

FREEDOM XP



THE NEW GENERATION
OF GAS DETECTORS

SECURITY BUILT INTO
EVERY DETAIL

 **TELEDYNE**
Gas and Flame Detection



FREEDOM XP

THE BENCHMARK FOR HIGH-RISK ENVIRONMENTS

Designed for areas where safety is non-negotiable, the **FREEDOM XP** is a fixed gas detector built to withstand the harshest industrial conditions.

Leveraging Teledyne's expertise, the **FREEDOM XP** combines mechanical robustness, embedded intelligence and ease of operation to ensure high-performance, reliable detection that meets the demands of the most challenging environments.



EXPLORE ALL
ITS FEATURES.

The **FREEDOM XP** is ideal for all sectors where reliable detection is essential:

- Oil and gas, chemical and petrochemical industries
- Energy generation
- Gas transmission and distribution
- Wastewater treatment and water treatment plants

Every industrial facility benefits from a certified detection system, designed for long-term reliability, ensuring the safety of both personnel and equipment.



DETECTION SOLUTIONS TAILORED TO EVERY NEED

The **FREEDOM XP** offers a comprehensive range of detection technologies, enabling reliable monitoring of flammable and toxic gases, oxygen hazards and refrigerants using the most suitable sensing principle for each application: catalytic oxidation, infrared absorption, electrochemical cells, MEMS or semiconductor sensors.

Each cartridge is factory pre-calibrated for fast commissioning and delivers optimal accuracy from first use.

Combined with its modular architecture, this wide range of sensing technologies enables the **FREEDOM XP** to adapt to all types of installations and meet the requirements of even the most complex environments.

TECHNOLOGY	GAS				
	Flammable	Toxic	Oxygen	CO ₂	Refrigerants
	Catalytic Oxidation	✓			
	Infrared Absorption	✓		✓	✓
	MEMS	✓			
	Electrochemical		✓	✓	
	Semiconductor		✓		

A CLEAR AND INTUITIVE INTERFACE

The **FREEDOM XP's** interface is designed for intuitive operation with no need for specialized tools or complex procedures. Its multi-color TFT display provides comprehensive information at a glance, including real-time readings, detected gas, measurement units, live trend graphs and text-based configuration menus.

Smooth navigation across the menus is achieved using **four** magnet-activated **buttons**, eliminating the need to open the housing in hazardous areas.

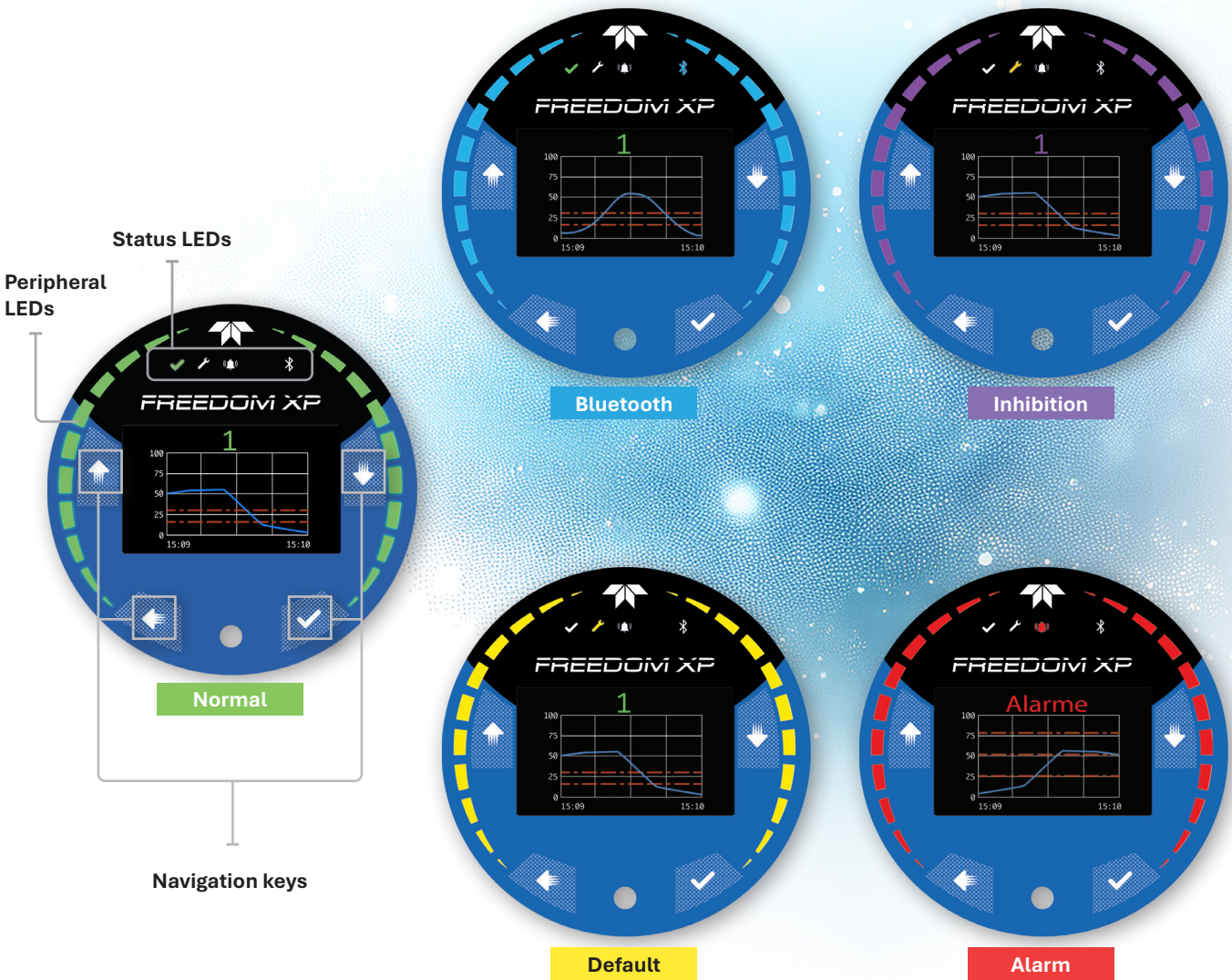
Peripheral LEDs surrounding the display provide clear, long-distance visibility of the **FREEDOM XP's** status and interactions, even in bright ambient light.

At a glance, operators can identify whether the unit is operating normally, in fault or alarm condition, or connected via Bluetooth to the GF Sync app.

Overall, the interface is designed to simplify operations and enhance user confidence in the field.

A DISPLAY DESIGNED FOR HARSH ENVIRONMENTS

In extreme temperatures, the optional LCD display enables operation across a wide temperature range, from -40°C to +75°C.



A ROBUST DESIGN, BUILT TO LAST

In industrial environments, the design and quality of the equipment make all the difference. The FREEDOM XP has been engineered to withstand the most severe mechanical, thermal, electromagnetic and environmental stresses.

Its enclosure, available in **aluminium** or **316L stainless steel**, provides enhanced resistance against corrosion and impact. **IP66-certified**, it remains fully operational in extreme severe conditions, from **-40°C to +75°C***.

The design of the circuit boards and the rigorous selection of each component have been carefully considered to guarantee optimal resistance to electromagnetic interference and ensure long-term reliability.

The **FREEDOM XP** is **ATEX** and **IECEx** certified and meets the most demanding reliability standards in terms of **SIL2 / SC3** functional safety, **IEC 62443** cybersecurity and **IEC/EN 60076-2G-1** metrological performance. (Pending)

* depending on configuration



IP66 certified

-40°C

+75°C*



AN OPEN AND SCALABLE SYSTEM

Designed for seamless integration into industrial environments, the **FREEDOM XP** features a **4-20 mA** analogue output combined with configurable discrete status signals (0-4 mA). The enhanced **HART® 7** protocol further extends communication capabilities by providing access to maintenance and lifecycle data.

Optionally, 3 alarm relays + 1 fault relay enable simple and reliable local control of actions.

This universal compatibility facilitates integration into a wide range of architectures, including detection systems, stand-alone installations and PLC-based control systems, reducing the cost and complexity of deployment.





CYBER RESILIENCE
BY DESIGN

GF SYNC THE APP THAT MAKES DETECTION EASIER

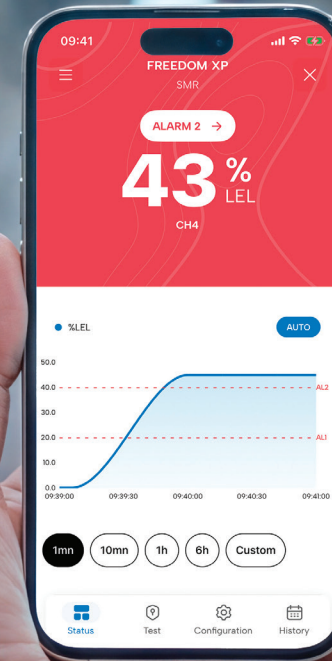
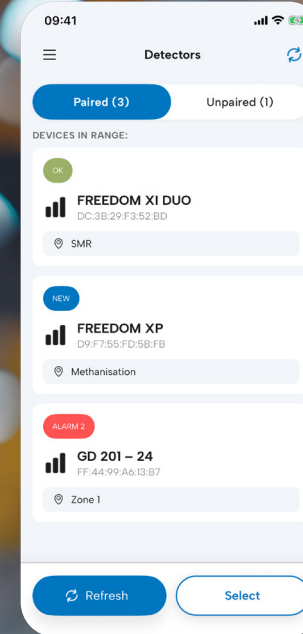
Available free on the App store and Google Play, the GF Sync app revolutionizes gas detector management by providing instant access to all essential functions, while unlocking the full capabilities of the **FREEDOM XP**:

- **Quick configuration:** set up your detectors in just a few clicks and save the configurations for easy, error-free replication.
- **Simplified calibration:** perform reliable and fully traceable through a guided, step-by-step process.
- **Optimised maintenance:** access event history, monitor sensor diagnostics and facilitate plan maintenance schedules proactively.
- **Digitalised monitoring** : automatically generate calibration certificates that can be exported as .pdf or .csv files.
- **Enhanced cybersecurity:** secure, encrypted communications, compliant with the latest and most stringent cybersecurity standards.

Avec **GF Sync**, With **GF Sync**, deployment and operation become faster, safer and more efficient. Your safety, at your fingertips.



Download
the app for free





// A MODULAR DESIGN TO SUIT EVERY NEED

Because every industrial environment has its own specific constraints, the **FREEDOM XP** offers a wide range of options to tailor detection to any configuration. This flexibility ensures seamless integration into all existing systems, whether simple or complex.

Choose, configure, customise:

- **Remote sensing head**

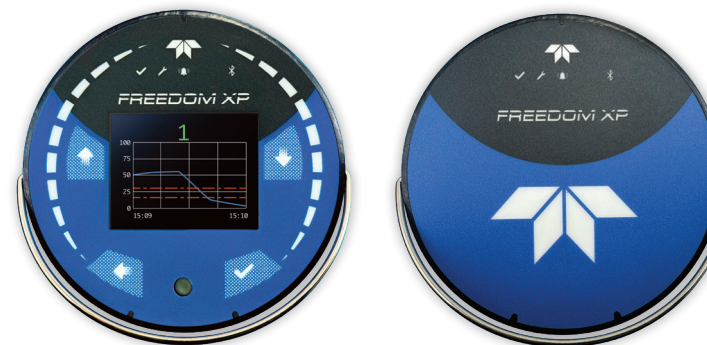
The sensor can be installed up to 30 metres or 100 feet from the transmitter, facilitating installation in hard-to-reach areas.

- **Configurable analogue output**

2- or 3-wire configuration depending on the detection technology
Adjustable 0–4 mA range

- **On-board relays**

Three configurable alarm relays, one fault relay and an acknowledgement input for standalone local operation.



- **Display**

TFT display with direct access to multilingual menus, trend curves, and detection data.

Multi-colour, backlit LCD display for installation in the most demanding climatic environments.

Display-free versions with status LEDs.

- **Universal detection cartridge**

All cells and sensors are compatible with the same main circuit board.
This simplifies maintenance and reduces the number of part numbers.

2.1 Maintenance

- 1. Calibration >
 - 2. Calibration Gas >
 - 3. Cartridge Replacement >
- Date of Last Calibration

100 ppm Hydrogen Sulfide

Sensor Type: Electrochemical
Serial Number: 3848403
HMI FW: 132.234.23
SFT FW: 132.14.2.33

5.2.4.Options

- 1.HART >
- 2.I/O Board >
- 3.Bluetooth >

This modularity makes the **FREEDOM XP** a universal solution, adaptable to any architecture, any industry and any security requirement.

SECURITY BUILT INTO EVERY DETAIL

Combining reliability with operational simplicity, **FREEDOM XP** sets a new standard for fixed gas detection - protecting critical assets while optimising maintenance and reducing operating costs.

FEATURES

Detection technologies	Catalytic, infrared, electrochemical cells, MEMS, and semiconductor sensors
Materials	Aluminium or 316L stainless steel
Ingress protection	IP66
Operating temperature (depending on sensor)	LCD: -40°C to +75°C TFT: -30°C to +55°C
Output signals	4-20 mA analogue output, HART® 7 protocol Relays (optional): 3 alarms + 1 fault
User interface	Multicolour TFT or LCD display 4 magnet-activated buttons
Maintenance	Simplified via the GF Sync® app (Bluetooth SIG, BLE 5.0, encrypted communication)
Installation	Local or remote sensor head
Certification	ATEX, IECEx, FM (pending)
Functional safety	SIL2 / SC3 High Demand (pending)



GF30641A-EN - Teledyne Gas and Flame quality assurance programmes demand the continuous assessment and improvement of all our products. Information in this leaflet could thus change without notification and does not constitute a product specification. For more information, please contact us or your company representative.

CONTACT US

