Index of Conditioning module

1、 the strain conditioning modules：

·Number of Channels: 4

• Signal input: single-ended or differential, through the 7-pin special socket connection with the Bridge box

• Input voltage: ≦ ± 10V

• Gain: 10,100,1000,10000, 4 programmed settings file

• Input Noise: ≦ 10uV (maximum gain of the equivalent noise)

• Bandwidth: 200KHz

• DC accuracy: 0.5%

• filter: high pass, low pass, band pass, straight; programmable set

• filter cutoff frequency: low-pass cutoff frequency can be sub-file set, band-pass cutoff frequency for the high-pass and low-pass combination; high common denominator 8 file: 50Hz, 100Hz, 200Hz, 500Hz, 1KHz, 2KHz, 5KHz, 10KHz;

Low common denominator 8 file: 100Hz, 500Hz, 1kHz, 5kHz, 10kHz, 50kHz, 100kHz, 200kHz

• band attenuation: -24dB/oct

• the phase difference between channels: ≦ 0.5 °

• Bridge voltage: 2V, 5V, 10V, 15V, supports 1 / 4, 1 / 2 and full bridge, strain can be directly connected, piezoelectric, and piezoresistive torque sensor, 16-bit DA auto-balance.

• Supply Voltage Accuracy: 0.05%

• Supply Voltage stability: 0.01% / h

2、 charge conditioning modules:：

• Number of channels: 4

• Signal input: single-ended, compact and efficient shield dedicated input socket

• input charge range: ≦ 105pC

• Sensitivity: 0.01mV/pC, 0.1mV/pC, 1mV/pC, 10mV/pC, 4 programmable settings file

• Signal to noise ratio: ≧ 52dB

• DC accuracy: 2%

• Bandwidth: 100KHz

• Low pass filter: cut-off frequency of 50Hz, 100Hz, 200Hz, 500Hz, 1kHz, 2kHz, 5kHz, 10kHz, 20kHz, 50KHz, programmable set

• Output voltage: ≦ ± 10V

3、 ICP conditioning modules:
• Number of channels: 4
• Signal input: single-ended, BNC input socket
• Output Current: 4mA, ICP sensor types can the acceleration sensors, force sensors and TEDS microphone and accelerometer sensor excitation current source.
• Bandwidth: 100KH z
• DC accuracy: 2%
• Low pass filter: cut-off frequency of 50Hz, 100Hz, 200Hz, 500Hz, 1kHz, 2kHz, 5kHz, 10kHz, 20kHz, 50KHz, programmable set
• Output voltage: ≦ ± 10V

4、 speed conditioning module：
• Number of channels: 4
• Signal input: single-ended, BNC input socket
• Range: 10 to 60 000 r / min
• Input level: 5 ~ 24V
• input signal polarity can be set programmable

5、 normal voltage acquisition module：
• Number of channels: 4
• Signal input: single-ended or differential, 3-conductor shielded jack input
• Signal Input Voltage: Wide input voltage range, 20mV to 20V input directly through the high voltage probe to measure 40kV.
• Acquisition mode
Display / transient capture: 1MHz-bandwidth, 2MS / s 16 bit sampling rate, high-speed transient data stored in memory.
Record data: 80KHz bandwidth, up to 200KS / s data rate stored in the hard disk.
• DC accuracy: the maximum static error <0.25%
• close contact voltage:
20 - 200mV: ± 10 V
500mV - 2V: ± 100 V
5V - 20V: ± 500 V
• Common-mode rejection ratio: 20 - 200mV ranges:> 90 dB @ 50 Hz and 10 kHz
500mV - 2V ranges:> 80 dB @ 50 Hz,> 60 dB @ 10 kHz
5V - 20V ranges:> 60 dB @ 50 Hz,> 50 dB @ 10 kHz
• Noise rms% of FS: <0.01% range
• Channel phase difference: <0.5 degrees (0-80 kHz), <1 degree (80kHz to 200 kHz)
• amplitude of the match: <0.1 dB (0 to 80 kHz), <0.2 dB (80kHz to 200 kHz
• analog filter: optional 1MHz bandwidth and 200 kHz anti-aliasing filter
• anti-aliasing filter: 10-pole linear phase filter, 3 dB @ 200 kHz, -90 dB @ 1 MHz
• digital anti-aliasing filter: Optional: steep slopes (frequency response is good), Gaussian (time-domain response is good)

• Filter Bandwidth: 80kHz

6、 high-voltage isolation acquisition module：
• Number of channels: 4
• Signal input: single-ended or differential, 3-conductor shielded jack input
• Signal Input voltage: ± 50 mV to ± 1000 V (1-2-5 one step)
• Acquisition mode

Display / transient capture: 1MHz-bandwidth, 2MS / s 16 bit sampling rate, high-speed transient data stored in memory.

Record data: 80kHz bandwidth, up to 200KS / s data rate stored in the hard disk
• DC accuracy: the maximum static error <0.1%
• close contact voltage: ± 500 V
• Common-mode rejection ratio:> 80 dB @ 60 Hz, ± 5 V or less
> 60 dB @ 60 Hz, ± 10 V greater than or equal
• Noise rms% of FS: <0.1% range
• Channel phase difference: <0.5 degrees (0-80 kHz), <1 degree (80kHz to 200 kHz)
• amplitude of the match: <0.1 dB (0 to 80 kHz), <0.2 dB (80kHz to 200 kHz)
• analog filter: optional 1MHz bandwidth and 200 kHz anti-aliasing filter
• anti-aliasing filter: 10-pole linear phase filter, 3 dB @ 200 kHz, -90 dB @ 1 MHz
• digital anti-aliasing filter: Optional: steep slopes (frequency response is good), Gaussian (time-domain response is good)
• Filter Bandwidth: 80kHz

7、 DC-LVDT displacement conditioning module:
• Number of channels: 8
• Supply: 10 - 30V DC (24V DC (standard), 100mA (maximum)),
(10V DC (standard), 160mA (maximum))
• LVDT modulator output: 3.0 Vrms (standard) primary impedance ≥ 200 Ω
• LVDT modulation frequency: 3, 5 or 10kHz (standard)
• Input sensitivity range: 55mVrms to 5.5Vrms produce full scale output
• Output: 0 - ± 10V DC, 5mA maximum, 4 - 20mA maximum loop impedance of 500 Ω power supply
• non-linear error: ≤ ± 0.01% FRO
• Output Noise: ≤ 1 mVrms (voltage output) ≤ 2 μArms (current output)
• Frequency Response (-3dB): 500 or 1000 Hz (customer choice)
• Operating temperature: -20 ℃ to +70 ℃
• Temperature Coefficient: -0.01% / ℃ (Nominal)

8、 the temperature conditioning module:
• Number of channels: 8
• Signal input: differential, 3-conductor shielded jack input
• Range: ± 0.080V
• Input level: ± 25V
• input signal polarity can be set programmable

Supported sensor types

parameter	Index
Thermocouple	**J:-210°C to 1200°C**
K:-270°C to 1372°C	
R: -50°C to 1768°C	
S: -50°C to 1768°C	
T:-270°C to 400°C	
N:-270°C to 1300°C	
E:-270°C to 1000°C	
B:0°C to 1820°C	
RTD	**100 ohm PT (DIN 43760: 0.00385 ohms/ohm/°C)**
100 ohm PT (SAMA: 0.003911 ohms/ohm/°C)	
100 ohm PT (ITS-90/IEC751:0.0038505 ohms/ohm/°C)	
Thermistor	**Standard 2,252 ohm through 30,000 ohm**
Semiconductor/IC	**TMP36 or equivalent**

9、 the universal signal acquisition module

·Number of Channels: 4

• input: BNC (voltage and ICP), 37-pin connector (voltage, bridge and thermocouple)

• Input range: ± 20 mV to ± 20 V

• Coupling: DC, AC@1.5 Hz, grounded

• conditioning mode: DC bridge: excitation voltage of 0-10 Vdc, 2000-step stairs, until 40mA / channel

Can be selected in the software full bridge, half bridge and 1 / 4 bridge, the choice of 100 ~ 10K ohm resistor bridge

Acceleration sensor: to all the IEPE sensors (including the ICP, quartz type, etc.) to provide the constant current of 4mA

Support the charge sensor

Support DC-LVDT sensor

Thermocouple: support J, K, T, E, R, S thermocouple temperature sensor, etc.

Voltage input: BNC input, single-ended or differential input software selectable, AC / DC coupling, 37-pin connector input

RPM / Frequency: cycle calculation, no external FV converter

• Acquisition mode

Display / transient capture: 1MHz-bandwidth, 2MS / s 16 bit sampling rate, high-speed transient data stored in memory.

Record data: 80KHz bandwidth, up to 200KS / s data rate stored in the hard disk

• DC accuracy: the maximum static error <0.25%

• Sampling rate: 0.5 S / s to 2MS / S

• Sampling Accuracy: <25 ppm

• analog filter: optional, 1MHz bandwidth and 200 kHz anti-aliasing filter

• Bandwidth frequency: 1MHz (-3dB), 4 high Si filter

• anti-aliasing filter: 10-pole linear phase filter, 3 dB @ 200 kHz, -90 dB @ 1 MHz
• digital anti-aliasing filter: Optional: steep slopes (frequency response is good), Gaussian (time-domain response is good)
• Filter Bandwidth: 80kHz