

# TITLE: SURFACE WIRING FOR 13A SWITCH SOCKET OUTLET - RADIAL CIRCUIT

## OBJECTIVES

1. Introducing switched socket outlet.
2. Understand how to installed sso- radial circuit.
3. Know how to carry out testing of the completed installation.

## SWITCHED SOCKET OFTLET

Switched socket outlet (sso) is a power point or terminals where electrical appliances such as TV, fridge, fan and etc drawn supply from the wiring system. There are various type and size of switched socket outlet. The socket outlet may have two, Three or four points depending on current rating and their usage. The points are marked as earth, Neutral and live terminal as shown in Figure 1.

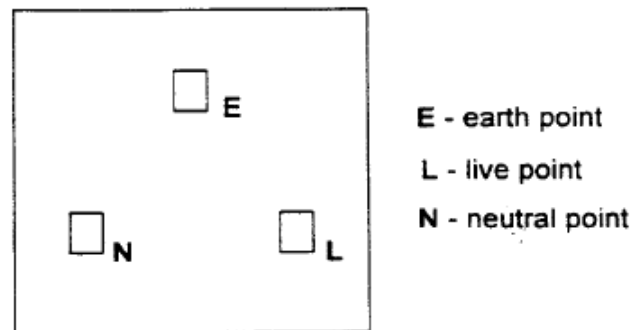


Figure 1

Rating of the switched socket outlet according to British Standard (BS) are 2A, 5A, 13A, 15A and 30A for domestic users and 16A, 32A and 63A for industrial users. In the domestic wiring, 13A switched socket outlet is used for normal appliances with power rated at 250W. 15A switched socket outlet is normally used for air-conditioning with power rated at 500W.

Switched socket outlet are normally installed using radial or ring circuit. Normally, there are only two switched socket outlet can be cascaded in radial circuit as shown in Figure 2a. In the ring circuit, ten switched socket outlets can be connected in series. In the normal practice, six switched socket outlet can be connected in the ring circuit controlled by 30A fuse. Ring circuit are shown in Figure 2b.

## **TOOLS**

Hand tools :

1. Hammer
2. Pliers and gimlet
3. Screw driver and screw
4. Wire cutter. wire stripper
5. Iron nail
6. Grip cable strip lead
7. Multimeter

## **Components :**

1. Service fuse- 60A, box for kWh meter
2. Distribution Fuse Board ( DFB)
3. 5 units of three pins switched socket outlet
4. 2.5 mm<sup>2</sup> cables ( black. green)
5. 4 mm: cables (red. black. green).

## **PROCEDURES**

1. Interpret the wiring circuit diagram shown in Figure 3 and visualize the layout plan to the work place.
2. Mark the position of the cable route and components.
3. Select tools needed and prepare saddles/clips to specified cable sizes.
4. Select the appropriate size of cable. layout the cables and prepared for installation.
5. Install and connects switched socket outlets. DFB. service fuse. and kWh meter.
6. Perform visual inspection on the completed installation. Check and test the installation using appropriate meters.
7. Maintain all tools and equipments.

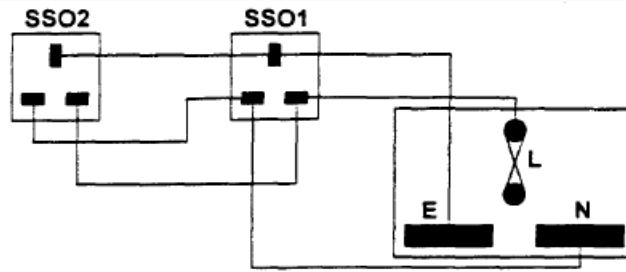


Figure 2a : Radial circuit

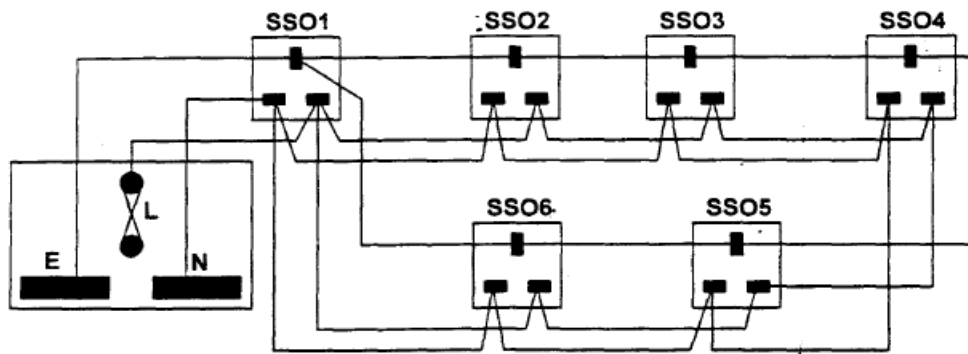


Figure 2b : Ring circuit

Wiring Diagram for Switch Socket Outlet 13A