MODEL 3180

180Vp-p PXIBus Signal Amplifier

- High voltage output to 180Vp-p (±90V)
- Output current to 150mA
- Large signal bandwidth to 300kHz
- Small signal bandwidth to 1MHz
- Slew rate to 120V/µs
- Selectable gain configuration
- Compatible with any of the Tabor waveform generators

Model 3180 was designed as a general purpose, wide band and high voltage amplifier, however, with specific applications in mind. It offers selectable gain of up to x50, with amplitudes of -90V to +90V and an output current of 150mA. With a large signal bandwidth of up to 300kHz and a small signal bandwidth of up to 1MHz the new 3180 offers new possibilities to meet the requirements that couldn't be met before in a PXI form format, without compromising bandwidth and signal integrity.

Solves Common Problems

A common problem with PXI equipment is the inability to produce high voltages resulting from low power supply rails. For example, waveform generators or similar signal source devices draw power from 12V rails. Consequently, they cannot produce signals above 10Vp-p into 50Ω Model 3180 solves this problem by using DC/DC converters to increase rail voltages which, along with custom components and unique design, enable amplification of input signals to 180Vp-p into 0.1Ω

Safety

Safety played a major role during the design of the model 3180. The high voltage path to the amplifier circuit is blocked by a front panel mechanical switch and accidental application of high power to the UUT is prevented by a safety latch. The 3180 will output high voltage signals only after the safety latch has been lifted and the high voltage switch flipped to ON position. In emergency situations, one can hit the protective latch to immediately remove the high voltage power from the output terminals. As an additional visual safety feature, a red light glows on the front panel whenever the high voltage is turned on.

Allows Full Current Rating to Other Devices

The power amplifier draws current only from the ±12, and +5V rails, leaving the other power supply rails free to supply their full current rating to other devices.

Target applications

Although the model 3180 wideband amplifier occupies a single slot, its performance is unique and outstanding by any standards. With 180Vp-p and over 300kHz bandwidth one can use model 3180 for virtually any application. A common application is in the automotive industry, where 28V or more is needed, but for others, like the defense and aviation industries, where even higher levels are required, the 3180 is a must.

Cost effective solution

Model 3180 is a cost-effective, versatile power amplifier that opens the door to numerous applications, specifically implemented with PXI equipment.

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180Vp-p PXIBus Signal Amplifier

Specification

CONFIGURATION

Channels:	1 single-ended output
Interface:	PXIBus

INPUT CHARACTERISTICS

No. of channels:	1
Connector:	Front panel BNC
Impedance:	50Ω
Coupling	DC Coupled
Damage Level:	±25V
Frequency Range:	DC to 1MHz

OUTPUT CHARACTERISTICS

GENERAL

Connector:	Front panel BNC
Impedance:	0.1Ω
Coupling:	DC Coupled
Protection:	Short-circuit, 10 seconds
Gain:	x20(2), fixed
Polarity:	Normal
Amplitude:	0 to 180Vp-p (±90V)
Max. Output Current:	150mA

SQUARE WAVE CHARACTERISTICS

Transition Time:	<1.5µs
Aberrations:	<15%

SINE WAVE CHARACTERISTICS

Bandwidth:	-3dB
Small Signal	1MHz, at 20Vp-p
Large Signal	300kHz, at 180Vp-p
Accuracy:	±(2% of full-scale amplitude range + 25mV), Square wave at 1KHz
THD:	
10 Hz to 10 kHz	<0.1%
10 kHz to 200 kHz	<1.2%

GENERAL

Voltage:	±12, +5V
Power Consumption:	11W max.
Current Consumption:	
+12V	0.4A
-12V	0.4A
+5V	0.1A
Signal Ground:	Grounded.
Dimensions:	Single slot, PXI
Weight:	
Without Package	0.5kg
Shipping Weight	1kg
Temperature:	
Operating	0°C to 50°C
Storage	-40°C to 70°C
Humidity:	80% RH, non condensing
Safety:	CE Marked, IEC61010-1
Calibration:	1 year
Warranty (*):	3 years standard

ORDERING INFORMATION

MODEL	DESCRIPTION
3180-20(1)	180Vp-p PXIBus Single Channel Signal Amplifier
Gain:	10, 15, 20, 25, 50, fixed(2)

(1) Standard Configuration
(2) Custom gain can be ordered, however, bandwidth may change.
(3) Specification is given for the standard configuration only

(*) Standard warranty in India is 1 year.