OIL LEVEL INDICATOR

MODEL : SO-4-M

1.0 APPLICATION :

This indicator is suitable for oil filled Power Transformers & oil filled tanks.

2.0 SCOPE:

Indicator continuously reads level inside the conservator and operates a microswitch when oil level drops near Empty level mark.

3.0 CONSTRUCTION & WORKING :

The indicator has aluminium casted body with built in flange for mounting. To avoid leakage of oil and to avoid entry of contaminated air into tank, a pair of permanent magnets is used separated by a metallic wall. A float is used as sensor & is connected to driving magnet through a bevel gear. The driven magnet is positioned outside in air in main body which carries a pointer and a cam. The pointer is set to read the oil level and the cam is set to operate the switch near Empty level(See Schematic). Switch resets automatically when level of oil is brought to normal. Contacts of switch are brought outside in terminal box with threaded hole for fixing cable gland. The body of indicator with dial and switch is sealed to avoid entry of moist air. Hence switch is not accessible for resetting or servicing.

4.0 SPECIFICATIONS :

Liquid in tank :
Compatible with Transformer oil or any other oil.

Specifications :

Temperature   : -30^0 to $+100^0$ C of Oil
Pressure   : 0 to 1 kg/Cm^2
Environment   : Indoor or outdoor.
Ingress Protection : IP-65
Corrosion Resistance : C4-M

Mounting :
To mount the indicator, buyer is required to provide a pad as per Fig. 4. The position can be selected on vertical wall of conservator/tank depending on importance of oil level readings and switching near Empty level.

Calibration :

Dial Size   : 100 mm round (nominal)
Unit   : Any calibration as per Customer's requirement
              is possible.
Colour   : Black marking on white background or any
              other combination as required.
Spread   : Max 300° (See Photograph)

Float (sensor) and arm :
Float & Float Arm are made of brass. Float Arm is supplied of fixed Length or adjustable length type as per order.

Margin :
Leave Min. 65 mm beyond lower & higher limit markings to avoid striking of float to bottom & top of conservator. (See Fig.2)

Switch :

Type   : Microswitch
Contact Rating   : See wiring diagram (Fig. 5)
Operation   : See wiring diagram (Fig. 5)

Switch, Dial & Pointer Assembly
Main Body with Mounting Flange
Float Arm
Product Lable
Float
Terminal Box with Cover
Cable Entry 3/4" BSC

FIG. 1   SCHEMATIC

SWITCH OPERATING CAM
MICROSWITCH
DIAL
METALLIC WALL
DRIVING MAGNET
DRIVEN MAGNET
POINTER
IN AIR
IN LIQUID
GEAR & PINION
FLOAT

FIG. 2   FLOAT LEVEL

MARGIN MIN 65
MAX 45°
OIL LEVEL AT FULL
MAX 45°
MARGIN MIN 65
OIL LEVEL AT EMPTY
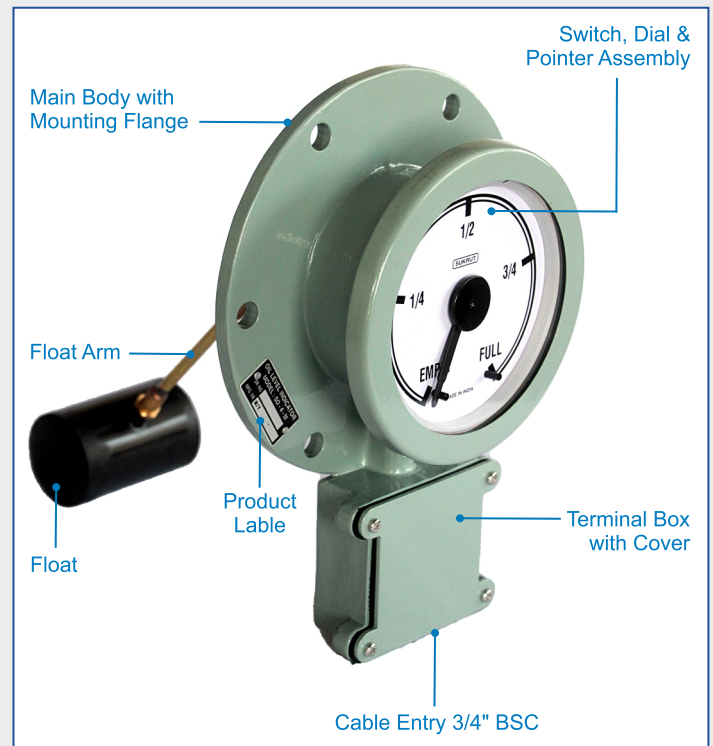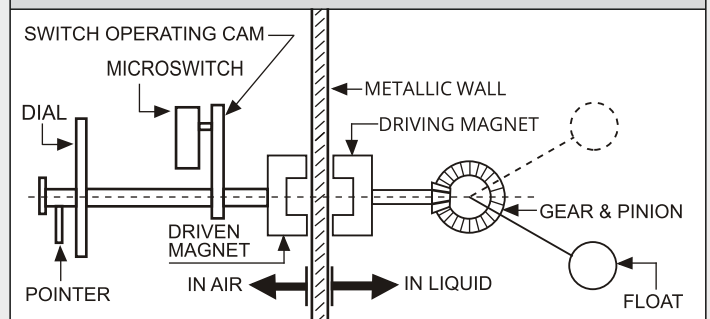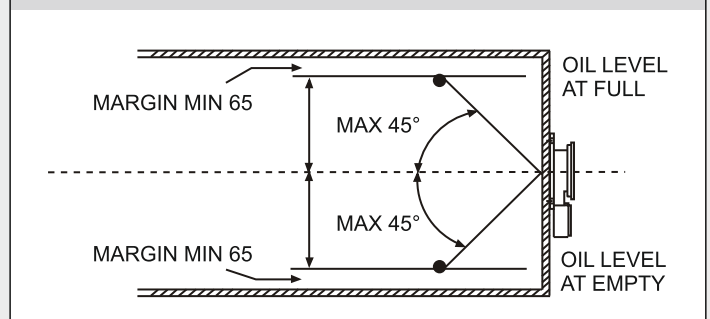
5.0 ROUTINE TESTS

Each indicator is tested for
1. Specified levels.   2. Switch operation.
3. High Voltage Test.   4. Leakage Test.
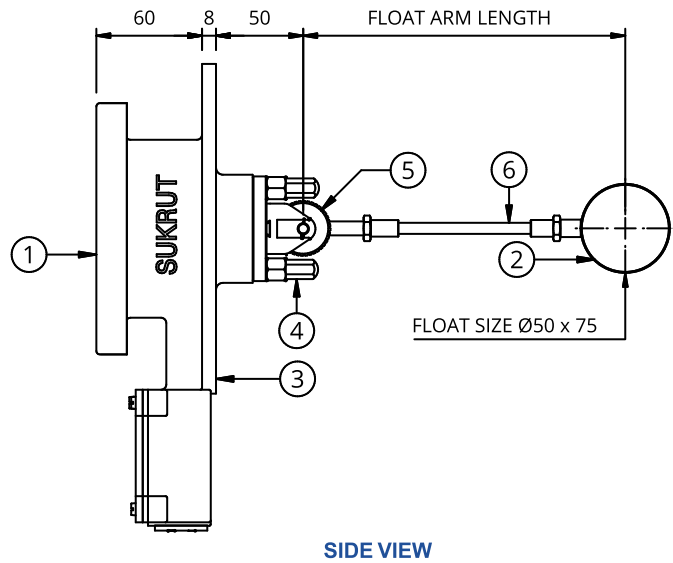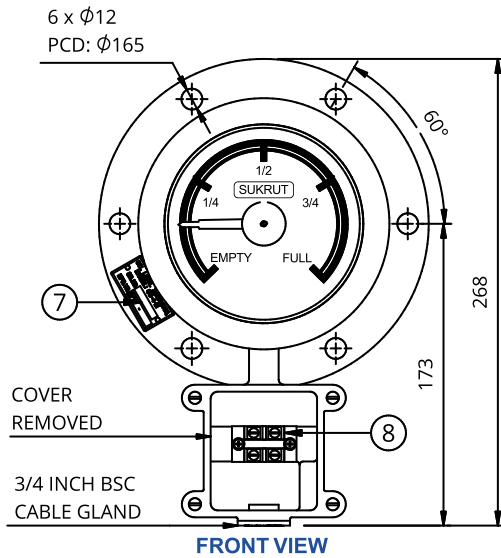A combined test certificate is issued for each batch.

6.0 HOW TO ORDER :

We provide a Questionnaire for specifying your requirements. However, a drawing is acceptable giving all specifications.

OIL LEVEL INDICATOR
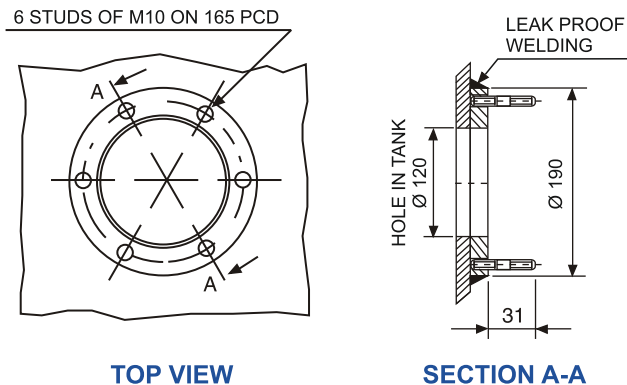## MODEL : SO-4-M

FIG 3. OIL LEVEL INDICATOR : SO-4-M

6 x Ø12
PCD: Ø165

60°

268

173

COVER
REMOVED

3/4 INCH BSC
CABLE GLAND

FRONT VIEW

60   8   50   FLOAT ARM LENGTH

SUKRUT

5   6

2

FLOAT SIZE Ø50 x 75

1

4

3

SIDE VIEW

PART LIST

SR NO.	DESCRIPTION	MATERIAL	QTY	SR NO.	DESCRIPTION	MATERIAL	QTY
1.	CRYSTAL	GLASS	1	5.	LEVEL WITH GEAR	BRASS	1
2.	FLOAT	BRASS	1	6.	FLOAT ARM	BRASS	1
3.	MAIN BODY	CAST AI.	1	7.	LABEL WITH SERIAL NO.	ALUMINUM	1
4.	LIMIT STOPPERS	AI. ROD	2	8.	TERMINALS	BRASS	-

FIG. 4. MOUNTING PAD

6 STUDS OF M10 ON 165 PCD

LEAK PROOF
WELDING

A

A

HOLE IN TANK
Ø 120

Ø 190

31

TOP VIEW   **SECTION A-A**

MOUNTING PAD & GASKET NOT SUPPLIED BY SUKRUT

FIG. 5. SWITCH CONTACT POSITION

AT NORMAL
LEVEL

AT MIN.
LEVEL

MICROSWITCH

INTERNAL
WIRING

EXTERNAL
WIRING

TERMINAL
PLATE
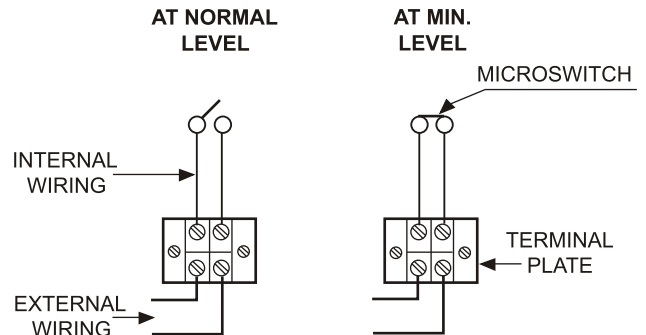
CONTACT RATING 5A 240V AC, 0.25A 240 V DC
SWITCH RESETS AUTOMATICALLY WHEN OIL LEVEL IS BROUGHT TO NORMAL

GENERAL NOTES :

1. Indicators of different specifications are not interchangeable. Hence care should be taken while storing Indicators and their Float with Arms. This indicator can be used for vertical or inclined mounting as per order.
2. Float & Indicator, loose or assembled, should be handled carefully as they cannot be repaired if damaged.
3. The complaint of damage or demand for spares should be very specific with respect to Sr. No. of indicator. Lot of correspondence and time can be saved just by informing Sr. No. of concerned Indicator.

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