



## Installation Guidelines

### Standards

Follow the correct electrical installation procedure and legislation

### Cables

- DO use the correct type of cable for the application
- DO ensure that loop resistance values are not excessive
- DO ensure that the cable is suitable for its intended environment
- DO avoid major sources of interference when planning cable runs
- DO segregate IS and other signals
- DON'T exceed maximum cable parameters for IS systems
- DON'T run the cable over sharp edges or around overly tight bends
- DON'T overstress cable support cleats/ties

### Junction Boxes

- DO use boxes appropriate to the environment
- DO use adequate sizes of field junction box
- DO allow for spare ways and future expansion
- DO mount field junction boxes at working height
- DO mount detectors in accessible locations, at the correct height
- DO mount detectors away from contaminants
- DO employ a combination sun and rain shield in all outdoor locations
- DO remember that water can't get OUT of weatherproof boxes once it's inside!
- DO employ a weather resistant tag to identify the equipment
- DO protect the equipment from paint and other contaminants
- DO take steps to prevent water/product ingress through the cables

### Glanding

- DO get it right first time. It's very difficult to correct it later!
- DO use the right type of gland for the application
- DO leave generous service loops in the sensor cables
- DO fit a sealing washer if required for weatherproofing
- DO ensure that any shield is properly isolated from metalwork and gland body
- DO ensure that the SWA earthing is continuous and vibration proof
- DO ensure that the cable sheath makes a weatherproof seal
- DON'T use tape for weatherproofing
- DON'T hide bad workmanship under shrouds.

## Gas Detection at its Best

Registered In England No. 3094745

Registered address. Sure-Safe Ltd, College Farm Business Centre, North End, Meldreth, Royston, Herts. SG8 6NT

Tel: 01763 262649 Fax: 01763 263134 Email: [service@sure-safe.com](mailto:service@sure-safe.com) Web: [www.sure-safe.com](http://www.sure-safe.com)



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### Terminations

- DO sleeve and terminate drain wires correctly
- DO remain consistent in the allocation of wire colours
- DO remember to attach cable and termination markers to aid maintenance
- DO ensure that cable insulation extends right up to the throat of the terminal
- DO ensure that there are no bare wires
- DO use the correct tool for crimp connections
- DO pull test every one before termination
- DO use a terminal screwdriver to avoid cracking terminals
- DO ensure that terminal screws are adequately tight

### Earthing

- DO maintain separation of Safety, Instrument and IS Earths
- DO ensure that earth continuity is maintained through field junction boxes
- DO ensure that metallic outer enclosures are adequately earthed for safety
- DO allow for any IS Barriers in systems with earth fault monitoring

### Testing

- DO complete the cable insulation testing BEFORE final termination at either end
- DO record the cable loop resistance values to aid troubleshooting later

### Lightning

- DO keep instrument cables away from susceptible power and earth cables
- DO fit surge protectors in areas subject to severe electric storms

### Documentation

- DO track all changes by updating the system documentation

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