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# DAS-800

- 8 analog input channels, externally expandable to 128 inputs
- Switch-selectable single-ended/differential inputs per channel on the DAS-801
- Up to 40 kSamples/s sampling rate
- 4-location FIFO
- 3 digital inputs, 4 digital outputs
- External hardware trigger and gate
- 100% register and connector compatible with the DAS-8 Series
- 32-bit DriverLINX<sup>®</sup> drivers plus a suite of bundled software including ExceLINX<sup>™</sup>, VisualSCOPE<sup>™</sup>, TestPoint<sup>™</sup>, and LabVIEW<sup>™</sup> drivers

## Ordering Information

**DAS-800** 40 kSample/s Analog and Digital I/O Board

**DAS-801** 40 kSample/s Analog and Digital I/O Board with gains of 0.5, 1, 10, 100, 500

# 40kHz, 12-Bit Multifunction Boards



The DAS-800 Series consists of two analog and digital I/O boards: the DAS-800 and the DAS-801. You'll find flexibility and many advanced features in the analog input section of this series. The DAS-800 features eight analog inputs with a fixed input range of  $\pm 5V$ . The DAS-801 also has eight analog inputs, which can be individually switch-selected for single-ended or differential operation. The DAS-800 Series boards are low impact, upscale paths for boards in the DAS-8 Series.



## DAS-800 SERIES SELECTOR GUIDE

	DAS-800	DAS-801
Analog Inputs	8 single-ended	8 switch-selectable for single-ended or differential
Maximum Speed	40 kS/s	40 kS/s
Resolution	12 bits	12 bits
FIFO	4 locations	4 locations
Input Ranges		
Unipolar	–	0–10V, 0–1V, 0–100mV, 0–20mV
Bipolar	$\pm 5V$	$\pm 10V$ , $\pm 5V$ , $\pm 500mV$ , $\pm 50mV$ , $\pm 10mV$
Digital Inputs	3	3
Digital Outputs	4	4
Compatible DAS-8 Board	DAS-8	DAS-8PGA

## ACCESSORIES AVAILABLE

C1800	DAS-800 Series to STA or STP-37 Cable
EXP-16	16-Channel Multiplexer Accessory Board
STC-37	Screw Terminal Connector
STA-08	Screw Terminal Accessory Board for the DAS-800
STA-08PGA	Screw Terminal Accessory Board for the DAS-801
STA-MB	Screw Terminal Accessory for the MB-Series Modules
STP-37	Screw Terminal Panel

Great selection of analog and digital I/O boards

1.888.KEITHLEY (U.S. only)

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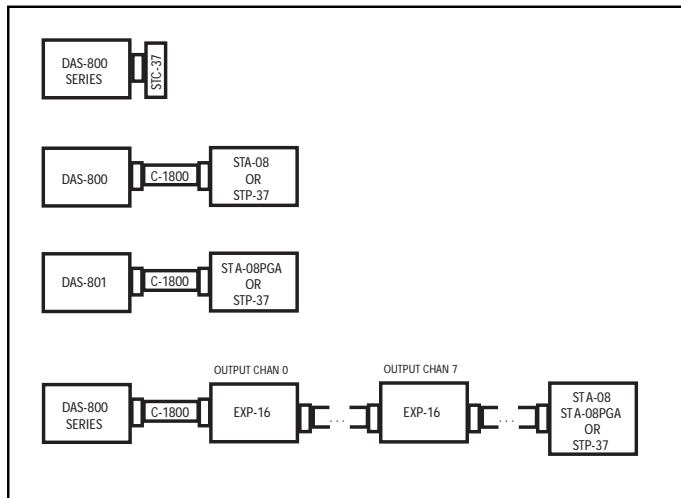
A GREATER MEASURE OF CONFIDENCE

DATA ACQUISITION PRODUCTS

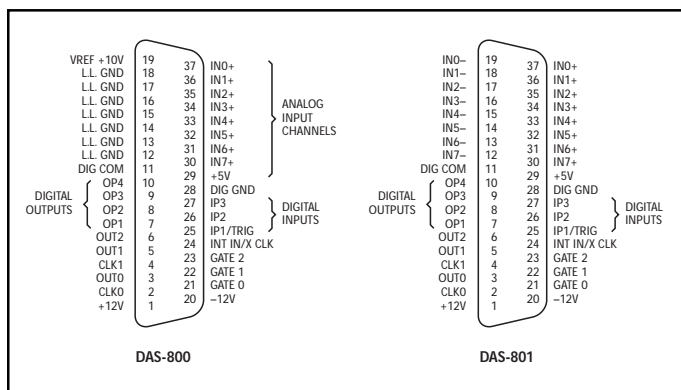
# DAS-800

# 40kHz, 12-Bit Multifunction Boards

## Configuration Guide



## Connector Pin Assignments



## Specifications

### ANALOG INPUTS

**CHANNELS:** 8.  
**CHANNEL CONFIGURATION:** DAS-800: Single ended. DAS-801 (per channel): Switch selectable single ended or differential.  
**INPUT RANGES:**  
 DAS-800:  $\pm 5V$ .  
 DAS-801:  $\pm 10V$ ,  $\pm 5V$ ,  $\pm 500mV$ ,  $\pm 50mV$ ,  $\pm 10mV$ . 0–10V, 0–1V, 0–100mV, 0–20mV.  
**INPUT RANGE SELECTION:**  
 DAS-800: Fixed.  
 DAS-801: Software programmable.  
**INPUT CHANNEL SELECTION:** Software selectable or automatic scanning.  
**MAXIMUM OVERVOLTAGE:**  $\pm 35V$ , single channel.  
**INPUT IMPEDANCE:**  $> 1G\Omega$  typical.  
**INPUT CURRENT:**  $\pm 30nA$  @ 25°C.  $\pm 250nA$  over temperature.  
**A/D CONVERTER TYPE:** Successive approximation with internal sample and hold.  
**RESOLUTION:** 12-bits.  
**LINEARITY:**  $\pm 1$  bit.  
**CONVERSION TIME:** 25 $\mu s$  max.  
**ACCURACY - DAS-800:**  $\pm 0.01\%$  of full scale  $\pm 1$  bit, max.  
**ACCURACY - DAS-801:**  $\pm 0.01\%$  of full scale  $\pm 1$  bit, typical.  $\pm 0.05\%$  of full scale  $\pm 1$  bit, max.  
**THROUGHPUT UNDER DOS:** 40kS/s at gain  $\leq 100$ . 25kS/s at gain = 500.

### TEMPERATURE COEFFICIENTS:

**GAIN - DAS-800:**  $\pm 45ppm/^{\circ}C$  max.  
**GAIN - DAS-801:**  $\pm 50ppm/^{\circ}C$  max.  
**ZERO - DAS-800:** 100 $\mu V/^{\circ}C$  max.  
**ZERO - DAS-801:** ( $\pm 2\mu V \pm 100\mu V/gain$ )/ $^{\circ}C$  max.

**CLOCKING:** Software, internal timebase, external clock.  
**TRIGGERING:** Software, external hardware digital trigger.

**GATING:** External hardware digital gate.  
**DATA TRANSFER METHOD:** I/O Read.

**FIFO LENGTH:** 4-words.

**COMMON MODE REJECTION:**

Gain = 1	70dB min
Gain = 10	90dB min
Gain $\geq 100$	100dB min

@ 60Hz: (DAS-801):

### DIGITAL I/O

**INPUT BITS:** 3.  
**INPUT LOW VOLTAGE:** 0.08V max.  
**INPUT HIGH VOLTAGE:** 2.0V min.  
**INPUT LOW CURRENT:**  $-0.4mA$  max.  
**INPUT HIGH CURRENT:** 20 $\mu A$  max @ 2.7V.  
**OUTPUT BITS:** 4.  
**OUTPUT LOW VOLTAGE:** 0.5V max @ 8.0mA.  
**OUTPUT HIGH VOLTAGE:** 2.7V min @  $-0.4mA$ .

### ENVIRONMENTAL

**OPERATING TEMPERATURE:** 0°C to 50°C.  
**STORAGE TEMPERATURE:**  $-20^{\circ}C$  to  $+70^{\circ}C$ .  
**HUMIDITY:** 0 to 90% (non-condensing).  
**EMC:** Conforms to European Union Directive 89/336/EEC.  
**SAFETY:** Meets EN61010-1/IEC 1010.

**DIMENSIONS:**  
 DAS-800: 5.0in  $\times$  4.25in  $\times$  .75in (12.7cm  $\times$  10.8cm  $\times$  1.9cm).  
 DAS-801: 6.0in  $\times$  4.25in  $\times$  .75in (15.2cm  $\times$  10.8cm  $\times$  1.9cm).



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