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Date: February 12, 2020

My No: AGM (DD2)/CEB/SPEC

**Addl.GM DD1**  
**Addl.GM DD3**  
**Addl.GM DD4**

**CEB SPECIFICATION: 067-9:2020**  
**WEARABLE MEDIUM VOLTAGE DETECTOR**

A copy of the CEB approved specification: "067-9:2020 for Wearable Medium Voltage Detector" is forwarded herewith for your information please.

  
Eng. M.A.D.N. Gratian  
**Additional General Manager**  
**(Distribution Division 02)**  
**Chairman**  
**Distribution Coordination Committee**

Copy to : Addl.GM (DD2) : f.i.pl.  
DGM (P&D) DD1,DD2,DD3,DD4 } Please ensure to attach latest approved  
signed copy of Specification to Bid  
document.  
DGM (Dist.Coordination) : f.i.pl.  
Chairman  
(Distribution Standards & Specification  
Committee)

067-9: 2020

CEB  
SPECIFICATION

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**WEARABLE MEDIUM VOLTAGE DETECTOR**



**CEYLON ELECTRICITY BOARD  
SRI LANKA**



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## SPECIFICATION FOR WEARABLE MEDIUM VOLTAGE DETECTOR

### 1.0 SCOPE

This Specification covers the general requirements of the design, manufacture, testing, supply and delivery of Wearable Medium Voltage Detectors to be used in Medium Voltage Distribution System of Ceylon Electricity Board.

### 2.0 SYSTEM PARAMETERS

(a)	Nominal voltage (U)	11 kV	33 kV
(b)	System highest voltage ( $U_m$ )	12 kV	36 kV
(c)	System frequency	50 Hz	
(d)	Method of earthing	Effectively earthed	Non-Effectively earthed
(e)	System fault level	12.5 kA	16 kA

### 3.0 SERVICE CONDITIONS

(a)	Annual average ambient temperature	30 °C
(b)	Maximum ambient temperature	40 °C
(c)	Maximum relative humidity	90%
(d)	Environmental conditions	Humid tropical climate with heavily polluted atmosphere
(e)	Operational altitude	From M.S.L. to 1900 m above M.S.L.
(f)	Isokeraunic (Thunder days) level	100 days

### 4.0 APPLICABLE STANDARDS

The equipment and components supplied shall be in accordance with the latest editions of the standards specified below and amendments thereof.

(a)	IEC 60529:1989	Degrees of protection provided by enclosures (IP Code)
(b)	IEC 61326-1:2012	Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements

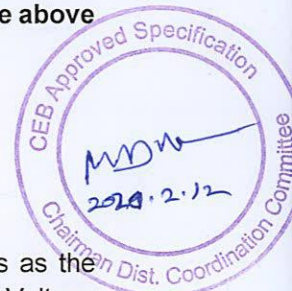
Material conforming to other International Standards which are not less stringent than the Standards stipulated above may be offered. When such alternative Standards are used, reference to such Standards shall be quoted and English language copies of such Standards shall be provided with the offer.

However, in the event of discrepancy, details given in this CEB specification supersede above standards.

### 5.0 BASIC FEATURES

#### 5.1. General

The Wearable Medium Voltage Detectors shall be of outdoor type meeting IP 64 class as the minimum, mountable to the safety helmet. This unit shall alert users to proximity of Medium Voltage presence in any direction of the user by means of an audible alarm. The unit shall have self-test function and battery test function. The unit shall be rugged built, light weight and the battery shall be easily replaceable in the field.



## 5.2. Safety

The Wearable Medium Voltage Detectors shall comply with the safety requirements specified in IEC standards specified in clause 4.0.

## 6.0 REQUIREMENTS FOR SELECTION

### 6.1. Quality Assurance

The manufacturer shall possess ISO 9001:2015 or latest Quality Assurance Certification for the design, manufacture of Wearable Medium Voltage Detectors. The certificate shall be valid throughout the delivery period of this bid. In the event the meters are manufactured in a plant under the license of the manufacturer, the manufacturing plant shall possess ISO 9001:2015 or latest Quality Assurance Certificate for manufacturing and testing of Wearable Medium Voltage Detectors. The Bidder shall furnish a copy of the ISO certificate certified as true copy of the original by the manufacturer, along with the offer.

### 6.2. Manufacturing Experience

The manufacturer shall have minimum of 3 years' experience in manufacturing Wearable Medium Voltage Detectors. The manufacturer shall have supplied Wearable Medium Voltage Detectors similar to the offered, to minimum of 3 Electricity Authorities/Utilities out of which at least 2 are from outside the country of manufacture during last 3 years.

The manufacturer shall furnish a list of Authorities/Utilities to whom meters were supplied during the past 3 years, indicating their names, addresses and contact details clearly. The purchaser reserves the right to communicate with Electricity supply authorities/utilities to whom meters have been supplied with regard to the performance of the meters.

If the manufacturer has supplied similar items to CEB for the last 3 years with proven sales records; without any adverse performance records, such manufacturers will be exempted from above requirements.

## 7.0 INFORMATION TO BE FURNISHED WITH THE OFFER

The following shall be furnished with the offer.

- (a) Technical details in English clearly identifying the offered items, but not limited to:
  - (i) The Comprehensive catalogues,
  - (ii) Literature describing the operational features
  - (iii) Operational Manual and Data Sheets.
- (b) ISO 9001:2015 or latest Quality Assurance Certificate in accordance with clause 6.1.
- (c) Manufacturer shall furnish a list of supplies with supplied item, purchaser (specifying address contact persons and contact details, country), year & quantity to prove his manufacturing experience and outside the country sales in accordance with Clause 6.2.
- (d) Duly filled and signed 'Annex - B: Schedule of Technical Requirements and Guaranteed Technical Particulars'.

**Not furnishing above documents and details may result in offer being rejected.**



## 8.0 PERFORMANCE GUARANTEES AND WARRANTY

### 8.1. Warranty

Manufacturer shall provide 1-year warranty to CEB for the Wearable Medium Voltage Detectors and accessories from the date received to CEB stores. Manufacturer should forward the duly signed Warranty Certificate together with the letter of acceptance of the award.

If delivered items become defective within the warranty period, they shall be replaced or repaired free of charge by the supplier.

## 9.0 DOCUMENTS TO BE SUBMITTED WITH DELIVERY

- i. Operating manual and data sheets of equipment in English

## 10.0 PACKING AND LABELING/MARKING

### 10.1.Packing

Each Wearable Medium Voltage Detector shall be suitable packed separately in a bio-degradable packing material to withstand rough handling and carry a label indicating the name of item, model/type No. etc.

### 10.2. Identification and Labeling/Marking

Every Wearable Medium Voltage Detectors shall be provided with a Name - plate incorporating the following information as applicable:

- (a) A serial number / Model no.
- (b) Operating voltage range
- (c) Year of manufacture, manufacturer's name or trade mark

## 11.0 INSPECTION AND TESTING

Depending on the choice of the applicable standards, relevant Routine/Functional Test Certificates conforming to, but not limited to, standards in clause 4.0 shall be furnished for the observation of the Engineer appointed by the CEB at the time of inspection unless CEB waive off the inspection. In addition, the routine test certificates shall be sent with the shipment of the items.

## 12.0 ANNEXES

- Annex A - Schedule of Technical Particulars – To be filled by the Manufacturer.
- Annex B - Non - Compliance Schedule.



## Annex- A

**SCHEDULE OF TECHNICAL REQUIREMENTS AND GUARANTEED TECHNICAL PARTICULARS**

(CEB Requirements shall be filled by the procurement entity and information of the offer shall be filled by the manufacturer)

		CEB Requirement	Offered
1.	Name of Manufacturer		
2.	Country of manufacture		
3.	Model No./ Catalogue Ref. No.		
4.	Applicable Standards		
5.	Dimensions mm		
6.	Detectable voltage Range	To alert voltages from 10.5kV to 36kV	
7.	Operating Frequency	50Hz	
8.	Mountable facility provided?		
9.	Alert Type	Alert users by means of audible alarm.	
10.	Minimum distance from power source to the detector for alarm indication.		
	a) 11kV m		
	b) 33kV m		
11.	Operating Temperature range		
12.	Self-test function	Must be available	
13.	Battery test function	Must be available	
14.	Power Source	specify	
15.	Accessories provided	specify	
16.	Degree of protection (IP Category)	IP 64 (min.)	
17.	Weight of the equipment		
18.	Whether the marking as per Clause 10.2 provided?		
19.	Whether a certified copy of ISO 9001:2015 or latest furnished with the offer?		
20.	Whether the information requested in clause 7 furnished with the offer?		
21.	Warranty for Wearable Medium Voltage Detectors and accessories		

.....  
Signature of the Manufacturer and seal

.....  
Date

I/We certify that the above data are true and correct

.....  
Signature of the Bidder and seal

.....  
Date



**Non-Compliance Schedule**

On this schedule the bidder shall provide a list of non-compliances with this specification, documenting the effects that such non-compliance is likely to have on the equipment life and operating characteristics. Each non-compliance shall be referred to the relevant specification clause.

Clause No.	Non-Compliance

.....  
**Signature of the Manufacturer**

I/We certify that the above data are true and correct

.....  
**Signature of the Bidder and seal**

.....  
**Date**



.....  
**Date**