



Guidance Note - The correct installation and use of Ecosmart Data Cable

Introduction

All Ecosmart products are supplied with prepared lengths of four core data cable as standard. Cable installation is described in the relevant product manuals but to avoid the effects of electro magnetic interference (EMI) and to ensure a successful installation the need for close observance of the advice given cannot be over emphasised.

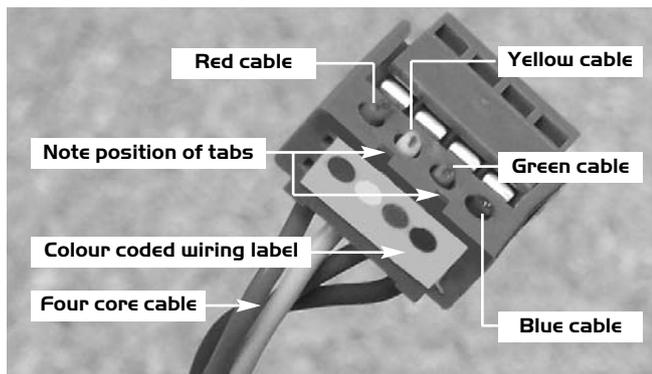


Figure 1. Four core data cable inserted into IDC plug. Cable ends shown protruding on the top side of the plug.

IMPORTANT

The plastic male plug has moulded 'tabs' or protrusions (see fig. 1) on one side to match and lock it to the board mounted socket thereby ensuring that correct electrical connection is made, so its imperative that the cables are offered to the right side of the plug in precisely the right sequence. Do not force the plug in to the socket.

The Data Cable

To ease installation and to avoid wiring error, the cable is supplied prepared with insulation displacement connector (IDC) plugs pre fitted to match the sockets in controls and sensors.

- The IDC plugs are suited only to cable of the specification supplied.
- Additional cable lengths are available, e.g. (SCBL-2.5 mtrs): SCBL-2.5, SCBL-5, SCBL-20, SCBL-30, SCBL-40, SCBL-45, SCBL-50, SCBL-100 and SCBL-105, which is a 10 mtrs length of identical cable but screened.
- Additional IDC plugs are available in packs of ten, SCBL-IDCPLUG.



Installation

- Always isolate the mains to the equipment involved prior to cutting cable or making any connections.
- Do not run data cable in the same containment as mains carrying cables.
- Ensure there is at least 50mm separation between data and mains carrying cables.
- If Data and mains cables have to cross be sure they cross at 90° to each other.
- Keep cable runs as short as possible, the maximum

distance between Ecosmart devices is 300 mtrs and the maximum length of data cable on any system should not exceed 1000 mtrs, refer to the product data sheet.

- Jointing connectors are supplied with every length of cable but use as few joints as possible.
- Do not join ecosmart data cable with cables of different specification.
- Try not to draw data cable through a conduit, if it must be done then ensure it is not stretched or damaged in the process.
- Do not cut data cable when connected in a network or a mains control.
- If a cable has to be cut or the plug removed observe the following advice for reinstatement.
- Do not reuse IDC plugs - always use new.

To shorten or repair a data cable, replace or fit a plug

- Remove the outer protective sheath to reveal the four insulated conductors RED, YELLOW, GREEN and BLUE.
- Because the plug is an 'Insulation Displacement Connector' (IDC) it's not necessary to 'skin' or remove the insulation to reveal the conductive core, when the two halves of the plug are brought together small vee shaped blades in the moulding cut through the cable insulation to make contact with the conductive core.
- Offer the four conductors to the IDC plug in coloured sequence and from the correct side and close/ crimp the two halves of the plug together. The plug has a label with the cable colours to assist with the correct sequencing of wires.
- There's not a propriety tool for the connection and fitting of IDC plugs but to ensure the vee shaped blades cut the insulation evenly, and contact the conductive wire, the closing action must be a parallel motion. We use a parallel action jawed pliers. (RS components Ref. 549-331).

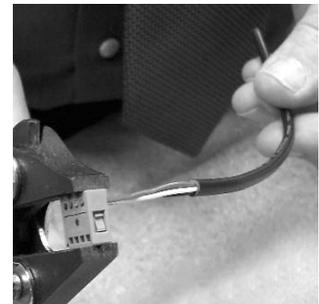


Figure 2. Crimping the plug.



Figure 3. Parallel action pliers.

IMPORTANT

To ignore the advice given could produce system errors, invalidate product warranty and incur costly service charges to correct.