Four and Eight-channel Multi-purpose Signal Conditioners

For ICP®, Charge Output, and Bridge/Differential Sensors

Highlights

- Provides Sensor Excitation: Current or Voltage
- All Models Power ICP® Sensors and In-line ICP® Charge Converters
- Models Directly Compatible with Charge Output Piezoelectric Sensors
- Models Directly Compatible with Bridge/Differential Sensors
- Models Suitable for Conditioning Any Voltage Input Signal
- Models with TEDS Sensor Support, (IEEE 1451.4 & IEEE P1451.4)

482C models with keypad and display

Model 483C41

The 482C series are 4-channel benchtop signal conditioners that range from units with simple stand-alone operation to more complex units with front panel keypad/display, RS-232, or Ethernet control. The 483C series are 8-channel 19" rack-mounted units that are based on the same signal conditioning electronics. They also range from units with simple stand-alone operation to more complex units with front panel keypad/display and Ethernet control.

Both series offer units with a wide range of features including incremental gain, AC/DC coupling, auto zero, auto balance, and constant current or DC voltage supplies. Models with computer interfaces are supplied with PCB's Multi-Channel Signal Conditioner control software for signal conditioner setup and control.

The 482C series models are DC powered, however, they are supplied with a universal voltage, AC power adapter. The 483C series models are all AC powered only.

As with all PCB® instrumentation, this equipment is complemented with toll-free applications assistance, 24-hour customer service, and is backed by a no-risk policy that guarantees satisfaction or your money refunded.

Series 482C 4-Channel Models

482C05/482C15 Front Panel

482C27 Rear Panel

NEW!

Model	482C05	482C15	482C16	482C24	482C27	482C54	482C64
Performance							
Input Sensor Type	ICP®	ICP®, Voltage	ICP®, Voltage	ICP®, Voltage	ICP®, Bridge/ Differential, Voltage	ICP®, Charge, Voltage	ICP®, Charge, Voltage
Gain	—	x1, x10, x100 [1]	x0.1 to x200	x0.1 to x200	x0.1 to x200 (ICP® /Volt) x0.1 to x2000 (Brdg/Diff)	x0.1 to x200	x0.1 to x200
Charge Conversion (selectable)	—	—	—	—	—	0.1, 1, 10 mV/pC	0.1, 1, 10 mV/pC
Frequency Range (+/-5%) (gain <100)	0.1 Hz to 1000 kHz	0.05 Hz to 17 kHz	0.05 Hz to 100 kHz	0.05 Hz to 100 kHz [8]	0.05 Hz to 100 kHz [8]	0.05 Hz to 100 kHz [2]	0.05 Hz to 100 kHz [2]
Frequency Range (+/-5%) (gain >=100)	—	0.05 Hz to 17 kHz	0.05 Hz to 50 kHz	0.05 Hz to 50 kHz [8]	0.05 Hz to 50 kHz [8]	0.05 Hz to 75 kHz [2]	0.05 Hz to 75 kHz [2]
Coupling (AC or DC)	AC	AC	AC	AC/DC	AC/DC	AC	AC
Low Pass Filter (-3dB) [3]	—	Optional	Optional	Optional	Optional	10 kHz	10 kHz
TEDS Sensor Support	—	—	—	Yes	—	Yes	Yes
Electrical							
AC Power (From power adapter) [4]	100 to 240 VAC	100 to 240 VAC	100 to 240 VAC	100 to 240 VAC	100 to 240 VAC	100 to 240 VAC	100 to 240 VAC
AC Power (From power adapter) [4]	≤0.7 amps	≤0.7 amps	≤1.6 amps	≤1.6 amps	≤1.6 amps	≤0.35 amps	≤0.35 amps
Excitation Voltage (To Bridge/Diff. Sensors)	—	—	—	—	-12 V to +12 V [6][7]	—	—
Excitation Voltage (To ICP® Sensors)	+26 VDC	+26 VDC	+24 VDC	+24 VDC	+24 VDC	+24 VDC	+24 VDC
Constant Current Excitation (To ICP® Sensors) [5]	2 to 20 mA	0 to 20 mA	0 to 20 mA	0 to 20 mA	0 to 20 mA	0 to 20 mA	0 to 20 mA
DC Offset	<20 mV	<20 mV	<50 mV	<50 mV	<50 mV	<50 mV	<50 mV
Broadband Electrical Noise (1 to 10000 Hz) (x1 gain)	3.5 µV rms	5.6 µV rms	50 µV rms	50 µV rms	50 µV rms	50 µV rms	50 µV rms
Physical							
Front Panel Display/Keypad	—	—	Yes	Yes	Yes	Yes	Yes
Digital Control Interface	—	—	RS-232	RS-232	RS-232; Ethernet	RS-232	RS-232; Ethernet
Electrical Connector (Inputs)	BNC jack	BNC jack	BNC jack	BNC jack	BNC jack; 8-socket mini DIN	BNC jack	BNC jack
Electrical Connector (Outputs)	BNC jack	BNC jack	BNC jack	BNC jack	BNC jack	BNC jack	BNC jack
Electrical Connector (DC Power Input)	5-socket DIN	5-socket DIN	6-socket mini DIN	6-socket mini DIN	6-socket mini DIN	6-socket mini DIN	6-socket mini DIN
Size (Height x Width x Depth) (Nominal)	3.2 x 8.0 x 5.9 in 8.1 x 20 x 15 cm	3.2 x 8.0 x 5.9 in 8.1 x 20 x 15 cm	3.2 x 8.0 x 5.9 in 8.1 x 20 x 15 cm	3.2 x 8.0 x 5.9 in 8.1 x 20 x 15 cm	3.2 x 8.0 x 5.9 in 8.1 x 20 x 15 cm	3.2 x 8.0 x 5.9 in 8.1 x 20 x 15 cm	3.2 x 8.0 x 5.9 in 8.1 x 20 x 15 cm
Weight	1.25 lb 567 gm	1.25 lb 567 gm	2.00 lb 907 gm	2.00 lb 907 gm	2.50 lb 1134 gm	2.40 lb 1089 gm	2.50 lb 1134 gm
Supplied Accessories							
Power Cord	017AXX	017AXX	017AXX	017AXX	017AXX	017AXX	017AXX
Universal Power Adapter	488B04/NC	488B04/NC	488B14/NC	488B14/NC	488B14/NC	488B14/NC	488B14/NC
Communication Cable	—	—	100-7103-50	100-7103-50	100-7103-50	100-7103-50	100-7103-50
MCSC Control Software	—	—	EE75	EE75	EE75	EE75	EE75
Additional Versions							
Power Button Disabled; On Whenever Powered	482M187	—	482M186	—	—	—	—

Notes

[1] Jumper selectable on internal circuit board. [2] Charge input low frequency response is 0.5 Hz (+/-20%). [3] Contact factory for available filter options. [4] Units are supplied with applicable AC to DC converter for operation from 100 to 240 VAC (50 to 60 Hz). [5] User adjustable, factory set at 4 mA. [6] Adjustable in 0.1V steps. [7] Negative excitation can be set to 0V or to track the positive excitation voltage. [8] 0 Hz low frequency response when DC coupled.

Series 483C 8-Channel Models

483C Series, (Except Model 483C41)

Model 483C41

Model	483C05	483C15	483C28	483C30	483C40	483C41	483C50
Input Sensor Type	ICP®	ICP®, Voltage	ICP®, Bridge/ Differential, Voltage	ICP®, Charge, Voltage	ICP®, Charge, Voltage	ICP®, Charge, Voltage	ICP®, Voltage
Gain	—	x1, x10, x100 [1]	x0.1 to x200 (ICP®/Volt) x0.1 to x2000 (Brdg/Diff)	x0.1 to x200	x0.1 to x200 (ICP®/Volt) x0.01 to x2000 mV/pC (Charge)	x0.1 to x200 (ICP® /Volt) x0.01 to x2000 mV/pC (Charge)	x0.1 to x200
Charge Conversion (selectable)	—	—	—	0.1, 1, 10 mV/pC	—	—	—
Frequency Range (+/-5%) (gain <100)	0.1 Hz to 1000 kHz	0.05 Hz to 17 kHz	0.05 Hz to 100 kHz [7]	0.05 Hz to 100 kHz (-3dB) [2]	0.05 Hz to 100 kHz (-3dB) [2]	0.05 Hz to 100 kHz (-3dB) [2]	0.05 Hz to 100 kHz (-3dB)
Frequency Range (+/-5%) (gain >=100)	—	0.05 Hz to 17 kHz	0.05 Hz to 50 kHz [7]	0.05 Hz to 80 kHz (-3dB) [2]	0.05 Hz to 80 kHz (-3dB) [2]	0.05 Hz to 80 kHz (-3dB) [2]	0.05 Hz to 80 kHz (-3dB)
Coupling (AC or DC)	AC	AC	AC/DC	AC	AC	AC	AC
Low Pass Filter (-10%) [3]	—	Optional	Optional	10 kHz (-3dB)	0.1, 0.3, 1, 3, 10, 30 kHz	0.1, 0.3, 1, 3, 10, 30 kHz	Optional
TEDS Sensor Support	—	—	Yes	Yes	Yes	Yes	Yes
Electrical							
AC Power (47 to 63 Hz)	100 to 240 VAC	100 to 240 VAC	100 to 240 VAC	100 to 240 VAC	100 to 240 VAC	100 to 240 VAC	100 to 240 VAC
AC Power	≤0.7 amps	≤0.7 amps	≤0.9 amps	≤0.85 amps	≤0.7 amps	≤0.7 amps	≤0.7 amps
Excitation Voltage (To Bridge/Diff. Sensors)	—	—	-12 V to +12 V [5][6]	—	—	—	—
Excitation Voltage (To ICP® Sensors)	+26 VDC	+26 VDC	+24 VDC	+24 VDC	+24 VDC	+24 VDC	+24 VDC
Constant Current Excitation (To ICP® Sensors) [4]	2 to 20 mA	0 to 20 mA	0 to 20 mA	0 to 20 mA	0 to 20 mA	0 to 20 mA	0 to 20 mA
DC Offset	<20 mV	<20 mV	<50 mV	<50 mV	<50 mV	<50 mV	<50 mV
Broadband Electrical Noise (1 to 10000 Hz) (x1 gain)	3.5 µV rms	5.6 µV rms	50 µV rms	50 µV rms	50 µV rms	50 µV rms	50 µV rms
Oscillator(+/-2%) (Internal Generator - ICP®/ Voltage mode)	—	—	—	0.1 V pk 100/1000 Hz	0.1 V pk 100/1000 Hz	0.1 V pk 100/1000 Hz	—
Oscillator(+/-2%) (Internal Generator - Charge mode)	—	—	—	100 pC pk 100/1000 Hz	100 pC pk 100/1000 Hz	100 pC pk 100/1000 Hz	—
Physical							
Front Panel Display/ Keypad	—	—	—	—	—	Yes	—
Digital Control Interface	—	—	Ethernet	Ethernet	Ethernet	Ethernet	Ethernet
Electrical Connector (Inputs)	BNC jack	BNC jack	BNC jack; 8-socket mini DIN	BNC jack	BNC jack	BNC jack	BNC jack
Electrical Connector (Outputs)	BNC jack	BNC jack	BNC jack	BNC jack	BNC jack	BNC jack	BNC jack
Electrical Connector (AC Power Input)	IEC 320	IEC 320	IEC 320	IEC 320	IEC 320	IEC 320	IEC 320
Size (Height x Width x Depth) (Nominal)	1.75 x 19 x 13.5 in 4.5 x 48.3 x 34.3 cm	1.75 x 19 x 13.5 in 4.5 x 48.3 x 34.3 cm	1.75 x 19 x 13.5 in 4.5 x 48.3 x 34.3 cm	1.75 x 19 x 13.5 in 4.5 x 48.3 x 34.3 cm	1.75 x 19 x 13.5 in 4.5 x 48.3 x 34.3 cm	1.75 x 19 x 13.5 in 4.5 x 48.3 x 34.3 cm	1.75 x 19 x 13.5 in 4.5 x 48.3 x 34.3 cm
Weight	6.25 lb 2.83 kg	6.25 lb 2.83 kg	7.0 lb 3.17 kg	8.0 lb 3.6 kg	8.0 lb 3.6 kg	8.0 lb 3.6 kg	7.0 lb 3.17 kg
Supplied Accessories							
Power Cord	017AXX	017AXX	017AXX	017AXX	017AXX	017AXX	017AXX
MCSC Control Software	—	—	EE75	EE75	EE75	EE75	EE75
Notes							

[1] Jumper selectable on internal circuit board. [2] Charge input low frequency response is 0.5 Hz (+/-20%). [3] Contact factory for available filter options. [4] User adjustable, factory set at 4 mA. [5] Adjustable in 0.1V steps. [6] Negative excitation can be set to 0V or to track the positive excitation voltage. [7] 0 Hz low frequency response when DC coupled.

All models that have an RS-232 or Ethernet interface are supplied with PCB's Multi-Channel Signal Conditioner Control software. This easy to use software displays a table of the unit's current settings versus channels. Users can change any setting by simply changing values in the table. Typical settings include Input Sensor Type, Gain, Filtering, and Constant Current Excitation.

MCSC Control Software

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PCB® Piezotronics Test & Measurement Electronics product offering includes signal conditioners and cabling for ICP® and charge output piezoelectric, MEMS-based, and full-bridge strain gage sensors. Battery-powered and line-powered signal conditioners are available, with a wide range of options, including gain, filtering, TEDS and integration functions. Stock cables for quick delivery and custom cables to meet any connection requirement are also available. Additional Test & Measurement products include sensors for acoustics, force, load, strain, torque, pressure, acceleration, shock, and vibration. PCB® products are backed by our **Total Customer Satisfaction** policy, which guarantees your satisfaction or your money refunded.

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