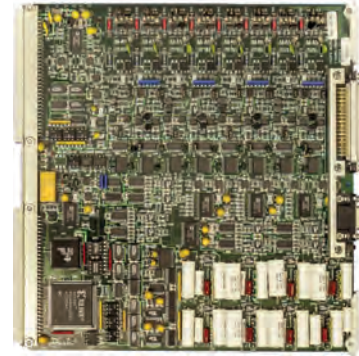


Model 6033 may not be regularly available. Please see Model 6035, 6038 or 6039 for similar applications.

The 6033 input module has eight channels of transducer signal conditioning and digitizer. Each channel has regulated voltage excitation, programmable gain instrumentation amplifier, four-pole low pass filter and sample and hold amplifier. The high level outputs are multiplexed and digitized to 16 bits then output to the 6000 data bus. In addition to the digitized output, each channel has a wideband analog output.

The 6033 is used with ¼, ½ and full bridge transducers, potentiometers and low-level voltage signals. It is particularly suited to strain gages where remote sensing is not a requirement. A shielded four-wire input provides signal and excitation connections to the transducer. Excitation is programmable from 0 to 12 Volts for all channels on the module. An individual regulator for each channel prevents loading or a short on one channel from affecting other channels. A calibration mode is provided that measures excitation voltage or current.

Voltage substitution is provided for gain calibration using an external voltage standard. A calibration attenuator enables the voltage standard to be used on its highest accuracy ranges and has a post-attenuator output for verification and calibration. Resistive shunt is provided for transducer calibration. Two alarm with programmable upper and lower limits are provided and checked each time the output is digitized. Analog outputs provide a means to independently monitor or record each channel.



FEATURES

- Quarter, half & full bridge conditioning
- Voltage excitation up to 12 Volts
- Shunt & voltage calibration
- Automatic zero & balance
- Gains 1 to 5,000 with 0.05% accuracy
- Four-pole low-pass filter
- Up to 10 kS/s per channel with 16-bit resolution
- Two alarms with programmable upper & lower limits

SPECIFICATIONS

INPUT

Configuration8 channels, 2 to 4 wires plus shield for bridge and voltage. Input configured by plug-in jumpers.
 BalanceAutomatic by program control. Balance accuracy ±0.05% of range, ±1 mV RTO. Stability ±0.02% for 8 hours, ±0.005%/°C. Range set by resistor up to 10 mV/V, 2 mV/V (350 Ohms) is installed.
 Impedance50 Megohms, shunted by 1,000 pf.
 Protection±50 Volts differential, ±30 Volts common mode.

EXCITATION / TRANSDUCER POWER

VoltageProgrammable for 8 channels from 0 to 12 Volts with 3.3 mV resolution. Calibrated 1 Volt ±0.1% steps.
 Current50 mA, limited to 70 mA. Short on one channel will not affect other channels.
 Regulation±0.2% line and no-load to full-load measured at the input connector.
 Stability±0.01%, ±0.005%/°C.
 Noise200 µV peak-to-peak.
 MonitorVoltage or current selected by jumper plug.

AMPLIFIER

GainProgrammable from 1 to 5,000 in 1, 2, 3, 5, 10 steps with ±0.05% accuracy.
 Gain Stability±0.01%, ±0.004%/°C.
 Linearity±0.01% for gains <1,000, ±0.02% for gains 1,000 and higher.
 Common Mode60 dB plus gain in dB up to 106 dB, DC to 60Hz for ±10 Volts.
 ZeroAutomatic to ±1 µV RTI, ±0.5 mV RTO.
 Zero Stability±5 µV RTI, ±1 mV RTO; ±1 µV/°C RTI, ±0.2 mV/°C RTO. Short term: ±2 µV RTI, ±0.4 mV RTO for 8 hours.
 Source Current±2 nA, ±0.01nA/°C.
 Noise (10 Hz)0.5 µV peak, RTI.
 Noise (1kHz)1.5 µV peak, RTI.
 Bandwidth1 kHz (-3dB).

Recovery800 µS to ±0.1% for 10X overload to ±10 V.
 Analog Output±3 Volts full scale, unfiltered.

FILTER

TypeFour-pole, low-pass Butterworth.
 FrequencyPlug-in, 4 Hz to 1 kHz, 10 Hz supplied.
 Noise2 mV peak RTO.
 OtherOther filter characteristics and cut offs available.

DIGITIZER

SampleSimultaneous, within ±50 nS channel-to-channel. Droop is less than ±0.005%.
 Resolution16 bits, two's complement output.
 Sample RateUp to 10 kS/s per channel.
 Linearity2 LSB (0.006%).
 ContinuityMonotonic to 15 bits.
 AlarmsTwo alarms each with upper and lower limits that are programmable from negative to positive full scale. Limits checked on each ADC sample.

CALIBRATION

ShuntProgrammable single shunt, 0.502 mV/V (350 Ohm bridge), ±1% installed.
 Voltage Subst.Alternate amplifier input for external voltage standard. Programmable attenuator steps of 1, 0.1 and 0.01 with ±0.02% accuracy. Output of the attenuator provided on rear panel connector for calibration.
 ZeroAmplifier input disconnected and shorted.

MECHANICAL

MountingOccupies one slot in Series 6000 enclosures.
 ConnectorsInput connectors are 50-pin Type D. Mates are supplied
 Temperature0°C to +50°C operating.

ORDERING INFORMATION

60338-Ch Strain-Bridge, 4-Wire Input.
 6081Screw Terminal Adapter (6013,18, 28, 35, 37)
 60828-Ch RJ45 Adapter, 120, 350, 1K Ohm Bridge.