



USER GUIDE

NOTE: Fully test all datalogging and associated equipment before field installation.

LIMITATION OF REMEDIES

In no event will Lakewood be liable to any party for any damages, including any lost profits, lost savings, or other incidental or consequential damages arising out of the use or inability to use such equipment or related software, even if notice has been made of the possibility of such damages.

Microsoft, Word, Outlook and Excel are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries. Other products and company names mentioned herein may be the trade marks of their respective owners

COPYRIGHT © LAKEWOOD SYSTEMS 2005

TABLE OF CONTENTS

INTRODUCTION.....	4
TERMINAL ASSIGNMENTS	5
USING THE RUBBER BOOT COVER FOR AN INPUT PLUG.....	6
WIRING A IP420FS TO A SENSOR.....	7
OBTAINING TECHNICAL SUPPORT.....	9

INTRODUCTION

The IP420FS is a unique input plug with spring terminals to allow easy hookup of 4-20mA transmitters and sensors. The IP420FS converts and filters a 4-20mA input into a 0.5 to 2.5 volt output. It features a quick response time (410 milliseconds), low power consumption, wide operating temperature range and sensor excitation if needed.



IP420FS INPUT PLUG

TERMINAL ASSIGNMENTS

The four spring terminals are used to connect to the sensor. If the sensor does not need excitation power, only two of the terminals are used. The first spring terminal (1 black) is common ground. The second spring terminal (2 green) is an analog input that has a range of 0 – 20 milliamperes. It has a 125W 0.1% impedance to eliminate loop voltage loss. The next two spring terminals (3,4) offer excitation for the sensor. The third (3 white) spring terminal is a precision 2.500 volt excitation output. This output has minimal drive capability (5 milliamperes maximum). The power is pulsed on for a short duration then turned off. The length of the on-time power pulse can be set when programming the datalogger. The fourth (4 red) spring terminal is a B+ switched output. The voltage level of the B+ terminal depends on the battery system being used with the datalogger. The on-time is the same as that for the 2.500V precision excitation output.



COLORED TERMINAL ASSIGNMENTS

NOTE: Ensure the screw terminal is not closed onto the wire jacket after tightening. A light tug on the wire once closed will confirm the wire is secure.

USING THE RUBBER BOOT COVER FOR AN INPUT PLUG

The rubber boot cover can be used to keep the spring terminals protected from the environment. To seal the cover, tighten the tywrap on the closed end of the boot around the wire. Cut off tail end of tywrap.



INPUT PLUG BOOT ON WIRES

Once the wires have been clamped down and the rubber boot cover is returned from its inside out position, the rubber boot can be slid over the spring terminals.



SEALED BOOT

WIRING A IP420FS TO A SENSOR

The IP420FS converts the 4 to 20mA sensor's output signal into 0.5 to 2.5 Volts. Since the Datalogger uses Voltage, the conversion minimum and maximum would read such as.....

4 milliamperes = 0.5 Volts
20 milliamperes = 2.5 Volts

Depending on the type of sensor, a 2 or 3 wire configuration will be used. For a sensor or transmitter that can operate using 7 to 8 Volts a 2 wire system can be used.



2 WIRE CONFIGURATION

If the sensor requires over 8 Volts excitation then the 3 wire loop system will have to be used.



3 WIRE CONFIGURATION

OBTAINING TECHNICAL SUPPORT

Technical support can be obtained by contacting Lakewood Systems directly. Please feel free to contact us if you have any questions or concerns. The following contact information can be used to obtain technical support:

Tel.: (780) 462-9110
Fax: (780) 450-3867
#112, 9704 39 Avenue
Edmonton AB
Canada
T6E 6M7