



Detectors
Infrared flammable gas detector

Cirrus

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Cirrus is a third generation fixed point infrared flammable gas detector. It has a lifetime factory calibration and is covered by a comprehensive five year warranty. A fully automatic, remote functional test capability ensures that the unit is always operational without the need to check detectors locally. The novel optical construction uses a well proven dual beam, dual detector arrangement to give optimal long term performance.

Cirrus also offers complete connection flexibility with the option of Modbus (RS485) serial link to addressable control systems, providing remote interrogation and data collection facility.

Rugged & reliable

Flammable gas detectors have to be totally reliable. This is why Cirrus has two sources delivering two beams, each at different wavelengths and each monitored by measurement and reference detectors. One beam, not sensitive to hydrocarbons, continuously checks the integrity of the optics and provides an on going zero measurement for the hydrocarbon-detecting beam at a different wavelength.

Thus any drift in the IR source is compensated for. IR beams are measured over a larger area than normal meaning the optics in Cirrus are particularly tolerant to shock and vibration.

The rugged optics are mounted in a high grade stainless steel case giving protection in the harshest environments.

Cirrus is guaranteed for five years.

Low maintenance

The highly stable optical performance of Cirrus provides a factory calibration that will last for 5 years. **Cirrus never requires zero or span gas calibration.** The reliability of Cirrus has been assessed independently using MIL Handbook 217F/2/12/91 to give a **MTBF of 8.6 years**, including the infrared source.

The optical system will function up to 90% obscuration. The system will automatically indicate when obscuration reaches a preset level so **there is no need to clean Cirrus until it tells you to.**

Cirrus can be fitted with an automatic drop-in filter, which mimics gas and checks the function of the unit, so Cirrus does not need manual or local functional testing.

Where testing is mandatory, Cirrus has a flow adaptor for use with compressed gas and remote gassing points. Interfaces can also be fitted to aid testing of units mounted in inaccessible areas.

Easy installation & upgrade

The unique 'smart' docking station of Cirrus simplifies both installation and system changes. It contains connections for field wiring and optional PROM, which is used to characterise the detector at that location.

At installation, the docking station is sited and wired up with the detector head being fitted later during commissioning. Future configuration changes are made by simply changing the PROM at the docking station. **Cirrus offers easy field configuration.**

Ultimate flexibility

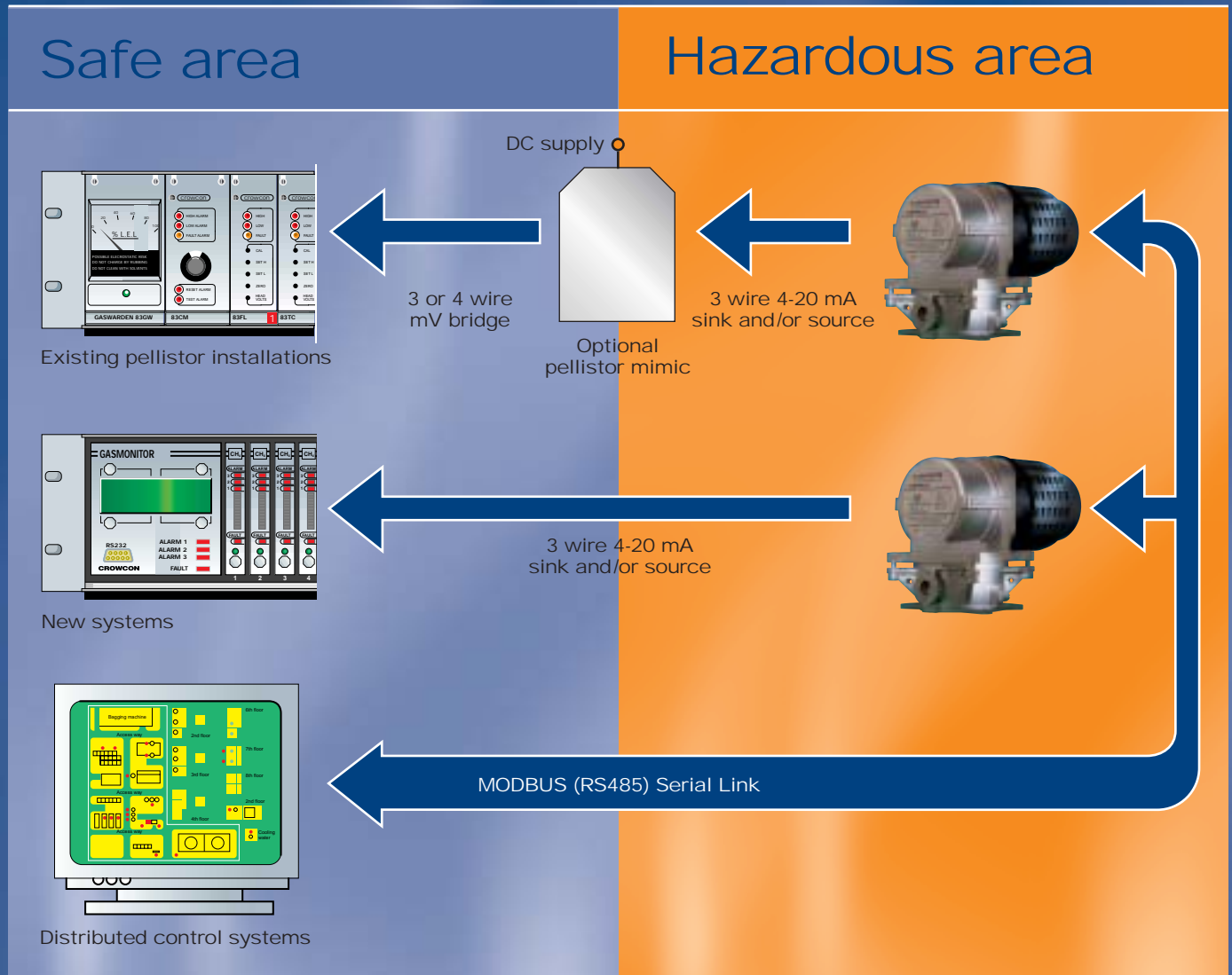
Cirrus offers complete connection flexibility with both 4-20 mA and RS485 outputs.

Addressable detectors can be looped together via the Modbus serial link providing remote control and interrogation capability.

Cirrus also offers a pellistor mimic for updating or extending existing pellistor-based systems. This interface converts the 4-20 mA signal of Cirrus into a pellistor-compatible form, which means existing field cabling and control panels can be retained.

Cirrus, the total system solution

It can interface with any standard control system, or combination of systems, new or old.



Docking station connects Cirrus to all services.





Cirrus	
Dimensions	240 x 130 x 175 mm (9.5 x 5.2 x 7 inches)
Function	Detection of hydrocarbon gases in the 0-100% LEL range, by infrared absorption
Optical system	Dual beam, dual wavelength, dual detector
Optical performance	Correct operation with up to 90% obscuration 'Dirty optics' warning over 75% obscuration (configurable) Heated window avoids condensation
Operating voltage	18-32 V dc (nominal 24 V), 4 W maximum
Typical output signals	All levels configurable: 0 mA: <i>fault</i> 2 mA: <i>dirty optics</i> 4-20 mA: <i>0-100% LEL</i> 22 mA: <i>over range</i>
Communications	Modbus RS485 serial link
Functional testing	- automatic - flow adaptor for gassing
Response time	T90 < 10 seconds (including weatherproof cover) 4-6 seconds instantaneous release of gas at high concentrations
Repeatability	±2%
Construction	Stainless steel 316 ANC4 Weight: 7kg (15.4 lbs)
Temperature range	-40°C to 65°C (-40°F to 149°F)
Humidity range	0-99% relative humidity Non condensing
Approval codes	Class 1, Zones 1 & 2 EExd IIC T6 (Tamb < -40°C to 65°C (-40°F to 149°F)) EExd IIC T5 (Tamb < -40°C to 80°C (-40°F to 176°F))
Standards	EN50014, EN50018, UL2279
Ingress protection	IP66 (jets of water) IP67 (submersion)
General immunity	Totally immune to sunlight and all catalyst poisons
RF radiation	Tested to EN55022 class B and meets EN50081-2
RF immunity	Tested to IEC801-3 and meets EN50082-2
Warranty	5 years
Gases detected by Cirrus	Methane, other alkanes, alkenes, ketones, alcohols, carbon monoxide, carbon dioxide, aldehydes <i>(40 gas calibrations available. Please contact Crowcon for further details)</i>

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