flame Detection’s combustibles gas sensor has an infinite shelf life and is supported by a 2-year warranty

Hart Bridge Module

Description

The HRT Bridge PCA is a bi-directional digital communication interface that provides data communication between the Model DM-TOX, FP-LEL and IR-LEL sensors and HART®-enabled devices. The HART® (Highway Addressable Remote Transducer) Communication Protocol is a standard for sending and receiving digital information across analog wires between smart devices and a control host or monitoring system. A host can be any software application from a technician’s hand-held device or laptop to a plant’s process control, asset management, safety or other system using any control platform. The HART Communication Protocol makes use of the Bell 202 Frequency Shift Keying (FSK) Standard to superimpose digital communication signals on the 4-20mA signal utilized by the Model DM-TOX, FP-LEL and IR-LEL sensors. This enables two-way communication and makes it possible for additional information to be transferred to and from the sensor. The HRT Bridge PCA communicates with the Model 700 sensors via its Modbus™ interface and transfers that information to the HART Communication Protocol along with the 4-20mA Signal. This provides the ability for a HART Host System to communicate with the Model DM-TOX, FP-LEL and IR-LEL sensor.

This communication includes the ability for the Host to:

- Configure or re-configure the sensor
- Perform sensor diagnostics
- Troubleshoot the sensor
- Read additional information from the sensor
- Determine the sensor’s health and status



PDS FieldServices

Repair & Field Services

- At PDS, we provide comprehensive repair and commissioning services for all your instrumentation needs
- Our services include on-site services, factory-trained technicians and in-house services

On-Site Service

- Include factory-certified technicians who will commission, troubleshoot and repair
- Our Engineer and Technician will verify the installation using software and ensure accurate readings

In-House Service

- Includes Calibration facility, where we can test and calibrate instruments after service
- Provide complete digital control and instrument testing
- We can complete Factory Acceptance Testing on complete systems and software prior to shipping to the field
- Powerline offers complete and reliable repair and commissioning services for all your instrumentation requirements



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