

TECHNICAL DATA

# Fluke 28 II EX Intrinsically Safe Digital Multimeter



## Key features

The Fluke 28 II Ex digital multimeter is an intrinsically safe digital multimeter designed for troubleshooting in dangerous or explosive environments.

- A completely sealed, IP67 rated case
- Dustproof per IEC60529 IP6x and waterproof per IEC60529 IPx7
- Meets IEC/EN Overvoltage Electrical Safety Standard No. 61010-1:2001

## Product overview: Fluke 28 II EX Intrinsically Safe Digital Multimeter

### Fluke 28 II EX Digital Multimeter

**All the measurement functions of our most popular industrial Digital Multimeters**

Now there's one intrinsically safe digital multimeter (DMM) you can use in IIC (gas), in Zone 1 and 2 and IIIC (dust), Zone 21 and 22. 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 Fluke 28 II Ex is also waterproof, dust-proof and drop-proof. You'll be equipped to handle any situation, inside and outside of hazardous zones, without compromising compliance or measurement performance.

One tool equips you with all the testing and troubleshooting power you need wherever you go—inside or outside ATEX zones 1,2,21, or 22. No need to carry different meters for different areas, or worry about crossing through an Ex-required zone with a non-Ex rated instrument.

### Other useful features

- A completely sealed, IP67 rated case
- Withstands drops up to 10 ft or 3 m (with holster)
- Dustproof per IEC60529 IP6x
- Waterproof per IEC60529 IPx7
- Meets IEC Overvoltage Electrical Safety Standard No. 61010-1:2001
  - Measurement Category III, 1000V, Pollution Degree 2
  - Measurement Category IV, 600V, Pollution Degree 2
- Reversible holster for added protection of the display when not in use
- 4-1/2 digit mode for precise measurements (20,000 counts)
- True-rms ac voltage and current for accurate measurement on nonlinear signals
- Measures up to 1000 V and 10A 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-Average 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 all day long in less than optimal 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 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.

### Includes

- TL175 Test leads
- AC175 alligator clips
- 80BK-A temperature probe
- Holster
- Manual, CD-ROM
- Three AA batteries (installed)

## Specifications: Fluke 28 II EX Intrinsically Safe Digital Multimeter

### Accuracy Specifications

Accuracy specifications are shown as  $\pm$ (% of reading + number of digits)

DC voltage	<b>Range</b>	0.1 mV to 1000 V
	Accuracy	±0.05% + 1
AC voltage	<b>Range</b>	0.1 mV to 1000 V
	Accuracy	±0.7% + 4
DC current	<b>Range</b>	0.1 µA to 10 A
	Accuracy	±0.2% + 4
AC current	<b>Range</b>	0.1 µA to 10 A
	Accuracy	±1.0% + 2
Resistance	<b>Range</b>	0.1 Ω to 50 MΩ
	Accuracy	±(0.2% + 1)
Conductance	<b>Range</b>	60.00 nS
	Accuracy	±(1.0% + 10)
Diode test	<b>Range</b>	2.0 V
	Accuracy	±(2.0% + 1)
Duty cycle	<b>Range</b>	0.0% to 99.9%
	Accuracy	Within ±(0.2% per kHz + 0.1%) for rise times <1 µs
Capacitance	<b>Range</b>	10 nF to 9999 µF
	Accuracy	±(1.0% + 2)
Frequency	<b>Range</b>	0.5 Hz to 199.99 kHz
	Accuracy	±(0.005% + 1)
Temperature	<b>Range</b>	-200°C to +1090°C (-328°F to +1994°F)
	Accuracy	±(1.0% + 10)°C [±(1.0% + 10)°F]
Display counts	6000 counts/19,999 counts in high-resolution mode	
Peak capture	Record transients up to 250 us	
Min/Max/Avg recording	Display signals up to approximately 100 ms	
Accuracy specifications are shown as ±(% of reading + number of digits)		
<b>Safety Certifications</b>		
ATEX	II 2 G Ex ia IIC T4 Gb	
	II 2 D Ex ia IIIC T130°C Db	
	I M1 Ex ia I Ma	
NEC-500	Class I, Div 1, Groups A-D, 130°C	
IEXEx	Ex ia IIC T4 Gb	
	Ex ia IIIC T130°C Db	
	Ex ia I Ma	

GOST R Ex	Overvoltage protection: Measurement Category III, 1000 V, Pollution Degree 2
	Measurement Category IV, 600 V, Pollution Degree 2
	IP rating IP67
<b>General Specifications</b>	
Power	Three AAA batteries
	Battery life: 400 hours
Display	LCD, with backlight
External protection	Rubber holster
Warranty	Three years
Size with holster (H x W x L)	6.35 x 10.0 x 19.81 cm (2.5 x 3.93 x 7.8 in)
Weight with holster	698.5 g (1.54 lb)

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