

### 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 I 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<sup>TM</sup> 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

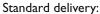
The option of working on non-intrinsically-safe circuits of up to 1000V and 10A can help to reduce the number of devices needed.

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

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



- CAT III 1000V / CAT IV 600V
- Min/Max/Avg function
- 41/2" digit display with bar indicator
- Temperature measurement using thermocouple, type K
- Measurements up to 1000V / 10A (outside the Ex-hazardous area)
- Background lighting



- 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 2 G EEx ia IIC T4

EC-Certificate of Conformity: ZELM 05 ATEX 0274

#### Technical Data:

Operating temperature:
Reference humidity range:
Power supply:
Operating time:

Dimensions: Weight:

-20°C ... +50°C
0% ... 80% (0°C ... 35°C)
I x 6LR6I (9V block battery); type-tested
Approx. 400 hours
(without background lighting)
20I x 95 x 52 mm (with holster)
Approx. 650 g (with holster)





## Intrinsically-Safe Multimeter 87V Ex

Specification:		
DC voltage	Range Resolution Accuracy Input impendance Overload protection	600mV1000 V 0.1 mV1V ±0.05±0.1% + 1 digit 10 M <b>Ω</b> ; <100pF 1000 V rms
AC voltage	Range Resolution Accuracy Input impendance Overload protection	600mV1000V 0.1 mV1V ±0.7+2% + 220 digit 10 MΩ;<100pF 1000 V rms
Direct current	Range Resolution Accuracy	600µA10A 0.1µA10mA ±0.2 + 24 digit
Alternating current	Range Resolution Accuracy	600µA10A 0.1µA10mA ±1% + 2 digit
Resistance	Range Resolution Accuracy Overload protection	600Ω $50$ Μ $Ω0.1Ω$ $0.01$ Μ $Ω\pm 0.2\pm 1\% + 13 digit1000$ V rms
Conductivity	Range Resolution	60.00nS 0.01nS
Continuity	Threshold value Overload protection	n/a 1000V rms
Diode test	Test voltage Resolution Accuracy	3∨ 0.001∨ ±2% + 1 digit
Frequency	Range Resolution Accuracy	199.99Hz199.99kHz 0.01 Hz0.01kHz ±0.005% + 1 digit
Duty cycle	Range	0.099.9%
Capacity	Range Resolution Accuracy	10nF9999µF   0.01nF µF   ±1% + 2 digit
Temperature	Range Resolution Accuracy (without errors by the thermocouple)	-200°C1090°C 0.1°C 1% + 10 digit
80BK temperature sensor	Range	-40°C260°C

Accuracy

#### Remarks

Measurement inside the Ex-hazardous

area:

 $Ui \le 65V$ ,  $Ii \le 5A$ 

Measurements outside the Ex-hazardous

Ui ≤ 1000V, Ii ≤ 10A

Error: % of measured value + digits

