



- 0 to 20V DC 2A drive capability
- 40 watts max per channel
- 10 $\mu$ V resolution setting
- Programmable via GPIB interface
- Easy to use command language
- 4 terminal output
- LED status display of each channel
- 19" Euro case for rack or bench use

### DESCRIPTION

The 5033 provides 3 independent channels of 0 to 20V DC, settable in 10 $\mu$ V steps. A 2A drive capability allows up to 40W per channel to be output. A precision current shunt is incorporated in each channel and allows read-back of the current supplied.

The high resolution on the voltage and current make this power source ideal for calorimetry and other applications requiring very accurate control of DC power input. Power can be controlled to better than a few ppm.

The excellent resolutions for the voltage output and current readback are matched by stability performance that allows test runs of 24hrs or more and still maintain precision. The voltage output is stable to better than 2ppm per 24hrs at full load and the basic temperature coefficient is better than 1ppm/ $^{\circ}$ C. Measurement of the current is done by using a precision shunt.

Full 4 terminal operation is provided to compensate for volt drops in connection leads. Front panel indicators provide the user with clear indications of data transfer and also show when errors have occurred or invalid commands have been issued. The unit is constructed in a standard 19" Euro case and is suitable for rack or bench use. All connections are at the rear of the unit.

### TECHNICAL SPECIFICATIONS

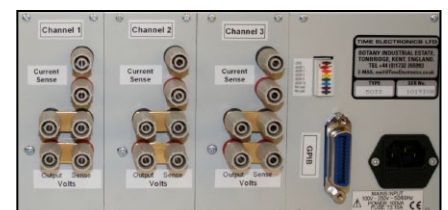
Number of Channels .....	3 - fully floating
Output Voltage .....	0 to 20V DC
Output Current .....	2A maximum. Programmable limit, 10mA to 2A in 10mA steps
Output Power .....	40W maximum per channel
Output Terminals .....	2 wire or 4 wire. low thermal emf construction
Setting Resolution .....	22 bits (0.25ppm)
Accuracy .....	20ppm of output + 400 $\mu$ V
Linearity .....	< 10ppm of full scale
Output Resistance .....	< 1m $\Omega$
Stability .....	< 2ppm/24hrs, < 5ppm/month, < 15ppm/year
Noise level .....	< 1ppm at 1Hz and lower
Temperature Coefficient .....	< 1ppm/ $^{\circ}$ C
Front Panel display .....	For each channel, 'Error', 'Data transfer', 'Power'
Fuses .....	Mains input power, Channel input power 3 x 3A slow blow
Current read-back .....	0.1 $\Omega$ internal precision

### GENERAL SPECIFICATIONS

Interface / Protocol .....	GPIB / SCPI command language
Mains Power .....	115V/230V (+/-5%), 50/60Hz
Construction .....	19" 3U Rack mount frame.
Dimensions / Weight .....	483 x 331 x 134mm / 14kg

### ORDERING INFORMATION

5033 .....	3 Channel Programmable DC Power Source
C169 .....	Factory Calibration Certificate (NPL)
C116 .....	UKAS Calibration Certificate (17025)



Channel outputs, current sense, and GPIB

*Due to continuous development Time Electronics reserves the right to change specifications without prior notice.*