



Working for a safer tomorrow

Karandikar Laboratories



F 08 CE Rev. 02

Ex EQUIPMENT TYPE EXAMINATION REPORT

1)

2) TE Report Number: **KLPL/Ex/25-005X** Issue no.00

Dated: **06.02.2025**

3) **Ex Equipment:**

Earth Interlock System

Model: EILS-TR-0418

4) **Manufacturer:**

M/s ESD Control Systems

Plot No. 41, Venkateswara Enclave,

Suchitra 'x' Roads, Jeedimetla,

Hyderabad-500055, Telangana.

5) This equipment and any acceptable variation thereto are specified in the schedule to this report and the documents therein referred to

6) Karandikar Laboratories Pvt. Ltd. reports that this equipment has been found to comply with requirements of the following standards relating to the design and construction of equipment for explosive gas/dust atmospheres as applicable.

7) This TE Report was issued as verification that a sample, was assessed, tested and found to comply with the IS / IEC standards listed below.

IS/IEC 60079-0: 2017 & IS/IEC 60079-11: 2023

8) The Examination and Test results are recorded in KLPL's confidential
Report No.: KLPL/Ex/ ESD-25/001 Dated: **06.02.2025**

9) The sign X if placed after the TE report number; it indicates that the equipment is subject to specific conditions of use specified in the schedule to this TE Report.

10) This Report does not indicate compliance with electrical safety and performance requirements other than those expressly included in the above listed standards.

11) The marking of the Equipment shall include the following:

Ex Code:

Ex db [ia] IIC T6 Gb (-10 °C ≤ Ta ≤ +50 °C)

Page 1 of 3



A. V. Karandikar
Ajit Karandikar
CEO

This certificate may only be reproduced in its entirety, without any change, schedule included and is subject to Karandikar Laboratories general terms & conditions

Karandikar Laboratories Pvt. Ltd.

Laboratory : Gal No. 142, Boisar Chilhar Road, Opp. Union Park, At Betegaon, Boisar (E) - 401501, Dist - Palghar Mob.: +91 88550 22824

Head Office : B-101, Ansa Indl. Estate, Saki Vihar Road, Sakinaka, Andheri (E), Mumbai-400072. Tel. : 022-28471395 / 97, 022-4971 6815

Branch UAE : KL Training Academy, Office No.06, Building No. 01, Plot No.05, Mussafah 35, Abu Dhabi. Mob.: +971 56198 1452

Email : sales@karandikarlab.com Website : www.karandikarlab.com





working for a safer tomorrow

TE Report No.: KLPL/Ex/25-005X Issue No.00

Dated: 06.02.2025

SCHEDULE



F # 08 CE Rev. 02

12) Details of Type Examination Reports Issued: -

TE Report No.	Issue No.	Report No.	Date	Reason for Issue
KLPL/Ex/25-005X	00	KLPL/Ex/ESD-25/001	06.02.2025	Original issue

13) Description of equipment

The Earth Interlock System, Model: EILS-TR-0418 is used for continuous checking of the earthing or grounding of a tanker truck or any other mobile container with use of earthing clamps, to prevent explosion occurrence due to electrostatic charges.

The Earth Interlock System safely ground the charge on the truck or other metallic subject to the earth connection and monitor the presence of proper continuity to earth connection. Safe discharge and proper earth connection are indicated by the indicator light and the interlocking signals are provided to the system through the potential free relay contacts which are placed within module. The equipment enclosure is pre-certified as flameproof. The equipment also has Ex d interface in field for buzzer via Ex d junction box.

14) Model Designation:

Model No.	Product	Rating
CEMS-0313	Continuous Earth Monitoring system	Refer Point 17

15) Drawings & Documents:

Drawing Number	No. of sheets	Rev No.	Date	Title
ESD-0418TR-0110-SBD01	1	-	17.10.2024	System Block Diagram
ESD-0418TR-0110-CD01A	1	00	22.02.2024	Circuit diagram- AC mains input, SMPS power supply inter lock drive
ESD-0418TR-0110-BOM-PCB01A	1	00	22.02.2024	BOM-AC mains input, SMPS power supply inter lock drive
ESD-0418TR-0110-PCB01A/1	1	00	29.01.2025	PCB Layout- AC mains input, SMPS power supply inter lock drive
ESD-0418TR-0110-CD01B	1	00	22.02.2024	Circuit diagram- Power supply Ex Barriers crow bar Production
ESD-0418TR-0110-BOM-PCB01B	1	00	22.02.2024	BOM- Power supply Ex Barriers crow bar Production
ESD-0418TR-0110-PCB01B/1	1	00	30.01.2025	PCB Layout- Power supply Ex Barriers crow bar Production
ESD-0418TR-0110-CD02	1	00	22.02.2024	Circuit diagram- Earth loop check and relay drives PCB-02

Page 2 of 3

This certificate may only be reproduced in its entirety, without any change, schedule included and is subject to Karandikar Laboratories general terms & conditions

Karandikar Laboratories Pvt. Ltd.

Email : sales@karandikarlab.com Website : www.karandikarlab.com



working for a safer tomorrow

TE Report No.: KLPL/Ex/25-005X Issue No.00

Dated: 06.02.2025

SCHEDULE



F # 08 CE Rev. 02

ESD-0418TR-0110-BOM-PCB02	1	00	22.02.2024	BOM- Earth loop check and relay drives PCB-02
ESD-0418TR-0110-PCB02/1	1	00	30.01.2025	PCB Layout- Earth loop check and relay drives PCB-02
ESD-0418TR-0110-CD03	1	00	22.02.2024	Circuit diagram- Tanker capacitance recognition circuit PCB03
ESD-0418TR-0110-BOM-PCB03	1	00	22.02.2024	BOM- Tanker capacitance recognition circuit PCB03
ESD-0418TR-0110-PCB03/1	1	00	30.01.2025	PCB Layout- Tanker capacitance recognition circuit PCB03
ESD-0418TR-0110-CD04	1	00	22.02.2024	Circuit diagram- Ex Zener barrier buzzer and 5V supply
ESD-0418TR-0110-BOM-PCB04	1	00	22.02.2024	BOM- Ex Zener barrier buzzer and 5V supply
ESD-0418TR-0110-PCB04/1	1	00	30.01.2025	PCB Layout- Ex Zener barrier buzzer and 5V supply
ESD-0418TR-0110-CD05	1	00	22.02.2024	Circuit diagram- LED Display PCB05
ESD-0418TR-0110-BOM-PCB05	1	00	22.02.2024	BOM- LED Display PCB05
ESD-0418TR-0110-PCB05/1	1	00	30.01.2025	PCB Layout- LED Display PCB05
ESDCS/EILS-TR-0418/008	25	—	—	Instruction Manual

Drawings listed above are finally accepted as accurately representing the product for which this evaluation report has been prepared. These drawings provide necessary information as required by the above referred standards.

16) Temperature Class:

Considering the ambient temperature range of -10°C to +50 °C, the requested temperature class of "T6" is acceptable.

17) Electrical Rating:

Input Supply: $U_m = 253 \text{ Vr.m.s}$, $U_n = 12 \text{ V}$

Output Supply: $U_o = 9.87 \text{ V}$, $I_o = 45.3 \text{ mA}$, $P_o = 111.8 \text{ mW}$, $C_o = 1 \mu\text{F}$, $L_o = 1 \text{ mH}$

18) Specific conditions of use:

1. The equipment shall be enclosed in an enclosure appropriately certified by PESO for EPL Gb.

19) Routine test: Nil

END OF DOCUMENT



Page 3 of 3

This certificate may only be reproduced in its entirety, without any change, schedule included and is subject to Karandikar Laboratories general terms & conditions

Karandikar Laboratories Pvt. Ltd.

Email : sales@karandikarlab.com Website : www.karandikarlab.com