

Gas detection system Installations generally have differing methods of connection for Earth and screens and unfortunately some can cause problems with the operation of equipment through earth loops and signal noise. This document therefore states the preferred method of connection for land and marine based GDS equipment.

## Installation

- Screened 1.5mm multi core cables should be used in preference to non screened
- From GDS equipment power and signals can exist in the same multi core cable
- The electronics is floating and not connected to the sensor enclosure

### Single sensor – 3 terminal

3 core plus screen for use with powered 4-20mA sensors wired to a control panel.

- core 1 is power from panel (usually 24v )
- core 2 is zero volts from panel (0V)
- core 3 is signal (source to GDS panels)

screen is wired to zero volts at the panel only - i.e. do not connect screen at the sensor head

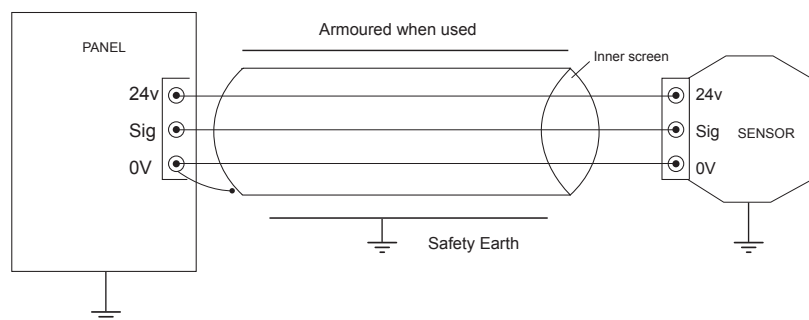
The sensor metal enclosure should always be connected to safety earth.

Do not connect to zero volts.

Screen and safety earth should be kept separate.

Where armoured and screened cables are used only the armoured sheath should be connected to safety earth.

Where the screen cannot be separated from the safety earth do not connect the screen to zero volts.

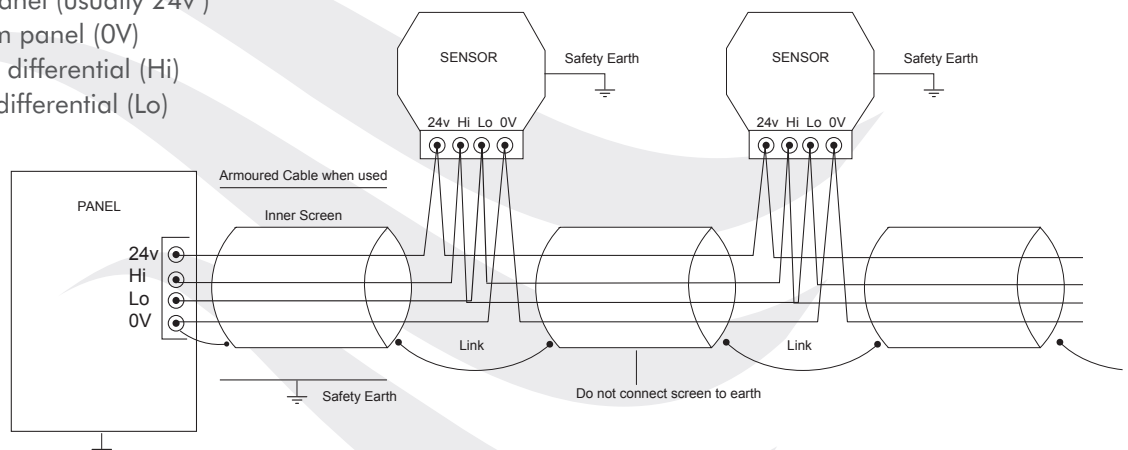


### Multi drop Installations with data – 4 terminal

For GDS networked sensors, a single cable is used with 2 or more sensors connected in parallel along the length of the cable. Power and signals (usually data packets) can exist in the same multi core cable.

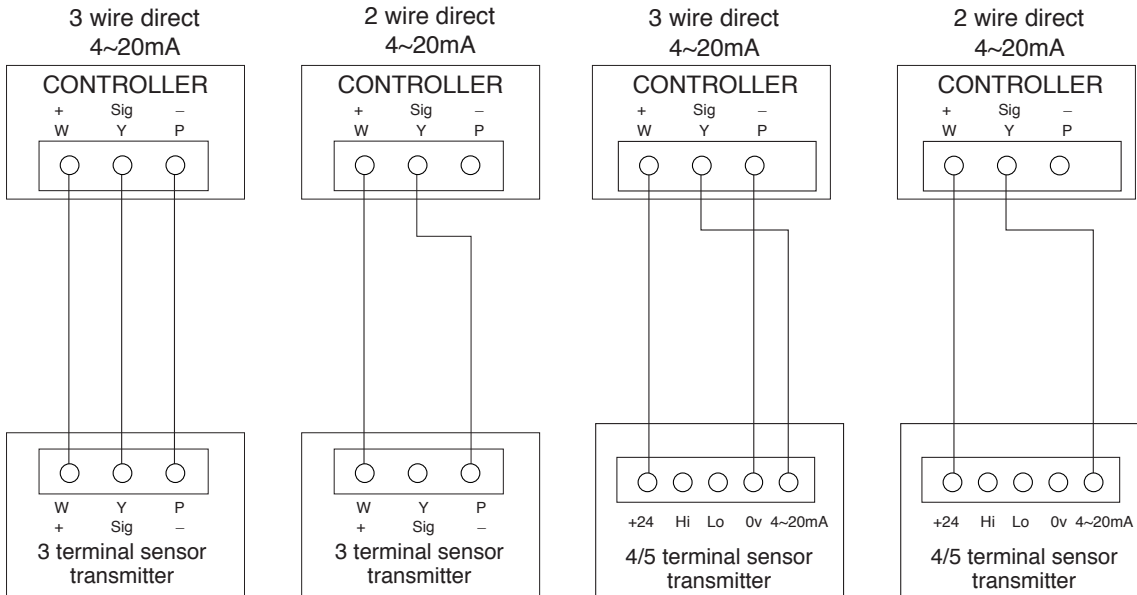
4 core plus armour and screen for use with powered intelligent sensors wired to a control panel.

- core 1 is power from panel (usually 24v )
- core 2 is zero volts from panel (0V)
- core 3 is signal data + differential (Hi)
- core 4 is signal data - differential (Lo)



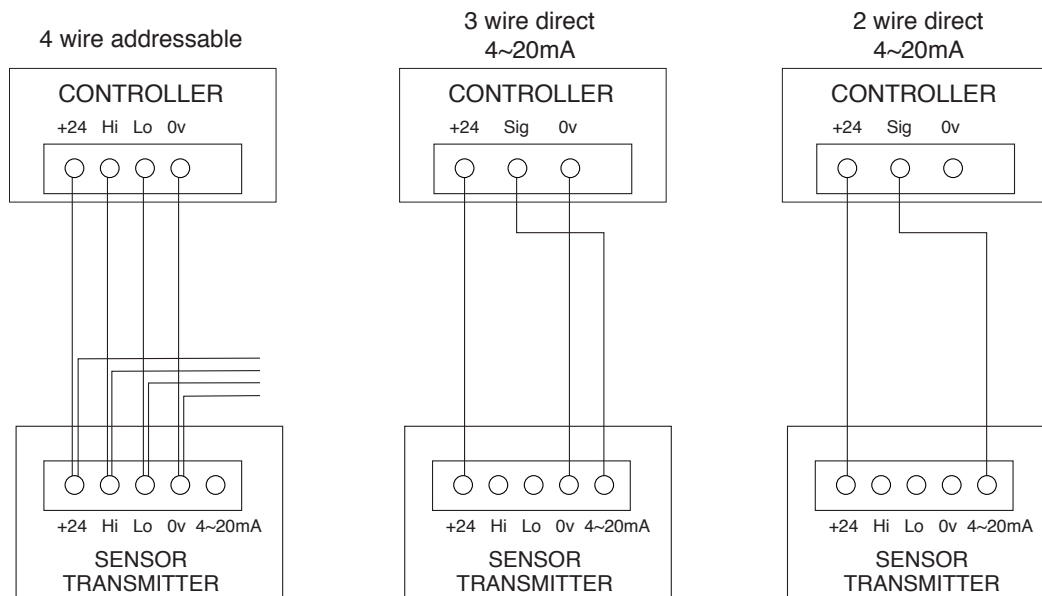
### 3 SENSOR TERMINAL CONTROLLERS (1.5mm cable)

GDS10/10+/100/101/404/2000/2010



### MULTI SENSOR TERMINAL CONTROLLERS (1.5mm cable)

Combi/Combi Lite



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