



## Intrinsically-Safe Multimeter 87V Ex

For reliable safety inside the Ex-hazardous area: the new multimeter 87V Ex. With the robust holster the unit is well protected – even in the toughest conditions.

The 87V Ex is a True RMS Multimeter with electrical safety specifications CAT III 1000V / CAT IV 600V according to EN 61010-1.

**Measuring technology inside the Ex-hazardous area** is always a critical subject. This new digital multimeter from ecom instruments GmbH offers a safe, compact solution, as the 87V Ex allows safe measurements both inside and outside (maximum of 10 A/1000V) the Ex-hazardous area. The multimeter is certified to ATEX (Directive 94/9/EC) for use in Ex-zones 1 and 2. An additional safety feature is the CAT III 1000V and CAT IV 600V approval according to EN 61010 -1.

### Designed specifically for industrial applications

This multimeter has been designed using state-of-the-art technology and offers all the functions required in industry. The flexible Ex-holster ensures a safe grip of the measuring device at working. The 87V Ex contains helpful functions such as Min/Max/Avg display and automatic switching between measuring ranges. Rapid changes in the signal can be measured using a bar indicator.

Thanks to its switchable filter (low-pass filter), the multimeter is ideally suited for carrying out precise voltage and frequency measurements on motor drives. Temperature measurements can be made using the accompanying type k thermocouple. The display can be set to either °C or °F.

Special features include an automatic switch-off function to save battery power; Input Alert™ function (giving a warning in the case of incorrect test socket allocation). The display background lighting makes it easier to work in poorly lit conditions.

### Flexibility

The option of working on non-intrinsically-safe circuits of up to 1000V and 10A can help to reduce the number of devices needed.

Note: existing safety regulations must be observed in any process.

Both fuses (400mA and 10A) can be changed by the user outside of the Ex-hazardous area.



## True RMS

- CAT III 1000V / CAT IV 600V
- Min/Max/Avg function
- 4 1/2" digit display with bar indicator
- Temperature measurement using thermocouple, type K
- Measurements up to 1000V / 10A (outside the Ex-hazardous area)
- Background lighting

### Standard delivery:

- 87V Ex
- Ex-holster
- Battery
- Measuring leads
- Alligator clips
- Thermocouple, type K
- CD-ROM
- Operating instructions

### Optional Accessories:

- Carry case
- Factory calibration certificate
- DKD calibration certificate
- Ex-holster
- Measuring leads
- Alligator clips
- Thermocouple, type K
- Fuses (400mA and 10A)

### Ex-data:

Ex-designation:

Ⓜ II G EEx ia IIC T4

EC-Certificate of Conformity:

ZELM 05 ATEX 0274

### Technical Data:

Operating temperature:	-20°C ... +50°C
Reference humidity range:	0% ... 80% (0°C ... 35°C)
Power supply:	1 x 6LR61 (9V block battery); type-tested
Operating time:	Approx. 400 hours (without background lighting)
Dimensions:	201 x 95 x 52 mm (with holster)
Weight:	Approx. 650 g (with holster)

## Intrinsically-Safe Multimeter 87V Ex

Specification:		
DC voltage	Range	600mV.....1000V
	Resolution	0.1 mV.....1V
	Accuracy	±0.05.....±0.1% + 1 digit
	Input impedance	10 MΩ; <100pF
	Overload protection	1000V rms
AC voltage	Range	600mV.....1000V
	Resolution	0.1 mV...1V
	Accuracy	±0.7 .....+2% + 2.....20 digit
	Input impedance	10 MΩ;<100pF
	Overload protection	1000V rms
Direct current	Range	600μA.....10A
	Resolution	0.1 μA.....10mA
	Accuracy	±0.2 + 2.....4 digit
Alternating current	Range	600μA.....10A
	Resolution	0.1 μA.....10mA
	Accuracy	±1% + 2 digit
Resistance	Range	600Ω.....50MΩ
	Resolution	0.1Ω.....0.01 MΩ
	Accuracy	±0.2.....±1% + 1.....3 digit
	Overload protection	1000V rms
Conductivity	Range	60.00nS
	Resolution	0.01nS
Continuity	Threshold value	n/a
	Overload protection	1000V rms
Diode test	Test voltage	3V
	Resolution	0.001V
	Accuracy	±2% + 1 digit
Frequency	Range	199.99Hz.....199.99kHz
	Resolution	0.01 Hz.....0.01kHz
	Accuracy	±0.005% + 1 digit
Duty cycle	Range	0.0.....99.9%
Capacity	Range	10nF.....9999μF
	Resolution	0.01 nF.....1 μF
	Accuracy	±1% + 2 digit
Temperature	Range	-200°C.....1090°C
	Resolution	0.1°C
	Accuracy	1% + 10 digit
	(without errors by the thermocouple)	
80BK temperature sensor	Range	-40°C.....260°C
	Accuracy	2.2°C oder 2% (the larger value applies)

### Remarks

Measurement inside the Ex-hazardous area:

$U_i \leq 65V, I_i \leq 5A$

Measurements outside the Ex-hazardous area:

$U_i \leq 1000V, I_i \leq 10A$

Error: % of measured value + digits

