## *SPECIFICATIONS:*

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|---|---|
| **POWER SUPPLY VOLTAGE:** | + 4.5 VDC to + 5.5 VDC with suffix AAA = 050 |
| | + 8.0 VDC to + 30.0 VDC with suffix AAA = 100 |
| With suffix AAA = 050 positive and negative power supply spikes must be limited to less than .5 volts. | |

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| **POWER SUPPLY CURRENT:** | 400 ma., maximum, 220 ma. typical with all suffix AAA identifiers. |
| The maximum power supply current will occur when the display is reading – 1.888, other readings reduce the current. | |

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| **INPUT SIGNAL RANGE:** | +/- 1.999 volts dc with suffix BBB = 020 |
| +/- 5.000 volts dc with suffix BBB = 050 | +/- 10.00 volts dc with suffix BBB = 100 |
| +/- 100.0 volts dc with suffix BBB = 101 | + 4 to 20 ma. with suffix BBB = 420 |
| For all input ranges, the signals are internally scaled to +/- 1.999 volts. | |
| The maximum input voltage with suffix BBB = 020, 050 or 100 is +/- 100 volts dc. The maximum input voltage with suffix BBB = 101 is +/- 300 volts dc. The maximum input current with suffix BBB = 420 is 40 ma. Voltages or currents beyond those listed may cause permanent damage to the digital panel meter. | |

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| **INPUT SIGNAL IMPEDANCE:** | 1 meg ohm for all voltage inputs. |
| | 100 ohms with a 4 to 20 ma. current input range, suffix BBB = 420 |
| Meters with suffix BBB = 420 include the offset adjustment potentiometer as standard. | |

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| **INPUT BIAS CURRENT:** | 1 pA., typical. 10 pA maximum at 25 degrees C. |

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| **COMMON MODE REJECTION:** | 80 dB, typical from dc to 1 KHz. |
| Specified with a 1 kilohm unbalanced input. Specification is not 100% tested. | |

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| **COMMON MODE RANGE:** | The minus input must remain within plus or minus 3.5 volts, referenced to the digital common line. |

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|---|---|
| **RESOLUTION AND ACCURACY:** | Resolution is 1 mv. Accuracy is adjustable to plus or minus .1% of reading, plus or minus 1 count. |

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| **TEMPERATURE DRIFT OF ZERO:** | After the meter is autozeroed, drift will not exceed plus or minus 1 count from 0 degrees to + 50 degrees C. |

| | |
|---|---|
| **TEMPERATURE DRIFT OF GAIN:** | Plus or minus 100 ppm of reading per degree C,., maximum. |

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| **DISPLAY ARRANGEMENT:** | Polarity plus 3 decimal digits and most significant 1, 3 1/2 digits total. |

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| **MAXIMUM DISPLAY READING:** | + 1.999 to – 1.999, independent of the input signal range |

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| **DECIMAL POINT LOCATION:** | User selectable with the decimal point select jumper. |

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| **DISPLAY TYPE AND HEIGHT:** | Bright red, light emitting diode, .56 inch (14.2 mm) high. |

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| **DISPLAY SAMPLING TIME AND RATE:** | 100 msec. (nominal), 2.5 conversions per second. |

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| **DISPLAY OVERSCALE INDICATION:** | Displays leading "1" and sign, the other digits are blanked. |

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| **DISPLAY POLARITY INDICATION:** | A minus ("-") sign is displayed for negative inputs. No polarity is shown for positive input signals. |

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|---|---|
| **OPERATING TEMPERATURE RANGE:** | - 20 degrees C to + 70 degrees C. |

## *GENERAL DESCRIPTION:*

This digital panel meter is designed to be used as a general purpose operator interface device. Typically, these devices are used with external scaling circuits to provide speed, tension, flow or pressure information from voltage or current signals directly in engineering units. The 3 1/2 digit display provides a maximum reading of 1999. The decimal point position can be selected, by the user, to suit the application.

The display features bright red light emitting diodes that are readable up to 30 feet, in a typical installation. It is available with a optional internal potentiometer so that an offset reading can be obtained with a zero input to the meter, or, conversely a zero reading can be obtained with an offset input signal. This feature is standard on meters with a 4 to 20 ma. input rating. A full scale adjustment potentiometer is standard. A pin header and jumper are supplied to set the decimal position.

The meter will accept a bipolar DC or slowly varying AC input voltage and display its value on the seven segment numerical indicators. The balanced differential input allows the meter to be used with bridge or transducer signals. It provides the high noise immunity needed to measure very small signals in the presence of much higher common mode signals. The meter features a dual-slope analog to digital converter, seven segment display decoder-drivers, oscillator and a DC to DC converter on a single LSI microcircuit. A single plus 5 to 30 volt power supply is required for operation.

The meter is supplied in a compact low profile plastic case, with a bezel and the required mounting hardware. All external power and signal wiring is made to the terminal

## *PART NUMBERING SYSTEM:*

Option identifier suffix groups

Model series identifier

**B3035-AAA-BBB-CDD-EE**

| PART NUMBER SUFFIX GROUP EXPLANATION | |
|---|---|
| **SUFFIX** | **DESCRIPTION** |
| AAA | Power supply voltage. |
| BBB | Rated input signal. |
| C | Zero offset potentiometer status. |
| DD | Factory installed option identifier 1. |
| EE | Factory installed option identifier 2. |

Parts shipped from the factory will have the correct alphanumeric option identifier in place of the suffix letters indicated in the table above.

## *ORDERING INFORMATION:*

Refer to the B3035 model series selection sheet for a complete listing of the currently available models.

NIRECO AMERICA CORPORATION

# DATA SHEET FOR DATATRAN B3035 DIGITAL PANEL METER

## (3 1/2 DIGITS)

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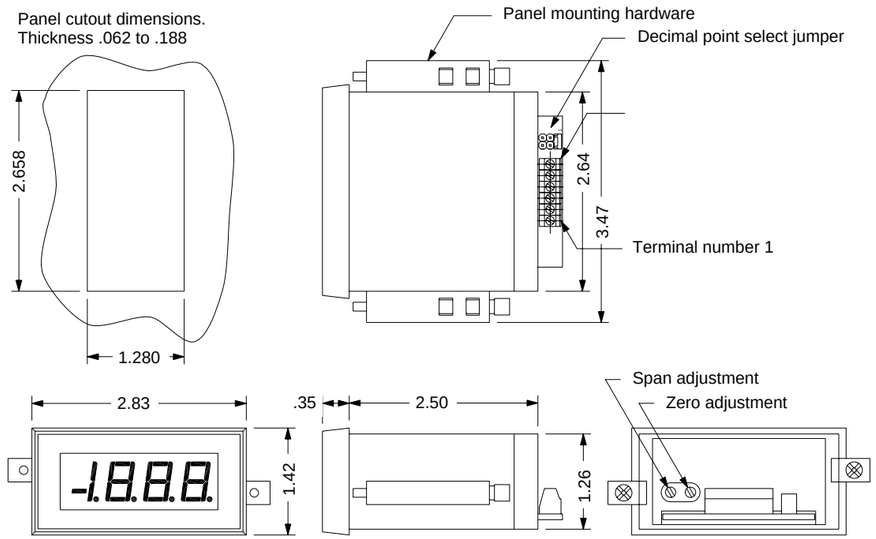
www.nirecoAM.com

## *DESCRIPTION OF EXTERNAL WIRE CONNECTION PINS:*

All of the connections described in the table below are located on the terminal block at the rear of the meter case.

| ID | PIN NAME | DESCRIPTION |
|---|---|---|
| 1 | Power positive | Connect this pin to the positive side of the external dc power supply. |
| 2 | Power common | Connect this pin to the common (0 volts) of the external dc power supply. |
| 3 | Analog High In | The high side of the analog input signal should be connected to this pin. A bias path to the Power common, Pin 2 or the Analog common, Pin 6 must be provided externally for this input. |
| 4 | Analog Low in | The low side of the analog input signal should be connected to this pin. A bias path to the Power common, Pin 2 or the Analog common, Pin 6 must be provided externally for this input. |
| 5 | Signal common | This pin should be connected to the Analog low in, Pin 4, **for single ended input signals that are referenced to the external dc meter power supply.** This pin is connected internally to the Power common, Pin 2. |
| 6 | Analog common | This pin should be connected to the Analog low in, Pin 4, **for single ended or differential input signals that are floating with respect to the external dc meter power supply.** |

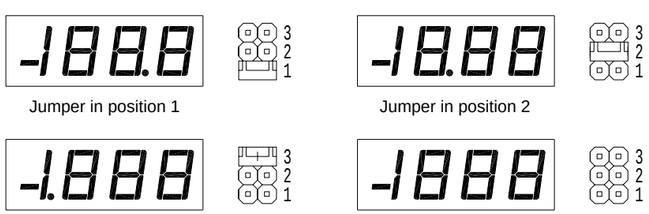
## *OUTLINE DIMENSIONS:*



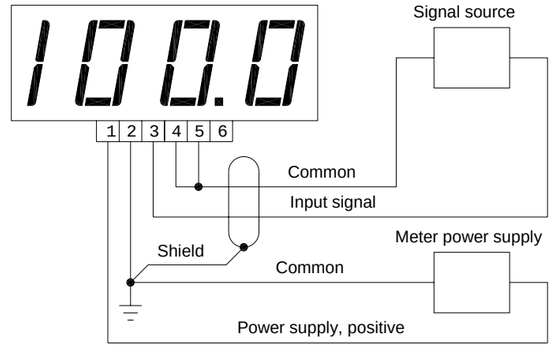

## *DECIMAL POINT POSITION SELECT JUMPER SETTINGS:*

Set the decimal point position, place the shorting bar over the pins as shown in the figures to the right.

Note, that position number 1 is closest to the rear edge of the circuit board.



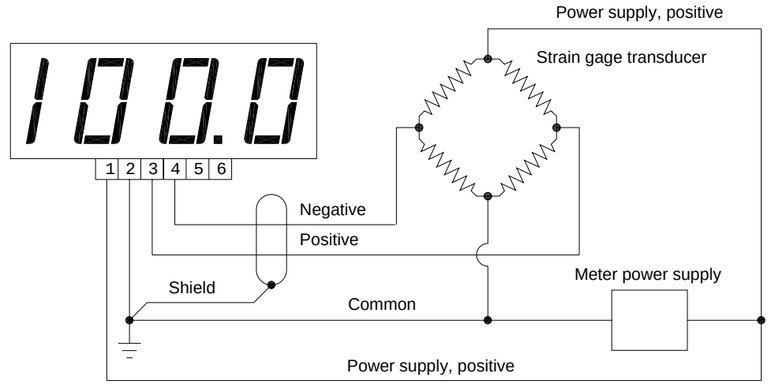

## *GROUNDED SINGLE ENDED SIGNAL INPUT WIRING:*




Terminal number 5 is internally connected to terminal number 2

Do not connect terminal number 6 to any external wires.

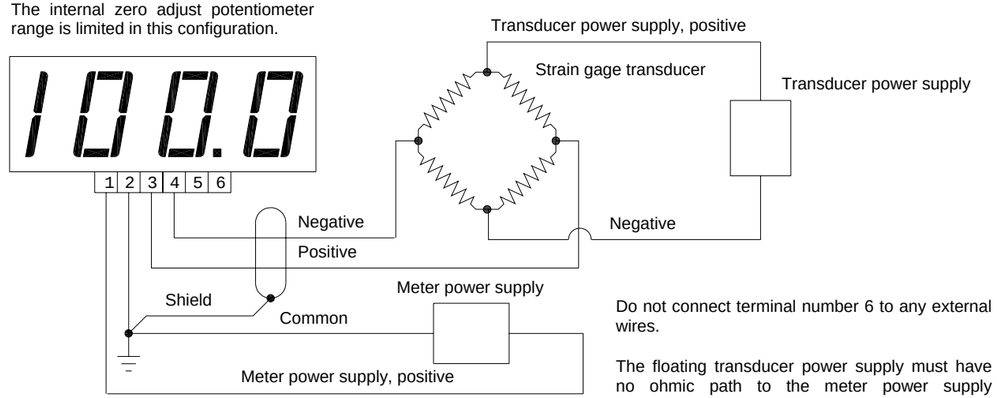
## *GROUNDED DIFFERENTIAL SIGNAL INPUT WIRING:*




Note, in this configuration the transducer and the meter share a common power supply.

## *FLOATING DIFFERENTIAL SIGNAL INPUT WIRING:*

The internal zero adjust potentiometer range is limited in this configuration.




Do not connect terminal number 6 to any external wires.

The floating transducer power supply must have no ohmic path to the meter power supply common.