ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Find the *ADInstruments MacLab/8S* at our website: *Click HERE*

PowerLab®
ADInstruments

ML785 PowerLab/8SP

ADInstruments Data Acquisition Systems

Description



The PowerLab/8SP is a data acquisition and analysis system for use in life science research. The system has 16 bit resolution (hardware and software supported), and is capable of recording at speeds of up to 200,000 samples per second. Communication with a PC is via USB or SCSI interface. It incorporates eight general purpose BNC analog inputs for measuring external signals. It also features a built-in analog output for stimulation or pulse generation (software controlled), and a trigger input. The PowerLab/8SP is compatible with instruments, signal conditioners, and transducers carried by ADInstruments, as well as many other established brands. Chart and Scope software is supplied with the hardware unit at the time of purchase.

Computer System Compatibility

PC Computers:
Pentium level processor or faster with minimum 16 MB RAM (32MB for Windows NT)
Windows 98 or later for USB interface
Windows 95/Windows NT4 or later for SCSI interface*

Macintosh Computers:
PowerMac or faster & Mac OS 8.5 or later for USB interface
Macintosh computer with at least a 68020 CPU & Mac OS 7.0 or later for SCSI interface*
At least 4MB free RAM

*Not all SCSI cards are suitable. Contact your local PowerLab distributor for more information.

Chart & Scope Compatibility

The following versions of Chart and Scope software are required to operate a PowerLab/8SP.

WINDOWS	MACINTOSH
Chart v3.4.4 or later	Chart v3.6.1 or later
Scope v3.6.5 or later	Scope v3.6.1 or later

Applications

The PowerLab/8SP data acquisition system is suitable for research in the fields of human and animal physiology, pharmacology, neurophysiology, biology, zoology, biochemistry, and biomedical engineering.

Specifications (As tested at the time of printing and are subject to change)

Analog Inputs

Number of input channels:	8
Input configuration:	Single-ended
Amplification range:	±2 mV to ±10 V full scale in 12 steps
	±10 V
	±5 V
	±2 V
	±1 V
	±0.5 V
	±0.2 V
	±0.1 V
	±50 mV
	±20 mV
	±10 mV
	±5 mV
	±2 mV
Maximum input voltage:	±15 V
Input impedance:	~ 1 MΩ || 47 pF @ DC
Low-pass filtering:	20 kHz to 1 Hz in 13 steps (software-selectable)
AC coupling:	DC or 0.16 Hz (software-selectable)
Frequency response (−3 dB):	20 kHz @ ±10 V full scale, all ranges
DC drift:	Software corrected
CMRR (differential):	96 dB @ 50 Hz (typical)
Input crosstalk:	−110 dB typical
Input noise:	< 2.4 μV_{rms} referred to input

Sampling

ADC resolution:	16 bit (312.5 μV resolution at 10 V range)
Linearity error:	±1 LSB (from 0 to 70 °C)
Maximum sampling rates:	200 kHz single channel
	100 kHz/channel for 2 channels
	40 kHz/channel for 3 or 4 channels
	20 kHz/channel for 5 to 8 channels
Available sampling rates:	200 kHz down to 0.003 Hz using Chart for Macintosh
	200 kHz down to 2 Hz using Scope
	200 kHz down to 1 Hz using Chart for Windows
	Sampling on USB rather than SCSI may limit the maximum sampling rates.

Output Amplifier

Number of outputs:	2
Output configuration:	Single channel (complementary) or 2 independent outputs
Output resolution:	14 bits (0.6 mV resolution at 10 V range)
Maximum output current:	□12 mA
Output impedance:	0.1 W typical
Slew rate:	6 V/□s
Settling time:	2 □s (to 0.01% of FSR for LSB change)
Linearity error:	□1 LSB (from 0 to 70 □C)
Output range:	□200 mV to □10 V full scale in six steps □10 V □5 V □2 V □1 V □500 mV □200 mV

External Trigger

Trigger threshold:	3.3 V □0.4 V
Hysteresis:	> 0.2 V
Input load:	1.2 kW
Maximum input voltage:	□12 V
Minimum pulse width:	5 □s

Microprocessor and Data Communication

CPU:	16 MHz 68340
RAM:	512 K
Data communication:	SCSI (up to 4 megabytes/s, maximum, dependent on computer) USB (up to 500 kilobytes/s, maximum, dependent on setup)

Expansion Ports

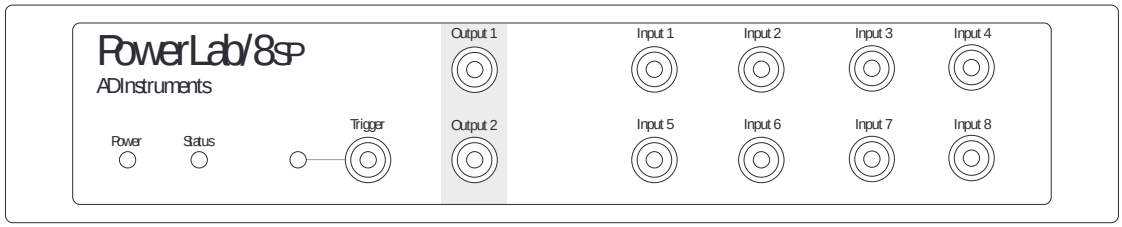
I^2C expansion port:	Power and control bus for Front-end units. Supports up to 16 Front-ends but limited to PowerLab's free connectors. Interface communications rate of up to 10,000 bits/s.
Digital output:	8 independent lines, TTL output level (50 mA maximum load per line; 250 mA maximum total load)
Digital input:	8 independent lines, TTL input level, threshold 2.2 V

Physical Configuration

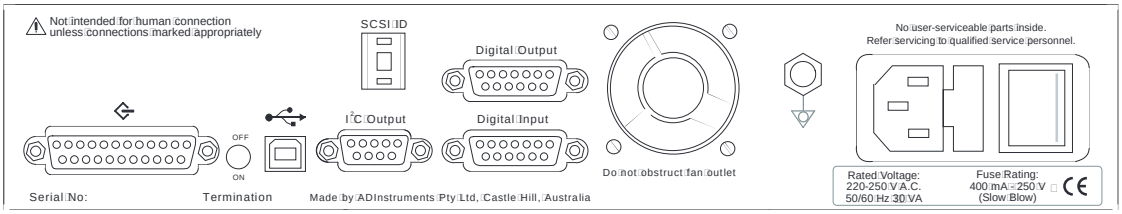
Dimensions (w x h x d):	300 x 60 x 300 mm (11.8" x 2.4" x 11.8")
Weight:	4.8 kg (10 lb 8 oz)
Operating voltage:	220-240 V or 110-120 V (internally set)
Nominal power needs:	25 VA (no Front-ends or Pods attached)
Maximum power needs:	50 VA (full complement of Front-ends and Pods)
Operating temperature:	0 to 35 □C, 0 to 90% humidity (non-condensing)

WARRANTY. ADInstruments PowerLab Systems, Front-end and Pod Signal Conditioners are warranted against defects in materials and workmanship for a period of 3 years from the date of purchase. Transducers are covered by a 12 month warranty. Third party products are covered by the manufacturer's warranty. Warranties are void if the product has been damaged due to negligence. Consumables and electrodes are not covered by a warranty. All questions regarding service and warranty should be directed to your nearest PowerLab authorized distributor or one of the offices listed below.

PowerLab/4SP Diagrams



Front panel



Back panel

Ordering Information

ML785 PowerLab/8SP

Includes: 1 PowerLab/8SP 8-Channel Data Acquisition System
1 Chart & Scope Software Installer CD
1 Cable Kit including Power Cord, BNC to BNC test cable, USB Cable
(SCSI cable optional, contact your local distributor for compatibility information)
1 Getting Started with PowerLab Manual
1 Finger Pulse Transducer

PowerLab and MacLab are registered trademarks of ADInstruments Pty Ltd.
All other trademarks are the property of their respective owners. TT1/01

U-ML785-OG-003

ADInstruments Pty Ltd
ISO 9001 Certified
Reg. No. 1053

www.ADInstruments.com

North America
Tel+ 1 (970) 257 1584
Fax+ 1 (970) 257 1583
info@adinstruments.com

Europe
Tel+ 44 (0) 1865 891 623
Fax+ 44 (0) 1865 890 800
info@adi-europe.com

Japan
Tel+ 81 (3) 5820 7556
Fax+ 81 (3) 3861 7022
info@adijapan.co.jp

Asia
Tel+ 86 (21) 5830 5639
Fax+ 86 (21) 5830 5640
info@adinstruments.com.cn

International
Tel+ 61 (2) 9899 5455
Fax+ 61 (2) 9899 5847
info@adi.com.au

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP