



## MI3 QuickStart

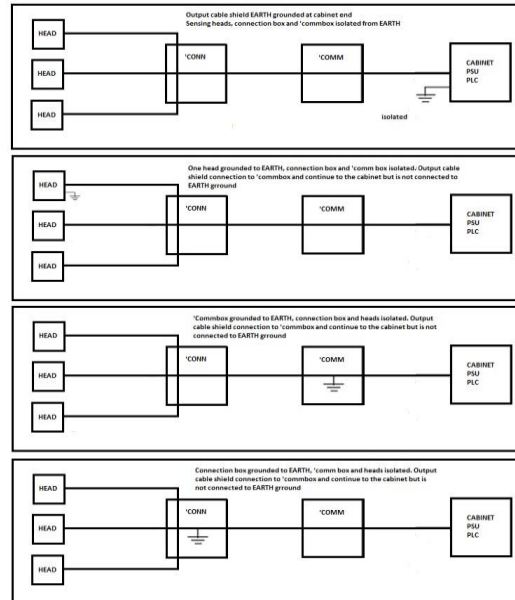
### Miniature Infrared Sensor



V06/2023

### Step 1 – Ensuring reliable operation

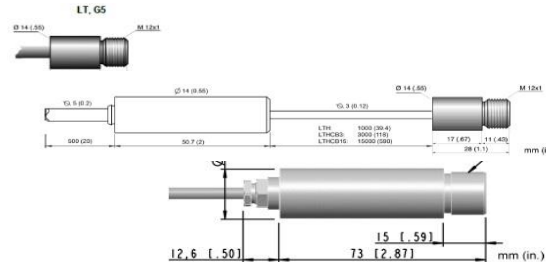
The MI3 uses a digital I2C bus for communication between the sensing head and communication box. Care must be taken with respect to grounding and shielding. To ensure reliable operation please only use a single point to connect to EARTH ground. In case of multiple heads it is advised to electrically isolate all heads using an air purge collar or isolated bracket. Further information can be found in the manual pages 22-32. 4 examples below show single point grounding. Examples 1 and are the most typical.



### Step 2 – Identifying head model and serial number

There are 3 basic types of sensing head. They are automatically recognised by the 'COMM box and identified by their serial number.

When installing multiple heads please make a note of the serial number stamped on the head itself and location. The head number can be modified by the front panel of the sensor. Please read pages

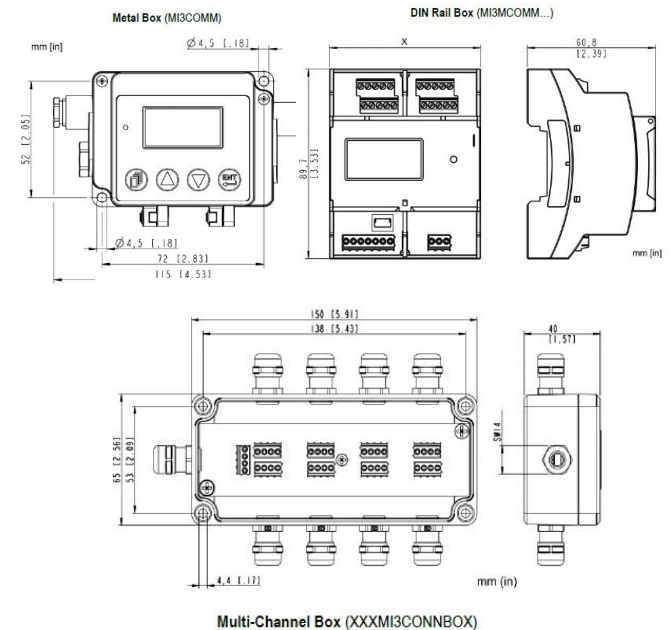


33 and 47 for further information

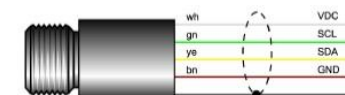
Step 3 – If necessary fit the air purge collar. This only applies to MI3 LT and G5, MI3LTH will have the air purge collar installed during manufacture. For the MI3100, the air purge collar can be installed at any time. Please read page 63 of the manual



Step 4 – Head to box connection. There are 2 basic versions of the communication box. 'COMM(metal) and 'MCOMM (plastic). There is also a 'CONN box for connection up to 8 heads



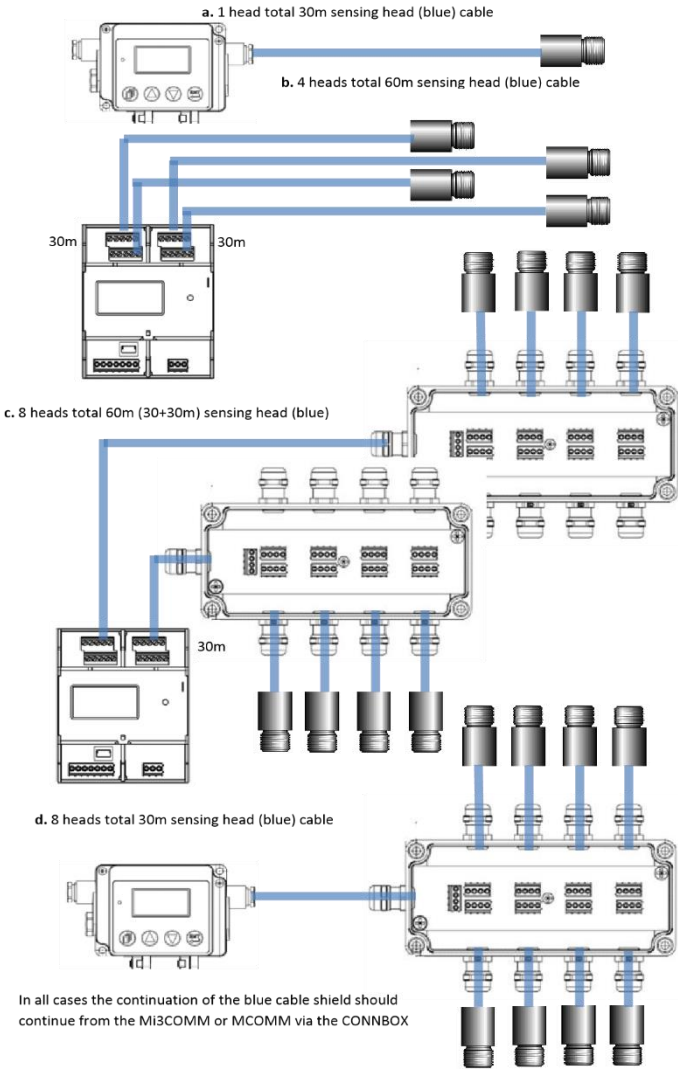
For the sensing head, shielded 4-wire cable is used for power supply and communication. To avoid inaccurate measurement and communication, the cable shield should be connected to the housing or shield connection of the COMM box. The sensor cable may be shortened, if necessary, but keep a minimal length of 20 cm (7.9 in).



Step 5 – Examples of installation schemes (for consideration of maximum total cable length)

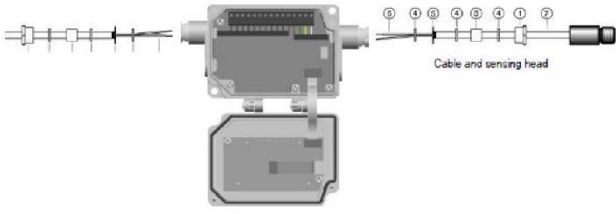
The total head to box cable length affects the overall cable capacitance. The Mi3COMM (metal box) has a single I2C bus and can accommodate a total cable length of 30m. The Mi3MCOMM has a dual I2C bus and can accommodate 60m but installed as 2 x 30m, see example c.

Intermediate connectors may be used with consideration to minimise capacitance. The overall cable length may need to be reduced.

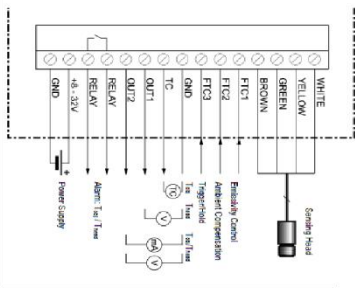


In all cases the continuation of the blue cable shield should continue from the Mi3COMM or MCOMM via the CONNBOX

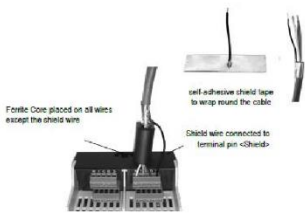
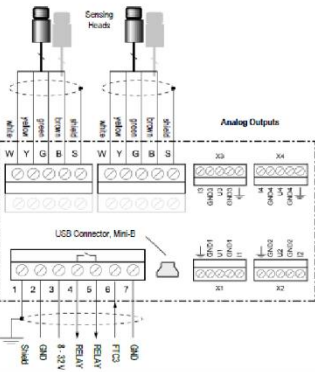
Step 6 – Head – Connection Box – Communication Box – Control System Connection



The Mi3 head cable is shielded and must connect with the 'COMM box housing or the 'MCOMM box shield terminal. Any input/output cables should be shielded. The output cable shield will be terminated at the cabinet,plc,psu end only if all other parts of the the Mi3 are isolated from EARTH ground. Further information in sections 5 and 13 of the manual.

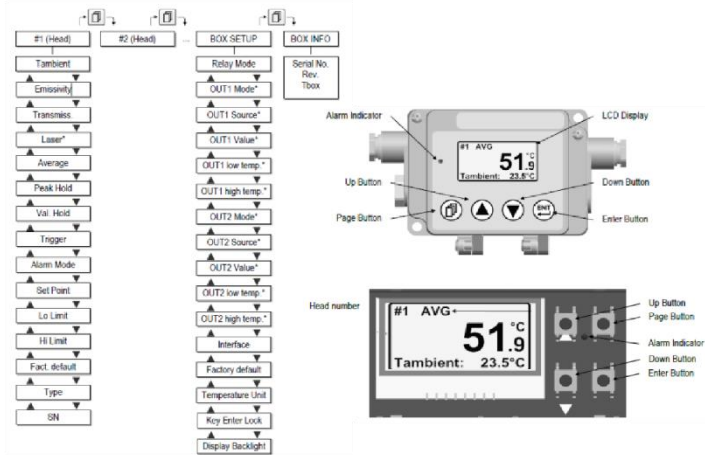


Mi3MCOMM



30m

Step 7 – Modify Parameters, define Outputs and head numbering etc (manual Section 8)



The head number can be changed in the SN entry. In case the display is locked – press PAGE and ENTER simultaneously for 3s or until the padlock icon disappears. mA is only available on OUT2. OUT2 Source needs to be changed to the head number and OUT2 Value should be set to Tobject. For further information see section

Serial Number of head	Installed Location	Head Number before	Head Number after	Notes

Additional notes: