

### 1. Which gases are detected by the OLCT 10N?

The following gases are detected by the OLCT 10N:

| Gases                                    | Range                                |
|--|--------------------------------------|
| Methane (CH <sub>4</sub> )               | 0-100% LEL                           |
| Hydrogene (H <sub>2</sub> )              | 0-100% LEL                           |
| Propane (C <sub>3</sub> H <sub>8</sub> ) | 0-100% LEL                           |
| Butane (C <sub>4</sub> H <sub>10</sub> ) | 0-100% LEL                           |
| Oxygen (O <sub>2</sub> )                 | 0-30% vol                            |
| Carbon monoxide (CO)                     | 0-300 ppm<br>0-1000 ppm              |
| Hydrogen sulfide (H <sub>2</sub> S)      | 0-30 ppm<br>0-100 ppm                |
| Nitrogen monoxide (NO)                   | 0-100 ppm<br>0-300 ppm               |
| Nitrogen dioxide (NO <sub>2</sub> )      | 0-10 ppm<br>0-30 ppm                 |
| Ammonia (NH <sub>3</sub> )               | 0-100 ppm<br>0-1000 ppm              |
| Carbon dioxide (CO <sub>2</sub> )        | 0-5000 ppm<br>0-5% vol<br>0-100% vol |

### 2. What is the certification of the OLCT 10N?

The OLCT10N is IP65 and ATEX II 3GD. It may be used in ATEX 2 (Gas) and 22 (Dust) locations. OLCT 10N for CO<sub>2</sub> detection are not ATEX approved and should be placed only in safe area.

The OLCT 10N meets the requirements of EN 50270 (electromagnetic compatibility).

### 3. Which Oldham controllers are compatible with the OLCT 10N?

The OLCT 10N was designed to work exclusively with the MX43 controller to offer the user maximum functionality.

### 4. Can the OLCT 10N be used with a PLC?

No. The OLCT 10N uses a proprietary protocol and should be used only with the MX43.

# OLCT 10N



### 5. What type of cable should I use?

As it is a digital detector, one pair is needed for the power supply and one twisted and shielded pair is required for RS485 communication. The core size of the power cable depends on the number and type of detectors on the line (see the user manual). A 24 AWG cable (0.22 mm<sup>2</sup>) is appropriate for the RS communication.

### 6. How many OLCT 10N detectors can I use on one line of the MX 43?

The following table summarizes the maximum line lengths to be used according to the cross-section and number of sensors connected to a MX 43 controller without adding an external power supply.

#### Line length for OLCT10N Toxic and O<sub>2</sub>

With any MX 43 mother board versions

| Number of OLCT 10N detectors used to detect toxic gases or oxygen (except CO <sub>2</sub> versions) | Line cross-section            |                              |                               |
|---|-------------------------------|------------------------------|-------------------------------|
|   | 0,75 mm <sup>2</sup> (AWG 18) | 0.5 mm <sup>2</sup> (AWG 20) | 0.22 mm <sup>2</sup> (AWG 24) |
| 10  |                               |                              | 1000 (3200ft)                 |
| 20  |                               | 1000 (3200ft)                | 900 (2950ft)                  |
| 25  |                               | 1000 (3200ft)                | 500 (1600ft)                  |
| 32  | 1000 (3200ft)                 | 800 (2625ft)                 | 300 (980ft)                   |

**Line length for OLCT10N CO<sub>2</sub>**

MX 43 with Rev. A or B mother board

| Number of OLCT 10N detectors used to detect CO <sub>2</sub> | Line cross-section            |                              |                               |
|---|-------------------------------|------------------------------|-------------------------------|
|   | 0,75 mm <sup>2</sup> (AWG 18) | 0.5 mm <sup>2</sup> (AWG 20) | 0.22 mm <sup>2</sup> (AWG 24) |
| 1   |                               |                              | 1000 (3200ft)                 |
| 2   |                               | 1000 (3200ft)                | 500 (1600ft)                  |
| 5   | 1000 (3200ft)                 | 600 (1960ft)                 | 250 (820ft)                   |
| 10  | 550 (1800ft)                  | 300 (980ft)                  | 125 (410ft)                   |
| 12  | 450 (1470ft)                  | 250 (820ft)                  | 100 (320ft)                   |

**MX 43 with Rev. C mother board**

| Number of OLCT 10N detectors used to detect CO <sub>2</sub> | Line cross-section            |                              |                               |
|---|-------------------------------|------------------------------|-------------------------------|
|   | 0,75 mm <sup>2</sup> (AWG 18) | 0.5 mm <sup>2</sup> (AWG 20) | 0.22 mm <sup>2</sup> (AWG 24) |
| 1   |                               |                              | 1000 (3200ft)                 |
| 2   |                               | 1000 (3200ft)                | 500 (1600ft)                  |
| 5   | 1000 (3200ft)                 | 600 (1960ft)                 | 250 (820ft)                   |
| 10  | 550 (1800ft)                  | 300 (980ft)                  | 125 (410ft)                   |
| 20  | 250 (820ft)                   | 150 (490ft)                  | 60 (190ft)                    |
| 30  | 180 (590ft)                   | 100 (320ft)                  | 40 (130ft)                    |

**Line length for OLCT10N catalytic**

MX 43 with Rev. A or B mother board

| Number of OLCT 10N detectors equipped with a catalytic sensor (LEL versions) | Line cross-section            |                              |                               |
|--|-------------------------------|------------------------------|-------------------------------|
|  | 0,75 mm <sup>2</sup> (AWG 18) | 0.5 mm <sup>2</sup> (AWG 20) | 0.22 mm <sup>2</sup> (AWG 24) |
| 1  |                               | 1000 (3200ft)                | 500 (1600ft)                  |
| 2  | 1000 (3200ft)                 | 600 (1960ft)                 | 250 (820ft)                   |
| 3  | 750 (2460ft)                  | 400 (1300ft)                 | 180 (590ft)                   |
| 4  | 600 (1960ft)                  | 330 (1080ft)                 | 150 (490ft)                   |
| 5  | 450 (1470ft)                  | 250 (820ft)                  | 100 (320ft)                   |

MX 43 with Rev. C mother board

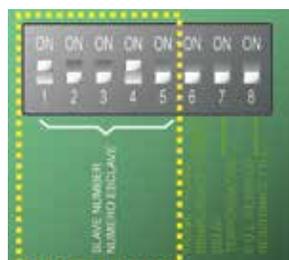
| Number of OLCT 10N detectors equipped with a catalytic sensor (LEL versions) | Line cross-section            |                              |                               |
|--|-------------------------------|------------------------------|-------------------------------|
|  | 0,75 mm <sup>2</sup> (AWG 18) | 0.5 mm <sup>2</sup> (AWG 20) | 0.22 mm <sup>2</sup> (AWG 24) |
| 1  |                               | 1000 (3200ft)                | 500 (1600ft)                  |
| 2  | 1000 (3200ft)                 | 600 (1960ft)                 | 250 (820ft)                   |
| 3  | 600 (1960ft)                  | 400 (1300ft)                 | 180 (590ft)                   |
| 4  | 450 (1470ft)                  | 300 (980ft)                  | 150 (490ft)                   |
| 5  | 350 (1140ft)                  | 250 (820ft)                  | 100 (320ft)                   |
| 6  | 300 (980ft)                   | 200 (650ft)                  | 100 (320ft)                   |
| 7  | 250 (820ft)                   | 175 (570ft)                  | 75 (240ft)                    |
| 8  | 225 (730ft)                   | 150 (490ft)                  | 50 (160ft)                    |
| 9  | 200 (650ft)                   | 125 (410ft)                  | 50 (160ft)                    |
| 10   | 175 (570ft)                   | 100 (320ft)                  | 50 (160ft)                    |
| 13   | 125 (410ft)                   | 75 (240ft)                   | 30 (90ft)                     |

**7. Can we mix OLCT 10N CO and OLCT 10N methane on the same line of an MX43?**

Yes. As it is a digital line, you can attach up to 32 detectors on the same line. Relay, analog input, logic input and analog output modules can all be connected on the same line as the OLCT 10N since they are all digital signals. Additional power supplies may be required depending on the configuration of the line.

**8. How is the address of the OLCT 10N programmed?**

Addresses are configured via dip switch on each detector.



**9. What should I do if one detector is the last module of the line?**

The last switch (EOL resistance for End of Line resistance) has to be set to "ON" when the detector is the last on the line.

**10. Does the OLCT 10N deliver an analog output?**

No. The OLCT 10N is a digital transmitter.

**11. Should I calibrate once a sensor or a detector has been replaced?**

After each sensor or detector replacement, you must initiate a manual and then automatic calibration.

**12. When the OLCT 10N is connected to the MX43, can we calibrate several detectors at the same time?**

Yes. When the OLCT 10N is connected to the MX43, you can calibrate up to 32 detectors at once.

**13. What is needed to calibrate the OLCT 10N transmitter?**

A calibration cap and magnet allow one-man, non-intrusive calibration. Simply place the magnet on the detector and a bicolour LED tracks the calibration process.



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**AMERICAS**  
Tel.: +1-713-559-9280  
Fax: +1-281-292-2860  
[americas@oldhamgas.com](mailto:americas@oldhamgas.com)

**EUROPE**  
Tel.: +33-3-21-60-80-80  
Fax: +33-3-21-60-80-00  
[info@oldhamgas.com](mailto:info@oldhamgas.com)

**ASIA PACIFIC**  
Tel.: +86-21-3127-6373  
Fax: +86-21-3127-6365  
[sales@oldhamgas.com](mailto:sales@oldhamgas.com)