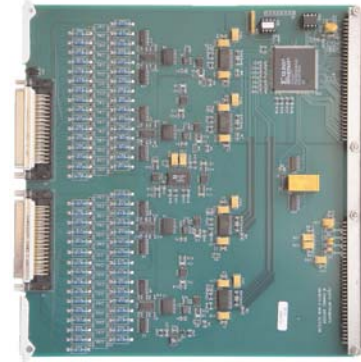


The 6016 input module has thirty-two input channels that are digitized to 16-bit resolution and output to the Series 6000 data bus. Each channel is capable of digitizing at up to 2,000 samples per second.

The 6016 is used to digitize high level signals, usually the output of signal conditioning amplifiers or other measuring instruments. It is organized as four groups of eight channels. Each group has an eight-channel, differential input multiplexer, unity-gain differential amplifier and analog to digital converter.

The differential inputs have 50 Megohm input impedance, 75 dB common mode rejection, and are protected to ± 25 Volts. A voltage calibration input is provided in each group of channels for gain calibration of the differential amplifier and analog to digital converter. Both gain and zero calibration employ digital-to-analog converters with the calibration DAC settings stored in non-volatile memory on the module. Zero calibration is automatic and gain calibration is automatic when using PI660 software with a programmable calibration reference.

Upper and lower programmable alarm limits are provided and checked each time the output is digitized. In conjunction with a digital I/O module, the alarms may be used to control external equipment.



FEATURES

- Differential input, ± 10 Volts
- 50 Megohms input impedance
- 2 kS/s per channel
- Gain calibration by voltage substitution
- Automatic zero
- Programmable alarms

SPECIFICATIONS

INPUTS

ConfigurationDifferential, 2-wire with shield.
 Range..... ± 10 Volts.
 Impedance50 Megohms, shunted by 1,000 pf.
 Protection..... ± 25 Volts differential and common mode.

CALIBRATION

Voltage Subst.....Alternate input to the differential amplifier for external voltage calibration source. Applied calibration voltage may be externally monitored.
 Zero CalibrationAmplifier input disconnected and shorted for zero calibration.

AMPLIFIER

Gain $1 \pm 0.05\%$
 Gain Stability $\pm 0.01\%$, $\pm 0.005\%/^{\circ}\text{C}$.
 Linearity $\pm 0.01\%$.
 Common Mode75 dB, DC to 60 Hz.
 CM Voltage ± 10 Volts.
 ZeroAutomatic to ± 1 mV.
 Zero Stability ± 1 mV, ± 0.2 mV/ $^{\circ}\text{C}$.
 Noise (1 kHz)0.25 mV peak.
 Bandwidth1 kHz (-3dB).

ANALOG-TO-DIGITAL CONVERTER

Resolution16-bits, two's complement output.
 Sample Rate.....2K samples per second per channel.
 Linearity ± 2 LSB ($\pm 0.006\%$).
 Continuity.....Monotonic to 15 bits.

ALARMS

FunctionAlarm levels are checked for each ADC conversion and if the limits are exceeded an output is sent to the alarm bus. Used in conjunction with the 6040 Digital I/O module the alarm bus can generate a discrete output for control of external equipment.
 Levels.....High and low limits are programmable for each channel from negative to positive full scale.

GENERAL

MountingOccupies one slot in Series 6000 Mainframe or enclosures.
 ConnectorsTwo 50-pin, Type D input connectors. Connectors are mounted on the front and mates are supplied.
 Temperature 0°C to $+50^{\circ}\text{C}$.

ORDERING INFORMATION

601632-Channel Digitizer, 16-bit, 2 kS/s.