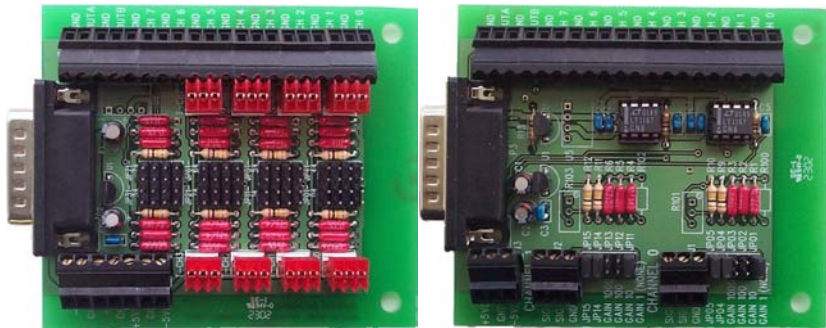


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ANALOG PERIPHERALS

ASC-2CH signal conditioner

AE-8CH input expander

DB15TS-U terminal strip

ASC-2CH-2M & AE-8CH-2M

Integrity Instruments Analog Peripherals User Manual

NOTE:

Models **AE-8CH-2M** and **ASC-2CH-2M** are for the Integrity Instruments **232M200** series of data acquisition modules only. Order these modules if you have that series module.

AE-8CH GENERAL

The **Integrity Instruments AE-8CH** 8 channel Analog Expander board is designed to operate with our line of data acquisition modules. A db15 connector mates with the module supplying power and signal paths which are available at a convenient terminal strip. Plus and minus 5 vdc, as well as plus and minus unregulated voltages are also provided at a terminal strip for external signal conditioning and use if required. MTA .100 jacks are also available for solid state temperature probes. The **AE-8CH** has jumpers offering a variety of input possibilities and combinations.

The **AE-8CH** unit provides for:

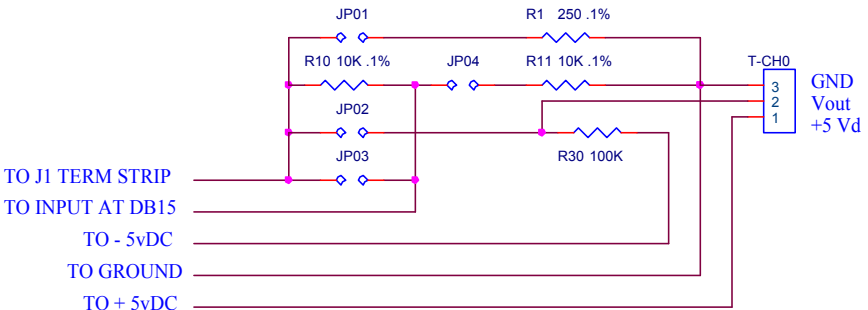
- (1) 4-20 ma inputs
- (2) Plus 10 vdc inputs
- (3) Solid state temperature probes (LM34, LM35)
- (4) No input conditioning

As can be seen from the accompanying schematic, all inputs are separate thus a single board can have any combination of input types allowing complete flexibility and easily changeable configuration.

Other than the temperature probes all input connections are made at the terminal strip.

Referring to the schematic below:

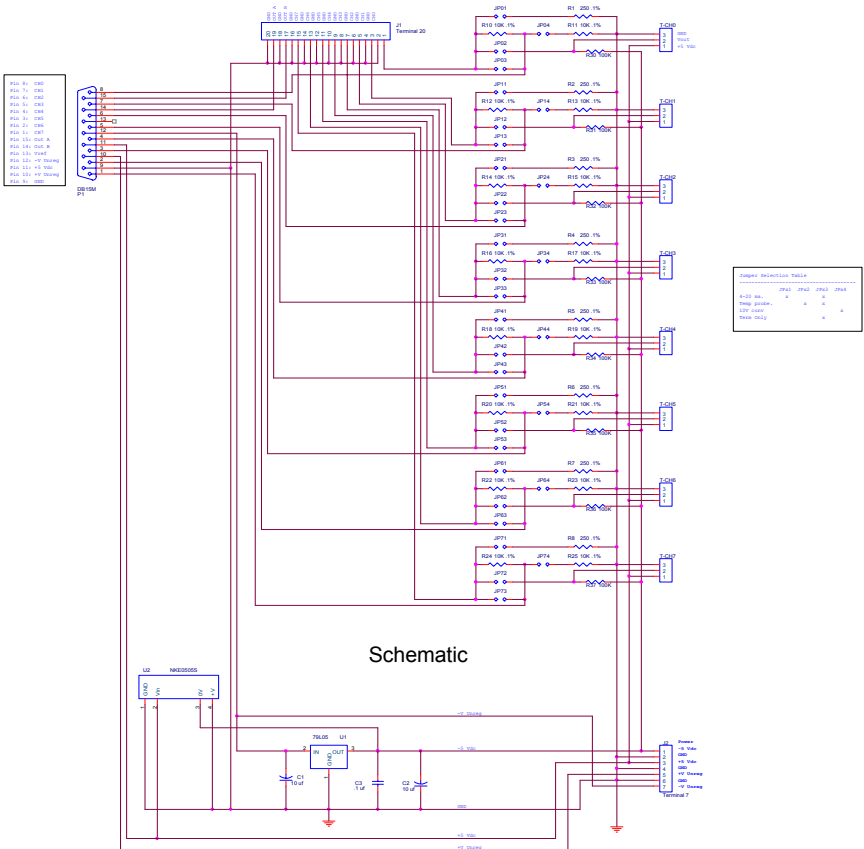
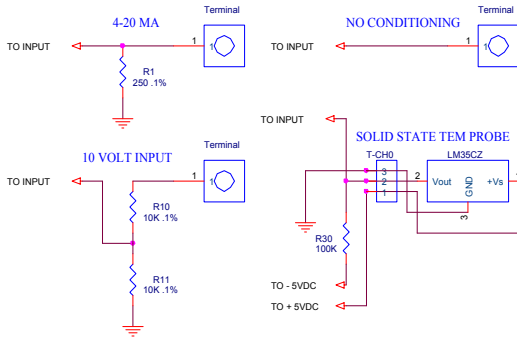
- JP01 and JP03 provide 4-20 ma input
- JP02 and JP03 provide for the temperature probe (LM34, LM35)
- JP04 provide for 10 vdc input
- JP03 provide straight input with no conditioning



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AE-8CH EQUIVALENT CIRCUITS AND SCHEMATIC

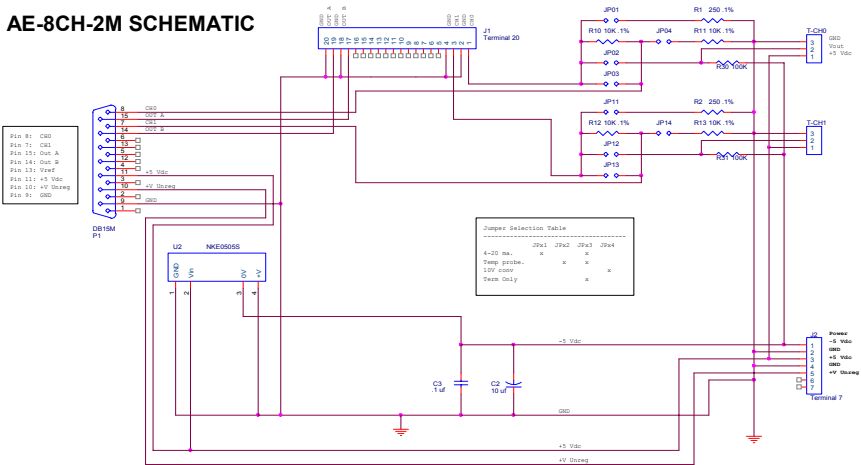
Schematic of circuits made via jumpers



Jumper Selection Table			
J202	J203	J204	J205
Temp. probe	x	x	x
10V input	x	x	x
4-20 mA	x	x	x

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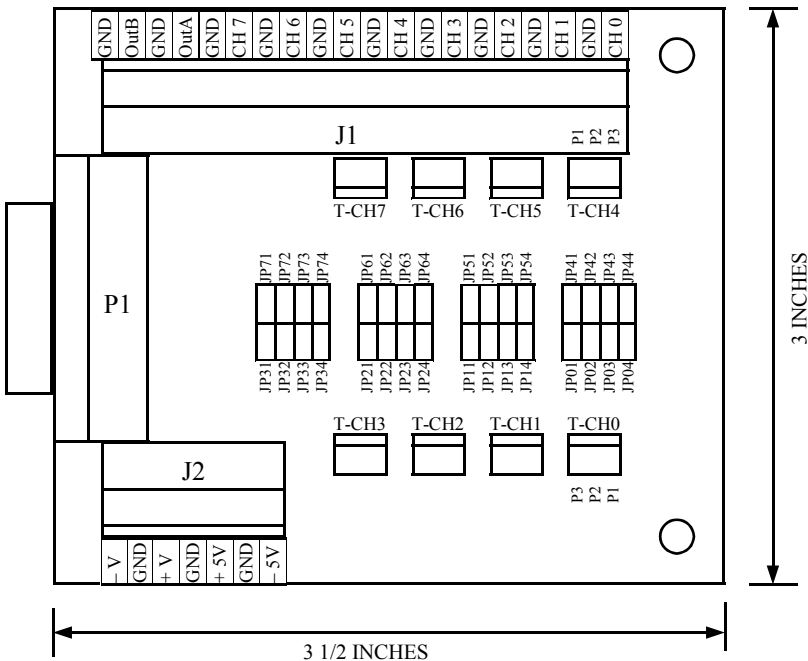
AE-8CH-2M SCHEMATIC



AE-8CH PHYSICAL DATA

The AE-8CH unit is shown below full scale. J1 and J2 terminal strips are 45° terminals allowing easy field connection. The board silk-screening has designations for added field assistance.

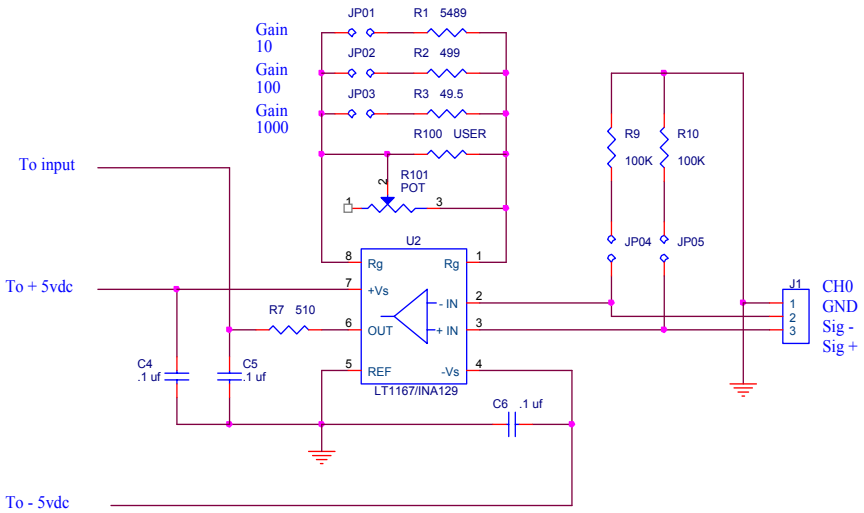
The MTA .100 connectors for the temperature probes are orientated so the probe wires are dressed to the outside edges of the board. Pin numbers as shown.



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ASC-2CH GENERAL

The **Integrity Instruments ASC-2CH** Analog Signal Conditioner board is designed to operate with our line of data acquisition modules. A db15 connector mates with the module supplying power and signal paths which are available at a convenient terminal strip. Plus and minus 5 vdc, as well as plus and minus unregulated voltages are also provided at a terminal strip for external signal conditioning and use if required. Channel 0 and 1 have gain controlled amplifiers suitable for thermocouple inputs and an onboard temperature sensor on channel 7 for terminal strip temperature compensation. Channels 2, 3, 4, 5 and 6 are available for other inputs.



Referring to the schematic above the gain of the channel 0 amplifier is controlled by the resistive value from pin 1 to pin 8 of the OP amp. R100 and R101 **are not** on the board but are meant to be user supplied as an option for user customization. For gain control:

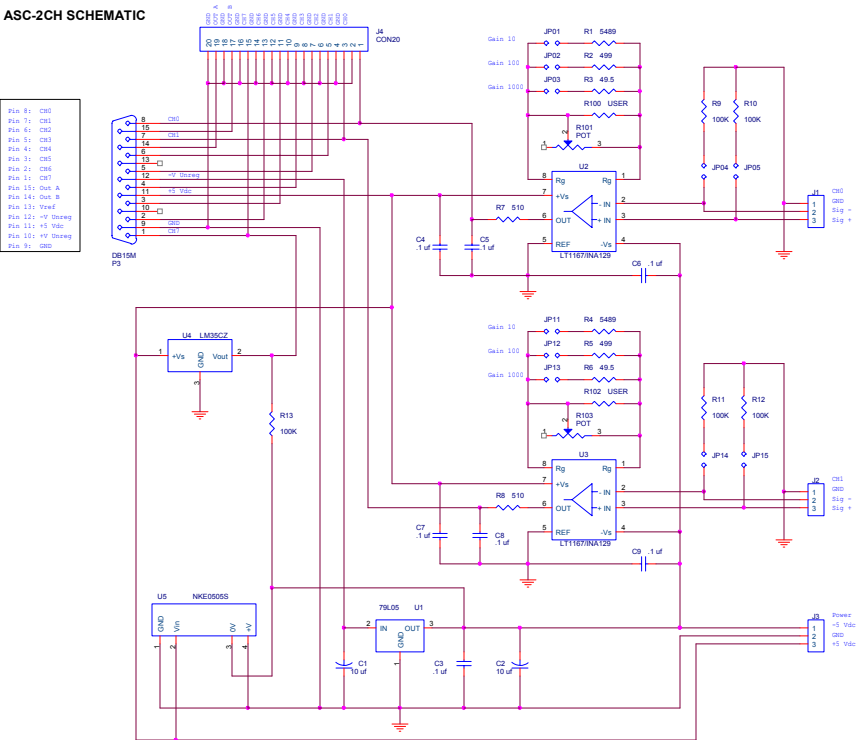
no jumper	Gain 1
JP01	Gain 10
JP02	Gain 100
JP03	Gain 1000

In addition JP04 and JP05 can be installed for input signal load termination if required. Channel 1 is identical for jumpers JP11, JP12, JP13, JP14 and JP15. For complete board operation please refer to the schematic page 6.

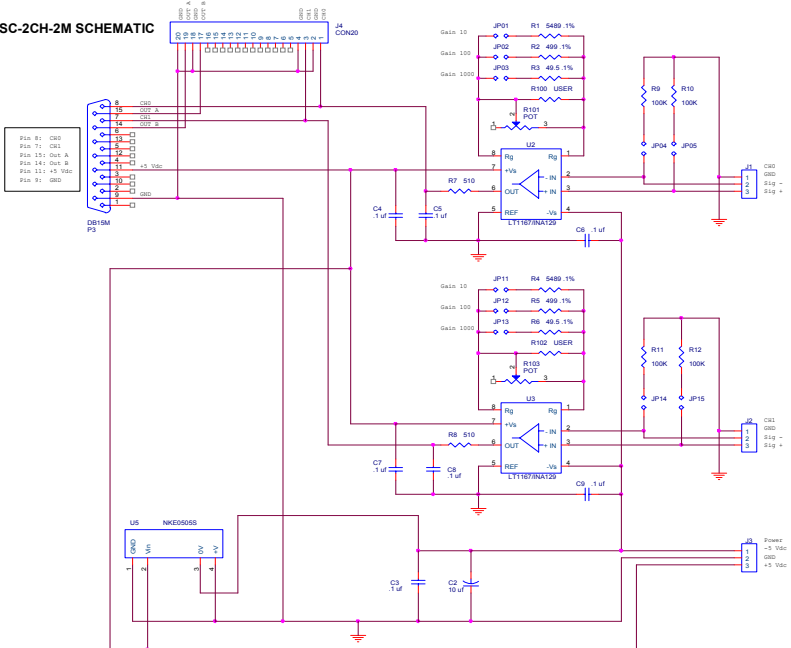
NOTE: For R101 and R103, the printed circuit board is set for BC Components model CT-94W 1/2 watt 18 turn top adjust series of cermet potentiometers, or equivalent. Recommend CT-94W-502 5K ohm unit. Digi Key CT94W502-ND.

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ASC-2CH SCHEMATIC



ASC-2CH-2M SCHEMATIC

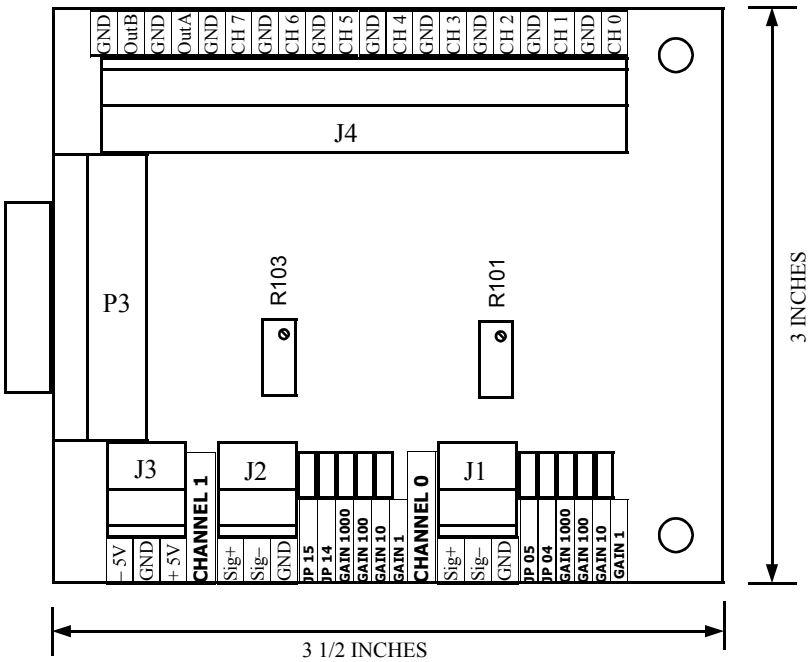


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ASC-2CH PHYSICAL DATA

The **ASC-2CH** unit is shown below full scale. J1, J2, J3 and J4 terminal strips are 45° terminals allowing easy field connection. The board silk-screening has designations for added field assistance.

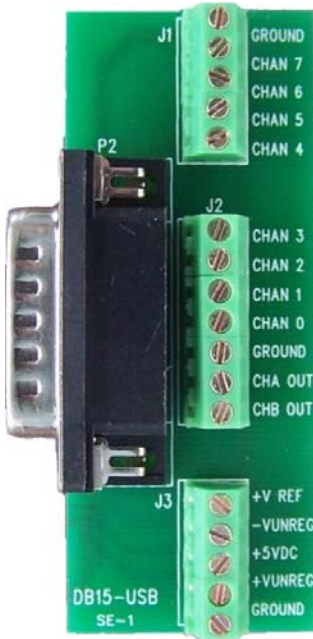
J3 has plus and minus 5 vdc which can be used externally for signal conditioning of inputs if required.



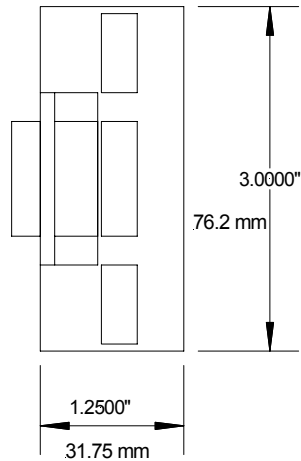
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DB15TS-U GENERAL

The **DB15TS-U** provides for easy access to the analog I/O of our M200 M300, and M400 series modules. Pin connections and physical data are shown below. Unit is silk-screened with analog nomenclature.



DB 15 CONNECTOR PINOUTS	
PIN 1	CHANNEL 7
PIN 2	CHANNEL 6
PIN 3	CHANNEL 5
PIN 4	CHANNEL 4
PIN 5	CHANNEL 3
PIN 6	CHANNEL 2
PIN 7	CHANNEL 1
PIN 8	CHANNEL 0
PIN 9	GROUND
PIN 10	+ V UNREG
PIN 11	+ 5VDC REG
PIN 12	- V UNREG
PIN 13	V REFERENCE
PIN 14	ANALOG OUT B
PIN 15	ANALOG OUT A



WARRANTY

Integrity Instruments warranties all products against defective workmanship and components for the life of the unit. Integrity Instruments agrees to repair or replace, at it's sole discretion, a defective product if returned to Integrity Instruments with proof of purchase. Products that have been mis-used, improperly applied, or subject to adverse operating conditions fall beyond the realm of defective workmanship and are not covered by this warranty.

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