- GAS SENSOR >> MI-02

01 SPECIFICATIONS

| Type | All-in-one (with a sensor and a temperature compensation device) |
| :---: | :--- |
| Model | Ml-02 |
| Sensing Type | Catalytic Combustion (Hot Wire) Type |
| Detectable Gases | Methane, Butane, LNG, LPG |
| Bridge Voltage | DC $2.3 \mathrm{~V} \pm 10 \%$ |
| Current to Element | Less than $210 \mathrm{~mA} \pm 10 \mathrm{~mA}$ |
| Power Consumption | $0.46 \mathrm{~W} \pm 10 \%$ |
| Initial Stabilization Time | 30 secs $\pm 10 \%$ |
| Response Speed | Within 10 secs |
| Temperature Catalyst | $425^{\circ} \mathrm{C} \pm 15^{\circ} \mathrm{C}$ (Calculating Valve) |
| Temperature Range | $-20^{\circ} \mathrm{C} \sim 50=$ |
| Platinum coil resistance | $2.1 \Omega \pm 0.05 \Omega$ |
| Straight | Very Good |
| Sensitivity in Voltage |  |
| from Bridge | Higher than 22 mV at0.20\% of iso-butane(i-C4H10) or $0.04 \%$ of Methane (CH4) |
| Sensor Duration | More Than 3 Year |

## 1.OUTLINE DRAWING (MI-02)



Dimensions are approximated, real tolerances can be greater.


DENSITY
SENSITIVIY(mV)

| GAS | (\%) | (ppm) | \% Of LEL | AVE | Min | Max | Not more than 10.0 mV |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{gathered} \text { ISO-BUTANE } \\ (\text { I-C4H10 }) \end{gathered}$ | 0.066 | 660 | 3.7 | 7.8 | 6.5 | 9.3 |  |
|  | 0.100 | 1,000 | 5.6 | 12.8 | 11.1 | 14.8 |  |
|  | 0.200 | 2,000 | 11.1 | 22.8 | 19.5 | 26.2 |  |
|  | 0.300 | 3.000 | 16.7 | 31.4 | 26.4 | 35.9 |  |
|  | 0.400 | 4,000 | 22.2 | 39.1 | 32.3 | 44.6 |  |
| LEL. $1.8 \%$ | 0.500 | 5,000 | 27.8 | 46.3 | 38.0 | 52.4 |  |
| $633 \mathrm{Kcal} / \mathrm{mol}$ | 0.600 | 6,000 | 33.3 | 52.9 | 43.5 | 60.0 |  |
|  | 0.700 | 7,000 | 38.9 | 61.1 | 49.7 | 69.6 |  |
|  | 0.800 | 8,000 | 44.4 | 66.3 | 54.4 | 75.6 |  |
|  | 0.900 | 9,000 | 50.0 | 70.9 | 57.7 | 81.5 |  |
|  | 1.000 | 10,000 | 55.6 | 75.7 | 60.9 | 85.3 |  |
|  | 0.080 | 800 | 1.6 | 4.3 | 2.8 | 6.7 | Not more than 10.0 mV |
|  | 0.200 | 2,000 | 4.0 | 12.0 | 10.5 | 14.0 |  |
|  | 0.320 | 3.200 | 6.4 | 19.5 | 17.0 | 22.5 |  |
|  | 0.400 | 4,000 | 8.0 | 24.3 | 21.5 | 28.1 |  |
|  | 0.520 | 5,200 | 10.4 | 31.9 | 28.3 | 36.7 |  |
|  | 0.600 | 6,000 | 12.0 | 37.1 | 33.2 | 42.1 |  |
| METHANE <br> (CH4) | 0.720 | 7.200 | 14.4 | 44.7 | 40.0 | 50.2 |  |
|  | 0.800 | 8,000 | 16.0 | 50.1 | 44.0 | 56.4 |  |
| $\begin{aligned} & \text { LEL: } 5.0 \% \\ & \text { S.G.: } 0.55 \end{aligned}$ | 0.920 | 9,200 | 18.4 | 58.2 | 52.2 | 65.5 |  |
| $192 \mathrm{Kcal} / \mathrm{mol}$ | 1.000 | 10,000 | 20.0 | 63.7 | 57.3 | 71.2 |  |
|  | 1.120 | 11,200 | 22.4 | 71.4 | 63.9 | 80.2 |  |
|  | 1.200 | 12,000 | 24.0 | 76.8 | 68.8 | 85.5 |  |
|  | 1.400 | 14,000 | 28.0 | 89.0 | 80.0 | 98.3 |  |
|  | 1.600 | 16,000 | 32.0 | 99.3 | 89.6 | 108.5 |  |
|  | 1.800 | 18.000 | 36.0 | 110.3 | 100.2 | 119.1 |  |
|  | 2.000 | 20.000 | 40.0 | 121.0 | 110.6 | 130.9 |  |



## 3. RECOMMENDABLE CIRCUIT DIAGRAM



