

TECHNICAL DATA

# Fluke 28II Ex Intrinsically Safe True-rms Digital Multimeter



## INTRINSICALLY SAFE

The 28II Ex multimeter's certification allows you to carry the most trusted name in DMM's into many Ex rated areas.

## INTRINSICALLY RUGGED

Tested for drops of up to 3 meters (10 feet), waterproof and dustproof, this completely sealed and extremely rugged DMM survives the roughest treatment in the harshest environments.

## INTRINSICALLY RELIABLE

Like all Fluke DMMs, the 28II Ex delivers the accuracy and measurement performance you depend upon to succeed in your work, day after day.

## A rugged intrinsically safe digital multimeter engineered to stand up to harsh conditions

Whether you work in petroleum, chemical, or pharmaceutical environments, all the test and troubleshooting power you need is packed into the most rugged intrinsically safe (IS) DMM Fluke has ever built. The 28II Ex intrinsically safe digital multimeter is ideal for use in Class 1, Div. 1 - Zone 1 and 2 (gas) areas and is also waterproof, dust-proof (IP67) and drop-proof. You'll be equipped to handle any situation, inside and outside of hazardous zones, without compromising compliance or measurement performance.

## Intrinsic safety and regulatory approvals

The 28II Ex carries Ex certifications from the world's leading certification bodies.

### USA

Class I Zone 1 AEx ia IIC T4

### USA and Canada

Class I, Division 1, Groups ABCD T4

### Europe, China, Australia, Brazil

See "Safety Certifications" on back page

## 28II safety compliance

IEC 61010-1: Pollution Degree 2

IEC 61010-2-033: Measurement CAT III 1000 V / CAT IV 600V

## Extreme ruggedness

The Fluke 28II Ex is one of the most rugged intrinsically safe digital multimeters available.

- A completely sealed, IP67 rated case
- Withstands drops up to 3 meters or 10 feet (with holster)
- Waterproof
- Dustproof
- Reversible holster for added protection of the display when not in use



- Measures up to 1000 V and 10 A ac and dc (note that Ex zones require reduced measurements)
- Low pass filter ensures accurate voltage and frequency measurements on variable speed motor drives (VSDs)
- Frequency to 200 kHz and % duty cycle to help you diagnose VSDs and switching power supplies
- Resistance, continuity and diode test
- 10,000  $\mu$ F capacitance range for components and motor caps
- Conductance measurements for high resistance or leakage tests
- Min/Max/Avg and Peak capture to record transients and variations automatically
- Relative mode to remove test lead interference on resistance measurements
- Auto and manual ranging for maximum flexibility
- Input Alert protects you by chirping and flashing “Lead” when leads are plugged into the wrong inputs

### Easy to use

Important extras keep you productive in suboptimal conditions.

- Backlit keypad buttons provide extra visibility in poorly lit areas, even when you’re wearing full PPE
- Large display digits and 2-level bright white backlight also increases visibility
- Long battery life—400 hours typical without backlight (Alkaline)
- Optional magnetic hanger can be used outside of Ex hazardous zones for easy setup and viewing while freeing your hands for other tasks

### Easy to service in the field\*

Access to the separate battery compartment makes it easy to change batteries or fuses without jeopardizing instrument calibration.

### All the measurement functions of Fluke’s most popular industrial DMMs.

One tool equips you with all the testing and troubleshooting power you need wherever you go—inside or outside the Ex hazardous zones listed above. No need to carry different meters for different areas or worry about crossing through an Ex-required zone with a non-Ex rated instrument.

- 4-1/2 digit high-resolution mode for precise measurements (20,000 counts)
- True-rms ac voltage and current for accurate measurement on nonlinear signals

\*Note: Batteries cannot be changed inside Ex hazardous zones.

## Basic Accuracy Specifications

Function	Range/Accuracy
DC voltage	Range: 0.1 mV to 1000 V Accuracy: $\pm (0.05 \% + 1)$
AC voltage	Range: 0.1 mV to 1000 V Accuracy: $\pm (0.7 \% + 4)$
DC current	Range: 0.1 $\mu$ A to 10 A Accuracy: $\pm (0.2 \% + 4)$
AC current	Range: 0.1 $\mu$ A to 10 A Accuracy: $\pm (1.0 \% + 2)$
Resistance	Range: 0.1 $\Omega$ to 50 M $\Omega$ Accuracy: $\pm (0.2 \% + 1)$
Conductance	Range: 60.00 nS Accuracy: $\pm (1.0 \% + 10)$
Diode Test	Range: 2.0 V Accuracy: $\pm (2.0 \% + 1)$
Duty Cycle	Range: 0.0 % to 99.9 % Accuracy: Within $\pm (0.2 \% \text{ per kHz} + 0.1 \%)$ for rise times $< 1 \mu$ s
Display counts	6000 counts/19,999 counts in high-resolution mode
Capacitance	Range: 10 nF to 9999 $\mu$ F Accuracy: $\pm (1.0 \% + 2)$
Frequency	Range: 0.5 Hz to 199.99 kHz Accuracy: $\pm (0.005 \% + 1)$
Temperature	Range: -200 °C to +1090 °C (-328 °F to +1994 °F) Accuracy: $\pm (1.0 \% + 10) \text{ }^\circ\text{C}$ [ $\pm (1.0 \% + 18) \text{ }^\circ\text{F}$ ]

## Ordering information

**Fluke 28II Ex** Intrinsically Safe True-rms Multimeter

### Optional Accessories

**TL175** - Silicone test lead set with probes

**80BK-A** - Bead temperature probe

**AC172 / AC175** - Alligator clips

**i400** - AC current clamp

**90PK-27** - Temperature probe



## General Specifications

Specification	
Power	Three AAA batteries – type approved* Battery life: 400 hours
Display	LCD, with backlight
Data storage	Peak transient capture 250 $\mu$ S
External protection	Rubber holster
Warranty	Three years
Size (HxWxL) with holster	6.4 cm x 10.0 cm x 19.8 cm (2.5 in x 3.9 in x 7.8 in)
Weight with holster	698 g (1.54 lb)

\* Batteries must be Ex-approved

## Safety Certifications\*\*

Certifications	
ATEX 	II 2G Ex ia IIC T4 Gb I M1 Ex ia I Ma
ETL (NEC/CEC)  Intertek	Class I Zone 1 AEx ia IIC T4 Class I, Division 1, Groups ABCD T4 Ex ia IIC T4
IEC Ex 	Ex ia IIC T4 Gb Ex ia I Ma
ANZEx (Australia) <b>ANZEx</b>	Ex ia IIC T4 Gb Ex ia I Ma
PCEC 	Ex ia IIC T4 Gb
IEx Brazil 	Ex ia IIC T4 Gb

### Safety

IEC 61010-1: Pollution Degree 2  
IEC 61010-2-033: Measurement CAT III 1000 V /  
CAT IV 600V

### Ingress Protection rating

IEC 60529: IP67