Power Options for Your Data Logger

Figure 1: Adaptor with Phoenix connector

Introduction

The DD-400 makes use of a variety of power options through its green Phoenix connector. This power input can be from 6-25V DC allowing it to accept nearly all battery, solar, or wall adaptor power sources. This document will go over how to use a standard 12V 1 Amp wall adaptor to power your model 400 data logger.

Overview and Requirements

A converted adaptor may be purchased from Optimum Instruments, but if one already has a spare it can be used just as easily. You will need a Phoenix Contact pluggable terminal block (Order Number 1792773), a volt meter, ferrules if available, and a recommended specification wall adaptor of 12V 1A.

Figure 2: Phoenix Order No. 1792773

Connections

The adaptor will usually have two wires attached together with a barrel jack on the end. Cut the barrel jack end off, and split the wires apart down about 1 inch and strip the ends.

Figure 3: Adaptor End

Determining Positive and Negative

Use the volt meter to measure the voltage across the stripped ends with the adaptor plugged in. Make note of which end is positive and which end is negative. With the red and black leads of your meter you will see a voltage reading on the meter screen. If this voltage is positive, then the red lead is on the positive wire, and the black lead is on the negative. If the voltage reading is negative, then they must be switched to get a correct reading of polarity. Ferrules are excellent for visually indicating polarity as well as keeping the stripped ends of wire together and un-frayed.

Figure 4: Ferruled Ends

Optimum Instruments Inc.
#201, 3132 Parsons Road, Edmonton, AB, Canada, T6N 1L6
For more info call (780) 450-0591 or FAX (780) 440-2515
Email: optimum@optinst.com

Connecting the Wires

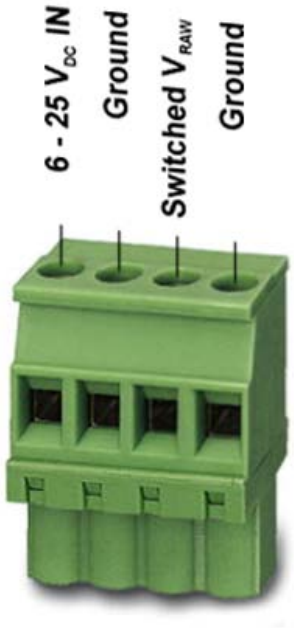

Figure 5: Power Connections

The positive end of the wall adaptor goes in the **6-25Vdc IN** terminal, and the negative goes to **Ground**. When the DD-400 takes a reading, it switches this power input to **Switched Vraw** in order to provide excitation to sensors and equipment. Keep sensor and equipment power needs in mind when selecting the power input so as not to over voltage them.

Conclusion

You should now be familiar with selection of an appropriately rated power source based on equipment needs and how to determine polarity of your adaptor when attaching a Phoenix Contact pluggable terminal block.

Part Numbers

PWR-AC-12-1	Optimum Instruments 12V 1A Wall Adaptor with Green Plug
PWR-AC-9-1	Optimum Instruments 9V 1A Wall Adaptor with Green Plug
1792773	Phoenix Contact Pluggable Terminal Blocks 5.08 4P PLUG 270DEG

Optimum Instruments Inc.
#201, 3132 Parsons Road, Edmonton, AB, Canada, T6N 1L6
For more info call (780) 450-0591 or FAX (780) 440-2515
Email: optimum@optinst.com

IMPORTANT NOTICE

Optimum Instruments Inc. reserves the right to make changes to their products or to discontinue any product or service without notice, and advise customers to obtain the latest version of relevant information to verify, before placing orders, that information being relied on is current and complete. All products are sold subject to these terms and conditions of sale supplied at the time of order acknowledgment, including those pertaining to warranty, patent infringement, and limitation of liability.

Optimum Instruments Inc. warrants performance of its products to the specifications applicable at the time of the sale in accordance with Optimum Instruments Inc.'s standard warranty. Testing and other quality control techniques are utilized to the extent Optimum Instrument Inc. deems necessary to support this warranty. Specific testing of all parameters of each device is not necessarily performed, except those mandated by government requirements.

Customers are responsible for their applications using Optimum Instruments Inc. components.

In order to minimize risks associated with the customer's applications, adequate design and operating safeguards must be provided by the customer to minimize inherent or procedural hazards.

Optimum Instruments Inc. assumes no liability for applications assistance or customer product design. Optimum Instruments Inc. does not warrant or represent that any license, either express or implied, is granted under any patent right, copyright, mask work right, or other intellectual property right of Optimum Instruments Inc. covering or relating to any combination, machine, or process in which such products or services might be or are used. Optimum Instruments Inc.'s publication of information regarding any third party's products or services does not constitute Optimum Instruments Inc.'s approval, license, warranty or endorsement thereof.

Reproduction of information in Optimum Instruments Inc. data books or data sheets is permissible only if reproduction is without alteration and is accompanied by all associated warranties, conditions, limitations and notices. Representation or reproduction of this information with alteration voids all warranties provided for an associated Optimum Instruments Inc. product or service, is an unfair and deceptive business practice, and Optimum Instruments Inc. is not responsible nor liable for any such use.

Resale of Optimum Instruments Inc.'s products or services with statements different from or beyond the parameters stated by Optimum Instruments Inc. for that product or service voids all express and any implied warranties for the associated Optimum Instrument Inc. product or service, is an unfair and deceptive business practice, and Optimum Instruments Inc. is not responsible nor liable for any such use.

Mailing address:

Optimum Instruments Inc.
#201, 3132 Parsons Road
Edmonton, Alberta, Canada, T6N 1L6

Optimum Instruments Inc.
#201, 3132 Parsons Road, Edmonton, AB, Canada, T6N 1L6
For more info call (780) 450-0591 or FAX (780) 440-2515
Email: optimum@optinst.com