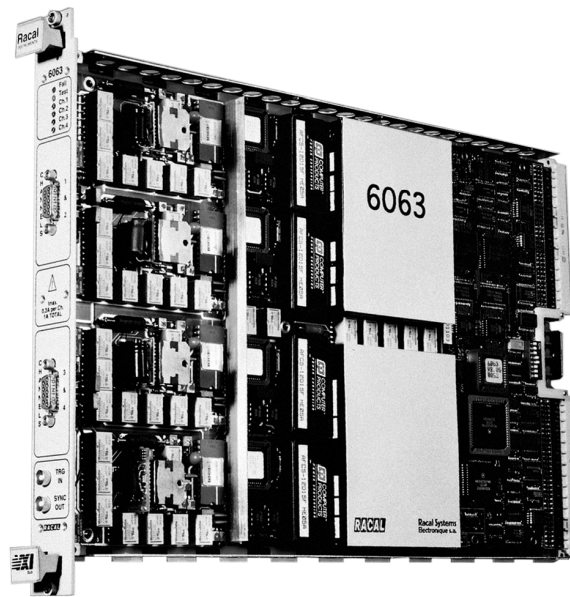


### 4-Channel High-Power Precision Source Model 6063



- ◆ 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 2<sup>32</sup>-1 times  
ECOunt: Delayed by up to 2<sup>32</sup>-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 H<sub>2</sub>O

Full power: 6l/s, 0.7mm H<sub>2</sub>O

### 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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