




FLUKE®

## Making sense of the product rating systems

Each approved intrinsically safe device is rated to ATEX and either NEC or Factory Mutual (FM) Standards. The corresponding rating system allows you to understand which zones, type of protection, gas groups and temperature classes the instrument is approved for.

### ATEX Example



Fluke 707Ex is  ATEX Compliant II 2 G EEx ia IIC T4

 The ATEX examination mark is required on all devices for use in European hazardous areas.

### ATEX Markings

- II 2 G** The classification of zones. "II" designates the tool is approved for all non-mining areas. "2" represents the category of the device, in this case the device is rated for the second most hazardous areas. "G" designates atmosphere, in this case gas, vapors and mist.
- EEx** Explosion protection based on European Ex-regulations.
- ia** The type of protection from explosion, in this case the energy in a device or connector has been reduced to a safe value.
- IIC** Gas Group. "IIC" rating indicates compatibility with the most dangerous gas groups.
- T4** Temperature class is the maximum temperature of a surface that may be.

### FM Example

 **Fluke 707Ex is APPROVED**  **FM-classified N.I. Class I, Div 2, Groups A-T4**  
The Factory Mutual Approved mark.

### Factory Mutual Markings

- N.I.** Non-incendive apparatus, internal energy is limited so a specified atmosphere cannot be ignited by its use.
- Class I** For use with gases, vapors and liquids (not dust, fibers or filings).
- Div 2** Certified for use in Zone 2, explosive atmospheres not normally present, may rarely exist for short duration.
- Groups A-D** Rated for use with explosive gasses as defined by groups A-D, including acetylene, hydrogen, acetylene and propane.

**Fluke. Keeping your world up and running.**

### Fluke Corporation

PO Box 9090, Everett, WA USA 98206

Fluke Europe B.V.  
PO Box 1186, 5602 BD  
Eindhoven, The Netherlands

For more information call:  
In the USA (800) 443-5853 or  
Fax (425) 446-5116  
In Europe/M-East/Africa (31 40) 2 675 200 or  
Fax (31 40) 2 675 222  
In Canada (800) 36-FLUKE or  
Fax (905) 890-6866  
From other countries +1 (425) 446-5500 or  
Fax +1 (425) 446-5116  
Web access: <http://www.fluke.com>

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## Take this quiz and find out if you need I.S. tools on your job.

- 1) Do you work in any of these industries?
  - a. Petro-chemical
  - b. Oil platforms and refineries
  - c. Mining
  - d. Pharmaceutical
  - e. Pipelines (Natural gas, oil, etc.)
  - f. Power generation
  - g. Grain handling
- 2) Do you work where explosive gases may be present?
  - a. Yes
  - b. No
- 3) Do you work in the transport or work in an environment with any of these substances?
  - a. Acetylene
  - b. Ethylene
  - c. Gasoline
  - d. Benzol
  - e. Natural gas
  - f. Heating oil/diesel
  - g. Methane
  - h. Propane
  - i. Carbon disulphide
  - j. Hydrogen

**If you answered yes to any of these questions, please review the products in this brochure and the specific zones, types of protection, gas groups and temperature classes each instrument is approved for.**

FLUKE®

## Fluke tools designed to keep you safe in dangerous environments



You need to meet tough maintenance and calibration tasks in potentially explosive and hazardous areas. That means you need reliable, accurate and intrinsically safe tools.

The complete line of Fluke tools includes the **NEW 87V Ex True-RMS Multimeter** and the **NEW Fluke 68IS Infrared Thermometer** to complement the line of Fluke intrinsically safe field calibrators.

Read on to find out more about why intrinsic safety is important, how Fluke Intrinsically Safe tools can be used in your work and whether you need intrinsically safe tools in your job.



Fluke 707Ex Loop Calibrator



Fluke 718Ex Pressure Calibrator



Fluke 700PEX Pressure Modules



Fluke 725Ex Multifunction Process Calibrator



Fluke 87Ex True-RMS Industrial Multimeter



Fluke 68IS Infrared Thermometer

# Fluke Intrinsically Safe products to help keep your employees safe

“Intrinsically Safe” or I.S. is a protection method employed in potentially explosive atmospheres. Certified I.S. tools are designed to prevent the release of sufficient energy to cause ignition of flammable material. I.S. standards apply to all equipment that can create one or more of a range of defined potential explosion sources:

- Electrical sparks
- Electrical arcs
- Flames
- Hot surfaces
- Static electricity
- Electromagnetic radiation
- Chemical reactions
- Mechanical impact
- Mechanical friction
- Compression ignition
- Acoustic energy
- Ionizing radiation

Industries that use or should use I.S. tools include:

- Petro-chemical
- Oil platforms and refineries
- Pharmaceutical
- Pipelines
- Any environment where explosive gases or vapors could be present

## Fluke 725Ex Multifunction Process Calibrator

Best suited for:



- Calibrating virtually any process parameter
- Features:
- Class I Div 1 Groups B-D 171 °C
  - ATEX II 1G EEx ia IIB 171 °C Compliant
  - Measure, source or simulate volts dc, mA, RTDs, thermocouples, frequency and ohms
  - 2-channel simultaneous source and measure capability for calibration of transmitters
  - Internal loop supply to power transmitters
  - Store frequently-used test setups for later use
  - Pressure measurement to 200 bar and pressure switch test using any of the 8 Fluke 700PEX pressure modules



## Fluke 700PEX Pressure Modules

Best suited for:



- Use with the Fluke 725Ex Multifunction Process Calibrator and Fluke 718Ex Pressure Calibrator to cover the most commonly used pressure calibration ranges from 0-25 mbar and 0-200 bar

Features:

- I.S. Class I Div 1 Groups A-D T4, Ta = 0 °C to +50 °C
- ATEX II 1G EEx ia IIC T4 compliant
- Very high accuracy up to 0.025 %



## Fluke 68 Intrinsically Safe Infrared Thermometer

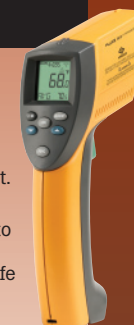
Best suited for:



- Taking spot, differential or scanning temperature measurements in any environment where flammable gases or vapors may be present.

Features:

- Enhanced optics (distance to spot ratio up to 50:1) allow the user to measure smaller objects from farther away
- Factory Mutual (a U.S. organization) approved as an Intrinsically Safe device (Class I, Division 1) (Customers outside of the United States should check with their national and company regulations to see if which approvals are acceptable for their application.)
- Comfortable pistol grip make target pointing and easy job
- Backlit display for poorly lit areas
- Displays Min/Max measurements and saves readings in memory
- Adjustable emissivity setting for more accurate measurements
- Log up to 12 measurements
- RTD contact probe



Best suited for:



- Pressure measurements and calibration in pressure ranges up to 200 bar

Features:

- Class I Div 1 Groups A-D T4 Compliant
- ATEX II 1G EEx ia IIC T4 compliant
- Built-in pressure/vacuum hand pump, with vernier and bleed valve
- Pressure measurement to 200 bar using any of the 8 Fluke 700PEX Pressure Modules
- Pressure measurement to 0.05 % of full span using internal pressure sensor
- Pressure switch test function



## Fluke 707Ex Loop Calibrator

Best suited for:



- Calibration and maintenance of 4 to 20 mA control loop

Features:

- F.M. Class I Div 2 Groups A-D T4
- ATEX II 2G EEx ia IIC T4 compliant
- Large display and simple, quick-click push/rotary button for easy one-handed operation
- Simultaneous mA and % readout for quick, easy interpretation of readings
- mA accuracy of 0.015 %, superior to other loop calibrators
- Pushbutton with 25 % steps for fast, easy linearity checks
- 0 and 100 % ‘span check’ for fast confirmation of zero and span



## Fluke 87VEx Industrial

Best suited for:



- Solving problems on motor drives, in plant automation, power distribution and electro-mechanical equipment

Features:

- Measure accurate voltage and frequency measurements on adjustable speed motor drives and other electrically noisy equipment
- Built-in thermometer allows you to take temperature readings
- Optional magnetic hanger for easy set-up and viewing while freeing your hands for other tasks
- Large digit display with bright, two-level backlight



### Legend

- Motor Control Center
- ▲ Process Measurements
- Flow Computer
- ◆ Process Controller
- ★ Tank Farm
- ✱ Pumping Station