

KUSAM-MECO[®]

An ISO 9001:2008 Company

HIGH VOLTAGE DETECTOR

The detector detects the presence of voltage from 80V ~ 600V & 3KV ~ 24KV in AC lines. An elongated insulation rod permits checking of high tension circuits at safe distance for voltage. The equipment is compact, light weight, and easy to handle, and is also available for voltage detection in low-tension circuits.

**Model 276HD : L.V. : 80V ~ 600V AC ;
H.V. : 3kV ~ 24kV AC**

SPECIAL FEATURES :

- Telescopic, Compact, light-weight and handy.
- High-voltage detection : The equipment, when in stretched state is available for voltage detection in high-tension circuits (3.3kV, 6.6kV & 24KV) whether the wires involved are naked or insulated.
- Low Voltage detection : The equipment can be used for voltage detection in low-tension circuits (80V ~ 600V) by holding the nameplate portion of the detecting head. Before-use, check can easily be done by plugging in an AC 100V plug socket, without using a tester.
- Easy to recognize indication : Intermittent lighting in red of a high intensity light-emitting diode and intermittent audible sound of an electronic buzzer are readily recognizable in full daylight, noisy location.
- Water proof : The detecting head, being tightly enclosed, is free from any trouble due to dust, dirt, water.

RATINGS AND SPECIFICATIONS :

- * **Working Voltage Range** : H.V. : 3kV ~ 24kV AC. Hold grip portion to detect.
L.V. : 80V ~ 600V AC. Hold nameplate portion to detect.
- * **Frequency** : 50 Hz / 60Hz
- * **Operation Test** : (Initial Voltage)
 - (a) When stretched, hold the grip portion.
Put the sensing tip in contact with the voltage : 250V AC
± 50V the LED and buzzer should work.
 - (b) When retracted, hold the nameplate portion.
Put the sensing tip in contact with the voltage : 80V AC
or below the LED and buzzer should work.
- * **Operation start distance** : Distance at which operation starts when front metal is brought near 5mm O. C. Wire with grip portion held by hand.
Where 24 kV / 3mm (voltage to ground) @ 20 cm
Where 6.6 kV / 3mm (voltage to ground) @ 3 cm
Where 3.3 kV / 3mm (voltage to ground) @ 1 cm
- * **Dielectric Strength** :
 - (a) Between Sensing tip ~ Grip portion : 50kV AC, 1 min(The detector has to be stretched)
 - (b) Between Sensing tip ~ Nameplate portion : 4kV AC, 1 min.
- * **Construction** : Waterproof (detecting head impervious to water).
- * **Insulation resistance** :
 - (a) Between Sensing tip ~ Grip portion : (The detector has to be stretched)
The insulation resistance is more than 2000M @1KV.
 - (b) Between Sensing tip ~ Nameplate portion :
The insulation resistance is more than 2000M @1KV.
- * **Leakage Current Test** : Put high voltage on the parts listed below.
 - (a) Between Sensing tip ~ Grip portion : 50kV AC, 1 min(The detector has to be stretched)
The leakage current has to be 100 A or less than 100 A.
 - (b) Between Sensing tip ~ Nameplate portion : 4kV AC, 1 min.
The leakage current has to be 100 A or less than 100 A.
- * **Working Temperature Range** : -10°C ~ +50°C
- * **Battery** : 3 button-cells LR44 (1.5V)
- * **Dimension** : 354mm to 1005mm length
- * **Weight** : Approx. 185g.



SAFETY :

- Meets EN61010-1 EN50081-1 EN55082-1
EN55022 EN61000-4-2 EN61000-4-3

ACCESSORIES :

Instruction manual & Carrying Case.

All Specifications are subject to change without prior notice

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HIGH VOLTAGE DETECTOR

MODEL - 276HD

OPERATION MANUAL

HIGH VOLTAGE DETECTOR MODEL - KM 276HD



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FEATURES :**1. Telescopic, compact, light-weight**

The length is elastic from 354mm to 1005mm, The equipment is light-weight (180g), easy to handle, and handy to carry.

2. High-voltage detectable

The equipment, whether in stretched state is available for voltage detection in high-tension circuits (3.3kV, 6.6kV and 24kV) whether the wires involved are naked or insulated.

3. Low-voltage detectable

The equipment can be used for voltage detection in low-tension circuits (80V ~ 600V) by holding the nameplate portion of the detecting head. Before-use check can easily be done by plugging in an AC 100V plug socket, without using a tester.

4. Easy to recognize indication

Intermittent lighting in red of a high intensity light-emitting diode and intermittent audible sound of an electronic buzzer are readily recognizable at a full daylight, noisy location.

5. Waterproof

The detecting head, being tightly enclosed, is free from any trouble due to dust, dirt, water or the like.

RATINGS AND SPECIFICATIONS :**Working voltage range :**

H.V. : 3kV~24kV AC hold grip portion to detect.

L.V. : 80V~600V AC hold nameplate portion to detect.

Frequency : 50Hz / 60Hz

Operation start Voltage (voltage to ground) :

When detecting while holding grip portion, naked wire 3mm contacted 250V ± 50V AC O.C. wire, 5mm, contacted 1000V AC ± 200V AC.

When detecting while holding nameplate portion, contacted 80V AC or below.

Operation start distance :

Distance at which operation starts when front metal is brought near 5mm O.C. wire with grip portion held by hand.

Where 24kV / 3mm (voltage to ground) abt 20cm.

Where 6.6kV / 3mm (voltage to ground) abt 3cm.

When detecting while holding nameplate portion, contacted 80V AC or below.

Operation start distance :

Distance at which operation starts when front metal is brought near 5mm O.C. wire with grip portion held by hand.

Where 24kV / 3mm (voltage to ground) abt 20cm.

Where 6.6kV / 3mm (voltage to ground) abt 3cm.

Where 3.3kV / 3mm (voltage to ground) abt 1cm.

Dielectric Strength :

Put high voltage on the parts listed below.

(a) Between Sensing tip ~ Grip portion : 50kV AC, 1 min (The detector has to be stretched)

(b) Between Sensing tip ~ Nameplate portion : 4kV AC, 1min.

Measure the insulation resistance :

Measure the insulation resistance with the high voltage insulation tester. The areas we measure are the same as Dielectric strength test.

- (a) Between Sensing tip ~ Grip portion :
1kV (The detector has to be stretched) The insulation resistance has to be more than 2000 M .
- (b) Between Sensing tip ~ Nameplate portion :
1kV The insulation resistance has to be more than 2000 M .

Construction :

Waterproof (detecting head impervious to water).

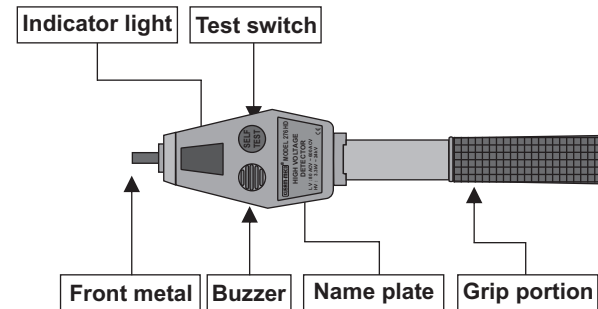
Leakage Current :

Put high voltage on the parts listed below :

- (a) Between Sensing tip ~ Grip portion : 50kV AC, 1 min
(The detector has to be stretched) The leakage current has to be 100 uA or less than 100 uA.
- (b) Between Sensing tip ~ Nameplate portion : 4kV AC, 1min
The leakage current has to be 100 uA or less than 100 uA.

Working temperature range : -10°C ~ +50°C

Battery : 2 button-cells Lr44 (1.5V)

CONSTRUCTION**Front Metal :**

To be put in contact with wires, etc for voltage detection.

Test switch :

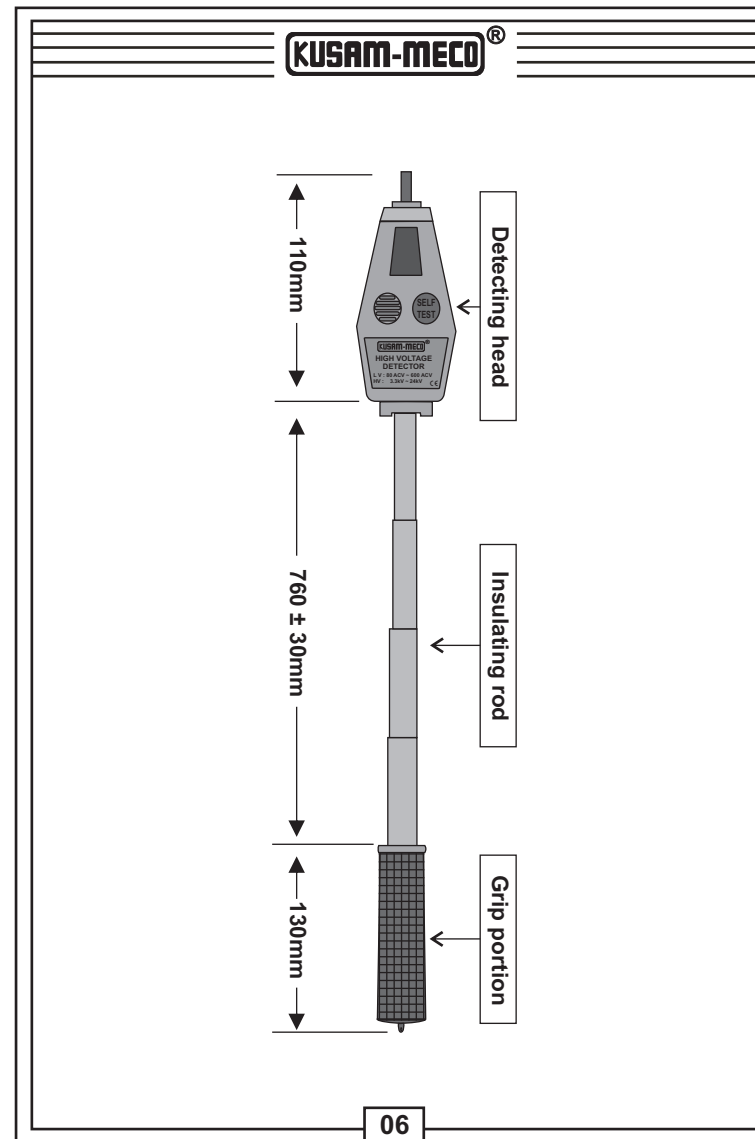
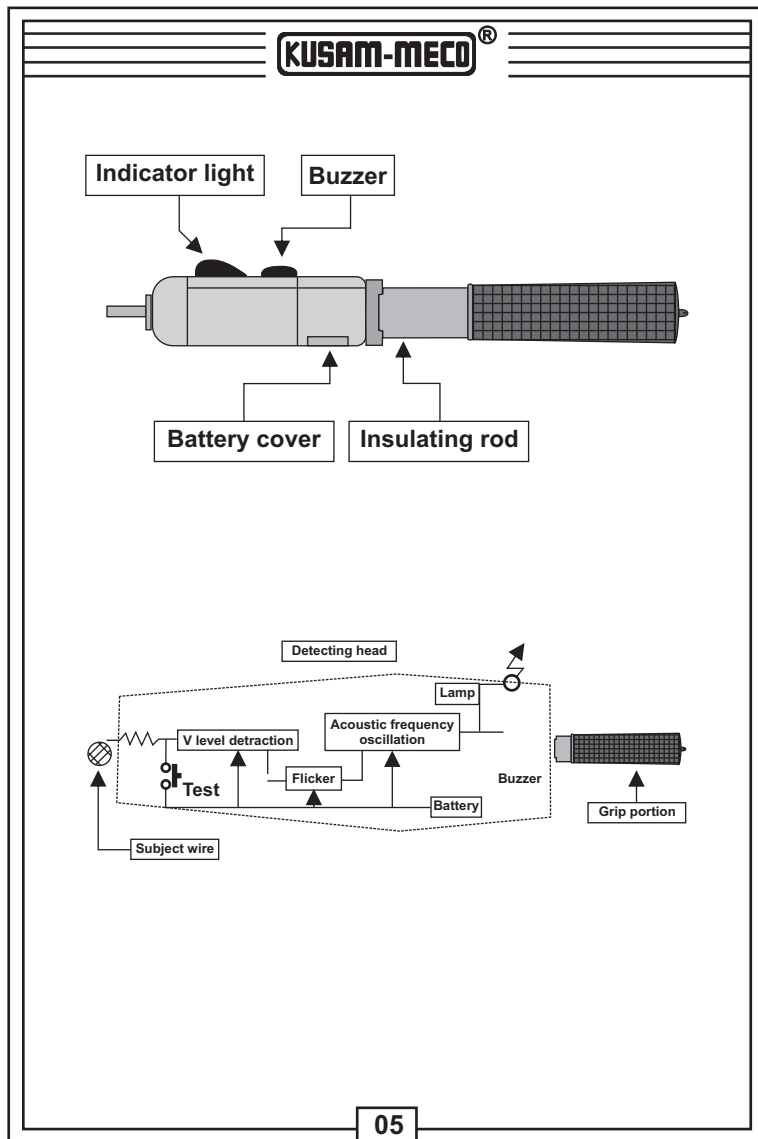
For checking to see that internal electronic circuit is in order.

Nameplate portion :

For L.V. detection, this portion is to be held by hand.

Grip portion :

Don't touch any portion other than this during H.V. detection.



HOW TO USE :

Subject	High Voltage Detection (in stretched state)	Low Voltage Detection
		Naked/Insulated wires 3.3kV 6.6kV 24kV AC
Method	<p>Put the front metal in contact with the subject line to detect voltage, holding the grip portion.</p> <p>IMPORTANT !</p> <p>Don't touch any portion other than grip !</p> <p>Please keep in your mind to wear high insulating gloves when you measure high voltage between 600V ~ 24KV AC</p>	<p>Put the front metal in contact with the subject line, holding the nameplate portion.</p>

HANDLING AND MAINTENANCE :

Before use for Voltage detection :

1. Check to see that nothing is wrong with the equipment in appearance and construction.
2. Switch on test switch to check for working of the internal circuit for cautions sake try with a known line for operation.
3. When inspecting a high tension line, hold the grip portion during detecting operation.
Do not touch any portion other than the grip because danger is involved.
4. When using the equipment in constructed state for inspecting a high voltage line wear insulating rubber gloves.
5. For voltage detection in a low tension line hold the nameplate portion.
6. If it is necessary at all to carry out voltage detection during rainfall, pay constant attention to the wet condition of the equipment.

Handling and Safekeeping :

7. Do not subject the equipment to any hard shock by dropping or placing under something.
Do not wipe it with a chemical or the like.
8. Do not leave it on a road site in summer or place it in a hot location in a car or the like.
9. Be sure to keep it clean at all times, and choose a dry location kept away from direct sunlight for safe keeping.

10. If lighting is dim, or sounding is too low, or if the equipment does not operate, replace the battery with a new one.
11. Remove battery cover and replace the battery making sure polarity is correct, if (+) (-) polarities are reverse, the equipment does not operate.
12. The battery consists of 2 button shaped alkaline cells LR44, if a battery of poor quality is used, the equipment may be damaged by liquid leak from the battery.

Testing and Maintenance :

13. Insulating performance (withstand voltage) test should be conducted periodically, i.e., once in every six months.
14. Checking of voltage detecting performance (operation) should be made before use of the equipment for the Day.

MUMBAI

TEST CERTIFICATE
HIGH VOLTAGE DETECTOR

This Test Certificate warrants that the product has been inspected and tested in accordance with the published specifications.

The instrument has been calibrated by using equipment which has already been calibrated to standards traceable to national standards.

MODEL NO. 276HD

SERIAL NO. _____

DATE: _____

ISO 9001
REGISTERED



WARRANTY

Each "KUSAM-MECO" product is warranted to be free from defects in material and workmanship under normal use & service. The warranty period is one year (12 months) and begins from the date of despatch of goods. In case any defect occurs in functioning of the instrument, under proper use, within the warranty period, the same will be rectified by us free of charges, provided the to and fro freight charges are borne by you.

This warranty extends only to the original buyer or end-user customer of a "KUSAM-MECO" authorized dealer.

This warranty does not apply for damaged Ic's, fuses, burnt PCB's, disposable batteries, carrying case, test leads, or to any product which in "KUSAM-MECO's" opinion, has been misused, altered, neglected, contaminated or damaged by accident or abnormal conditions of operation or handling.

"KUSAM-MECO" authorized dealer shall extend this warranty on new and unused products to end-user customers only but have no authority to extend a greater or different warranty on behalf of "KUSAM-MECO".

"KUSAM-MECO's" warranty obligation is limited, at option, free of charge repair, or replacement of a defective product which is returned to a "KUSAM-MECO" authorized service center within the warranty period.

THIS WARRANTY IS BUYER'S SOLE AND EXCLUSIVE REMEDY AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. "KUSAM-MECO" SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LOSSES, INCLUDING LOSS OF DATA, ARISING FROM ANY CAUSE WHATSOEVER.



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