

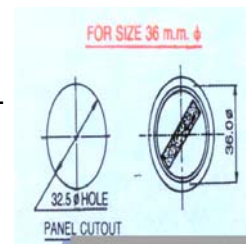
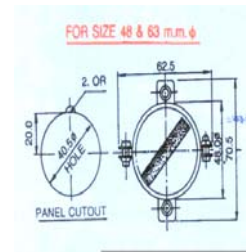
APPLICATION:

'DEEPL' Automatic Semaphore Indicators are used in mimic diagram on Control and Instrumental Panel to indicate open or close position of isolator, Earth switch, Circuit Breaker, PT On/Off switch. The pointer takes up position of the supervised equipment and turns right angle when breaker, isolator etc. is in open position, it takes up intermediate position i.e. 45° on failure supply. Our indicators are enclosed in Glass cover with Black dial which matches with all mimic colours and hence there is no necessity to paint the mimic colour on the dial.

SPECIAL FEATURES:



1. Type Tested as per IS-3231 - 1965 at IDEMI Bombay.
2. High Operating torque and positive action.
3. Coils are continuously rated for 24-30 V DC.
4. Withstands 2.5 KV HV Test.
5. Very Low Burden (Less than 15mA)
6. Indicator is dust proof.
7. Available in round bezel having 36mm, 48mm and 63mm dia
8. We make two types high-burden and low-burden semaphores. High-burden semaphores are supplied for voltage upto 30V DC for direct operation and 1K 6W resistor for 50V DC, 3K 6W resistor for 110V DC and 9K 12W resistor for 220V DC. Low-burden semaphores can be used for higher DC voltage of 110V DC using 6K Ohms, 6W resistor and for 220V DC using 16-18K Ohms 12W Screw in type resistor, in series on centre terminal.
9. Fully type tested including for 1 lakh Mechanical operations.



TECHNICAL DATA:

Terminals	3 Nos; Center terminal is common / -ve. Positive is connected to terminal 1 or 2.
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Operating Voltage(D.C.)	60% to 120% of rated voltage
Rated Voltages	24V / 30V DC - No external resistor, 110V DC - with 6K Ohms, 6W external resistor, 220V / 250 DC - with 16-18K Ohms, 12W external resistor for low-burden and 1K 6W for 50V, 3K 6W for 110V DC and 9K 12W for 220V DC for high-burden semaphores.
Burden	15 mA (Maximum) for low burden and 25mA (Maximum) for high-burden.
Bazel size option	63 mm dia round Bazel - Type DEEPL - 22L 48 mm dia round Bazel - Type DEEPL - 22 36 mm dia round Bazel - Type DEEPL 12
Mechanical Life	Tested for 1 lakh operation

PRODUCT: Specifications are subject to modifications due to continuous improvements. We are approved by PGCIL, MSETCL, RSVPL, GETCL etc.



वैधुतिक मापन उपयंत्र अभिकल्प संस्थान, मुंबई - 400 022.
INSTITUTE FOR DESIGN OF ELECTRICAL MEASURING INSTRUMENTS, MUMBAI - 400 022.

ELECTRICAL TESTING LABORATORY

Certificate for Sr. No.: --

Certificate No.: CT/ETL/037/07-08

Date of Testing: 20.09.2007 to 26.09.2007

Page No.: 3 of 3

Test Result of: Semaphore Indicators (110V, DC with 6 K ohms Resistor)

4. Reduced Voltage Mechanical Operation Test:

The Semaphore Indicators were connected to 66V, DC (60% of 110V) and again operated for 100 operations.

Result: The Indicators were found in good working condition and no visible damage was observed

5. Higher Voltage Mechanical Operation Test:

The Semaphore Indicators were subjected to a increase in DC Voltage of 120% of 110 V (that is 132V, DC) and was kept under this condition continuously for 24 hours and then operated for 100 operations as per procedure given in no. 3.

Result: After the completion of above test all the semaphore indicator were found to be in good working condition and no visible damages were observed.

6. Burden:

Burden was measured at 110V, DC with 6Kohms Resistor and ,the readings are as given belows:

Sr. No.	Bazel Size of Indicator	At 110V, DC with 6 K Ω Resistor
1	36mm	10mA
2	48mm	10mA
3	63mm	11mA

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Test Result of: Semaphore Indicators (110V, DC with 6 K ohms Resistor)

1. Insulation Resistance Test:

By applying 500 V, DC between all terminals shorted together & body for one Minute the IR Value measured was above 2000M ohm

Result: Comply

2. Di-electric Strength Test:

An AC, 2.5 KV, 50 Hz RMS was applied between all terminals shorted together and body for one minute. It with stood the High Voltage.

Result: No Flash over or Break down occurred during the test of all three Semaphore Indicator

3. Mechanical Operation Test:

The Semaphore Indicators were connected to a DC Source of 110V and then operated for 1000 operations to both the directions by giving one minute gap in the subsequent ON-OFF operations. After 1000 operations to both the sides. The Indicators were found to be in good working condition and no visible damage was observed.

Result: Comply

CHECKED BY

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CERTIFICATE OF TESTING

Work Order No. : WO/ETL/053/07-08
Date : 27.08.2007

CERTIFICATE No. : CT/ETL/037/07-08
Date of Testing : 20.09.2007 to 26.09.2007
Page No.: 1 of 3

Test Item: Semaphore Indicators (3nos)

Tested for: M/S. DEEPL Electricals Pvt. Ltd. Gala No. 14, Ground Floor,
Aghadi Industrial Estate, Marol Maroshi Road, Andheri (E), Mumbai- 400 059
Tested at: IDEMI, Mumbai. 400 022

Specification of Items Under Test	Specification of Standards Used
Manufacturer : M/s. Deepl Electrical Pvt. Ltd. Mumbai-59 Condition of Item on receipt : Good Range /Rating / Size: 110V, DC with 6 K-ohms Resistor Model/Markings: BASEL Sizes: a) 36mm b) 48mm c) 63 mm dia Accuracy : N.A	1) Rectifiers & Electronics High voltage tester Range: 0 to 5KV, AC Acc: $\pm 2.5\%$ 2) GANZ Insulation Tester Range: 0 To 1000M Ohms Acc: $\pm 2.5\%$ 3) Hewlett Packard 947 DMM DC Voltage: $\pm (0.05\% \text{ of rdg} = 2 \text{ digits})$ DC Current: $\pm (0.3\% \text{ of rdg} = 2 \text{ digits})$ Traceability: Standard Used for Testing is Traceable to NPL, New Delhi

Ambient Conditions :

Temperature : $25^{\circ}\text{C} \pm 2.5^{\circ}\text{C}$ Relative Humidity : $35\% \text{ to } 65\%$

Remarks : Please refer page 2 to 3 for Test Results.

- 1) Procedure of Test : The above mentioned item is tested as per Customer Requirement
- 2) Total Uncertainty in Measurement at 95% CL N.A.


S.G. KHALADKAR
QUALITY MANAGER
AUTHORISED SIGNATORY

(Note : This certificate refers only to the particular item(s) submitted for testing. The certificate should not be reproduced except in full without the prior permission from the Principal Director IDEMI, Mumbai - 400 022)

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