

# CABLE INSTALLATION GUIDELINES

The following information is intended as a guide only. Local or national requirements should be taken into consideration when installing CQR cables.

## ELECTRICAL INTERFERENCE

As all CQR cables are intended for use with a maximum voltage of 50Vac/dc, they should be segregated from Low Voltage cables (50V-1000V) this is to avoid any unnecessary electrical interference, such as electrostatic (due to electrical fields) or electro-magnetic (due to electro-magnetic fields) both of which may cause damage to sensitive components.

The use of screened cable should be considered where it is not practical to avoid this situation.

## VOLTAGE DROP

When selecting the appropriate cables, you should consider the minimum voltage required by the systems components. (Measured in the maximum current condition) To aid you in this, CQR have a voltage drop calculator, which is available for download from [www.cqr.co.uk](http://www.cqr.co.uk)

## PRESENCE OF CORROSIVE OR POLLUTING SUBSTANCES

If the cable is to be installed in a corrosive or polluted environment, including water, it shall be suitably protected to resist such substances.

## CABLE INSTALLATION

Precautions should be taken to avoid mechanical damage to the cable before and during installation. Cables should be run in positions where there is the least risk of physical damage. If risk of damage exists the cable should be mechanically protected e.g. by ducting, trunking or conduit. If these are made of a conductive material, they should be earthed.

*Note: Physical damage might include damage caused by other persons or vermin.*

All cables should be adequately supported every 300mm when installed horizontally. When installed vertically, it should be supported every 400mm.

The fixing used to support the cable should be suitable for the location and environment that the cable is installed. Care should be taken when affixing clips etc. to ensure they do not damage the cable sheathing or the core insulation.

Consideration for local or national requirements for the fixing of cable should also be considered.

## ELONGATION OF CABLE

Care should be taken when installing cables. Do not use excessive force when pulling through walls, conduit, floors and other restricted access points. This may damage the sheathing/insulation and could also cause the conductor resistance to increase, which may affect voltage drop along the cable length. Particular care should be taken when using CCA conductors.

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## **BEND RADIUS**

The radius of the bend in the cables shall be such that the conductors or cables do not suffer damage, or the terminations stressed.

The minimum bend radius for standard cables is 6 x outside diameter of the cable, for screened cables the minimum bend radius is 10 x outside diameter of the cable.

## **INSTALLATION TEMPERATURES**

Cables should only be installed when the cable and ambient temperatures are between 0°C to +40°C.

If the cables have been stored below 0°C or above +40°C, the cable should be allowed to reach the installation temperature as stated above.

## **OPERATING TEMPERATURES**

Minimum -15°C Maximum +70°C

The cables should not be flexed or bent if the cable is not within the installation temperatures above.

## **SCREENED CABLES**

Where screened cables are used, each joint of the drain wire shall be made mechanically and electrically secure and the drain wire insulated. The drain wire shall be connected at one end only and to a suitably earthed connection.