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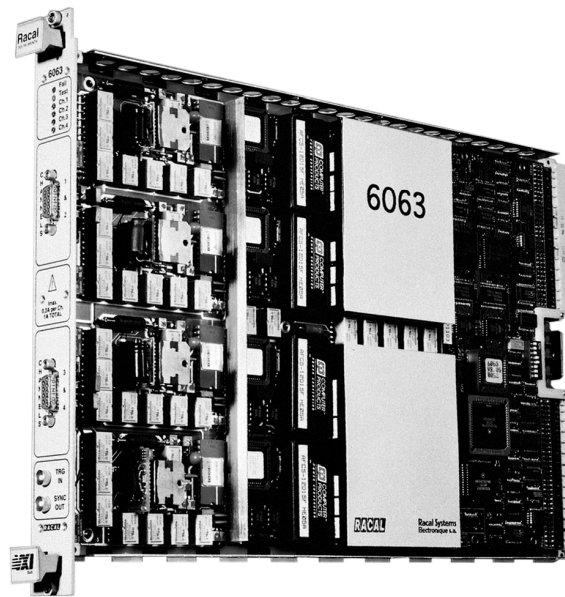
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4-Channel High-Power Precision Source Model 6063



- ◆ 4 Isolated Channels
- ◆ 40V/300mA per Channel
- ◆ High-Precision 16-Bit Resolution per Channel
- ◆ Constant Voltage or Constant Current Supply
- ◆ Remote Voltage Sensing
- ◆ Message-based, SCPI Compatible

The Model 6063 high-power precision source provides four isolated output channels, capable of delivering 40 Volts at 300mA.

Each channel has 16-bit resolution and may be connected in series or parallel with other channels to achieve a greater voltage or current output. For example, the four channels may be connected in series to create an output voltage up to 160 Volts. If the four channels are connected in parallel, the 6063 will deliver up to 1 Amp to a load.

The 6063 is easily programmed using SCPI compatible commands. Each channel is individually programmable as a constant voltage or constant current output. Three voltage ranges allow for unipolar or bipolar output capability. Arbitrary waveforms may be created by externally triggering the 6063 to change its output to a new value stored in memory (1 value may be stored).

A comprehensive self-test is provided by the 6063 that covers greater than

95% of the circuitry on the module. This self-test gives the user confidence that the module will provide an accurate output signal.

Applications for this module range from system calibration and test to a high-power, high-precision, programmable, power supply.

The 6063 is ideal for many applications where a built-in VXI-based programmable power supply is required.

6063 SPECIFICATIONS

VOLTAGE MODE

Ranges

±4V, 0V to 40V, -40V to 0V

Resolution

16 bits

Output Impedance

< 1Ω (four wire connection)

Settling Time

1ms to within 0.1% of the final value

Slew Rate

± 4V range: 10V/ms
40V range: 100V/ms

Noise (20Hz to 20MHz)

Less than 5mVrms, 30mV peak-peak

Accuracy (23°C ± 2°C)

±4V Range: ±(0.05% of value +2mV ±1 LSB)
40V Ranges: ±(0.05% of value +0.5mV ±1LSB)

Temperature Coefficient (typical)

100ppm FSR/°C

CURRENT MODE

Range

0 to 300mA

Resolution

20μA

Output impedance

>50KΩ

Maximum Load

110Ω

Slew Rate

100mA/ms

Settling time

1ms to within 0.5% of the final value

Noise

< 0.5mA(rms), 3mA peak-peak

Accuracy

±(0.5% value +0.3mA)

Temperature Coefficient (typical)

100ppm FSR/°C

TRIGGERING

CHARACTERISTICS

(Input and output triggers are useful to synchronize the execution of a 6063 output change with an external event)

Sources

External: front panel connector
VXI backplane: TTLTrg0-7
Software: *TRG

Modes

IMMediate: Immediate software trigger
COUNT: Repeated up to 2³²-1 times
ECOunt: Delayed by up to 2³²-1 events

Trigger Output

Front panel connector. One TTL pulse per output value change.

Trigger Input

TTL level >50kΩ impedance

Trigger Pulse Width (min.)

50μs

Protection Level

100V

Trigger Input Delay

400μs

COMMON SPECIFICATIONS

User Connector

9 pin D-Sub

Number of Channels

4

Maximum Current

300mA per channel
1A total for 4 channels

Maximum Power

12W per channel

Isolation

250VDC or Vrms (50/60Hz)

Insulation Resistance

1MΩ

Self Test Coverage

95%

Self Test Accuracy

±3%

Maximum Data Rate

>10 values per second, per channel

Mode Switch Delay

<100ms

VXIbus INTERFACE DATA

(Single-slot, C-sized, VXIbus Rev. 1.4)

Compatibility

SCPI word serial protocol

Drivers

LabVIEW, LabWindows/CVI, *VXIplug&play*
(WIN, WIN95, WIN NT Frameworks)

Cooling

Half power: 4l/s, 0.7mm H₂O

Full power: 6l/s, 0.7mm H₂O

Peak and Dynamic Current

	+24V	+12V	+5V	-12V	-24V
I_{Pm} (A)	1.75	0.5	2.0	0.5	1.75
I_{Dm} (A)	1.5	0.1	0.3	0.1	1.5

Total Power: 106 Watts

MTBF

35,000 hours at 25°C using MIL-HDBK-217E

ENVIRONMENTAL DATA

Temperature

Operating (full current): 0° to 40°C
Operating (half current): 0° to 50°C
Storage: -25° to 70°C

Relative Humidity

95%, non-condensing

Altitude

Operating: 20,000 ft.

EMC (Council Directive 89/336/EEC)

EN55022-B, EN50082-1

Safety (Low Voltage Directive 73/23/EEC)


EN6010-1, IEC1010-1, UL3111-1, CSA33.2#1010

Weight

5.5 lb (2.5 kg)

ORDERING INFORMATION

Model	Description	Part Number
6063	4 Channel High Power Precision Source	33-1050-1000

 The CE Mark indicates that the product has completed and passed rigorous testing in the area of RF Emissions, Immunity to Electromagnetic Disturbances and complies with European electrical safety standards.

The Racal policy is one of continuous development and consequently the equipment may vary in detail from the description and specification in this publication.

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