TAG 200
Voltage Detector

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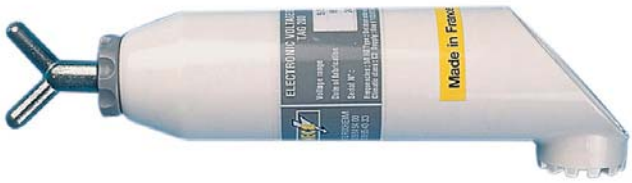

Used for Checking whether an overhead power line is live or dead up to 69 kV, the voltage range is determined by a ratio of 1:3 (i.e. 11-33 kV). The TAG 200 operates on all the most common frequency levels although the specific frequency level has to be specified at the time of ordering (unless specified the UK specification of 50 Hz will be assumed).

If the presence of a live voltage is detected this is notified to the user by a dual visual (red flashing LED) and an audible buzzer. If there is no trace of a live voltage (within its operating voltage) then a constant green LED operates. In the interests of safety and good practice the built in "All-Check" test feature checks all of the electronic circuitry as well as the battery level (one 9v alkaline battery supplied with each unit) each and every time the unit is turned on. Upon completion of this self check process a continuous green LED is displayed.

The Robust poly-carbonate housing ensures protection of the electronic circuitry and the TAG 200 can be used in all weather conditions and in temperatures ranging from -25°C to +55°C. Lightweight and compact the TAG 200 has dimensions of length 188mm, diameter 49mm and a weight of just 380g. Supplied in its own steel carry case complete with a hook and a Y electrode there is also a storage position for a spare battery (not supplied).

Voltage Detector TAG 200	
Voltage Range	**Part No.**
1 kV –3 kV	ENG 300 2-0103
3 kV – 11 kV	ENG 300 2-0311 (Special)
10 kV – 40 kV	ENG 300 2-1040 (ESB)
11 kV – 33 kV	ENG 300 2-1133
23 kV – 69 kV	ENG 300 2-2369
Range available in the ratio of 1:3 up to 69 kV	

Accessories for TAG 200	
Description	**Reference**
Bowthorpe to Universal Adapter	ENG 300 UK3
Adapter for grip-all clamp stick	ENG 300 327-39
APV type adapter	ENG 300 327-15V
Universal electrode	ENG 300 AU
Hook Electrode 60mm Diameter	ENG 300 AC60
Hook Electrode 120mm Diameter	ENG 300 AC120
V electrode 25 mm (M6)	ENG 300 AV25
V electrode 40 (M8)	ENG 300 AV40
Straight electrode 40 mm (M8)	ENG 300 AD40
Straight Electrode 100mm Length	ENG 300 AD100
Straight electrode 25 mm (M6)	ENG 300 AD25
Battery 6LR61 9v Alkaline	ENG 301 9VKP1
Metal box	ENG 300 CT 200
Soft carrying case	ENG 300 SC 200

TAG 200 Metal Storage case

Universal Electrode

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BS IEC 61243-1
Voltage Detector

Compliance with standard BS IEC 61243-1

FAMECA invented the electronic voltage detector in 1970. This type of detector is now deemed a standard part of any safety procedure prior to working on an overhead power line. Following on from the French standard NFC 18311, the IEC also established a standard based on the laboratory research of the European standard (NFC, VDE, BSI etc.). To continue its leading position in this field, FAMECA by designing detectors that complies both with the IEC standard and comprehensive field configurations. We can now confidently confirm that, to our best knowledge, the TAG 200 is the only MV Voltage Detector to comply with BS IEC 61243-1 and as such be CE marked accordingly.

Use of Voltage Detectors

Voltage detectors are primarily used to check the absence of voltage before earthing a circuit. This device must therefore indicate whether or not nominal voltage is present. Previous detectors with wide range detection or proximity detection required a sound knowledge of the network to determine the presence of nominal voltage or induction. Electronic voltage detectors using a direct contact measurement and an adapted threshold, provide a simple and safe indication.

Threshold value:	Detection of nominal voltage above any induced voltage that could appear
Direct contact:	Reduces the influence of electrical disturbance (double circuit or substation)

How to choose a Voltage Range

Low disturbance area: a wide range voltage detector can be used.

The threshold value is selected as follows:

Ut = threshold voltage
U min = lowest voltage of the range
U max = highest voltage of the range

Threshold limits:	0.1 U max < Ut < 0.45 U	
Example:	Range = 11 kV to 33 kV	
Threshold limits:	3.3 kV < Ut < 4.95 kV	Threshold Ut ≅ 4.1 kV

High disturbance area (on long double circuit overhead line or substation)In some specific cases the induced voltage level and strong electrical interference require a higher threshold voltage. In this case the IEC standard allows a voltage detector with a narrow range or even single voltage, to improve the resolution:

For example:	Single voltage detector	
Threshold limits	0.15 Umax < Ut < 0.40 Umin	
Example:	Range = 33 kV	
Threshold limits:	4.95 kV < Ut < 13.2 kV	Threshold Ut ≅ 9 kV

Multi Range Voltage Detector TAG 2000

An electronic voltage detector (TAG 200 type) is required to cover limited voltage ranges, linesmen are sometimes obliged to use several detectors to cover the different voltages of their network. The multirange voltage detector TAG2000 is designed to overcome this problem. Please ask for TAG 2000 data sheet for further details.

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