

# *XP2i* External Power Supply Operation Manual

for XP2i Digital Test Gauge



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# Overview

## INTRODUCTION

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Although the XP2i was designed to operate for many hours on a set of 3 AA size batteries, there are times when even this may not be sufficient. For example, if your XP2i is mounted in a test stand, bench or panel, the battery access cover may be inconvenient, or even difficult to reach.

To address these situations, Crystal Engineering has designed an external power supply that can be operated from virtually any available standard AC line supply.

This External Power Supply kit is rated for AC line voltages from 90 to 264 VAC, and 47 to 63 Hz. The kit includes 4 interchangeable AC line plugs that snap onto the power supply. With this assortment you should find a plug compatible with the AC line receptacles used in your country, so you can put this kit to immediate use.

To minimize penetrations into the XP2i, which could increase the chances of water intrusion, there is only one external (fully sealed) electrical connection on the exterior of the gauge: The DB-9 serial connector. The ground return and one of the (unused) RS-232 pins is used to power the gauge. This is not a direct connection to the battery: Circuitry isolates the battery, and when sufficient voltage is applied (9VDC), the externally applied voltage forces the XP2i to switch from battery power to external power. The external supply will not charge the batteries. Instead, the batteries become an uninterruptible power supply, and should the AC line power fail, the circuitry will automatically revert to operation from the batteries.

The connection to the XP2i is a double DB-9 pass through design, which permits you to use the RS-232 interface even when using the external power supply.

Crystal Engineering is the company that designs, manufactures, markets, and services the nVision reference recorder, XP2i digital test gauge, 30 series pressure calibrators, MultiCal multimeter pressure adapters, and a variety of industry specific pressure measuring equipment. Crystal Engineering pioneered features like full temperature compensation and “of reading” rated gauges and calibrators. Pressure measuring equipment is the only thing we do and that’s why we say:

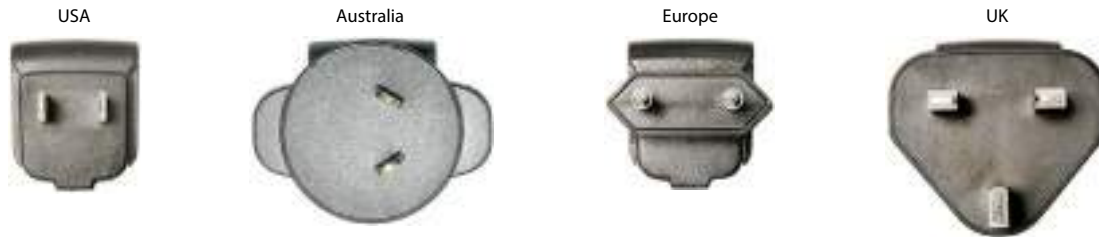
 **Pressure** is our **Business**™

# Instructions

## INSTALLATION

Remove the (red) protective cover from DB9 connector on the back of the XP2i. (Save the cover—if you don't need to use the RS-232 interface, you can use the cover to protect the DB9 connector on the computer side of the adapter). Connect the side of the DB9 pass-through connector with the captive screws to the XP2i (Figure 1). If the XP2i is to be permanently installed, screw the captive screws into the DB9 connector.

The wall mounted power supply is provided with four types of AC input adapters. Choose the one appropriate for your location...



then slide the adapter into the body of the power supply. Make sure it locks securely into place.



Plug the DC power connector (2.1mm x 5.5mm Coaxial Plug) into the matching receptacle on the side of the pass through housing (Figure 2). Connect the power supply to the AC line.

- ! **WARNING:** Do not use the AC Adapter kit in a hazardous atmosphere.
- ! **CAUTION:** Do not exceed the maximum supply voltage of 264 VAC. Always use alkaline batteries.

## OPERATION

The XP2i can be operated from the adapter without batteries installed, although we recommend that batteries remain in the XP2i. The batteries will act as an automatic backup supply in case of power failure.

To protect the XP2i from power supply failures, or connection of non-approved DC power supplies, the pass-through connector includes a non-serviceable fuse.



Figure 1. DB9 captive screws



Figure 2. DC power connector to receptacle on DB9 connector

# Specifications

## ELECTRICAL

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AC Input Voltage.....	90 VAC to 264 VAC
AC Input Frequency.....	47Hz to 63Hz
AC Input Current.....	0.5Arms (120VAC), 0.25Arms (240VAC)
AC Inrush Current (Cold) .....	30A max. (120VAC), 60A max. (240VAC)
AC Surge Immunity .....	IEC 61000-4-5, Level 3

## ENVIRONMENTAL

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### Temperature

Operation .....	0 to 35° C
Storage.....	-25 to 85° C
Humidity .....	10% to 90% RH (Non-condensing)
Emissions.....	FCC Class B, EN 55022 B
Immunity, EN 50082-1 .....	61000-4-2, Level 3
	61000-4-3, Level 2
	61000-4-4, Level 2
	61000-4-3, Level 2

## POWER

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Power On Indicator .....	Green LED
DC Output Cord/Connector ....	1.8 meter (70.8 inches)
	2.1mm x 5.5mm Coaxial Plug, Center Positive

**! WARNING:** Do not operate serial interface within a hazardous atmosphere.

# Support

## CONTACT US

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**Phone** .....(805) 595-5477

**Toll-Free** .....(800) 444-1850

**Fax** .....(805) 595-5466

**Email** .....[crystal@ametek.com](mailto:crystal@ametek.com)

**Web** .....[crystalengineering.net](http://crystalengineering.net)

If calling, have ready the model number, serial number, date of purchase, and reason for return. You will receive instructions for returning the device to us.

## WARRANTY

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Crystal Engineering Corporation warrants the XP2i External Power Supply to be free from defects in material and workmanship under normal use and service for one (1) year from date of purchase to the original purchaser. It does not apply to batteries or when the product has been misused, altered or damaged by accident or abnormal conditions of operation.

Crystal Engineering will, at our option, repair or replace the defective device free of charge and the device will be returned, transportation prepaid. However, if we determine the failure was caused by misuse, alteration, accident or abnormal condition of operation, you will be billed for the repair.

CRYSTAL ENGINEERING CORPORATION MAKES NO WARRANTY OTHER THAN THE LIMITED WARRANTY STATED ABOVE. ALL WARRANTIES, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE, ARE LIMITED TO A PERIOD OF ONE (1) YEAR FROM THE DATE OF PURCHASE. CRYSTAL ENGINEERING SHALL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES, WHETHER IN CONTRACT, TORT OR OTHERWISE.

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708 Fiero Lane, Suite 9, San Luis Obispo, California 93401-8701

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