safe in the extreme

MEGGiTT
smart engineering for
extreme environments

Contents

Partnership delivers

With 50 years' experience in aerospace and energy safety, our products define reliability.

Just as important, we minimize programme risk.

After decades working with the world's leading airframers and engine manufacturers, we know how to work closely with customers—and their customers. From the earliest design stage, through certification, production, delivery and maintenance, we know what it takes to deliver throughout the product lifecycle.

Excellence in components, systems

Partnering with you has enabled us to hone our capabilities in fire protection and control, high pressure vessels and mineral-insulated cabling—capabilities proven from deep space to 5,000 feet under the sea.

Whether we're developing systems for business jets, deep space probes or nuclear power plants, the philosophy of joint development guides us from start to finish. We invest heavily in the exploratory phase of a programme to establish exactly what you need.

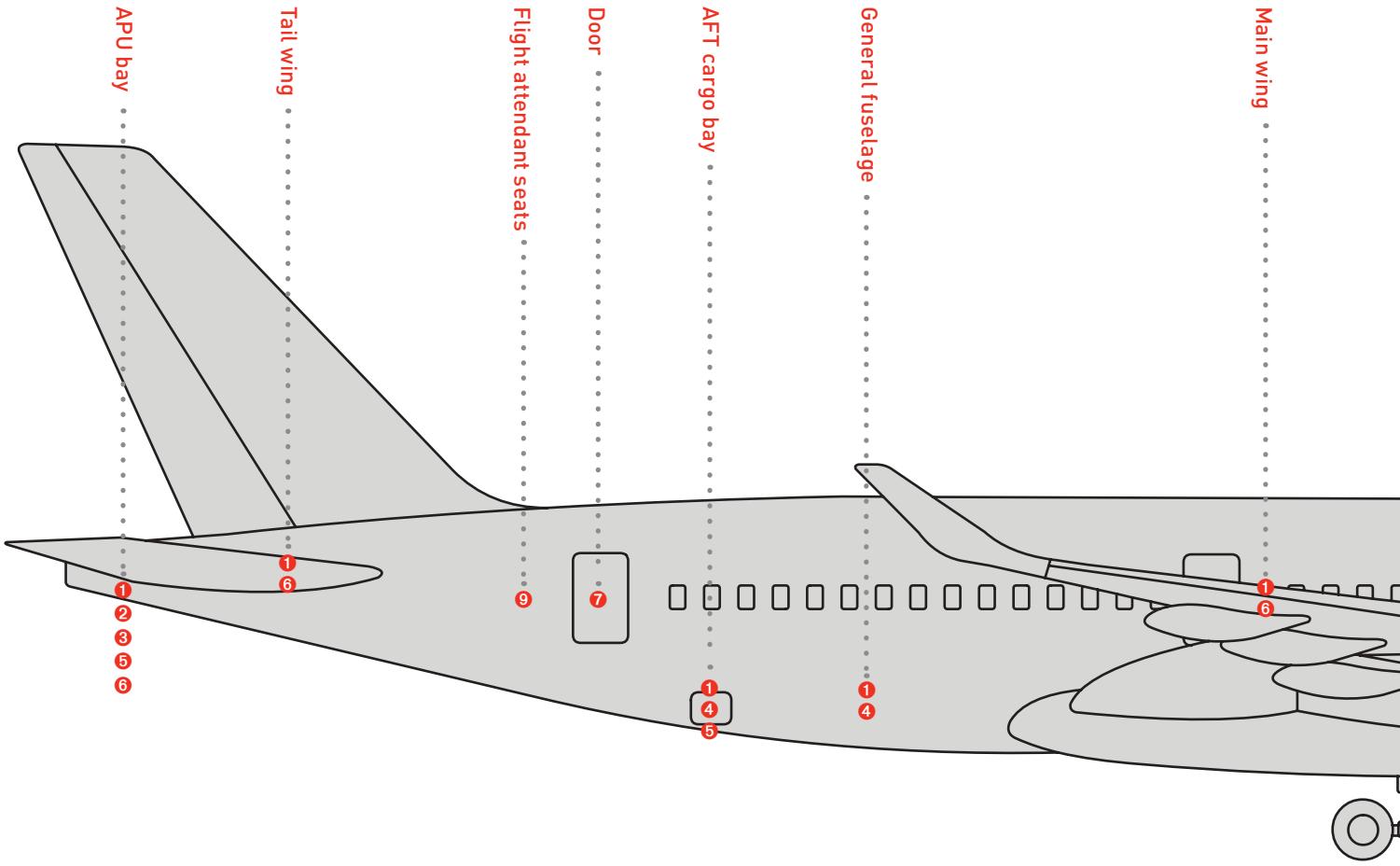
At the same time we invest in next generation technologies to increase reliability, reduce weight and improve performance.

Excellence in relationships and service

Partnership delivers because it makes it easier to work with us throughout the programme life cycle. And it's at the heart of our aftermarket service too: we believe that maintenance, repair and overhaul is something you earn, not inherit.

We focus on joint development because it works: it minimizes risk, generates insights and delivers innovation.

And that's why we're here.



Partner with us for safety, innovation and service

❶ Fire protection system control and integration

Reduced cost, risk for OEMs: fast, low-risk system development and certification cycle

Regarded by FAA and EASA as one of the leading providers of safety system software

Flight-safety critical: software developed and certified to RTCA DO178 levels A and B

Platforms: Airbus A350, A380, A320neo, A400M, Boeing 777F, KC46 Tanker, Bombardier, Embraer, F/A-18

Fire and overheat detection

Over 90 percent of commercial aircraft are equipped with Meggitt's failsafe pneumatic fire and overheat detectors

Failure minimized: application expertise improves quality of installation, minimizing potential for sensor failure

❷ Pneumatic detectors

Designed for zones experiencing extremes of temperature and vibration

Market-defining reliability: MTBF exceeds 500,000 hours

Virtual elimination of costly false fire warnings

Platforms: Airbus A320, 330, 340, 350, 380, Boeing 737NG, 767

❸ Thermistor detectors

Highly reliable: 50-year history in cutting-edge thermistor technology

Lower aircraft operating costs: thermistor's continuous temperature monitoring capability can feed into Integrated Vehicle Health Management (IVHM) system to improve overall efficiency

Platforms: Airbus A400M, Bombardier Global Express 7000, 8000, Learjet 85

❹ Optical smoke detectors and integrated systems

High false alarm immunity: proprietary designs and dynamic determination of alarm conditions

Reduced program risk: real-time smoke sensor data enables system optimization, minimizing aircraft certification risk

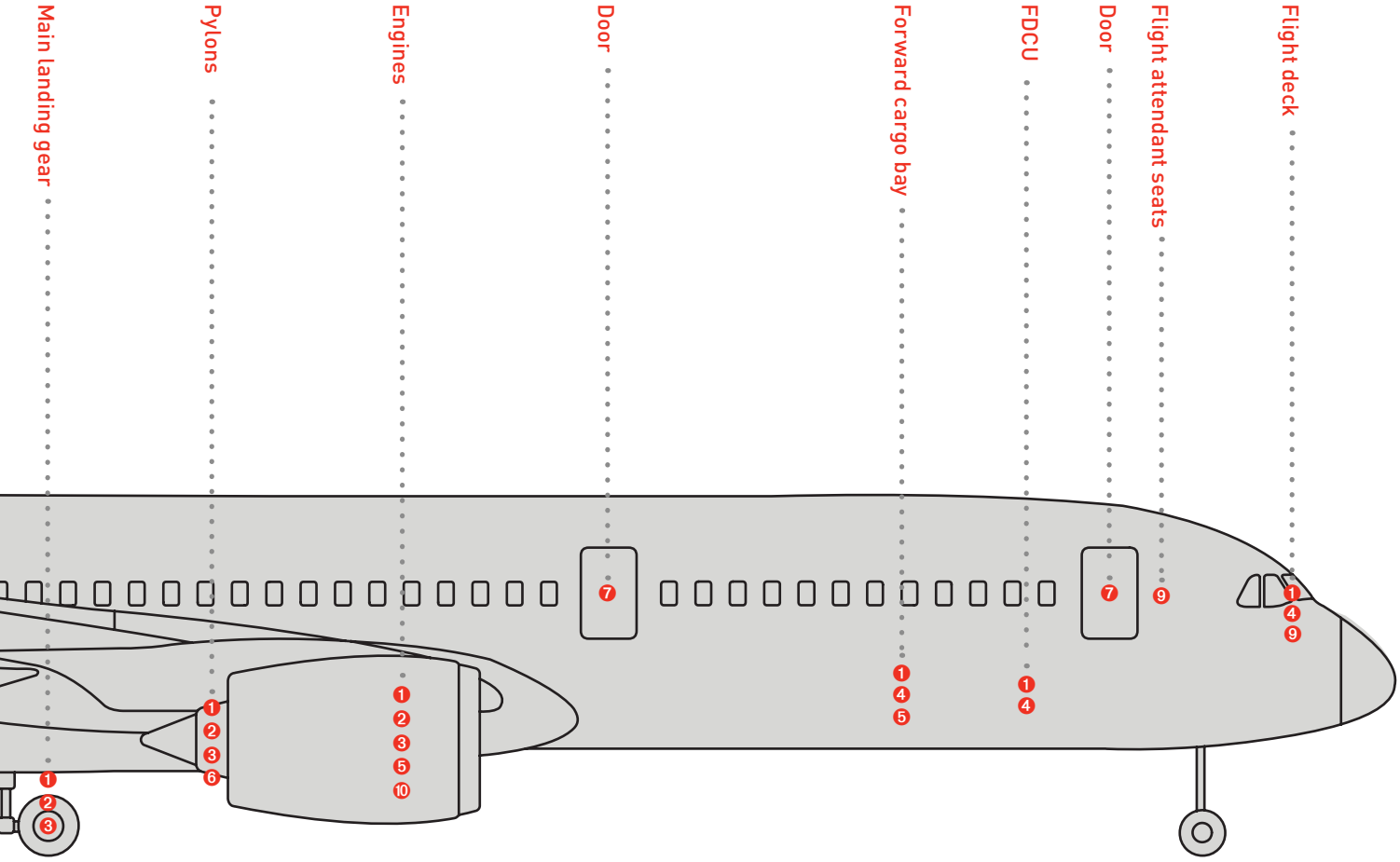
Platforms: Boeing 777 Freighter, KC46 Tanker, numerous passenger-freighter conversions

❺ Fire suppression

Globally tried and tested: complete suppression systems on virtually every aircraft flying

Reduced lead-times: in-house design and manufacturing customized for each application

Reduced operational costs: minimized system weight and envelope requirements



Pioneering development of environmentally-friendly suppression agents

Platforms: Airbus A320, A330, A340, A350, A380, A400M; Boeing 737NG, 747-8, 767, 777; Lockheed Martin F-22 777; Lockheed Martin F-22

❻ Bleed air leak detector system (BALD)

Fewer costly false alarms: proprietary manufacturing process, sensor chemistry and control algorithms make it the most robust system on the market

Reduced maintenance time: unique sensor and controller designs allow duct fault location to within 25mm

Ideal for composite aircraft: sensor accurate over a wide range of temperatures

Platforms: Hondajet, USAF Lockheed C5M fleet retrofit

❼ Emergency Passenger Assist System (EPAS)

Reduced weight and cost: system requires smaller stainless steel bottles; maintenance-free gas reservoirs last 30 years

Highly reliable: system MTBF of over 600,000 flight hours

Compact, lightweight: integration capability allows for a smaller envelope and a lighter system weight

Platforms: Airbus A350, Boeing 777, 787, Mitsubishi Regional Jet

❽ High-pressure vessels expertise

40 years' experience in design and manufacture of high-pressure vessels, proprietary metering and monitoring technology in-house. This expertise is industry standard in aerospace and defense for:

- fire suppression
- emergency passenger assist systems
- missile cooling and guidance

❾ Restraints

Best-in-class reliability: some of the safest and strongest restraints in military and civilian markets; TSO-C22g, TSO C114 certified

Flexible application: 60 years' specialist experience enables customized applications, from seat belts to specialist bolt-down and quick-release fittings in military vehicle interiors

Platforms: Airbus A320, A330, A350; Boeing 737NG, 747-8, 767, 777

❿ High-temperature harnesses

Reliable in the extreme: no deterioration at 45G RMS at 540°F (282°C); operational even after three hours at 2000°F (1093°C).

Minimal risk of decreased resistance or intermittent faults: all-welded, hermetically-sealed assemblies used on many extreme environment applications, on the ground, airborne and in space

Easy to install, highly adaptable

Finely-tuned, state-of-the-art software and hardware reduces risk to the absolute minimum

Fire protection and control systems

A world-class field-proven, Chapter 26 capability

Based on over 30 years of research and innovation in the field, our selection of fire, overheat and smoke detectors and fire suppression equipment is matched only by our highly advanced system capability.

No other team has more experience certifying aircraft fire protection systems than us—or the system and application engineers who have honed their skills and talent working with some of the most intelligent and reliable safety components in the industry.

Controller and software technology

Lowest risk, highest quality, cost-effective

For many years, we have worked with leading airframers at every stage of design, manufacture and maintenance, fine-tuning our controller hardware and software to customer requirements. With our state-of-the-art system architecture and some of the most advanced software development tools in the industry, we minimize risk in development programs.

Our optimized software development process uses SCADE to design and automatically generate code for DO-178B certified software, decreasing system development time and reducing risks associated with changing system requirements.

Development and testing processes are fully automated, reducing design and development cycles during test and certification flights and further increasing software quality.

Controller and software technology

Highlights

- Reduced software risk: cutting-edge proprietary software tools optimize SCADE development and speed up documentation process
- Reduced development risk: we can adapt common hardware with aircraft-specific software for complete fire protection systems. Platforms include: 767-2C, KC 390, LJ85, G7000/8000
- Reduced maintenance time: federated and integrated modular avionics architectures pinpoint errors reducing on-the-ground repair time
- Regarded by aerospace industry as one of the leading providers of integrated aircraft safety systems

How it works

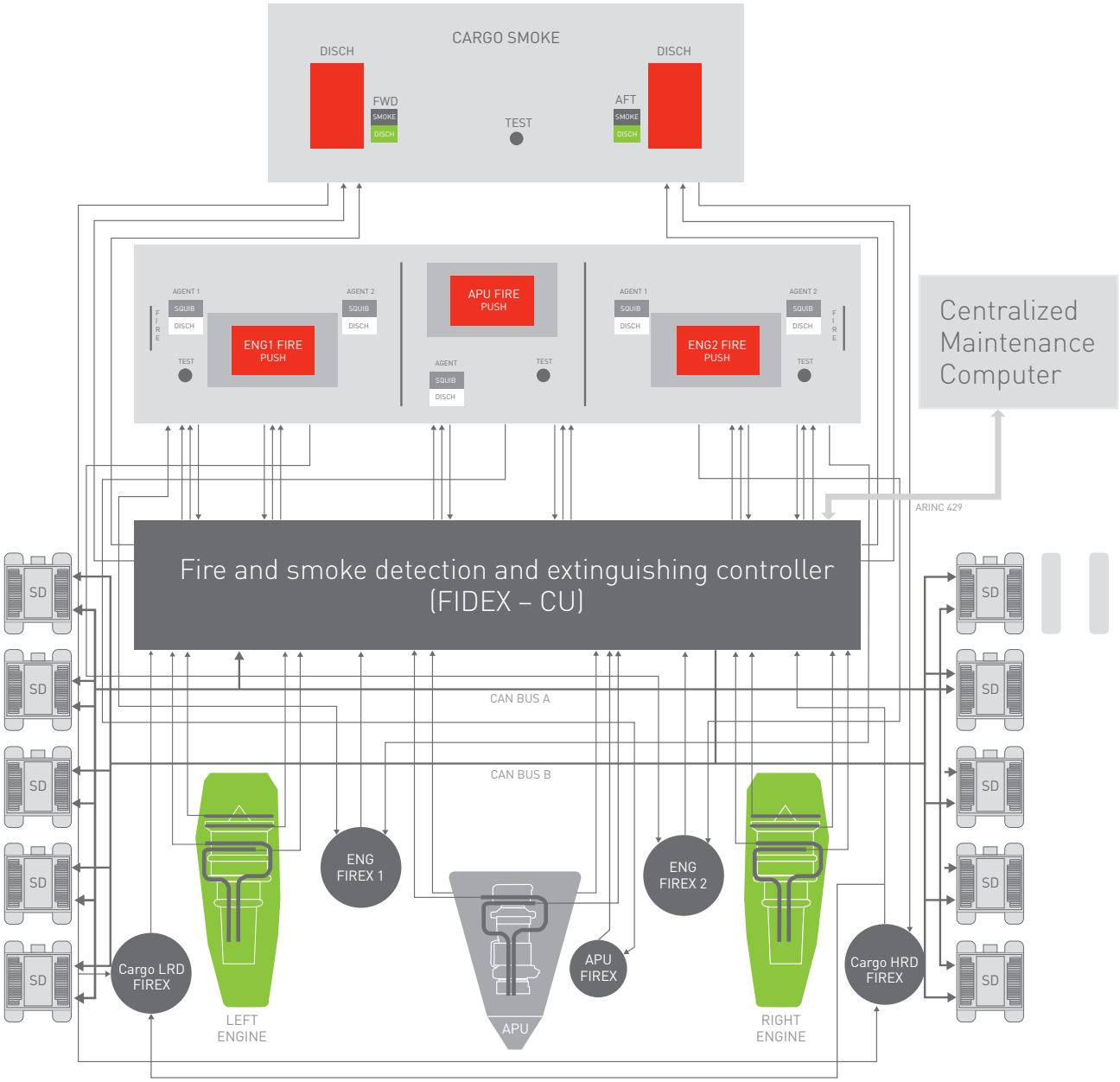
During an aircraft's flight, our controllers and software receive multiple signals from fire, smoke and overheat detectors and fire extinguishers located throughout the aircraft. They continuously monitor system health, rapidly alerting crew on detection of smoke or fire. Just as important, the system logs minor faults with pinpoint accuracy so they can be repaired quickly after landing.

Software excellence

- Designs can be scaled to fit individual applications: 8-bit, 16-bit and 32-bit microcontroller platforms with customized operating systems
- Reduced maintenance time: controller is on-board data loadable via an ARINC 615 or similar; no need to return to factory
- Reduced recurring and maintenance cost on Integrated Modular Avionics (IMA) platforms: our software can be developed and co-hosted on a single LRU. We use Application Program Interfaces (APIs) of the ARINC 653 Operating System to communicate with system interfaces

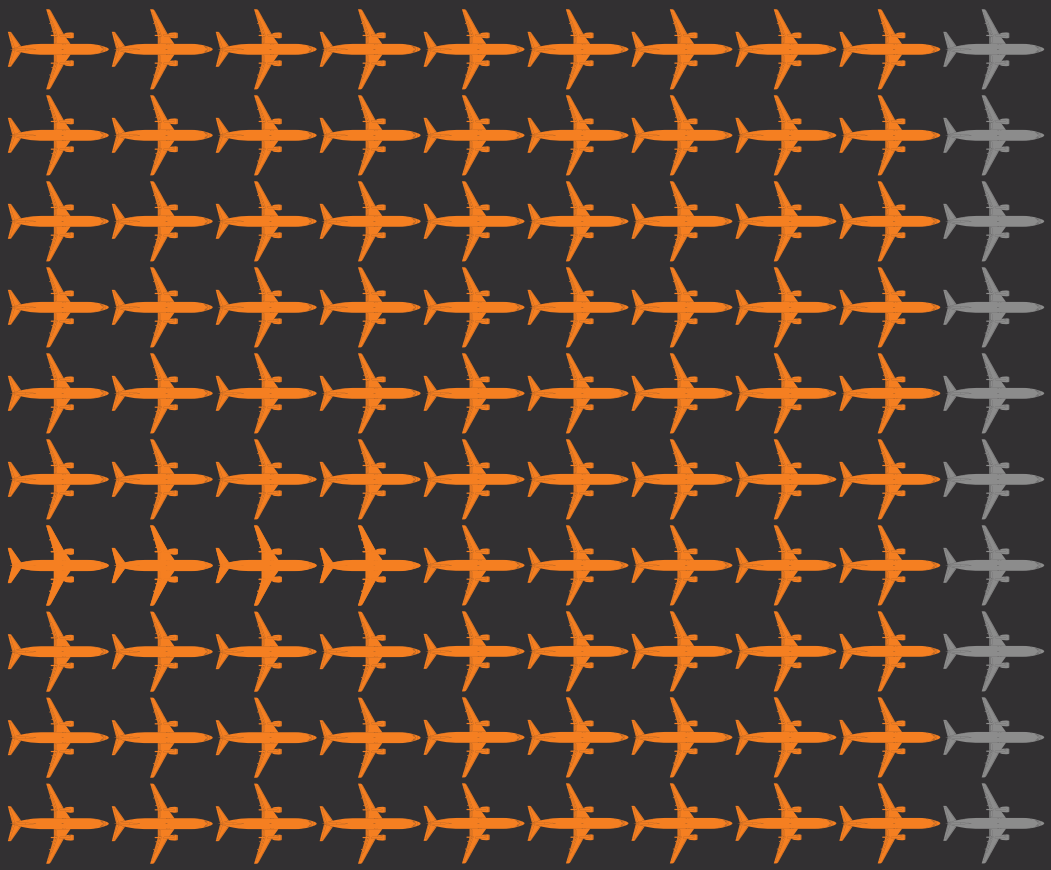
Hardware excellence

- Faster, more accurate development times: DOORS expertise streamlines change management and improves overall quality
- Quality proven: RTCA DO 254 compliant on all hardware, not just where required
- Ultra-reliable: we routinely exceed electrical design specifications set by industry leaders (temperature, vibration, EMI, etc)



Using robust hardware and state-of-the-art software, we have optimized systems for Airbus, Boeing, Bombardier, Embraer and other leading manufacturers.

90%



of western commercial aircraft are equipped with Meggitt's pneumatic fire and overheat detectors

Pneumatic fire and overheat detectors

Highly reliable, totally forgettable

Meggitt produces the most widely used pneumatic fire detector in the world.

It is designed specifically for environments experiencing extreme temperature and vibration such as the engines, main landing gear and auxiliary power units (APUs). Thanks to our pioneering design, our pneumatic detectors are highly immune to false alarms and require no scheduled maintenance.

When you consider the enormous costs of emergency landings, extra airport fees, late delivery penalties and dumped fuel incurred when a large commercial jet turns back on a false fire alarm, it's no surprise that the majority of western commercial aircraft opt for the most reliable pneumatic system on the market.

Pneumatic fire and overheat detectors

Highlights

- Market-defining reliability: instantaneous failure detection; detector exceeds MTBF of 500,000 hours
- Virtual elimination of costly false alarms due to hot spots or sensor damage: never missed a true fire warning in over 500 million operating hours on commercial jet transports
- Extra reliability: withstands extremes of temperatures and vibration found on today's highly fuel efficient aircraft
- Fully scalable: tried and tested on platforms of all sizes from small personal aircraft to the largest passenger jets: first choice for new and retrofit programs

How it works

The pneumatic detector has two sensing functions. When a rise in average temperature across the whole overheat sensor raises the pressure of the helium gas contained within the detector, an alarm is triggered. This design eliminates the risk of false alarm from individual hotspots.

The detector also uses hydrogen to trigger an alarm when pressure increases due to highly localized heat caused by flame or hot gases.

Protection against internal faults is provided by an additional switch, held closed by the helium gas pressure. In the case of a leak, loss of gas pressure causes the integrity switch to open and signal a failure.

Engineering excellence

- Gas-operated dual switching design in the responding section of the detector
- Integrity switch detects failure instantaneously
- TSO-C11e and MIL-F-7872 certified

Platforms

Airbus A320, A320 NEO, A330, A340, A350, A380, A400M; Boeing 737NG, 767; Embraer 170, 190

With instantaneous fault detection and an MTBF of 500,000 hours, Meggitt fire and overheat protection is highly reliable.

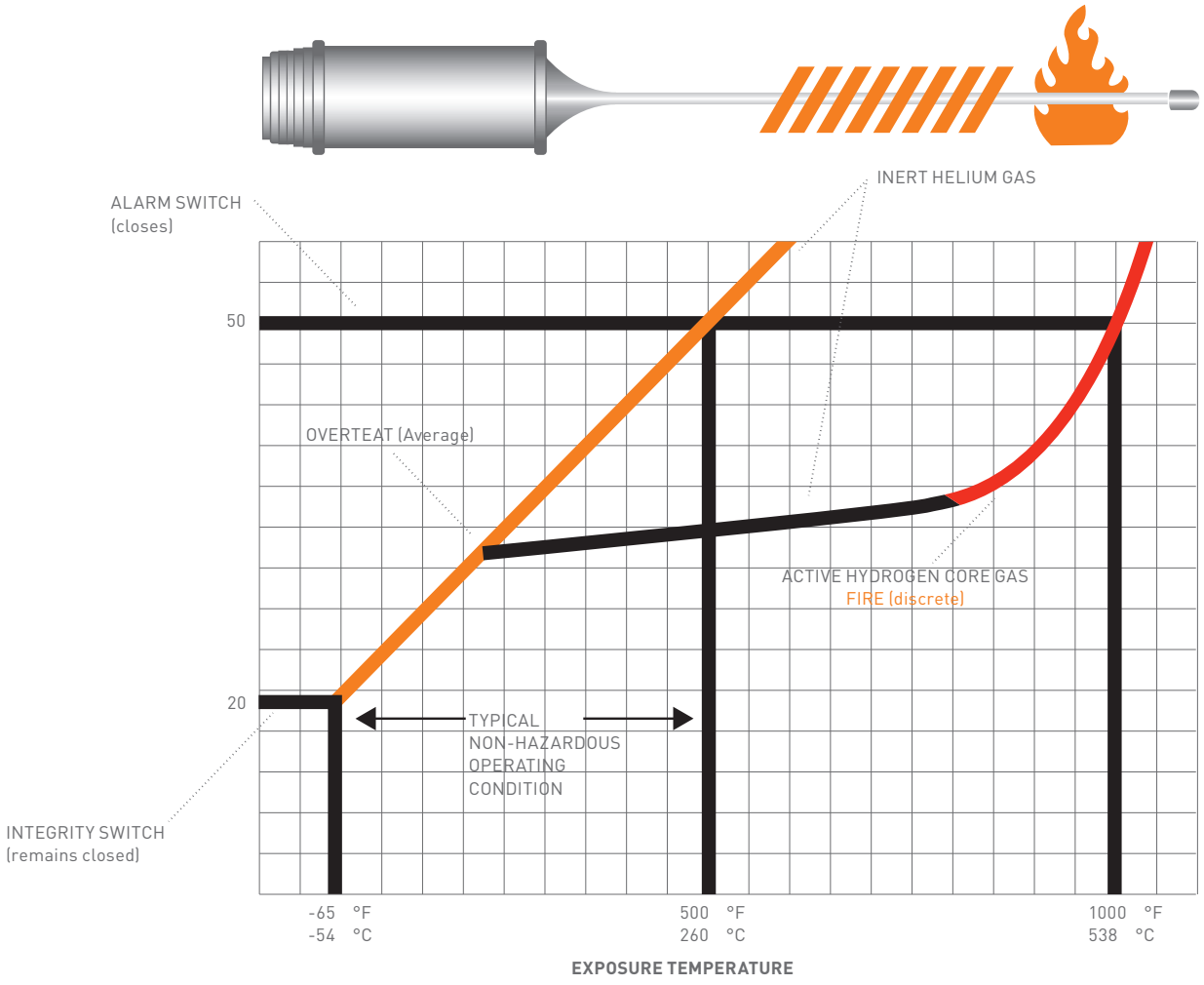


Chart shows typical curve, alarm temperatures factory calibrated for specific application

Thermistor fire and overheat detectors

Invented here, continuously improved

Meggitt has a rich history in cutting-edge thermistor technology. These rugged fit-and-forget components are now used on a very wide variety of aircraft, giving us an extraordinary level of experience.

Our lightweight thermistors continually monitor temperature to guard against fire and overheat danger. When fed into an Integrated Vehicle Health Management (IVHM) system, the data gathered can increase fuel savings and lower maintenance costs.

We continually refine the design of components and the controller and work with manufacturers from the earliest stages to optimize installation design, reducing the potential for application-specific faults to a minimum.

Highlights

- Reliable in the extreme: experience gained from installation on multiple platforms in the last 50 years has created a robust and virtually fault-free system
- Operating costs reduced: lightweight system can continuously monitor engines, increasing fuel savings and lowering maintenance costs
- Installation faults reduced to a minimum: close customer cooperation from the start minimizes faults on specific applications

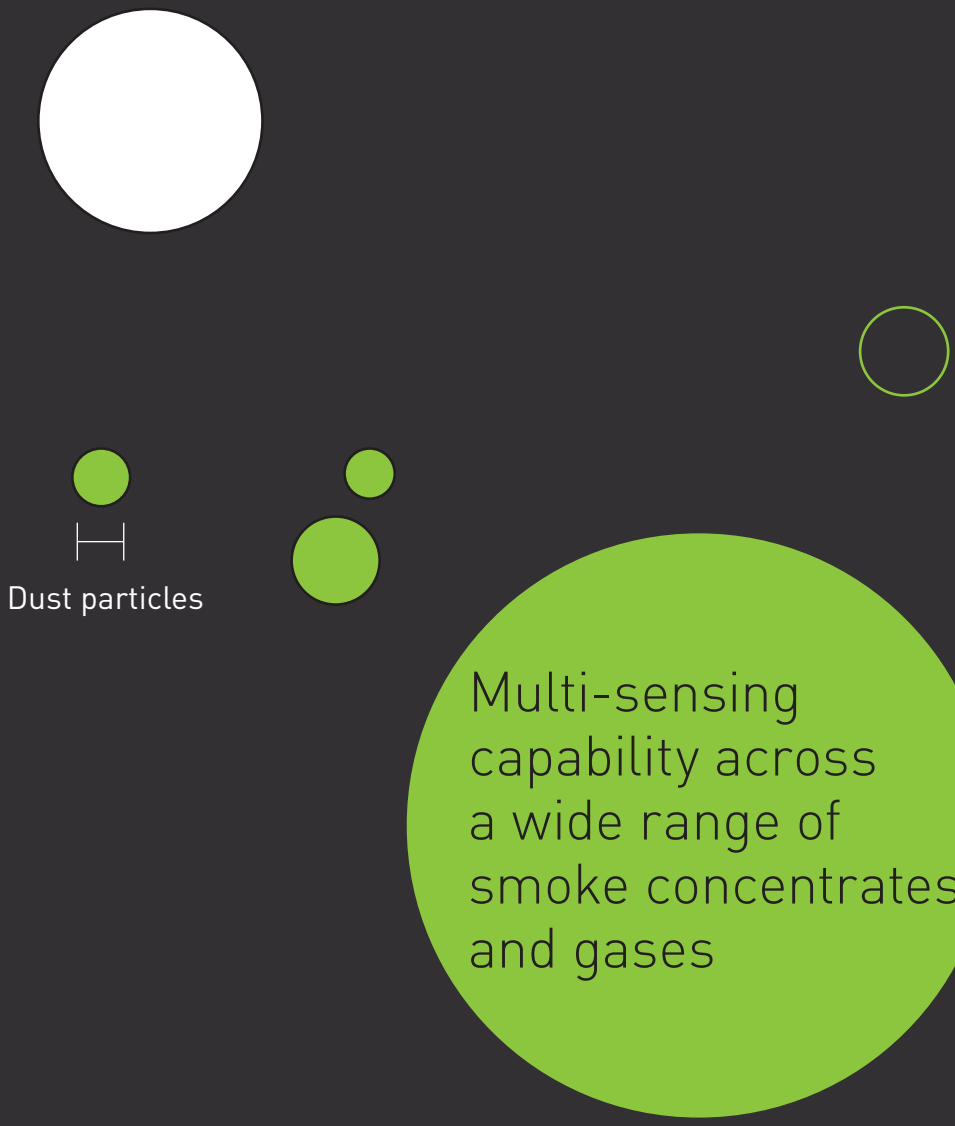
How it works

As the ambient temperature in a given zone increases, the cable resistance decreases. When it drops to a pre-determined value, the control unit activates a cockpit alarm within five seconds of a fire condition.

Engineering excellence

- Double jacket of Inconel and stainless steel increases flexibility and fatigue reliability
- Any configuration can be installed down to a half-inch (13mm) bend radius
- Withstands repeated flame exposure and mechanical stress
- Single or dual loop installations up to 25 feet long: even cables with different alarm characteristics can be joined to form a loop circuit with a single control unit
- Extensively damage-tested

A 50-year history in cutting-edge fire and overheat detection


Dust particles
Multi-sensing capability across a wide range of smoke concentrates and gases
Pollen
Smoke

Optical smoke detectors

The best is getting better

Our dedicated R&D team has made significant advances on our longstanding designs, creating the most accurate smoke detector on the market.

New optical discrimination techniques and next-generation digital signal processing determines signatures in smoke and non-smoke particles more accurately than competitor products as recent program wins such as the KC-46 show.

To improve detection and reduce false alarms further, we are now researching high-speed, low-power gas detectors focusing on particulates.

Highlights

- Fewer false alarms than competitor products
- Increased reliability, reduced system weight: dynamic determination of alarm conditions allows for optimized system configurations and lower part counts so fewer sensors required
- Reduced program risk: only system to provide real-time data for pre-testing and testing on mock-ups
- Cost-effective electronics assembly and automated microprocessor calibration

How it works

Our optical detectors constantly analyze air in cargo compartments and avionics bays, discriminating between smoke and nuisance particles.

Detector threshold and overall system sensitivity can be adjusted to account for varying conditions during different aircraft operations, such as potentially higher levels of dust when on the ground or when cargo doors are open.

With unprecedented reliability and accuracy, the system gathers real-time intelligent data, and can optimize testing and improve installation design. When a true signal is detected, the system alerts the crew.

Engineering excellence

- Multi-sensing capability across a wide range of smoke concentration levels
- Unique chamber-less design
- Tier One system supplier for major OEMs
- Installed on SpaceX's Dragon, the world's first commercial spacecraft

Fire suppression systems

World-beating components, intelligently optimized

Meggitt offers a complete fire protection system using the best components in the world.

Our knowledge and experience is gained from 40 years of installing suppression systems on virtually every aircraft flying.

As a result, we are able to keep weight and size to a minimum, reducing the initial cost to OEMs and the operational cost to airlines.

Unique flow-metering capability

With aircraft range increasing over the last decade, we provide airframers with suppression systems they can rely on for longer diversions in the event of a cargo fire.

Our low-rate systems are fitted with a unique flow-metering design enabling, slow and accurate release of the suppression agent. When fire occurs during flight, the system maintains the exact level of extinguishing agent in cargo compartments. Less accurate systems require more agent, increasing overall aircraft weight.

Pioneering environmentally-friendly suppression

As the industry moves away from Halon, we continue to pioneer new solutions. With large investments in our research team and facilities, we are exploring usage and delivery of new and more sustainable suppression agents designed for extremes of temperature and altitude.

Highlights

- Reduced costs: superior components and system engineering reduce weight and space demands, resulting in lower OEM and operational costs
- Enhanced reliability: 40-year track record of in-house design and manufacture; complete suppression systems installed on virtually every aircraft flying
- Ultimate optimization: thanks to extensive certification experience of Halon and green agent systems, we can help you fine-tune performance, weight and envelope

How it works

Our fire protection systems are designed for immediate fire suppression and long-term sustained protection during flight diversions.

The high-rate, multi-shot extinguishing bottles put out fires (engine, APU and cargo) within seconds using directional valves and distribution tubing solutions for total flooding.

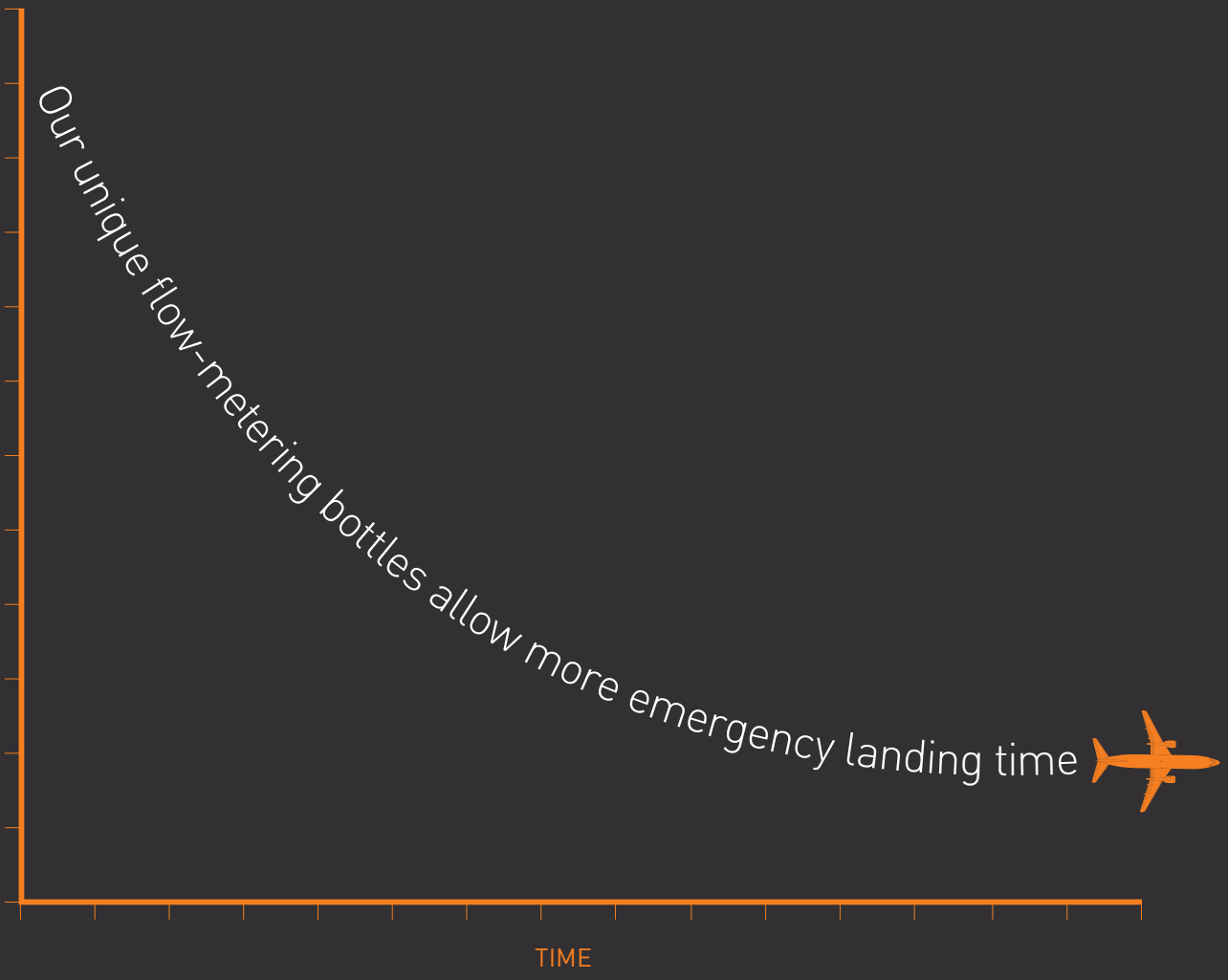
The low-rate bottles use a unique metering design that allows the flow of the suppression agent, whether in gas or liquid state, to be metered across a wide range of temperatures.

Aircraft fire protection reliability and safety is improved by our patented temperature-compensated pressure switch which determines whether the fire extinguisher is fully charged, regardless of ambient temperature.

Bottles can be sized anywhere from 10 to 2,500 in^3 (164 cm^3 – 0.04m^3) and can be made from steel or titanium, depending on weight requirements.

Engineering excellence

- Proprietary design: unique flow metering equipment measures over wider range of temperatures
- Industry-leading certification support
- Pioneering research into usage and delivery of environmentally-friendly suppression agents


Our unique flow-metering bottles allow more emergency landing time
TIME

Improved bleed air leak detection capability

ACCURATE

to 25mm

Bleed air leak detection systems

Fast, robust system cuts maintenance time

Our bleed air leak detection system (BALD) is the most robust on the market. Manufactured using a proprietary process and chemistry, it allows extreme bending, crimping and denting without affecting performance.

Both sensors and controllers incorporate unique designs to improve detection accuracy to within 25mm.

On wing, when the sensor alarms the cockpit, crew can reconfigure a pneumatic bleed air system around the leak, maintaining cabin pressurization and ice protection until landing. On ground, mechanics can pinpoint the location of the duct failure swiftly, reducing maintenance costs.

Highlights

- Reduced maintenance time: improved detection (to 25mm) enables crew to isolate leaks on wing. On ground, mechanics can find faults faster
- Enhanced reliability: unique manufacturing process permits extreme bending, crimping and denting without shorting, reducing the number of costly false alarms

How it works

Fitted with coaxial or lugged connectors, the detector wire is brazed to an Inconel 625 high-temperature, corrosion-resistant sheath. The interior core design is surrounded by an ionic compound that changes state when heated to its alarm point, alerting crew and logging position with pinpoint accuracy for maintenance engineers once the aircraft has landed.

Engineering excellence

- Leaks can be isolated along a specific loop so more of the system remains active in the event of bleed air leakage
- Unique sensor design improves stability over a wide temperature range
- Suitable for composite aircraft: sensitive from 176°F (80°C) to 950°F (510°C)

Emergency passenger assist system (EPAS)

Lightweight design, heavyweight reliability

When opening a passenger door in an emergency, speed and total reliability are paramount. Weight and protection of the aircraft structure is also important.

With 40 years' experience designing high-pressure vessels, valves and actuators, our market-leading EPAS is one of the lightest and most reliable. We constantly search for weight-saving opportunities, and have reduced the size of the gas reservoir needed from 16 inch^3 to 7 inch^3 (262 cm^3 to 115 cm^3) — that's smaller than a tennis ball.

Highlights

- Highly reliable: system MTBF of over 600,000 flight hours
- Reduced weight and cost: system requires smaller stainless steel bottles; maintenance-free gas reservoirs last for 30 years
- Quality assured: a US Department of Transport employee personally checks every single high-pressure bottle before shipping

How it works

Our EPAS uses an innovative bypass valve design, enabling flight attendants to open heavy passenger doors within the eight seconds required by regulators. Our dampers control velocity, slowing as the escape slide drops, allowing passengers to exit safely while preventing collision damage to the aircraft structure. Unlike most competitor products, our valve also controls speed of the door as it closes, protecting against wind gusts.

Our EPAS lets flight attendants open heavy passenger doors in **8 seconds**

60 years' military and civilian

EXPERIENCE

in personnel restraint safety

Restraints

Innovative and ultra-reliable

Drawing on 60 years' specialist experience, we offer some of the safest and strongest restraints in military and civil markets.

Pilots, co-pilots and flight attendants use our restraints across the Airbus and Boeing fleets and numerous business and regional aircraft. Manufacturers and airline operators rely heavily on us for our technical excellence, responsiveness and ability to create tailored solutions.

Our bolt-down and quick-release fittings are used to secure additional soft armor inside military vehicles to protect against improvised explosive devices (IEDs).

Combining great strength and reliability with flexibility for easy installation and removal, Meggitt fittings secure mats in armored vehicles over the turret floor and ammunition boxes, helping to keep the crew safe after powerful explosions.

Highlights

- Optimized for comfort: easily interchangeable buckle assemblies, anchor fittings, reel assemblies and webbing
- TSO-C22g, TSO C114-certified

High-temperature harnesses

Reliable in the extreme

Meggitt's engine harnesses set the industry standard for high performance and reliability.

We use advanced materials, silicon dioxide cables and proprietary processes to ensure signal transmission in the high temperature and extreme vibration environments of today's engines.

Our unique all-welded construction and hermetically-sealed, mineral-insulated dielectric make us more reliable than traditional organic cables—even at 45G RMS at 540°F (282°C), there's no deterioration.

And if fire does strike, Meggitt cables are the only choice for uninterrupted signal transmission, even when subjected to temperatures above 2000°F (1093°C) for three hours.

It's performance like that which makes us the primary engine harness choice for Boeing and Airbus aircraft customers.

Highlights

- More reliable than traditional organic cables: no deterioration at 45G RMS at 540°F (282 °C); operational even after three hours at 2000°F (1093°C)
- Minimal risk of decreased resistance or intermittent faults
- Our high-performance harnesses increase fire detector reliability in extreme. temperature, high vibration engine zones
- Easy installation

Engineering excellence

- Harnesses have been tested to show survival and performance while subjected to temperatures and vibration levels typical in new generation AC engines
- Unique design ensures system stability over a wide temperature range. Design and manufacturing allows for increasing temperature limits for next generation engines

Indestructible

More reliable than
traditional organic cables

From deep space

unparalleled stability

to deep sea

Radio frequency harnesses

Unparalleled stability from deep space to deep sea

Designed and qualified for mission-critical applications, our high-performance radio frequency and microwave high-temperature cabling systems offer unparalleled phase and attenuation stability over a wide temperature range, providing high system accuracy and reliability.

From aircraft and missiles to spacecraft, ships and submarines, they can be found on almost every extreme environment platform.

Uniquely engineered and hermetically-sealed, our welded construction and mineral-insulated dielectric have made us the primary cable of choice for uninterrupted signal transmission.

Weighing up to 85 percent less than normal cables, ours provide up to 100 to 500 pounds of tensile strength and last roughly 40 years.

Highlights

- Low weight, super strength, long life
- Highly adaptable: manufacturing process allows more flexibility compared to typical semi-rigid cable: hand-formed bend radius down to three times cable diameter, tighter when assembled in factory
- More reliable than traditional organic cables: no deterioration even in extreme environments: hardly ever need replacing
- Proven high performance:
  - Meggitt RF and microwave cables used on every GPS satellite
  - reliably transmit communication and radar signals for military aircraft such as F-22, F-15, U2 and B2
  - critical safety margins for complex systems such as Terminal High Altitude Area Defense (THAAD) and Trident missiles
- Many cable and connector configurations
- Strong service record: field service teams

Engineering excellence

- Our cables are used in deep space applications and will fly by Pluto in 2015 aboard the New Horizons spacecraft
- Silicon dioxide insulation provides unparalleled phase and attenuation stability over a wide temperature range, providing high system accuracy and reliability in all critical situations
- Low capacitance for pulse circuitry, high insulation, reduced gamma radiation sensitivity, and low noise for low-level signal transmission
- MTBF in excess of one million hours

Safety in energy

Safety is paramount in the extreme environments of today's power plants but it can never be guaranteed.An interdisciplinary team at the Massachussets Institute of Technology forecast that at least four serious nuclear power accidents will occur between 2005 and 2055, given current growth in the sector.

We are working hard to minimize that risk. Thanks to the world-class R&D that makes us a leader in monitoring and control technologies in the energy sector, our cables and hydrogen oxygen analyzer systems deliver the highest levels of performance during normal and abnormal conditions.

R D

Cable and connector systems for nuclear applications

Continuous power and control, even in emergencies

Our silicon dioxide instrumentation cabling and connector assemblies are designed for nuclear power stations – an environment where reliability and survivability cannot be compromised.

Thanks to our all-welded construction and hermetic sealing, Meggitt fireproof cabling provides continuous power and control signals during normal operations and maintains reliable signal channels during abnormal conditions or accidents.

Our guarantee of three hours performance at extreme temperatures creates a critical safety margin which could make the difference between an orderly shutdown and a major catastrophe.

Highlights

- More reliable than traditional organic cables: no deterioration when exposed to extreme radiation environments. Hardly ever need replacing
- Proven safety, reliability: long track record of service in domestic and international nuclear power plants; fully compliant with nuclear regulations
- Low maintenance cost
- Excellent field support

Engineering excellence

- All-welded construction eliminates need for costly attachment of cable and connector in the field, reducing radiation exposure substantially
- Nuclear cables have been custom-designed for unique applications such as pressurized and boiling water reactor systems

Continuous signal transmission
for three hours at 2000°F

Accurately analyzing the containment atmosphere in accident conditions

NU [CLEAR]

Gas analyzer systems for nuclear applications

Easy to use, rapid results, long life

Our post-accident and process monitoring analyzers are designed expressly for the extreme environments found in nuclear power plants.

To enable operators to generate nuclear power more safely, we have developed a highly accurate method for analyzing the containment atmosphere in accident conditions. Based on our electrochemical sensing technology, our H_2/O_2 Containment Atmosphere Monitoring System (CAMS) provides a robust, user-friendly, and cost-effective solution which continues to gain market share.

All our gas analyzers satisfy stringent Nuclear Regulatory Commission requirements for monitoring containment hydrogen and oxygen concentration.

Highlights

- Ease of use:
  - No reagent or nitrogen zero gas flows required
  - Operates at process sample pressure, no pressure control or regulation required
  - Operates independently of sample flow rate, no flow control required
  - Only two manual adjustments needed
  - No custom circuitry: all signal conditioning modules are standard designs used worldwide
- More accurate: calibration is accomplished while under full sample flow conditions
- Longer lasting: not damaged by condensate.
- Rapid results: automatic primary calibration sequence and low/high span gas can be accomplished in less than 15 minutes

How it works

Our electro-chemical partial pressure sensors can withstand constantly changing extremes of temperature, humidity and vibration. They are uniquely suited to nuclear environments thanks to our proprietary processes for radiation signal management. When the sensors are combined with a total pressure signal, the volume percent concentration of hydrogen and oxygen is determined.

Engineering excellence

- Industry-leading reliability: tested and qualified for numerous applications including pressurized water reactors (PWR), boiling water reactors (BWR)
- More cost-effective: maintenance-sensitive electro-magnetic interference (EMI) makes the analyzers the least costly to operate

Maintenance, repair and overhaul

Working closely with Meggitt Aftermarket Services, we offer a world-class service to airline and MRO customers.

We believe the aftermarket is something we earn, not inherit. That's why we don't just service the products we manufacture. You asked us to service many of our competitors' products—now we do.

Global reach, exemplary service

We've extended our reach and use the same management and production processes to look after customers in 92 countries every day.

We work hard to source OEM spares at the best prices and we do everything we can to make special logistics arrangements and train your technicians to get the best from our products.

Whether you're one of the world's premier carriers, an owner-operator, a distributor or a parts broker, you get what you need because we live by your performance scorecards, not ours.

Capabilities – Meggitt and beyond

We repair and service these Meggitt and third-party products:

Actuation
- flight lock actuators
- actuator spare parts

Fire detection
- control modules
- smoke detection
- fire detection
- fire detection spare parts
- thermistors

Fire suppression
- fire bottles
- fire bottle spare parts
- cartridges

Safety
- crew seat restraints
- emergency passenger assist system (EPAS), pneumatics

Oxygen
- breathing oxygen bottles
- crew oxygen masks and stowage boxes
- oxygen system regulators and valves

We service customers in 92 countries every day

MEGGITT AFTERMARKET SERVICES REPAIR STATIONS

1 SIMI VALLEY, CALIFORNIA, USA
FAA station WL3R949L, FAA, EASA and DOT-approved

Capabilities: fire detection (Meggitt), smoke detector (Meggitt), actuators (Meggitt/Eaton), thermistors (Meggitt), Firex (Meggitt/Kidde), oxygen bottles and regulators (Zodiac, B/E, Carleton)
Stocking location: Firex (spare parts and end units), cartridges, restraint systems, fire and smoke detection, actuators

2 LOUISVILLE, KENTUCKY, USA
FAA station P942580N, FAA and DOT-approved

Capabilities: Firex (Meggitt/Kidde), oxygen bottles (Zodiac, B/E, Carleton), oxygen masks (Zodiac, B/E)

3 MIAMI, FLORIDA, USA
FAA station P94R580N, FAA, EASA and DOT-approved

Capabilities: Firex(Meggitt/Kidde), pilot masks (B/E, Zodiac), oxygen bottles and regulators (B/E, Zodiac, Carleton), crew restraints (Meggitt), rudder travel limitation units/control modules/pilot seat actuators (Artus), pneumatic bottles (Meggitt), military reels (Meggitt), cable tension regulators (Meggitt), metering valves (Meggitt), diverter valves (Meggitt)

Stocking location: Firex (spare parts and end units), cartridges, restraint systems, stators/rotors (OECO), fire and smoke detection, actuators

4 MAIDENHEAD, UK
EASA approval UK 145.01277, FAA station TPQY949L, DOT approval

Capabilities: Firex (Meggitt/Kidde), oxygen bottles (B/E, Zodiac, Carleton), crew restraints (Meggitt), pilot masks (B/E, Zodiac)

Stocking location: Firex (spare parts and end units), cartridges, restraint systems, stators/rotors (OECO), fire and smoke detection, actuators

5 KASSEL, GERMANY
EASA approval, UK 145.01277 and DOT approval

Capabilities: Firex (Meggitt/Kidde), oxygen bottles (Zodiac, B/E, Carleton), crew restraints (Meggitt)

6 SINGAPORE
FAA station VYD763K EASA and DOT approval

Capabilities: Firex, EPAS (Meggitt)

Stocking location: Fire and smoke detection, actuators, Firex (spare parts and LRUs), cartridges, restraint systems

MEGGITT AFTERMARKET SERVICES FIRE EXTINGUISHER APPROVED SERVICE CENTERS

Australia	John Cameron Aviation, Sydney
Brazil	TAM Taxi, São Paulo
Canada	CASP Aerospace, Montreal
China	Hangda, Wuhan
Japan	Japan Aero Pressure Co, Saitama
Russia	SPM Service, Moscow

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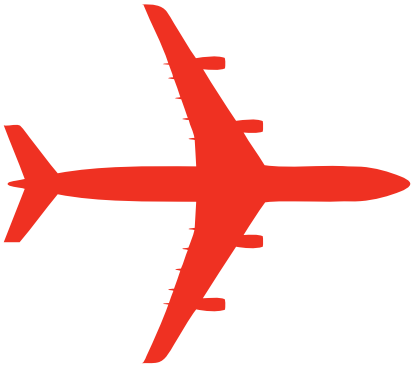
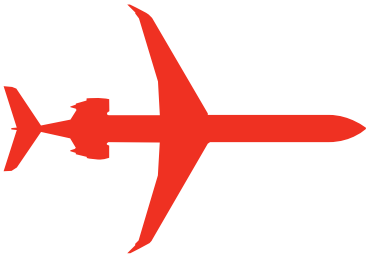
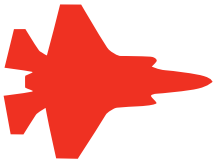


Regional
Embraer 145, 170, 190
Mitsubishi Regional Jet

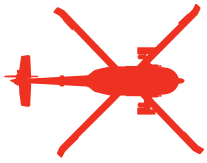


Business
Bombardier Global Express 7000, 8000
Cessna, Embraer, Gulfstream,
Hondajet, Learjet 85

Military
Airbus A400M, Boeing F/A 18, KC-46,
Lockheed Martin C5M, F-16, F-22, F35



Rotorcraft
AgustaWestland AW169, Boeing AH-64,
CH-47, Eurocopter EC120, EC135, EC145,
Sikorsky CH-53K



Safe in the extreme

Meggitt's safety systems capability is managed by Meggitt Control Systems, a Meggitt division specializing in integrated aero-engine and airframe systems.

www.meggittsafety.com

Meggitt group at a glance

The Meggitt group's antecedents can be traced back to the mid-19th century, with innovations such as early aviation instruments for hot air balloons including the world's first altimeter. Today, it is known for designing and manufacturing high performance components and sub-systems for aerospace and defense markets and applies its core sensing and control technologies to hydro, steam and gas turbomachinery generators, oil and gas applications and the medical, mainstream industrial, test engineering and transportation sectors. The group employs nearly 11,000 people across 62 operating facilities.

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Five integrated divisions

Meggitt Aircraft Braking Systems is the number one producer of wheels, brakes and brake control systems for business jets and military and regional aircraft, with leading positions on commercial transports. Its products are on an active fleet of over 30,000 aircraft. Its capabilities include helicopter rotor brakes, and brake temperature and tire pressure monitoring.

Meggitt Control Systems is a leading supplier of aerospace valves, heat exchangers, environmental control systems, aircraft fire protection and control, safety systems for aerospace and energy applications, high performance electro-mechanical fans, motors, compressors, controllers and specialist pumps and industrial fuel and bleed air control valves and ground fueling products.

Meggitt Polymers & Composites designs and develops aircraft seals, flexible fuel tanks, systems and coatings, complex composite structures, smart ice protection systems and sub-assemblies and interior panels and accessories.

Meggitt Sensing Systems excels in high performance sensing and monitoring systems for applications in aerospace, energy, industrial and laboratory test and manages the group's power management and aircraft safety and security capability.

Meggitt Equipment Group was created to enable a set of strong, yet technologically-distinct businesses to market their offerings to specialist customers and yet benefit from the wider Meggitt group's investment in shared services and common processes. Its capabilities include avionics, unique heat transfer equipment for hydrocarbon processing, linear motion control, combat support (ammunition-handling, military electronics cooling and countermeasure launch and recovery) and training systems (aerial, marine and ground-based live and virtual fire).

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