OI-2400 TOCSIN Correction Factors

The OI-2400 TOCSIN is capable of detecting various combustible gases with either the low-power infrared sensor or the catalytic bead (pellistor) sensor. The detector is calibrated at the factory for methane gas, but other combustible gases may respond differently and may have different explosive limits. While the OI-2400 does not provide for correction factors for various gases, the calibration gas concentration can be adjusted to accomplish the same objective. The OI-2400 TOCSIN combustible sensor response for various hydrocarbons are shown in Figure 1.
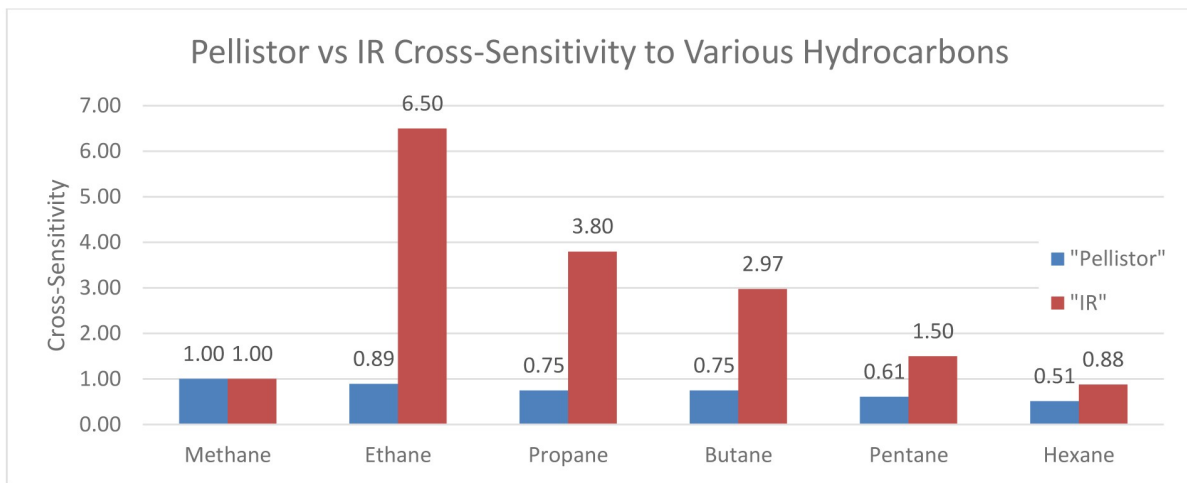

Figure 1. Hydrocarbon Cross-Sensitivities

The calibration gas concentration can be adjusted for the target gas sensitivity by multiplying the actual calibration gas of 2.5% methane (50% LEL) by the cross-sensitivity shown in Figure 1. The results are shown in Table 1.

Table 1. Methane Calibration Gas to OI-2400 TOCSIN Configuration

Target Gas	Pellistor		IR	
	Methane Concentration (%LEL)	MGC Setting (%LEL)	Methane Concentration (%LEL)	MGC Setting (%LEL)
Methane	50	50	50	50
Ethane	50	56	75	11.5
Propane	50	67	75	20
Butane	50	67	75	25
Pentane	25	41	50	33
Hexane	25	50	50	56.8
Ethylene			50	22.5

In order to adjust the calibration gas concentration, use the IR Link software the the IR Link. Under the *Advanced Options* is the option to adjust the *Calibration Gas* for the LEL sensor (Figure 2). After configuring the detector, complete the calibration procedures in the Operation Manual.
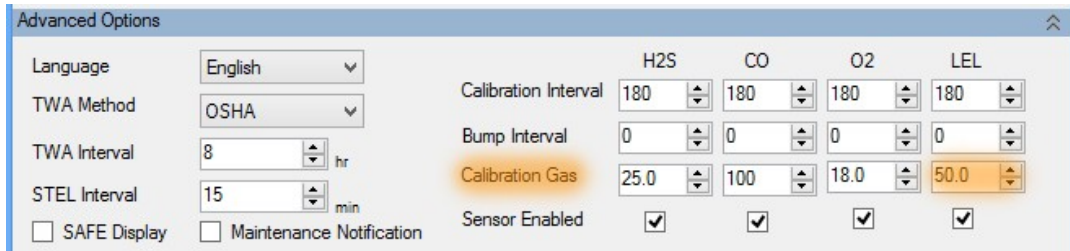

Figure 2. OI-2400 IR Link Calibration Gas Option

The OI-2400-DOCK can also be used to calibrate the detector. Using the TOCSIN Manager software, adjust the OI-2400-DOCK's LEL gas concentration (Figure 3).
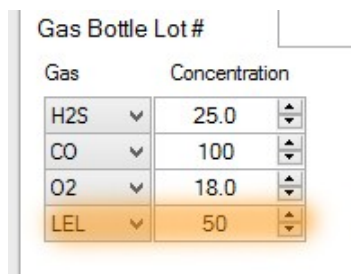

Figure 3. TOCSIN Manager Calibration Gas Option

NOTE: When working with both pellistor and IR based detectors, avoid using the OI-2400-DOCK to adjust the gas concentration.

NOTE: Always verify your calibration concentration and alarm thresholds are properly set for your target environment.