

## LINEAR ZERO & SPAN CALIBRATION EQUATIONS FOR GAS DETECTORS

### ZERO

$$Raw_{range} = (Range+B)/M$$

$$M_{zero} = Range/(Raw_{range}-Raw_{zero})$$

$$B_{zero} = M_{zero} * Raw_{zero}$$

### SPAN

$$M_{span} = SpanGas/(Raw_{span}-B/M)$$

$$B_{span} = M_{span} * Raw_{span} - SpanGas$$

Linear equation  $GasReading = M * Raw - B$  (1)

M=present slope

B=present Y intercept

Raw<sub>range</sub> = Present Raw variable (ADC) for detector range (default=32767)

Raw<sub>zero</sub> = Raw variable as read while zeroing the detector

Raw<sub>span</sub> = Raw variable as read while spanning the detector

Range = Detector range

SpanGas = Span Gas value from cylinder

Note(1): B is provided as a positive value to the detector program.

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