



ISOLATOR MODULE

MODEL  
442 1A700-1

OPERATION MANUAL

# Safety Precautions

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The following are general safety precautions that are not necessarily related to any specific part or procedure, and do not necessarily appear elsewhere in this publication. These precautions must be thoroughly understood and apply to all phases of operation and maintenance.

**WARNING**

**Keep Away From Live Circuits**

Operating Personnel must at all times observe general safety precautions. Do not replace components or make adjustments to the inside of the test equipment with the high voltage supply turned on. To avoid casualties, always remove power.

**WARNING**

**Shock Hazard**

Do not attempt to remove the RF transmission line while RF power is present.

**WARNING**

**Do Not Service Or Adjust Alone**

Under no circumstances should any person reach into an enclosure for the purpose of service or adjustment of equipment except in the presence of someone who is capable of rendering aid.

**WARNING**

**Safety Earth Ground**

An uninterruptible earth safety ground must be supplied from the main power source to test instruments. Grounding one conductor of a two conductor power cable is not sufficient protection. Serious injury or death can occur if this grounding is not properly supplied.

**WARNING**

**Resuscitation**

Personnel working with or near high voltages should be familiar with modern methods of resuscitation.

**WARNING**

**Remove Power**

Observe general safety precautions. Do not open the instrument with the power on.

## Safety Symbols

### WARNING

Warning notes call attention to a procedure, which if not correctly performed, could result in personal injury.

### CAUTION

Caution notes call attention to a procedure, which if not correctly performed, could result in damage to the instrument.



The caution symbol appears on the equipment indicating there is important information in the instruction manual regarding that particular area.

**Note:** *Calls attention to supplemental information.*

## Caution Statements

The following equipment cautions appear in the text and are repeated here for emphasis.

### CAUTION

4421A700-1 Isolator Module must be unplugged from the power supply when making connections or disconnections to the power sensor.

On page 3.

### CAUTION

Before connecting the power sensor to a transmission line, refer to the power sensor instruction book. Note the potential hazard when working with RF power.

On page 3.

## **Safety Statements**

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### **USAGE**

ANY USE OF THIS INSTRUMENT IN A MANNER NOT SPECIFIED BY THE MANUFACTURER MAY IMPAIR THE INSTRUMENT'S SAFETY PROTECTION.

### **USO**

EL USO DE ESTE INSTRUMENTO DE MANERA NO ESPECIFICADA POR EL FABRICANTE, PUEDE ANULAR LA PROTECCIÓN DE SEGURIDAD DEL INSTRUMENTO.

### **BENUTZUNG**

WIRD DAS GERÄT AUF ANDERE WEISE VERWENDET ALS VOM HERSTELLER BESCHRIEBEN, KANN DIE GERÄTESICHERHEIT BEEINTRÄCHTIGT WERDEN.

### **UTILISATION**

TOUTE UTILISATION DE CET INSTRUMENT QUI N'EST PAS EXPLICITEMENT PRÉVUE PAR LE FABRICANT PEUT ENDOMMAGER LE DISPOSITIF DE PROTECTION DE L'INSTRUMENT.

### **IMPIEGO**

QUALORA QUESTO STRUMENTO VENISSE UTILIZZATO IN MODO DIVERSO DA COME SPECIFICATO DAL PRODUTTORE LA PROZIONE DI SICUREZZA POTREBBE VENIRNE COMPROMESSA.

## **SERVICE**

SERVICING INSTRUCTIONS ARE FOR USE BY SERVICE - TRAINED PERSONNEL ONLY. TO AVOID DANGEROUS ELECTRIC SHOCK, DO NOT PERFORM ANY SERVICING UNLESS QUALIFIED TO DO SO.

## **SERVICIO**

LAS INSTRUCCIONES DE SERVICIO SON PARA USO EXCLUSIVO DEL PERSONAL DE SERVICIO CAPACITADO. PARA EVITAR EL PELIGRO DE DESCARGAS ELÉCTRICAS, NO REALICE NINGÚN SERVICIO A MENOS QUE ESTÉ CAPACITADO PARA HACERLO.

## **WARTUNG**

ANWEISUNGEN FÜR DIE WARTUNG DES GERÄTES GELTEN NUR FÜR GESCHULTES FACHPERSONAL.

ZUR VERMEIDUNG GEFÄHRLICHER, ELEKTRISCHER SCHOCKS, SIND WARTUNGSARBEITEN AUSSCHLIEßLICH VON QUALIFIZIERTEM SERVICEPERSONAL DURCHZUFÜHREN.

## **ENTRETIEN**

L'EMPLOI DES INSTRUCTIONS D'ENTRETIEN DOIT ÊTRE RÉSERVÉ AU PERSONNEL FORMÉ AUX OPÉRATIONS D'ENTRETIEN. POUR PRÉVENIR UN CHOC ÉLECTRIQUE DANGEREUX, NE PAS EFFECTUER D'ENTRETIEN SI L'ON N'A PAS ÉTÉ QUALIFIÉ POUR CE FAIRE.

## **ASSISTENZA TECNICA**

LE ISTRUZIONI RELATIVE ALL'ASSISTENZA SONO PREVISTE ESCLUSIVAMENTE PER IL PERSONALE OPPORTUNAMENTE ADDESTRATO. PER EVITARE PERICOLOSE SCOSSE ELETTRICHE NON EFFETTUARE ALCUNA RIPARAZIONE A MENO CHE QUALIFICATI A FARLA.

## **About This Manual**

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This manual covers the operating and maintenance instructions for the following models:

4421A700-1

## **Changes to this Manual**

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We have made every effort to ensure this manual is accurate. If you discover any errors, or if you have suggestions for improving this manual, please send your comments to our Solon, Ohio factory. This manual may be periodically updated. When inquiring about updates to this manual refer to the part number and revision on the title page.

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The Bird 4421A700-1 Isolator Module. The purpose of the 4421A700-1 Isolator Module is to provide optical isolation between a Bird 402X Series power sensor communicating with a Bird 4421 RF Power Meter.

Items Supplied

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Figure 1 Items Supplied



Part Number	Name	Description
4421-038	Sensor Cable	Used to connect the 4421B700-1 to the power meter/Sensor
4421A700-11	Isolator Module	Optical isolator, provides electrical isolation between power meter and power sensor.
GE24I12-P1J	Power Supply	+12V Power Supply

Items required but not supplied

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The following items are required for use with the interface module but are not supplied:

- Bird 4421 Power Meter
- Bird 402X Power Sensor
- Second Sensor Cable



## Unpacking and Inspection

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1. Inspect the 4421B700-1 shipping package for signs of damage.

**Note:** *Use care when inspecting the package.*

2. Do one of the following:

- **If shipping package is damaged** - Do not unpack the unit.

**Note:** *Immediately notify the shipping carrier and Bird Technologies of the damage.*

- **If shipping package is not damaged** - Unpack the unit.

**Note:** *Save all shipping materials.*

3. Check package contents against the items supplied list on [page 1](#).
4. Visually inspect all components for signs of damage.

**Note:** *Immediately notify the shipping carrier and Bird Technologies of equipment damage or missing parts.*

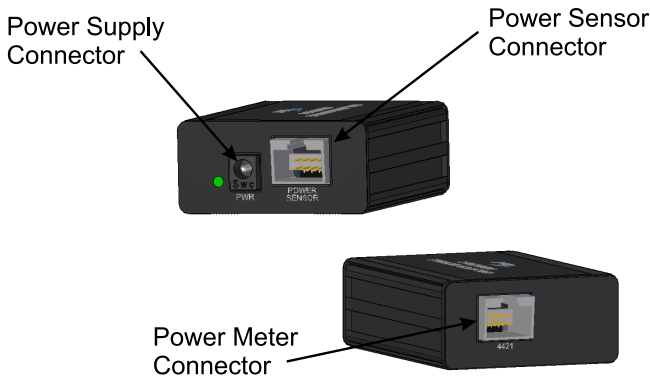
## Connecting the 4421A700-1 Module

### CAUTION

4421B700-1 Sensor Interface Module must be unplugged from the power supply when making connections or disconnections to the power sensor.

1. Connect cable from the Power Meter to the connector labeled 4421. See [Figure 2](#).

**Figure 2** *Optical Isolator Connections*



2. Connect the cable from the power sensor to the connector labeled Power Sensor.
3. Plug the AC/DC power supply into an AC outlet.
4. Plug the DC output connector into the power supply connector on the Optical Isolator.
5. Verify the LED next to the power supply connector illuminates (green).
6. Apply power to the Power Meter and operate according to the operating instructions provided with the unit.

### CAUTION

Before connecting the power sensor to a transmission line, refer to the power sensor instruction book. Note the potential hazard when working with RF power.

7. Connect the power sensor in an RF transmission line:
  - The Source side connects to the signal source.
  - The Load side connects to a power standard.

**Note:** *Make this connection as short as possible.*

## **Preparation for Shipment or Storage**

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### **Storage**

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The Model 4421B700-1 should be stored in a cool, dry area. Ensure storage area temperature remains within the limits contained in the [Specifications](#). If storage period is expected to exceed 30 days, package the unit as described below to keep it free of dust and dirt, and protect it against rough handling.

### **Packaging**

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Package instrument using the original shipping container. If the original shipping container is not available, use a corrugated box. Place shock absorbing material around all sides of the instrument to prevent movement during handling or shipment. Equipment packaging shall be in accordance with best commercial practices.

## Specifications

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Compatible Power Sensors	4020 Series 4027 Series 4028 Series
Operating Power AC Supply Input Power AC Supply Output Power	115/230 VAC, 50/60 Hz 12 VDC
Dimensions	3.7" x 2.8" x 1.4" (94 x 72 x 36 mm)
Weight	0.75 lbs (1.7 kg)
Operating Temperature	+14 to 122 °F (-10 to 50 °C)
Storage Temperature	-40 to 176 °F (-40 to 80 °C)
Humidity	95% Non-condensing

# Limited Warranty

All products manufactured by Seller are warranted to be free from defects in material and workmanship for a period of one (1) year, unless otherwise specified, from date of shipment and to conform to applicable specifications, drawings, blueprints and/or samples. Seller's sole obligation under these warranties shall be to issue credit, repair or replace any item or part thereof which is proved to be other than as warranted; no allowance shall be made for any labor charges of Buyer for replacement of parts, adjustment or repairs, or any other work, unless such charges are authorized in advance by Seller.

If Seller's products are claimed to be defective in material or workmanship or not to conform to specifications, drawings, blueprints and/or samples, Seller shall, upon prompt notice thereof, either examine the products where they are located or issue shipping instructions for return to Seller (transportation-charges prepaid by Buyer). In the event any of our products are proved to be other than as warranted, transportation costs (cheapest way) to and from Seller's plant, will be borne by Seller and reimbursement or credit will be made for amounts so expended by Buyer. Every such claim for breach of these warranties shall be deemed to be waived by Buyer unless made in writing within ten (10) days from the date of discovery of the defect.

The above warranties shall not extend to any products or parts thereof which have been subjected to any misuse or neglect, damaged by accident, rendered defective by reason of improper installation or by the performance of repairs or alterations outside of our plant, and shall not apply to any goods or parts thereof furnished by Buyer or acquired from others at Buyer's request and/or to Buyer's specifications. Routine (regularly required) calibration is not covered under this limited warranty. In addition, Seller's warranties do not extend to the failure of tubes, transistors, fuses and batteries, or to other equipment and parts manufactured by others except to the extent of the original manufacturer's warranty to Seller.

The obligations under the foregoing warranties are limited to the precise terms thereof. These warranties provide exclusive remedies, expressly in lieu of all other remedies including claims for special or consequential damages. SELLER NEITHER MAKES NOR ASSUMES ANY OTHER WARRANTY WHATSOEVER, WHETHER EXPRESS, STATUTORY, OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS, AND NO PERSON IS AUTHORIZED TO ASSUME FOR SELLER ANY OBLIGATION OR LIABILITY NOT STRICTLY IN ACCORDANCE WITH THE FOREGOING.

