

TECHNICAL DATA

# Fluke 28 II Ex Intrinsically Safe True RMS Digital Multimeter





## Key features

- A completely sealed, IP67 rated case
- Withstands drops up to 10 ft or 3 m (with holster)
- Dustproof per IEC 60529 IP6x
- Waterproof per IEC 60529 IPx7
- CAT III 1000 V, CAT IV 600 V
- Reversible holster for added protection of the display when not in use

## Product overview: Fluke 28 II Ex Intrinsically Safe True RMS Digital Multimeter

Now there's an intrinsically safe digital multimeter (DMM) you can use in a wide range of hazardous settings. Whether you work in petroleum, chemical, or pharmaceutical environments, the 28 II Ex gives high-end test and troubleshooting power you need is packed into the most rugged intrinsically safe (IS) DMM Fluke has ever built: drop-proof, waterproof, dust-proof (IP67). The 28 II Ex meets the following certifications:

### IECEEx (International)

- Ex ia IIC T4 Gb
- Ex ia I Ma



### ATEX (Europe)

- II 2G Ex ia IIC T4 Gb
- I M1 Ex ia I Ma



### NEC / CEC (North America)

- Class I, Division 1, Groups A,B,C,D T4
- Class I, Zone 1, AEx ia IIC T4
- Ex ia IIC T4



### PCEC (China)

- Ex ia IIC T4 Gb



### Simtars (Australia)

- Ex ia I Ma



### IEx (Brazil)

- Ex ia IIC T4 Gb



## All the measurement functions of our most popular industrial DMMs

One tool equips you with all the testing and troubleshooting power you need wherever you go—inside or outside ATEX zones 1 or 2. 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 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 µF 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.

## Specifications: Fluke 28 II Ex Intrinsically Safe True RMS Digital Multimeter

| Accuracy Specifications                                                     |          |                        |
|-----------------------------------------------------------------------------|----------|------------------------|
| Accuracy specifications are shown as u00b1(% of reading + number of digits) |          |                        |
| DC voltage                                                                  | Range    | 0.1 mV to 1000 V       |
|                                                                             | Accuracy | u00b1(0.05% + 1)       |
| AC voltage                                                                  | Range    | 0.1 mV to 1000 V       |
|                                                                             | Accuracy | u00b1(0.7% + 4)        |
| DC current                                                                  | Range    | 0.1 u03bcA to 10 A     |
|                                                                             | Accuracy | u00b1(0.2% + 4)        |
| AC current                                                                  | Range    | 0.1 u03bcA to 10 A     |
|                                                                             | Accuracy | u00b1(1% + 2)          |
| Resistance                                                                  | Range    | 0.1 u03a9 to 50 Mu03a9 |
|                                                                             | Accuracy | u00b1(0.2% + 1)        |
| Conductance                                                                 | Range    | 60.00 nS               |
|                                                                             | Accuracy | u00b1(1.0% + 10)       |

|                                                                             |                                                   |                                                            |
|-----------------------------------------------------------------------------|---------------------------------------------------|------------------------------------------------------------|
| Diode test                                                                  | Range                                             | 2.0 V                                                      |
|                                                                             | Accuracy                                          | u00b1(2.0% + 1)                                            |
| Duty cycle                                                                  | Range                                             | 0.0% to 99.9%                                              |
|                                                                             | Accuracy                                          | Within u00b1(0.2% per kHz + 0.1%) for rise times <1 u00b5s |
| Capacitance                                                                 | Range                                             | 10 nF to 9999 u03bcF                                       |
|                                                                             | Accuracy                                          | u00b1(1% + 2)                                              |
| Frequency                                                                   | Range                                             | 0.5 Hz to 199.99 kHz                                       |
|                                                                             | Accuracy                                          | u00b1(0.005% + 1)                                          |
| Temperature                                                                 | Range                                             | -200u00b0C to +1090u00b0C (-328u00b0F to +1994u00b0F)      |
|                                                                             | Accuracy                                          | u00b1(1% + 10)u00b0C [u00b1(1% + 10)u00b0F]                |
| 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 u00b1(% of reading + number of digits) |                                                   |                                                            |
| Safety Certifications                                                       |                                                   |                                                            |
| ATEX                                                                        | {Ex} II 2G Ex ia IIC T4 Gb                        |                                                            |
|                                                                             | {Ex} I M1 Ex ia I Ma                              |                                                            |
| NEC-500                                                                     | Class I, Div 1, Groups A-D, 130u00b0C             |                                                            |
| IECEX                                                                       | Ex ia IIC T4 Gb                                   |                                                            |
|                                                                             | Ex ia I Ma                                        |                                                            |
| GOST R Ex                                                                   | 1Ex ia IIC T4 Gb X                                |                                                            |
|                                                                             | PO Ex ia I Ma X                                   |                                                            |
|                                                                             | IP6X                                              |                                                            |
| General Specifications                                                      |                                                   |                                                            |
| Power                                                                       | Three AAA baeries                                 |                                                            |
|                                                                             | Baery life: 400 hours                             |                                                            |
| Display                                                                     | LCD, with backlight                               |                                                            |
| Exteal protection                                                           | Rubber holster                                    |                                                            |
| Warranty                                                                    | Three years                                       |                                                            |
| Size with holster (H x W x L)                                               | 6.4 x 10.0 x 19.8 cm (2.5 x 3.9 x 7.8 in)         |                                                            |
| Weight with holster                                                         | 700 g (1.54 lb)                                   |                                                            |

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