Fargo G2 and Koda User Manual

www.linortek.com

For Fargo G2, Koda

TCP/IP Web Based Relay Controller

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Fargo G2 TCP/IP Web Based Relay Controller

Thank you for purchasing a Linortek Fargo G2 or Koda TCP/IP Controller. There are many devices that can be controlled by the FARGO/KODA Web Relay Controller. FARGO/KODA Web Controller can be used in such applications as (but not limited to): Lights, security, sprinkler systems, access control, industrial equipment, building automation, HVAC, and many more. Please refer to the Board Reference Layouts on page 29 for input and output specifications on your controller to verify they are suitable to your needs.

This manual covers:

- FARGO R8 G2
- FARGO R4DI G2
- FARGO R4ADI G2
- KODA 100
- KODA200

These will be referred to as SERVER hereafter. When there are differences or additional features they will be noted in the text.
For instructional videos, FAQ's and contact information for our technical support team, please visit: https://www.linortek.com/technical-support

LINORTEK ONE-YEAR LIMITED WARRANTY

Consumer law: For consumers who are covered by consumer protection laws or regulations in their country of residence (“Consumer Law”), the benefits provided in this Linortek One-Year Limited Warranty (“Linortek Limited Warranty”) are in addition to and not instead of the rights provided by Consumer Law and it does not exclude, limit or suspend your rights arising from Consumer Law. You should consult the proper authorities in your country of residence for further information about these rights

Linortek’s warranty obligations for this hardware product (“Product”) are limited to the terms set forth below:

Linor Technology, Inc. (“Linortek”) warrants this product against defects in materials and workmanship for a period of ONE (1) YEAR from the date of retail purchase by the original end-user purchaser (“Warranty Period”) when used in accordance with the operating instructions. A copy of a retail receipt is required as proof of purchase. If a hardware defect arises and a valid claim is received within the Warranty Period, at its option and to the extent permitted by law, Linortek will either (1) repair the hardware defect at no charge, using new or refurbished replacement parts, (2) exchange the product with a product that is new or which has been manufactured from new or serviceable used parts and is at least functionally equivalent to the original product, or (3) refund the purchase price of the product. When a refund is given, the product for which the refund is provided must be returned to Linortek and becomes Linortek’s property.

The foregoing warranty is subject to Buyer’s (i) prompt written claim and (ii) timely provision to Linortek of an opportunity to inspect and test the Product claimed to be defective. Such inspection may be on Buyer’s premises and/or Linortek may request the return of the Product at Buyer’s expense. However, Linortek shall not be responsible for packing, inspection, or labor costs in connection with the return of Product. No Product shall be accepted for warranty service that is not accompanied by a Return Merchandise Authorization number (RMA#) issued by Linortek.

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Disclaimers

1. Read Instructions – Read all the safety and operating instructions before operating the product.
2. Retain Instructions – Retain the safety and operating instructions for future reference.
3. Heed Warnings – Adhere to all warnings on the product and in the operating instructions.
4. Follow Instructions – Follow all operating and use instructions.
5. Cleaning – Unplug the product from power before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning the enclosure only.
6. Attachments – Do not use attachments unless they are specifically recommended by

Linortek. Using incompatible or otherwise unsuitable attachments can be hazardous.

7. Accessories – Do not place this product on an unstable stand, tripod, bracket, or mount. The product may fall, causing serious injury to a person and serious damage to the product. Use only with a stand, tripod, bracket, or mount recommended by the manufacturer, or sold with the product. Follow the manufacturer's instructions when mounting the product, and only use mounting accessories recommended by the manufacturer. Be cautious when using an appliance and cart combination. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.
8. Ventilation – Openings in the enclosure, if any, are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating. Do not block or cover these openings. Do not place this product in a built-in installation unless proper ventilation is provided or the Linortek's instructions have been adhered to.
9. Power Sources – Operate this product only from the power source type indicated in the instruction manual or on the product label.

   If you are not sure of the type of power supply you plan to use, consult your appliance dealer or local power company – provided that use of any power source type other than indicated in the instruction manual or marking label will void any warranty. For products intended to operate from battery power, or other sources, refer to the operating instructions [included with the product].
10. Grounding or Polarization – This product may be equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug still fails to fit it is because your outlet is incompatible with the plug. Contact your electrician to replace your outlet with one that is compatible. Do not force the plug to fit into an incompatible outlet or otherwise try to defeat the safety purpose of the plug. Alternately, this product may be equipped with a 3-wire grounding-type plug, a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature. Do not force the plug to fit into an incompatible outlet or otherwise try to defeat the safety purpose of the plug. If your outlet is incompatible with the plug, contact your electrician to replace your outlet with one that is compatible.
11. Power-Cord Protection – Route power supply cords so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular

attention to cords and plugs, convenience receptacles, and the point where the cords exit from the appliance.

12. Power Lines – Do not place an outdoor system anywhere in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outdoor system, use extreme care to keep from touching such power lines or circuits as contact with them might be fatal.
13. Overloading – Do not overload outlets and extension cords as this can cause fire or electric shock.
14. Object and Liquid Entry – Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts which can cause fire or electric shock. Never spill liquid of any kind on the product.
15. Servicing – Do not attempt to service to this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing of the product to Linortek.
16. Damage Requiring Service – Unplug the product from the outlet and refer servicing to Linortek Customer Support under the following conditions:
    a. When the power-supply cord or plug is damaged.
    b. If liquid has been spilled, or objects have fallen onto the product.
    c. If the product has been exposed to rain or water.
    d. If the product does not operate normally by following the operating instructions [included with the product]. Adjust only those controls that are covered by the operating instructions, as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
    e. If the product has been dropped or the cabinet has been damaged.
    f. If the product exhibits a distinct change in performance.
17. Replacement Parts – If replacement parts are necessary, have a Low-Voltage Electrician replace them using only part specified by the manufacturer. Unauthorized substitutions may result in fire, electric shock or other hazards. Replacement parts can be found at https://www.linortek.com/store/
18. Safety Check – Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.
19. Coax Grounding – If an outside cable system is connected to the product, be sure the

cable system is grounded. U.S.A. models only–Section 810 of the National Electrical Code, ANSI/NFPA No.70-1981, provides information with respect to proper grounding of the mount and supporting structure, grounding of the coax to a discharge product, size of grounding conductors, location of discharge product, connection to grounding electrodes, and requirements for the grounding electrode.

20. Lightning – For added protection of this product during a lightning storm, or before leaving it unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the cable system. This will prevent damage to the product due to lightning and power-line surges.
21. Outdoor Use – This product is not waterproof and should not be allowed to get wet. Do not expose to rain or other types of liquid.
    Do not leave out-of-doors overnight as condensation may occur.
22. While changing batteries, fuses or handling a board level product be careful of electrostatic discharge which can damage electronic devices. It is best to use a grounded electronics service bench. If this is not available you can discharge yourself by touching a metal appliance or pipe. While changing the batteries or fuses do not touch i) any wires other than the battery wires and ii) the printed circuit board.

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FURTHER NOTICE FOR LIMITATION OF USE

Unless specifically stated, our Products are NOT designed to switch line voltage (110V

and above) devices. To control device that operate at line voltages a qualified electrician MUST install an intermediary device such as a relay. When choosing devices to control, it is best to select low voltage controls such as a 24VAC solenoid to water flow control. Only qualified electricians may wire a line voltage device. Additionally, local codes must be followed including but not limited to wire gauge size and suitable housing. Linortek assumes no responsibility for harm to the user or third parties for improperly using our Products. This liability remains with the user. Linortek assumes no responsibility for damage to the device due to improperly using our Products.

RELAY VOLTAGE SPECIFICATIONS

Please use caution when connecting devices to electrical circuits or other equipment. This web controller is NOT designed to connect to any voltage greater than 48V. Utilizing this arrangement, should allow you to virtually control anything. It is important that you use licensed electricians and comply with electrical codes that are applicable to your location. These codes exist for your safety, as well as the safety of others. Linortek assumes no responsibility for any harm or damage resulting from a failure adhere to local laws, ordinances or regulations or failure to follow specified instructions for installation and product usage.

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TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, IN ADDITION TO THE ABOVE WARRANTY DISCLAIMERS, IN NO EVENT WILL (A) LINORTEK BE LIABLE FOR ANY CONSEQUENTIAL, EXEMPLARY, SPECIAL, OR INCIDENTAL DAMAGES, INCLUDING ANY DAMAGES FOR LOST DATA OR LOST PROFITS, ARISING FROM OR RELATING TO THE PRODUCTS OR SOFTWARE, EVEN IF LINORTEK KNEW OR SHOULD HAVE KNOWN OF THE POSSIBILITY OF SUCH DAMAGES, AND (B) LINORTEK’S TOTAL CUMULATIVE LIABILITY ARISING FROM OR RELATED TO THE PRODUCTS AND SOFTWARE, WHETHER IN CONTRACT OR TORT OR OTHERWISE, SHALL BE LIMITED TO AN AMOUNT NEVER TO EXCEED THE AMOUNT ACTUALLY PAID BY YOU TO LINORTEK AND LINORTEK’S AUTHORISED DISTRIBUTOR OR SALES REPRESENTATIVE FOR THE PRODUCTS OR SERVICES AT ISSUE IN THE PRIOR 6 MONTHS (IF ANY). THIS LIMITATION IS

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8. Compliance with Export Laws.

   You acknowledge that the Software and related technology are subject to U.S. export control laws U.S. export jurisdiction and may be subject to export or import regulations in other countries. You agree to strictly comply with all applicable international and national laws and regulations that apply to the Software, including the U.S. Export Administration Regulations as well as end-user, end-use, and destination restrictions issued by U.S. and other governments. You acknowledge that you have the responsibility to obtain authorization to export, re-export, or import the Software and related technology, as may be required.

   You will indemnify and hold Linortek harmless from any and all claims, losses, liabilities, damages, fines, penalties, costs and expenses (including attorney's fees) arising from or relating to any breach by you of your obligations under this section.

9. Assignment.

   You may not assign any of your rights or obligations under this EULA, and any attempt to assign will be void and without effect.

10. Notices.

    Linortek may provide any notice to you related to this EULA using the email and address that you provided when you registered with Linortek.

11. Waiver

    To be effective, any and all waivers by Linortek hereunder must be in writing and signed by an authorized Linortek representative. Any other failure of Linortek to enforce any term hereunder will not be deemed a waiver.

12. Severability.

    Any provision of this EULA that is found to be unenforceable will be edited and interpreted to accomplish the objectives of that provision to the greatest extent possible under applicable law and all remaining provisions will remain in full force and effect.

13. Governing Law; Venue.

    You agree that this EULA, and any claim, dispute, action, cause of action, issue, or request for relief arising out of or relating to this EULA, will be governed by the laws of the state of North Carolina, U.S.A., without regard to conflicts of laws principles,

provided that if you reside in a country that will not apply U.S. law to disputes related to these terms, then the laws of your country will apply. You also agree that the United Nations Convention on Contracts for the International Sale of Goods shall not apply. You agree that regardless of any statute or law to the contrary, any cause of action against us arising out of or related to the Linortek website, the Software or the Linortek Products must commence within one (1) year after the cause of action accrues or such cause of action shall be permanently barred. Any action or proceeding relating to this EULA must be brought in a federal or state court located in Raleigh, North Carolina and each party irrevocably submits to the jurisdiction and venue of any such court in any such claim or dispute, except that Linortek may seek injunctive relief in any court having jurisdiction to protect its intellectual property.

14. California Proposition 65 Warning.

    ⚠ **WARNING:** This product can expose you to chemicals including lead, which is known to the State of California to cause cancer. For more information, go to www.P65Warnings.ca.gov.

Getting Started

The Fargo SERVER is what is called a “bare board” product and is supplied without a housing. It operates on low voltage; however you need to use simple handling precautions to prevent damage to the circuits. All electronics are susceptible to electrostatic discharge. This high voltage “shock” can permanently damage your device. Before handling the product, you should touch a surface such as a grounded workbench or table. It is also best to handle the device from its edges. If you notice that your chair or clothes often cause static discharges, you must exercise extra caution. The unit is supplied with four rubber feet which keeps the bottom of the board from coming into contact with the surface you put it on. Be careful not to let metal objects, such as screw drivers or hardware, come in contact with the bottom of this product. The board can be mounted on a panel using stand offs and #4 hardware. The mounting holes are connected to the GROUND signal. The SERVER unit is a self-contained web server configured with various input and output circuits. Although the relays are rated for higher voltages, this product is not designed for use at line voltages. You should never use voltages through the SERVER product exceeding 48 volts. IT IS NOT SAFE.

The KODA SERVER is a housed unit with a DIN rail mountable enclosure that can be

snapped onto a DIN rail or attached to any flat surface such as a wall or under a counter. KODA 100 has two relays (48VAC@1A), KODA 200 has four relays which can drive 10V 50mA to external devices. The unit is supplied with a DIN Rail mountable enclosure with removable terminal connectors for easy installation. The KODA SERVER can be mounted on a panel or on the wall using the DIN rail mount clip. The removable wire terminal connectors simplify field installation and allow for easy troubleshooting and maintenance: the unit can be removed from the system without disturbing the system wiring.

Wiring the Server

Note: For a diagram showing the location of all connectors on your SERVER referenced in this section, please see the section – Board Layout Reference.

Caution: These units are ground isolated. Always connect so that power loop is only connected to the SERVER unit.

Do NOT use external ground connections. Doing so may damage the SERVER or POE originating device.

1. Place the unit on a table or bench being careful not to let any metal objects come into contact with the bottom of the circuit board (Fargo Only).
2. Connect the 12VDC power supply to a suitable AC outlet and plug the barrel connector into the SERVER at the location labelled “12VDC/POWER”. Alternatively, you may also use POE. At this point the GREEN/Boot LED should come on and start flashing indicating the SERVER is operating and is in the “Bootload Mode”. This mode allows the user to update the server software that is used on the unit. After about 5 seconds, the GREEN LED will go off and the RED LED will start blinking once per second indicating the SERVER is operating in “Server Mode” and is accessible on a network utilizing TCP/IP protocols.

   CAUTION: WHEN YOU USE POE NETWORK SWITCH, DO NOT USE THE 12VDC POWER SUPPLY TO POWER THE SERVER AT THE SAME TIME, IT WILL DAMAGE THE BOARD.
3. Plug an Ethernet cable into the RJ45/NET connector. The “Connection” LED will come on if a 100MHz network is available, otherwise it will remain off and the “Activity” LED should start blinking indicating network activity. Fargo G2 Relay Connections

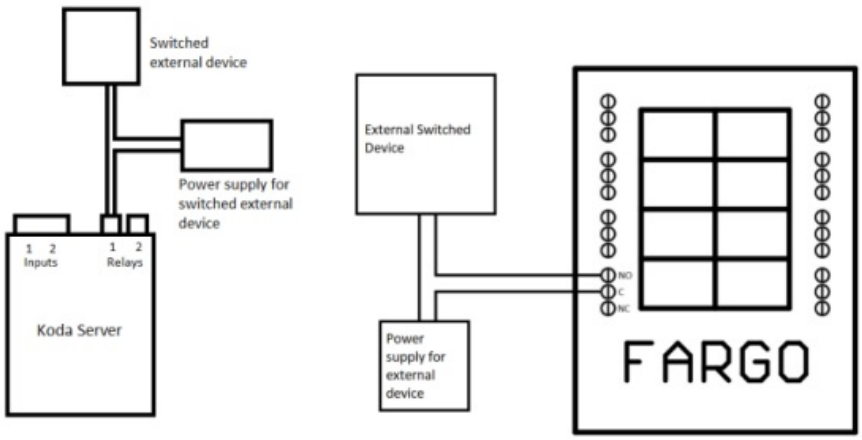
   There are 8 relays on the FARGO R8 and 4 on the FARGO R4. These are dry contact

relays. These units are designed for only low voltage control and should not have a voltage applied to the relay greater than 48 volts. This is for your safety as well as to stay within the parameters of the parts and circuit board design. The relays have 3 terminals labelled NO, C and NC which stand for Normally Open, Common and Normally Closed. When activated, the relay moves the connection from CNC to CNO. If you want to make a connection when the relay is activated, connect your wires between C and NO. When the relay is activated C and NO will be connected together. If you want to break a circuit when the relay is activated, make your connections to C and NC. When the relay is activated the circuit will be broken (or open)

Koda Relay Connection

There are 2 relays on the KODA 100. The KODA 100 has 2 removable 2 position connectors (1 for each relay) and are simply numbered “1” and “2”. These relays are normally open.

There are 4 relays on the KODA 200. The KODA 200 has 1 removable 8 position connector. Each relay has a “+” connection and a numbered connection. The relays may be set to supply about 10VDC by selecting “+V” on the setting switch (see Board Layout Reference page 29) or set to dry contact DC on the switch. If “+V” is selected then the voltage will be present on the “+” terminal and the numbered terminal is the return. Otherwise, a normally open dry contact exists across the “+” and numbered connection. KODA 100/200 is designed for only low voltage control and should not have a voltage applied to the relay greater than 48 volts. This is for your safety as well as to stay within the parameters of the parts and circuit board design.



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FURTHER NOTICE FOR LIMITATION OF USE

Unless specifically stated, this product is NOT designed to switch line voltage devices. This limitation includes all of FARGO AND KODA products. To control device that operate at line voltages the user MUST install and intermediary device such as a relay.

When wiring a line voltage device using intermediary device, you MUST either be a qualified electrician or use the services of a qualified electrician. Additionally, local codes must be followed including, but not limited to, wire gauge size and suitable housing.

Linortek cannot assume any responsibility for harm to the user or third parties for improperly using our Fargo/Koda products. This liability remains with the user. Linortek cannot assume any responsibility for damage to the device for improperly using our SERVER product.

For relay specifications, please see Board Reference Layout page 29

Digital Input Connections (Fargo R4 and Koda)

The digital inputs allow the SERVER to detect an external on/off state of a sensor. With this information the SERVER can display whether an input is on or off, count events in a resettable or non-resettable counter, and calculate the frequency (such as for use as a tachometer) or the period of the input. There are two modes of operation for the digital inputs – PULL UP and ISOLATED.

a) PULL UP mode connects a 1K resistor to an internal voltage allowing you to use a simple switch (such as a magnetic door switch) across terminals 1 and 2. This when the switch is activated a signal is sent to the input.

b) ISOLATED mode allows you to directly drive the SERVER's optoisolator with an external voltage though an internal 1K resistor. This voltage may be in the range of 5V to 24V supplying a minimum of 2mA or a maximum of 30mA to the optoisolator diode. There is no other internal connection to this voltage so it is an isolated input. Please note, when connecting a 12VDC-¬24VDC circuit to the input, an external resistor (can be provided at request, 2.2k ohm 0.5watt) must be used.

These modes are selected by the switch on the SERVER (see Board Layout Reference page 29) marked ISO and PU for isolated and pull up respectively. These are set at the factory to ISO by default.

Wiring a push button: For distances up to 500 feet, a 20 AWG shielded wire is suitable for wiring a push button. If the distance between the push button and the controller extends up to 5,000 feet, use a 16 AWG shielded cable instead. Keep in mind that longer cable runs are more susceptible to signal interference.

Caution: If you intend to use isolated mode, verify that the input switch is set to ISO before applying an external voltage. Doing otherwise may damage the SERVER or POE originating device.

Analog Input Connections (Fargo R4ADI)

The analog inputs allow the SERVER to read the value of external equipment. There are 2 analog inputs.

For AC current monitoring, use one of the two 3.5mm stereo inputs to interface with a current sensor.

The 2 analog input terminal blocks are connected to non-isolated 0-5V current sensors which may be connected to a variety of devices such as temperature or pressure sensors. The SERVER provides a ground and power connection so that measurements can be made without external voltage references. You should use a sensor that is isolated so that that it makes no connection to a remote ground. See drawing under Board Reference Layout page 29.

Accessing your SERVER

Once your SERVER is powered on and connected to the network, it will automatically obtain an IP address via DHCP as long as your router is configured to do so. To connect, enter the IP address into your web browser. This will take you to your SERVER's landing page. To log in, click the Log In button on the top right of the page. Your browser will prompt you to enter your username and password. By default, these credentials are both set to admin. To find your SERVER's IP address, see below.

Finding your IP Address with Linortek Discoverer

The Discoverer program will automatically locate your SERVER. The Discoverer is a Java program, and requires Java Runtime to be installed to use this feature. Java can be found here: http://java.com/en/download/index.jsp.

To download the Discover program, please go to: https://www.linortek.com/downloads/supportprogramming/

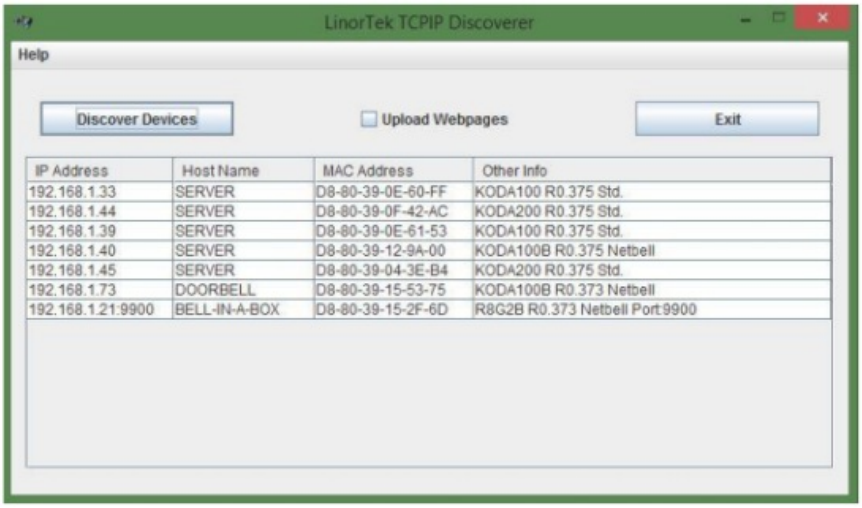
Use of Chrome & Firefox browsers is recommended. Please note: If you prefer to use Internet Explorer, Internet Explorer saves Linortek Discoverer as a Zip file by default. In order to use the Discoverer, you will need to select Save as and rename the file as

Linortek Discoverer.jar when you download.

When downloading the Discover program, sometimes you will see a popup warning message depending on your browser security settings, asking if you want to keep or discard this file, please click the Keep button as this is a Java program, and it won't harm your computer.

Once Discoverer locates your device, it will display:

1. IP Address
2. Host Name
3. MAC Address
4. Other Info:
   a. Blue LED (if on)
   b. Product Name
   c. Server Software Revision
   d. Port Number (If ported)



Click the device you want to use shown on the Discoverer program to launch the SERVER web pages in your browser. Click the Login button on the homepage. The default username/password is: admin/admin. You may change these as you desire or disable this feature in the settings menu.

Connecting your SERVER Directly to Your PC

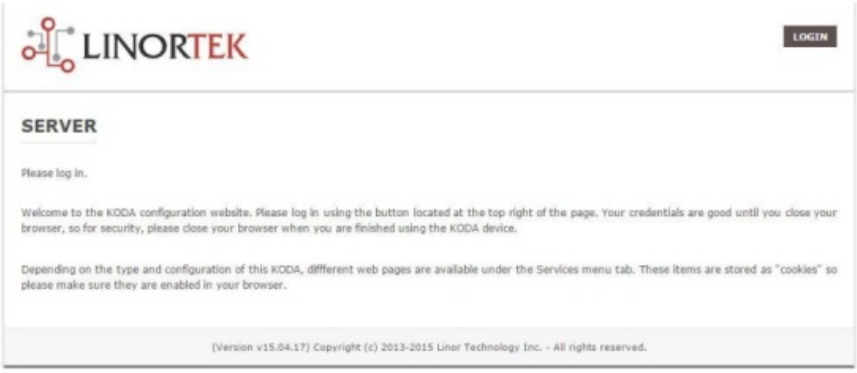
You can also plug your SERVER directly to your PC if there is no network connection available. If you plug your SERVER into your PC's Ethernet port it will use the default IP address: 169.254.1.1 unless you have previously configured your SERVER to use a static IP. Enter 169.254.1.1 into your web browser to connect. No internet connection is

required. Once configured, you can then install your SERVER where you desired.

Server Configuration

Logging In

Once you have entered the IP address and port number, if set, the Login page will open. This page shows the name of this server which you may change in Configure/Network Config.

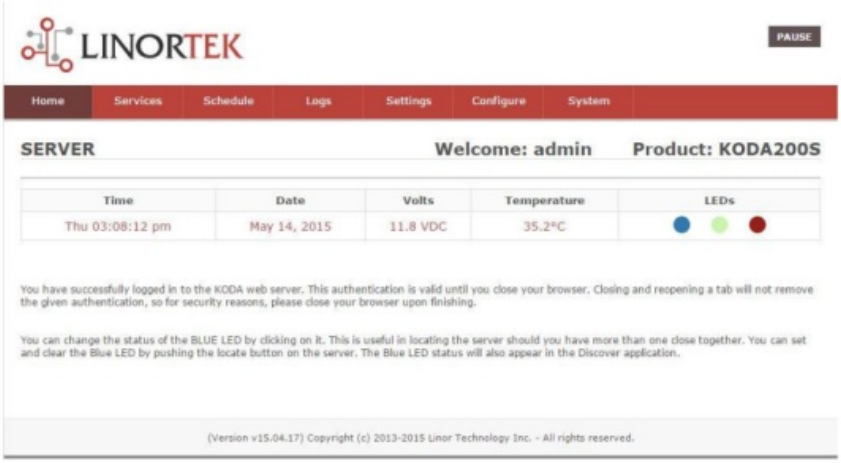


This page is static with no background activity and is a useful place to park if you are not using the SERVER and do not want to close the connection.

By pressing LOGIN, you will be asked for your username and password. These credentials will be retained by the browser until the browser is closed. You can disable the password requirement in Settings page. See section page 21.

Home Page

Once your login credentials are entered, you will be redirected to the main page of the application. The Home or Index page displays some of the system information and offers the ability to locate the physical device if it is in an area with others. See list below for description.



- TIME – Displayed along with the day of the week. This time may be set to be in a 12 hour format with AM/PM indicator or 24 hour format.
- DATE – Current date is displayed here.
- VOLTS – Voltage at the board is displayed. This may be useful if the SERVER is powered along with other equipment, voltage variance can be noted. Fargo and Koda servers have an input voltage range of 1248vDC.
- TEMPERATURE – Temperature on the board is displayed. This display may be either °C or °F. This temperature will be affected by the heat generated by SERVER itself so it will always be slightly higher than ambient temperature.
- LEDs – There are 3 LEDs displayed. The RED LED is the system pulse. This should blink about once per second as long as the server is running. The GREEN LED is used for bootloader options and is generally not visible on the website. The BLUE LED is clickable and you can turn it on and off from this web page. This is useful for locating the device physically should it be in use with other similar units as it will illuminate on the unit to which this web browser is connected. The Discoverer program will also note if the BLUE LED is on. This is often referred to as a “Locate” function.

Services

The Services tab is dynamic and will change depending on the configuration of your server. This is where you can control the inputs, outputs, sensors and other specialty controls.

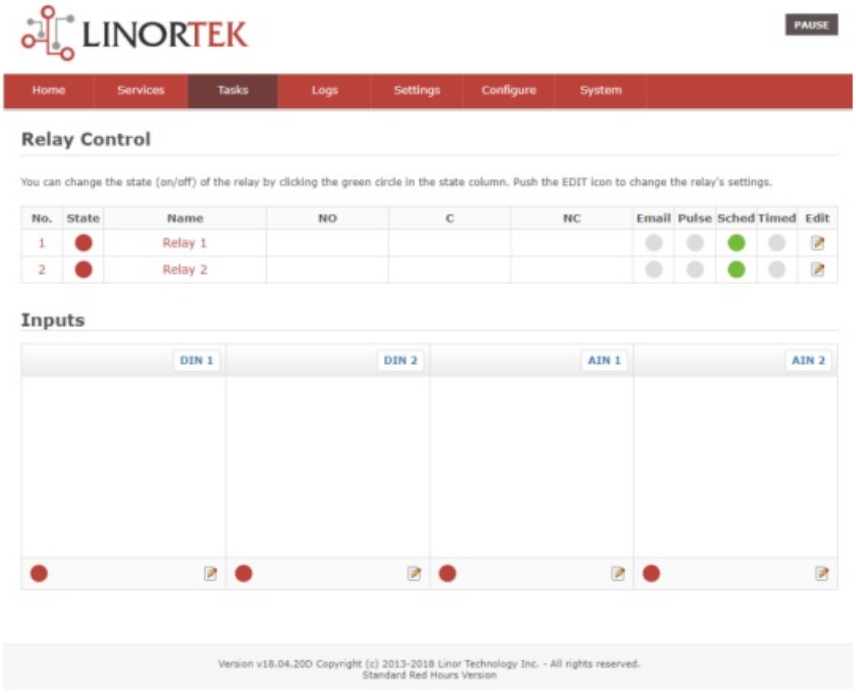
In/Out or Relays Page

Depending on which SERVER you are using, the first page on the SERVICES tab will be either In/Out or Relays.

In/Out has the relay controls and the input controls on one page, while Relays only has the relay controls.

Relay Control

An In/Out page is displayed below. Some relay control pages have 2, 4 or 8 relays displayed. Each relay has a number, in this case 1 to 4.



The State LED shows whether the relay is on or off indicated by GREEN and RED respectively. This icon is clickable to manually control the corresponding relay. Each relay can have a Name as well as identifiers for the Normally Open, Common and Normally Closed connections.

There are four status LEDs that show:

1. Email – If an email is to be sent when this relay is switched on/off
2. Pulse – If this Relay is set with a pulse width and pulse width multiplier (duration) – see next section for more information
3. Sched. – If there is a schedule created in the Tasks page (see page 15) set to automatically trigger this relay.
4. Timed – If pulse is set and this relay is activated, the Timed LED will turn red showing the relay is currently operating on a timer.

Click the Edit Icon to edit the controls for the corresponding relay. This will take you to the Set Relay page (see page 11).

Inputs

The In/Out or Inputs page (depending on your SERVER) will display information from each input. The SERVERs have a combination of inputs. The Fargo R4DI has four digital inputs, The R4ADI has, four digital inputs, four analog inputs. The KODA SERVER has two digital inputs.

At the top of each input is a label (ex: DIN 1, AIN 2) specifying whether it is a digital input

(DIN) or analog input (AIN) as well as the input number. This label will turn green when the input is enabled. Inside the box will be any display configured from the Set Input page (see page 12 for digital input, page 14 for analog input). A red dot in the lower-left corner indicating the state of a linked relay (if any), will turn green when the linked relay is activated.

Finally, an Edit icon in the lower-right corner of the box to edit the corresponding input. This will take you to the Set Digital Input or Set Analog Input page (page 12 or page 14).

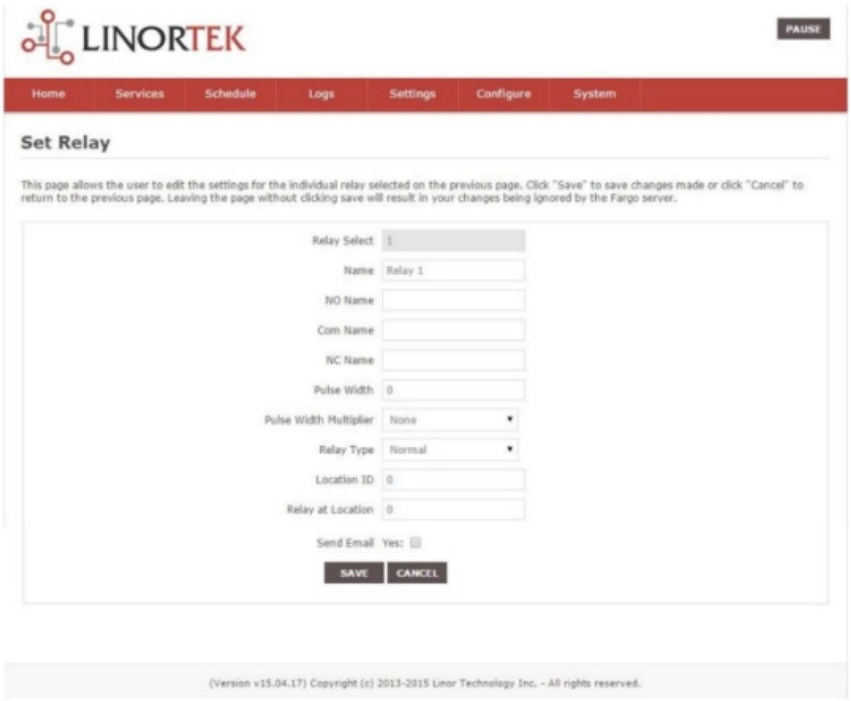
Set Relay Page

The SET RELAY page allows you to set various properties pertaining to the Relay.

1. Relay Select – The Relay that you are editing (identified by the line on which you clicked the Edit icon on the RELAY page).
2. Name – Enter a 15-character Relay Name. This and the following 3 fields may be used for any identifying information desired.
3. NO Name – Enter a 7-character name for the Normally Open (NO) connection.
4. Com Name – Enter a 7-character name for the Common (COM) connection.
5. NC Name – Enter a 7-character name for the Normally Closed (NC) connection.
6. Pulse Width – When you control the relay it turns on or off. You may control it for a timed turned on period by entering a Pulse Width when 0 means there is no timed event and a number represents duration of the pulse. The maximum number you can enter here is 4 digits, ie. 1234.
7. Pulse Width Multiplier – To further define the pulse length select a Pulse Width Multiplier to further define the pulse width. You can select:
   - None
   - mS (Millisecond, 1/1000 second)
   - Sec (Seconds)
   - Min (Minutes)
8. Relay Type – the SERVER can access relays physically on the SERVER or using other means. You may select:
   - Normal – relay physically on the SERVER
   - Latched – not currently supported
   - Remote – a relay on another SERVER accessed over the network
   - Zigbee – a relay at a remote device accessed over an RF system
   - Normal and Remote – both relays activated

• Normal and Zigbee – both relays activated

9. Location ID – this is a number identifying a remote location
10. Relay at Location – a number representing the relay or device at the Location
11. Send Email – the SERVER can be programmed to send an Email if the relay is turned on or off.



Set Digital Input Page

The Digital Inputs can be set to provide various readouts on using a range of display types. In addition to displaying the input data, you can name the display as well as associate a relay with it. This relay will change from Green to RED as it goes from on to off as well as is clickable to control it. By clicking on the edit pencil icon, you can edit the settings for this input:

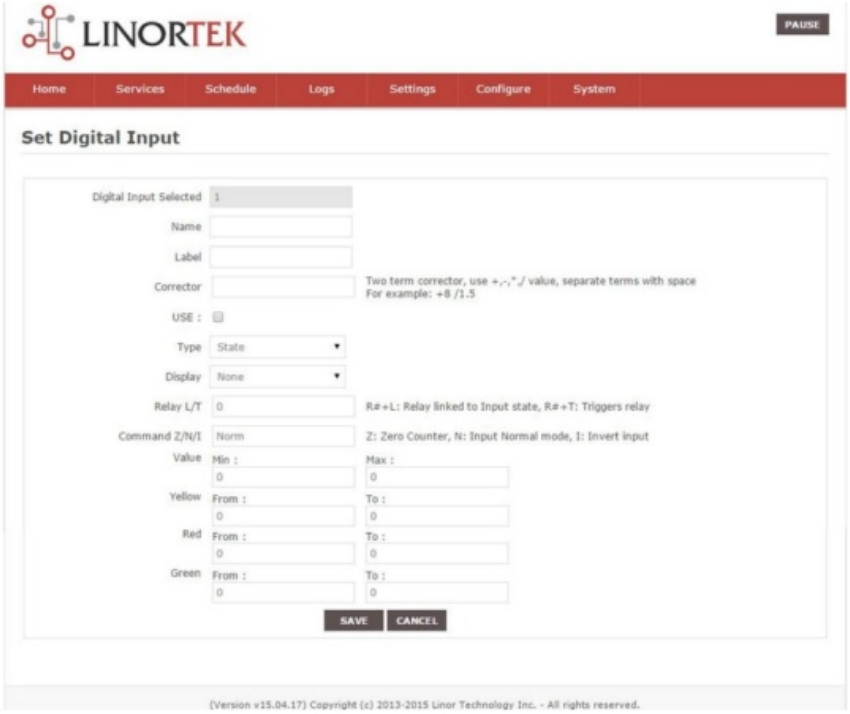
1. Digital Input Selected – The Digital Input that you are editing (identified by the line on which you clicked the Edit icon).
2. Name – You can set a 15-character name for this input. This name goes in the bar at the top of the display.
3. Label – Set a 7-character label which is displayed on the actual active display.
4. Corrector – Using this field you can add, subtract, multiply, or divide a value before the value is shown on the display page. This is a 2-value corrector with each being separated by a single space character. (ie. “+2, -2, *3, /3”)
5. USE – Sets this input to active. Turns the input number indicator to green. It should be

noted that when in use the input consumes CPU time and other resources depending on its type. Although all inputs may be active at the same time, it is recommended to turn on only those you want to use.

6. Type – The input data can be used to calculate a range of results. You may select:
   • State – This is useful for knowing if an input is on or off, like a door switch being on or off.
   • CounterNR – This is a non-resettable counter.
   • CounterR – This is a resettable counter.
   • Frequency – Counts the frequency of an input in KHz (kilo hertz or1/1000 seconds). This could be useful in displaying a tachometer where 60Hz = 1 R.P.M.
   • Period – in 1/1000 seconds an input in kHz (milliseconds or1/1000 seconds). This would be useful for measuring timed events.
7. Display – This selection lets you change the display type used. You can select:
   • Dot – A single dot with the value in the middle. This can be used for State. You can make a dumb indicator by changing the color of the Dot based on the value. The label is under the Dot.
   • Values – Displays the Corrected Value with the Label in a box directly below it.
   • Meter – This Meter has configurable scale based on the Min/Max values and arcs can be colored per the Color ranges. The Label is displayed within the Meter.
   • VBar – Also based on the Min/Max values for the scale and the bar changes color based on the values in the Color ranges.
8. Relay L/T – Enter a Relay number here. If it is a local relay it will show GREEN or RED depending if it is on or off. By clicking on it the relay will turn on and off. The name comes from the relay settings page. This may be useful if you want to turn the subject of a display on and off. Any relay can be used on any input and each may be reused for any other input. Adding an L after the relay number (ex: 2L) will link the state of the input to the state of the relay. This is an easy and immediate way to have an input follow the relay. Adding a T after the relay number will trigger the relay to the state of the input. This is an easy and immediate way to have a relay follow the input.
9. Command Z/N/I – This field is used for issuing various commands to the Digital Input controller: Z Zero the resettable counter. N Leave the input as Normal. I Invert the input.
10. Value – These are Min/Max values used for the display. This is useful for preventing a Meter from going past its end or setting the value of a VBar. This is the Value after the

Corrector. The system cannot display a value past Max, so be sure this is at least set to 1.

11. Yellow/Red/Green – There are three colors that can be used to further define a display. Set the range of these colors to define a color to the display Value. This is the Value after the Corrector. Note that if you are using a State type you may want to assign RED = From 0 to 0, GREEN = From 1 to 1 and YELLOW = From 2 to 2. Since a State is always either 1 or 0 this will prevent ambiguous information and prevent the YELLOW color from being used. You can select any two colors you like for a State type.



Set Analog Input Page

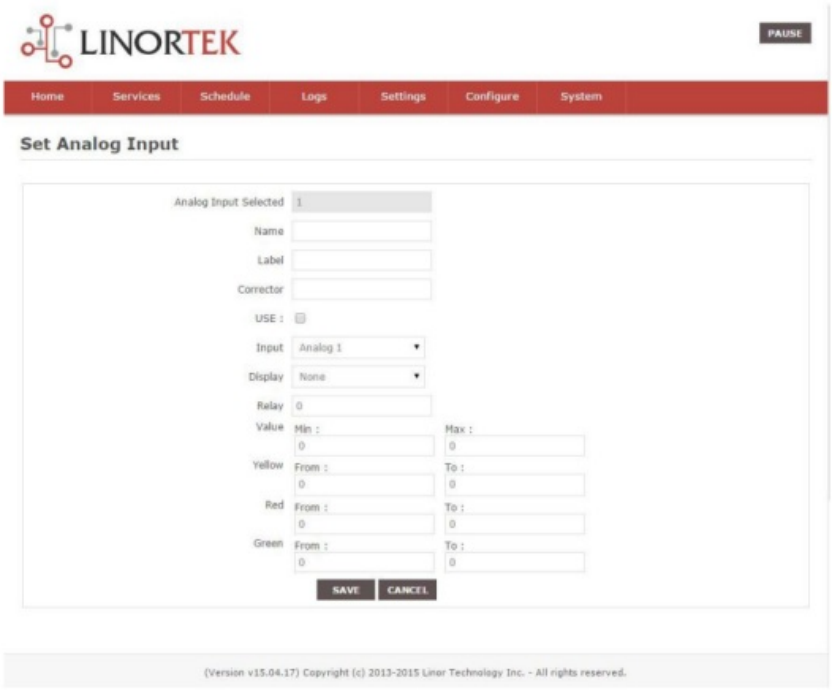
The Analog Inputs can be set to provide various readouts on using a range of display types. In addition to displaying the input data, you can name the display as well as associate a relay with it. This relay will change from Green to RED as it goes from on to off as well as is clickable to control it.

1. Analog Input Selected – The Analog Input that you are editing (identified by the line on which you clicked the Edit icon).
2. Name – You can set a 15-character name for this input. This name goes in the bar at the top of the display.
3. Label – Set a 7-character label which is displayed on the actual active display.

4. Corrector – Using this field you can add, subtract, multiply, or divide a value before the value is shown on the display page. This is a 2-value corrector with each being separated by a single space character. (ie. “+2, -2, *3, /3”)
5. USE – Sets this input to active. Turns the input number indicator to GREEN. It should be noted that when in use the input consumes CPU time and other resources depending on its type. Although all inputs may be active at the same time, it is recommended to turn on only those you want to use.
6. Type – The input data can be used to calculate a range of results. You may select:
   • Analog 1 – Analog 1 input from a SERVER with an input such as found on a R4ADI.
   • Analog 2 – Analog 2 input from a SERVER with an input such as found on a R4ADI.
   • AC Current 1 – AC current sensor 1 input from a SERVER with an input such as found on a R4ADI.
   • AC Current 2 – AC current sensor 2 input from a SERVER with an input such as found on a R4ADI.
   • AC Current 3 – Not used
   • Volts – The measurement of the voltage powering the SERVER.
   • Current – On “S” models, this is the current consumed by the SERVER.
   • Int. Temp – Temperature from the board mounted sensor.
   • Ext. Temp – Temperature from the “S” model SERVER.
   • R. Humidity – % Relative Humidity from the “S” model SERVER.
   • MMA X – The X axis accelerometer data from the “S” model SERVER.
   • MMA Y – The Y axis accelerometer data from the “S” model SERVER.
   • MMA Z – The Z axis accelerometer data from the “S” model SERVER.
7. Display – This selection lets you change the display type used. You can select:
   1. Dot – A single dot with the value in the middle. This can be used for State. You can make a dumb indicator by changing the color of the Dot based on the value. The label is under the Dot.
   2. Values – Displays the Corrected Value with the Label in a box directly below it.
   3. Meter – This Meter has configurable scale based on the Min/Max values and arcs can be colored per the Color ranges. The Label is displayed within the Meter.
   4. VBar – Also based on the Min/Max values for the scale and the bar changes color based on the values in the Color ranges.
8. Relay – Enter a Relay number here. If it is a local relay it will show Green or RED depending if it is on or off.

By clicking on it the relay will turn on and off. The name comes from the relay settings page. This may be useful if you want to turn the subject of a display on and off. Any relay can be used on any input and each may be reused for any other input.

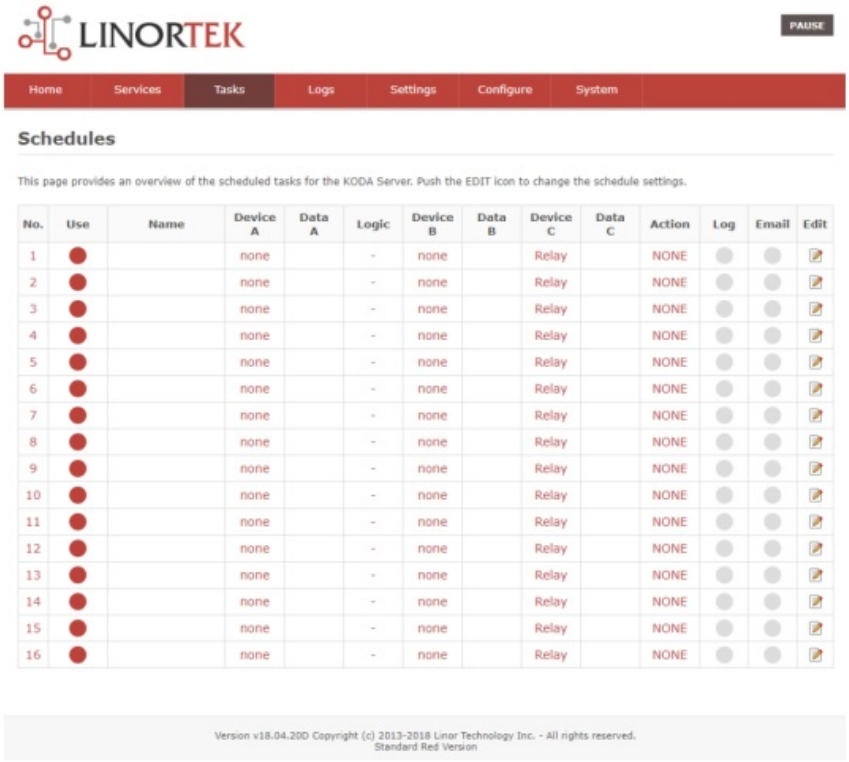
9. Value – These are Min/Max values used for the display. This is useful for preventing a Meter from going past its end or setting the value of a VBar. This is the Value after the Corrector. The system cannot display a value past Max so be sure this is at least set to 1.
10. Yellow/Red/Green – There are three colors that can be used to further define a display. Set the range of these colors to define a color to the display Value. This is the Value after the Corrector. Note that if you are using a State type you may want to assign RED = From 0 to 0, GREEN = From 1 to 1 and YELLOW = From 2 to 2. Since a State is always either 1 or 0 this will prevent ambiguous information and prevent the YELLOW color from being used. You can select any two colors you like for a State type.



Tasks Page

The TASKS page displays the automatic events that can be programmed into the SERVER. You can schedule up to 16 events in the SERVER. These are constructed as IF … THEN statements. In addition, the IF term can have 2 elements (IF a, AND/OR/NOT b … THEN c). This provides a simple to program and powerful way to take advantage of the data acquired by the SERVER. The Tasks page shows you an overview of configured tasks. You can click the dot in the State column to turn a task on

or off indicated by a green dot for ON, and a red dot for OFF. To edit or create a task, click the Edit icon to the right of the task line. This will take you to the Set Schedule page detailed in the next section.



Set Schedule Page

The SET SCHEDULE page allows you to create time and logic-based events that will occur automatically if the conditions are met.

1. Schedule Select – Determined by clicking on a schedule line from the previous page.
2. Schedule Name – Enter a 15-character Schedule Name.
3. USE – In order for a Schedule line to be active you must select the USE button. If there is an error detected in entering Schedule data, the USE box will automatically uncheck.
4. LOG – Select log for this item to appear in the system log every time it is executed.
5. Email – Click Email to automatically send an email when this schedule is executed.
6. Device A – Select Device A for the first term in the IF statement from the drop box.
7. Data A – Select Data A for the above device. Depending on the device selected, the Data used for testing may have special properties. See the list below for Data that may be entered. If an error is detected indata entry when the “Save” button is pushed, the USE box will uncheck and the Data box containing the error will be highlighted.

   • Minute – Enter: mm

• Hour – Enter: hh (use 24-hour system)

• Day – Enter: dd

• DayofWeek – Enter: Sunday = 1, Monday = 2, Tuesday = 3, Wednesday = 4, Thursday = 5, Friday = 6, Saturday = 7, Weekday = 8, Weekend = 9

• Time – Enter: hh:mm (use leading zeros, seconds are ignored) (use 24 hour system) ex:07:30 or 14:05

• Date – Enter: yy/mm/dd (use leading zeros) ex: 20/01/10 for January 10, 2020

• Relay – Enter: Relay number and (+ or -), ex: 01+ for Relay 1 ON or 01- for Relay 1 OFF

• Button – Enter: + or – (for ON or OFF respectively)

• Flag – Enter: Flag number(opt.+), or Flag number (for ON or OFF respectively)

• Temp – Enter: >, = or < value; example: >40 (always degrees C)

• Volts – Enter: >, = or < value; example: <10

• Analog – Analog input. Enter an input number and >, = or < and value. Example: 3<123 (This value is raw data value prior to any Corrector used by the input display page.)

• Digital – Digital input. Enter Input Number, Type, >, =, or < and value; example: 1F>7500 (This value is the raw data value prior to any Corrector used on the display page). Type can be (case sensitive):

• S State (On/Off)

• C Non-resettable counter

• c Resettable counter (lower case ‘c’)

• F Frequency in 1/1000 seconds

• P Period in 1/1000 seconds

8. Logic – Set up a Logic comparison between Device A and Device B.
   • AND – True if: Device A is true AND Device B is true
   • OR – True if: Device A is true OR Device B is true
   • NOT – True if: Device A is true and Device B is NOT true
9. Device B – Select Device B for testing from the drop box.
10. Data B – Select Data B for the above device. Depending on the device selected the Data used for testing may have special properties. See above list.
11. Device C – is what to control.
12. Data C – Set property for Device C. Syntax is used as follows:
    • RELAY – These are relays on this SERVER. You can set up to four per schedule.

Enter separated by commas, for example “1,2,3,4”

• FLAG – This is a storage flag that can be used to make more complex schedules. There are 8 flags that can be turned on or off.

• REMOTE – Refers to a remote SERVER unit. When these conditions are met, this SERVER will send a command to control a remote SERVER. The Data field for a remote unit should be in the format,
“REMOTE UNIT NUMBER, REMOTE UNIT RELAY”. For example, “3,5”. These remote SERVERS must be identified in the page Configure/Remote Device Config.

• COUNTER – Adds count to digital input counter – set as 1 or 2 depending on which digital input is counting

• BLUE LED – No data.

• eMAIL – Will send eMail, no data.

• NOTIFY – Will send notification to Kodalert, set 1- 8 for Settings/Alarm Notification number. (Not Implemented)

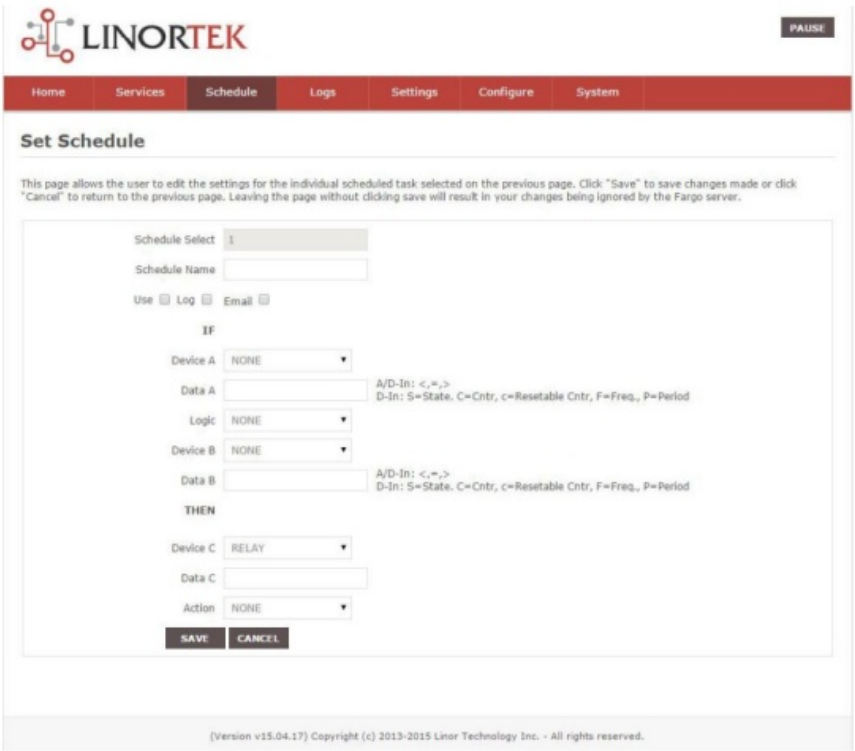
13. Action – What to do with Device C. Options are:

• ON – Turns device ON

• OFF – Turns device OFF

• TGL – Toggles state of Device C

• RESET – Resets CounterR



Logs Page

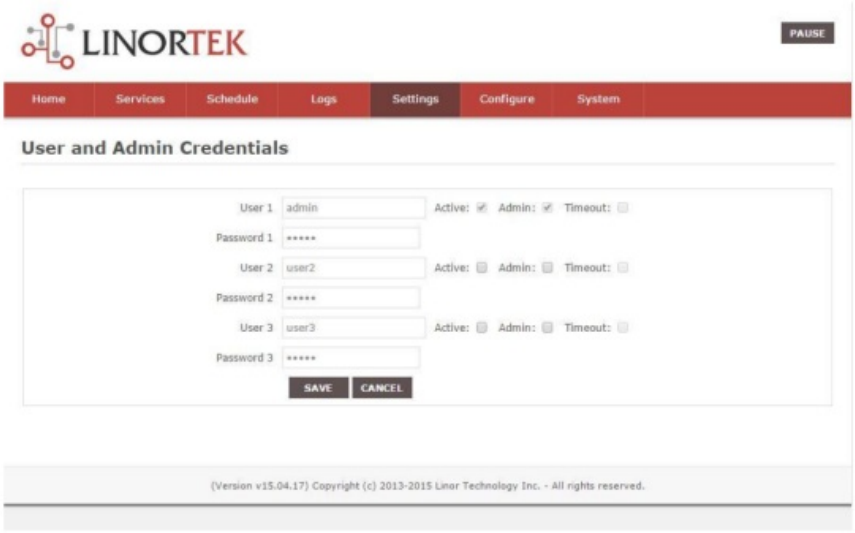
The Logs tab displays over 10,000 entries from actions taken by the SERVER or by users themselves. This feature allows several actions for the convenience of displaying and collecting data from the SERVER.

1. The checkboxes above the date allow the user to filter logs from different sources. To filter out logs you do not wish to see from a certain source simply uncheck the box.
2. Each log has a reference number and a time and date attached in a “yyyy/mm/dd” and “hh:mm:ss” format. Afterwards is the event displayed.
3. To scroll through the logs, use the arrows to the right-hand side, where the horizonal line and arrow brings you to the start or end, the double arrow moves up or down a page, and the single arrow moves up or down a single log.
4. To refresh the logs manually click the REFRESH button below the Log Details.
5. To download the Log Details, click the DOWNLOAD button below the Log Details, this allows you to save the logs as a separate file.

User and Admin Credentials Page

Use this page from the Settings drop down menu. Here you can set up to 3 users for your SERVER system. As a default only User 1 is Active. Here you can:

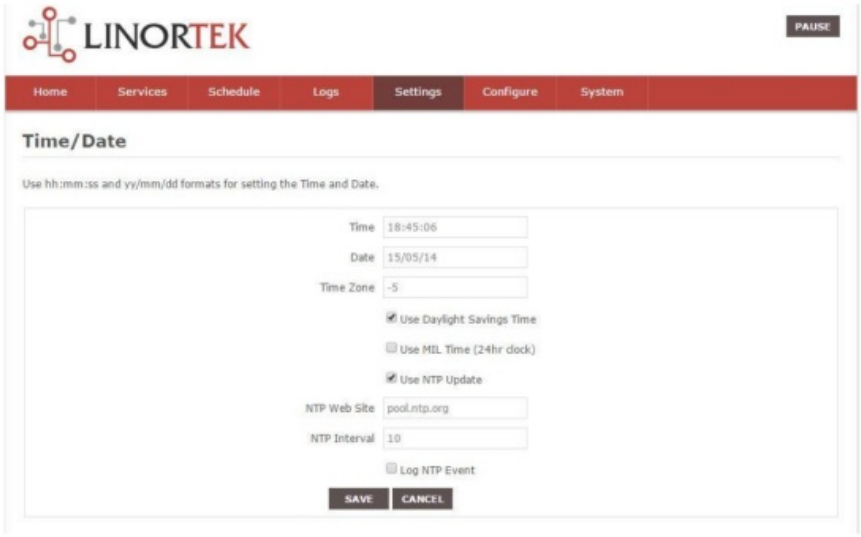
1. User Name and Password – Each user has their own credentials. As a default these are set toadmin/admin, user2/user2 and user3/user3 for Users 1, 2 and 3 respectively. The passwords are never displayed. **Note:** when you reset the password, it must be less than 13-character.
2. Active – Must be checked for this user to sign on, you cannot deactivate User 1.
3. Admin – Only admin can save data in most pages. This protects your SERVER from being changed by an unauthorized person.
4. Timeout – Not enabled at this time.



Time/Date Page

Use this page from the Settings dropdown menu. This page allows you to set up the time and date system.

1. Time – Set time using an hh:mm:ss format.
2. Date – Set date using a yy/mm/dd format.
3. Time Zone – Set desired time zone 5 for EST, 8 for PST, you can now add a :mm for setting part hour, for example, 5:30 is a time zone at 5 hours and 30 minutes.
4. Use Daylight Savings Time – Select to automatic adjust your system time on daylight savings day. (Not accurate in all time zones.)
5. Use MIL Time – Select to use 24-hour format.
6. Use NTP Update – Select to synchronize SERVER time with NTP server
7. NTP Web Site – This is the selected NTP server for updates.
8. NTP Interval – Time interval between updates in minutes.
9. Log NTP Event – Normally NTP exceptions will be logged, select this option to Log every NTP event. (May be useful in debugging.)

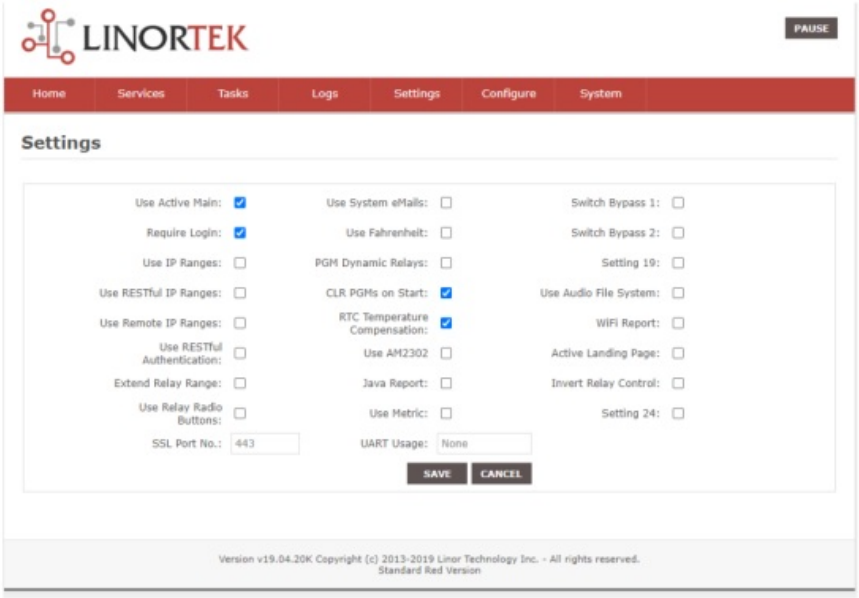


Settings Page

Access this page from the Settings dropdown menu. Select these settings to enable various features in the SERVER

1. Use Active Main – No longer used. (Select PAUSE to go inactive.)
2. Require Login – If not selected the SERVER will allow all access without credentials.
3. Use IP Ranges – Not Implemented.
4. Use RESTFUL IP Ranges – Not implemented.
5. Use Remote IP Ranges – Not implemented.
6. Use RESTful Authentication – Require username and password for RESTful.
7. Extend Relay Range – Enables 8 relays.
8. Use Relay Radio Buttons – If set, when one relay is turned on, all others are turned off.
9. SSL Port No. – Not supported – For future use.
10. Use System emails – Enables additional email messages.
11. Use Fahrenheit – Selects Celsius or Fahrenheit.
12. PGM Dynamic Relays – Changes properties of relays in task schedule.
13. CLR PGMs on Start – Reinitialize tasks on start up.
14. RTC Temperature Compensation – All Koda boards can add Temperature and Humidity sensor.
15. Use AM2302 – Use AM2302 Temperature and Humidity sensor (sold separately).
16. Java Report – Send data to HourCollector app over ethernet (only for IoTMeter)
17. Use Metric – Not supported – For future use.
18. UART Usage – Enter “Audio” for Netbell-NTG, “Clock” for Netbell clock.

19. Switch Bypass (1/2) – Ignores physical inputs if set. For example, in a Koda 200 board, you want to ignore input 1 switch, check Switch Bypass 1
20. Setting 19 – Not supported – For future use
21. Use Audio File System – Activate SD Card reader for Netbell-NTG
22. WiFi Report – Enable data transfer over WiFi (WiFi IoTMeter only)
23. Active Landing Page – Not supported – For future use.
24. . Invert Relay Control – The relay is set to NO by default. By checking this box the relay will be inverted to NC.
25. Setting 24 – Not supported – For future use.

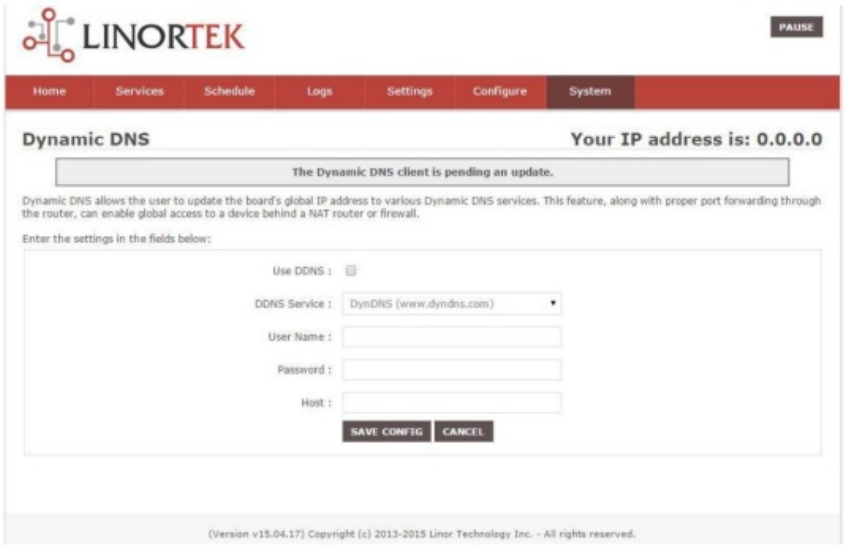


Dynamic DNS Page

Access this page from the Configure dropdown menu. From this page you can assign dynamic DNS settings. This page, along with proper port forwarding through the router, can enable global access to a device behind a NAT router or firewall. You will need to assign a static IP address and port number (see Network Config Page on page 25) and port the IP address on your router (refer to your router's user manual). An internet IP address will have to be hosted in order to access your SERVER from the internet. Currently the only IP hosting service supported is provided by DynDNS (https://dyn.com)

1. Use DDNS – Enables this service.
2. DDNS Service – Select a service from the drop box. Currently the only supported service is DynDNS
3. User Name – This refers to the account set up at the DDNS Service.

4. Password – Password for access at the DDNS service.
5. Host – This is the IP name registered at the DDNS service for rerouting to this SERVER

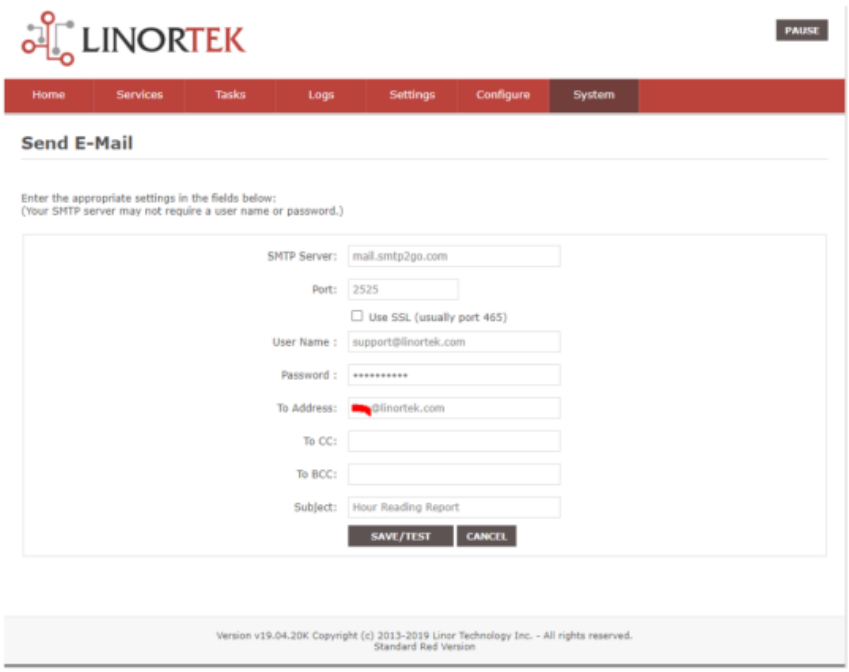


Email Setup Page

Setup an email account for the SERVER to use in sending email messages from various modules. Access this page from the Configure tab.

Note: This unit is NOT compatible with SSL/TLS, there are 3rd party SMTP delivery servers which do not require SSL and can be used. For instructions on how to use a 3rd party SMTP delivery service, please refer to Appendix 1 at the end of this manual).

1. SMTP Server – Enter the outgoing mail server that you want to use.
2. Port – This is the port on that server. You can look up your mail service online for this information as well as the other set up fields.
3. Use SSL – Leave it unchecked when you use 3rd party SMTP server.
4. User Name – Your email account name.
5. Password – Email account password.
6. To Address – Enter up to 3 address for this email set up. An addressee, a CC and a BC.
7. Subject – Subject line of the email header.



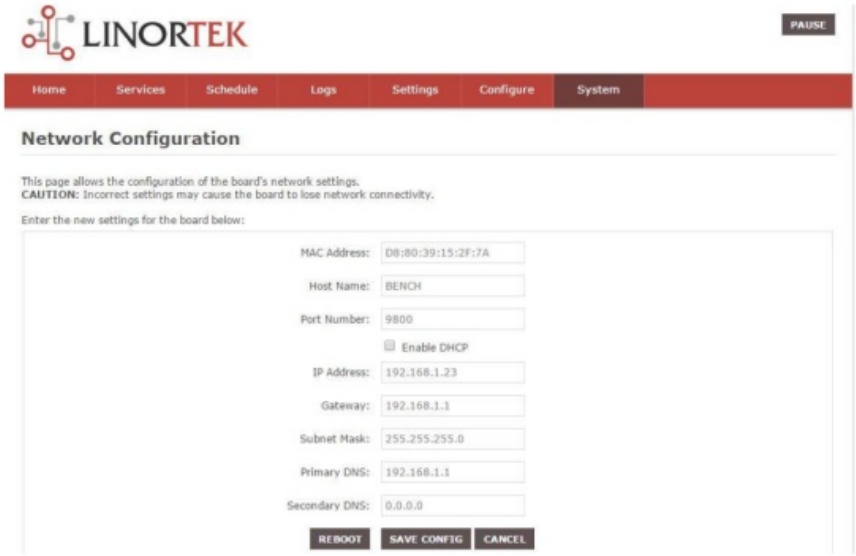
Network Configuration Page

Access this page from the Configure dropdown menu. This page allows the configuration of the SERVER's network settings.

CAUTION: Incorrect settings may cause the board to lose network connectivity. In order to access a device in your network remotely you must PORT the device. This tells your router that information coming in should be sent to a specific device on your network.

1. MAC Address – This is a unique MAC address that is assigned to this product at time of assembly. It cannot be altered.
2. Host Name – This is a Netbios name at which this unit may be addressed in some networks. It may also appear in your router's lease directory. It makes a useful place to name your SERVER and appears on the Home page and on the Discoverer.
3. Port Number – This becomes part of the IP address and is necessary for Internet access. If this is not set, the SERVER defaults to a port number of 80.
4. IP Address – Typically you only change the last group of numbers. If you change this IP address make sure to reserve this IP on your router and no other devices are using this IP address or you may not be able to reach this SERVER. If this happens you may need to Restore Defaults using the push button method.
5. Gateway – Typically a router on your TCP/IP network that serves as an access point to your ISP.
6. Subnet Mask – A 32-bit number that masks an IP address, and divides the IP address into network address and host address. Just leave it at 255.255.255.0

7. Primary DNS – A primary DNS.
8. Secondary DNS – A secondary DNS.



IP Range Configuration Page

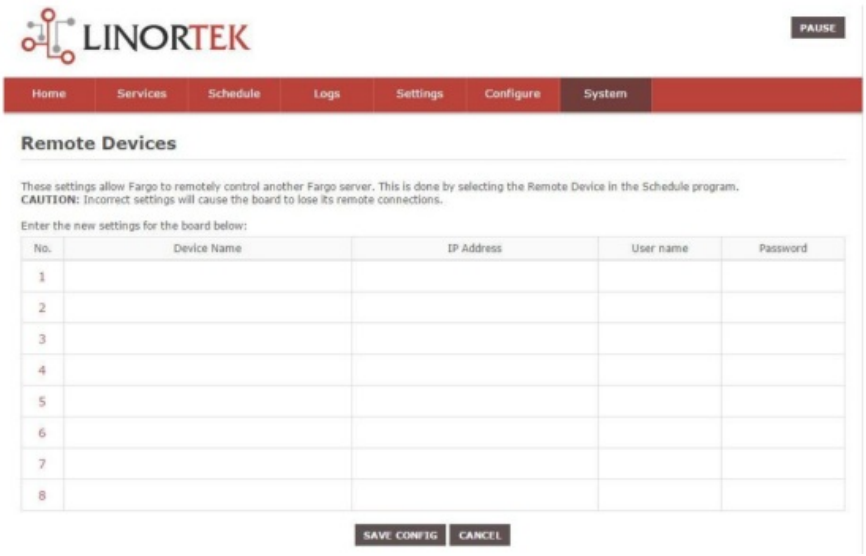
Access this page from the Configure dropdown menu. Use these security settings to select a range of IP address that will be allowed to access the SERVER.CAUTION: Incorrect settings may cause the board to lose network connectivity. Not implemented on this SERVER.

Remote Devices Page

Access this page from the Configure dropdown menu. These settings allow the SERVER to remotely control the relays on another SERVER. This is done by selecting the Remote Device in the Schedule program or by setting up a relay as a REMOTE. There are 8 possible REMOTE locations.

CAUTION: Incorrect settings will cause the board to lose its remote connections.

1. Device Name – Enter a text name for this device for future reference.
2. IP Address – The IP address of the remote device including a port number.
3. User Name – Used in Basic Authentication.
4. Password – Used in Basic Authentication.

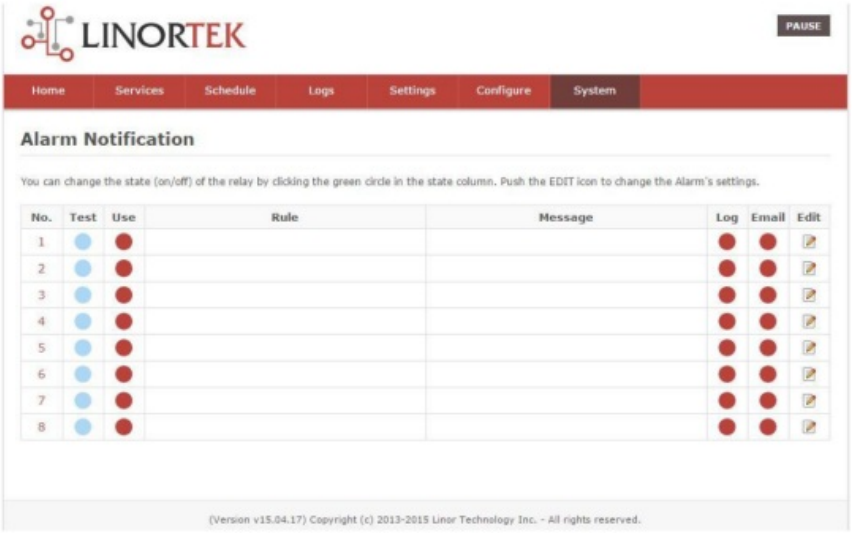


Kodalert Page

Not Yet Implemented. Access this page from the Configure dropdown menu. Kodalert provides an interface for alerts of Internet connected devices. Kodalert is a cloud based, open platform monitoring and alert system for the Internet of Things in your physical world. Any Thing that can send an email or TCP messages including our SERVERS, other manufactures devices and people using email can use Kodalert. It can work for multiple remote locations, alert multiple users instantly using the rules you setup by text, email, smart phone Apps push notification or audible alarm instantly when something happens.

1. Alert Number
2. Test
3. Use
4. Rule

In the Alarm Notification page, you can change the state (on/off) of the relay by clicking the green circle in the state column. Push the EDIT icon to change the Alarm’s settings.



Specifications

FARGO R8G2

- 10M/100M RJ45 Internet interface with connection and activity LEDs
- 8 Relay outputs, 1FORMC 48 Volt Max (24VAC/DC 3A)
- Status LEDs (pulse, bootloader, and locate)
- Ethernet Bootloader (for server hardware code upgrade)
- PoE or 12VDC @500mA (nominal)
- Web interface w/basic authentication
- On board temperature sensor and voltage sensor
  Reset /Locate pushbutton (blue LED)
- Working Temperature from 0 to +70 Celsius
- Storage Temperature from 40 to +125 Celsius
- Humidity from 10% to 80% noncondensing
- Dimensions 74mm x 100mm x 20mm, mounting holes 64mm x 92mm Φ 3.2mm 4 places
- Supported Protocols: HTTP/SMTP/SNTP

FARGO R4G2

- 10M/100M RJ45 Internet interface with connection and activity LEDs
- 4 1FormC relays 48 Volt Max (24VAC/DC 3A)
- 2 optically isolated digital inputs, 12V 1mA or pulldown switch selectable, 2 conductor screw terminal connectors for each.

- 2 Analog 0-5VDC Inputs 30mA 3.3VDC power source PTC protected. 3 conductor screw terminal connectors for each (3.3VDC, input, ground) (R4ADI only)
- 2 Current sensor inputs. 3.5mm stereo jack connector for each (R4ADI only)
- Status LEDs (pulse, bootloader, and locate)
- Ethernet Bootloader (for server hardware code upgrade
- POE or 12VDC @500mA (nominal)
- Web interface w/basic authentication
- On board temperature sensor and voltage sensor
- Reset/Locate pushbutton
- Working Temperature from 0 to +70 Celsius
- Storage Temperature from 40 to +125 Celsius
- Humidity from 10% to 80% noncondensing
- Dimensions 74mm x 100mm x 20mm, mounting holes 64mm x 92mm Φ 3.2mm 4 places
- Supported Protocols: HTTP/SMTP/SNTP

KODA100

- 10M/100M RJ45 Internet interface with connection and activity LEDs
- 2 1-Form-A relay 48VAC@8A Max
- 2 optically isolated digital inputs, 12V 1mA or pulldown switch selectable
- Status LEDs (pulse, bootloader, and locate)
- Ethernet Bootloader (for server hardware code upgrade)
- POE or 12VDC @500mA (nominal)
- Web interface w/basic authentication
- On board temperature sensor and voltage sensor
- Reset/Locate pushbutton (blue LED)
- Working temperature from 0 to +70 Celsius
- Storage temperature from 40 to +125 Celsius
- Humidity from 10% to 80% noncondensing
- Dimensions: 70mm x 100mm x 25mm
- Supported Protocols: HTTP/SMTP/SNTP

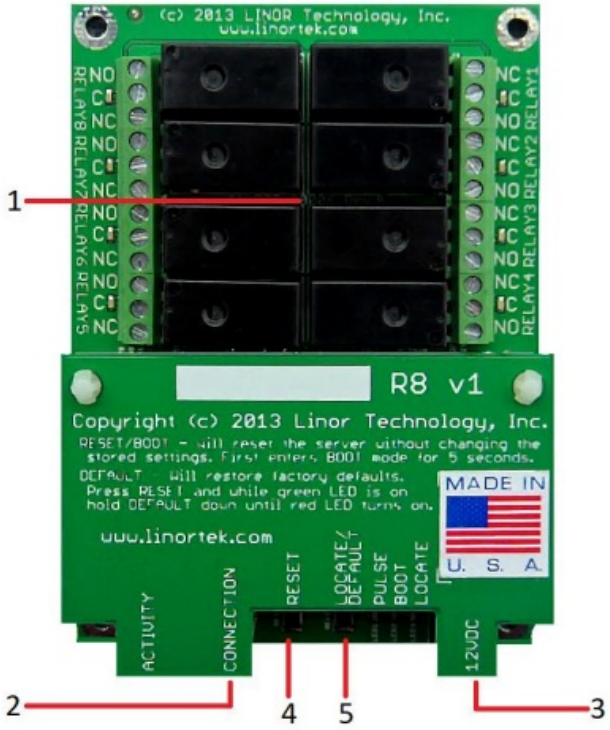
KOD200

- 10M/100M RJ45 Internet interface with connection and activity LEDs
- 4 1FormA relays 48 Volt Max 1A dry contact or drive 10V ±10% 50mA to external devices
- 2 optically isolated digital inputs, 12V 1mA or pulldown switch selectable
- Status LEDs (pulse, bootloader, and locate)
- Ethernet Bootloader (for server hardware code upgrade)
- POE or 12VDC @500mA (nominal)
- Web interface w/basic authentication
- On board temperature sensor and voltage sensor
- Reset/Locate pushbutton (blue LED)
- Working Temperature from 0 to +70 Celsius
- Storage Temperature from 40 to +125 Celsius
- Humidity from 10% to 80% noncondensing
- Dimensions: 70mm x 100mm x 25mm
- Supported Protocols: HTTP/SMTP/SNTP

Board Reference Layout

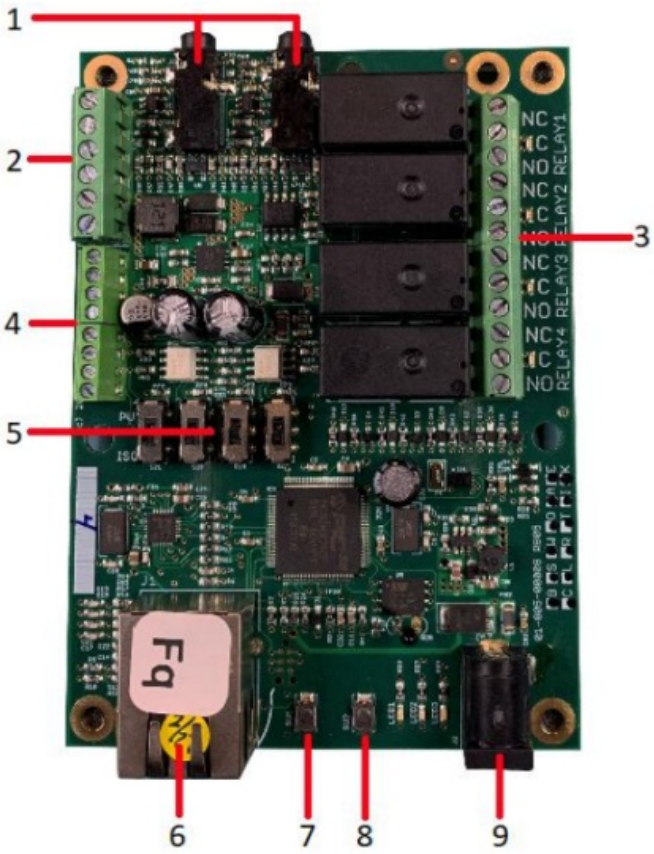
Fargo R8

1. 8 Relay outputs, 1FORMC 48 Volt Max (24VAC/DC 3A)
2. Rj45 Connector
3. Power Connector (12VDC)
4. Reset Button
5. Locate Button



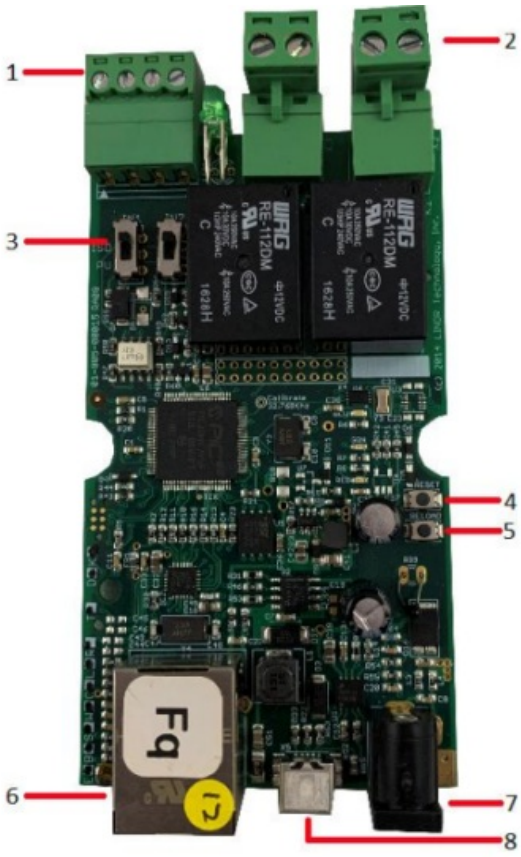
Fargo R4

1. 3.5mm Inputs for AC Current Sensor (R4ADI Only)
2. Analog Inputs (R4ADI Only)
3. 4 Relay outputs, 1FORMC 48 Volt Max (24VAC/DC 3A)
4. Digital Inputs
5. Digital Input Switches (Input 1 on right.
   Up: Pullup, Down: Isolated)
6. Rj45 Connector
7. Reset Button
8. Locate Button
9. Power Connector (12VDC)



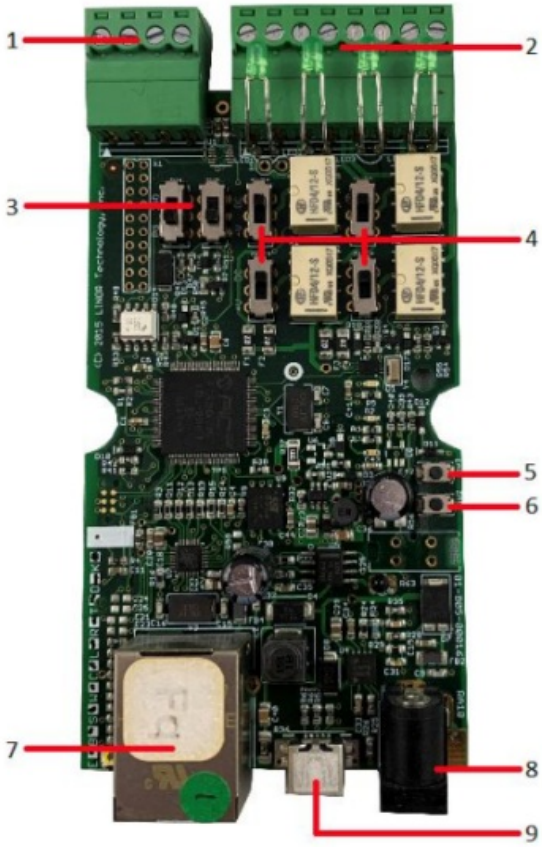
Koda 100

1. Digital Inputs (#1 on the left) 5VDC-48VDC (12VDC-48VDC must use the external resistor)
2. Relay Outputs (#1 is on the right) 8A@48VAC Max
3. Digital Input Switches (IN 1 on left. UP: Isolated, Down: Pullup)
4. Reset Button
5. Reload Button (turns on blue LED – identifies on Discoverer)
6. Rj45 Connector
7. Power Connector (12VDC)
8. USB Mini Connector for Temperature/Humidity Sensor (sold separately)



Koda 200

1. Digital Inputs (#1 on the left) 5VDC-48VDC (12VDC-48VDC must use the external resistor)
2. Relay Outputs (#1 is on left) 48 Volt Max 1A dry contact or drive 10V ±10% 50mA
3. Digital Input Switches (IN 1 on left. UP: Isolated, Down: Pullup)
4. Relay Switches (Up for dry contact, down for 10V/50mA)
5. Reset Button
6. Reload Button (turns on blue LED – identifies on Discoverer)
7. Rj45 Connector
8. Power Connector (12VDC)
9. USB Mini Connector for Temperature/Humidity Sensor (sold separately)



Factory Reset

To perform a factory Reset, push the Reset button. When the green LED turns on, push and hold the Reload button until the flashing red LED turns off and then turns on solid. Refer to Board Reference Layout section for the button locations on your device.

This user-manual supplements the documentation for the following Linortek products:

- Netbell-2
- Netbell-8
- Netbell-K (and variants)
- iTrixx-NHM

For more information, documentation and how-to videos, visit https://www.linortek.com/downloads/

This document can be found at www.linortek.com/downloads/documentations/

If you need assistance with your device please visit www.linortek.com/technical-support

Linor Technology, Inc.

Information subject to change without notice.

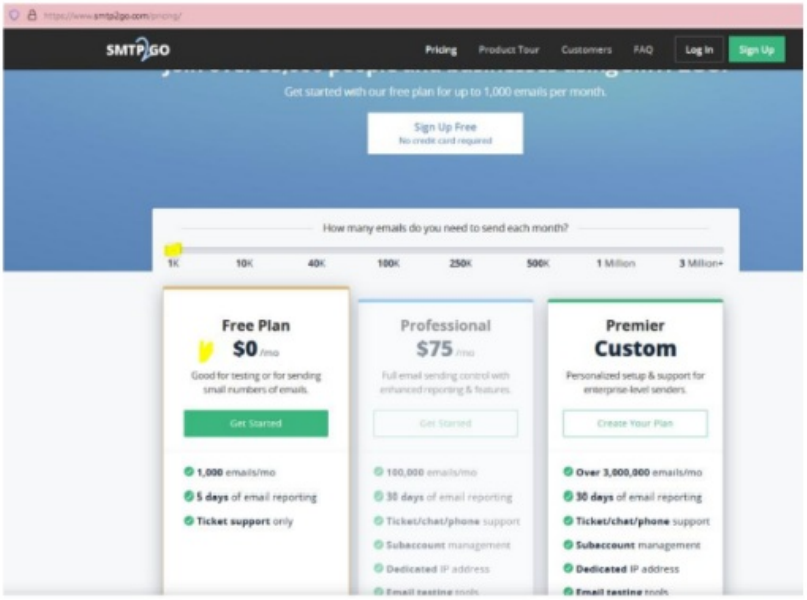
Appendix 1

How to Send SSL Emails Using a 3rd Party SMTP Service for Linortek Fargo and Koda Devices

By default, Koda/Fargo devices use non-SSL SMTP email servers. But most of the email servers today have switched to SSL security protocol, there are 3rd party SMTP delivery servers which do not require SSL and can be used. There are a lot of SMTP email service providers in the market. We use SMTP2GO as an example to demonstrate the setting up process. SMTP2GO is free to use with up to 1000 emails/month. To use SMTP2GO, please visit: https://www.smtp2go.com/ .

Step 1. Create the SMTP2GO account.

To create an account simply click on “Sign up”, choose “1K Emails” on the scale, and choose “Free plan” (If you need to send more than 1000 emails per month, select the plan that meet your requirements.)

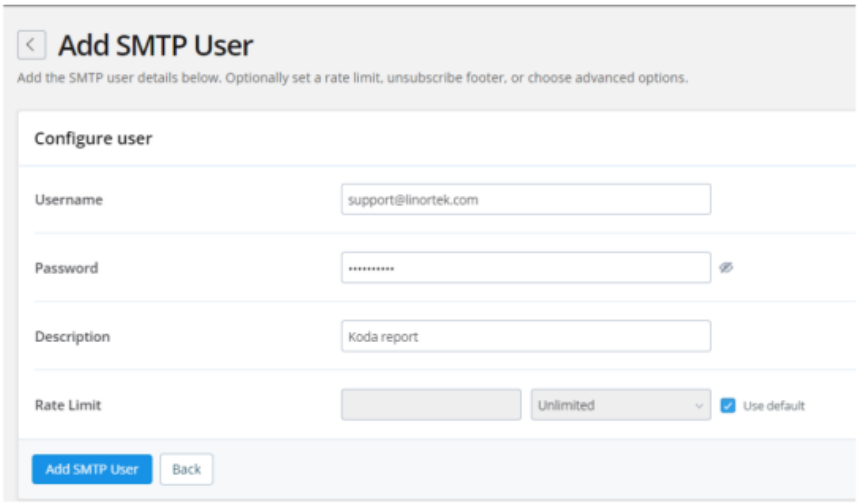


To create an account on SMTP2GO, a corporate email address will be needed. Free email service such as Gmail or Yahoo will not let you continue. After activating your SMTP2GO account, you need to add a user.

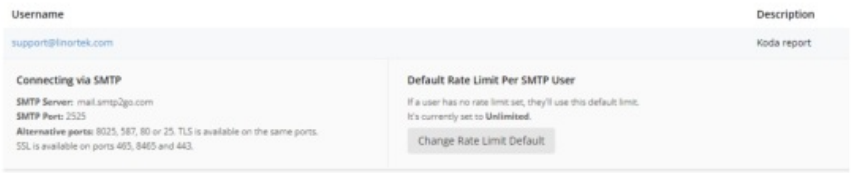
Step 2. Add a user.

The user you create on SMTP2GO, will be the Outgoing mail server when you setup the Fargo/Koda device to send email reports, please make sure your corporation email server will not block the emails if you use free email account such as Yahoo or Gmail to add a user here.

Login to your SMTP2GO account, on the left side menu choose “Settings” > “SMTP Users”, Click on “Add SMTP user” and fill the form.



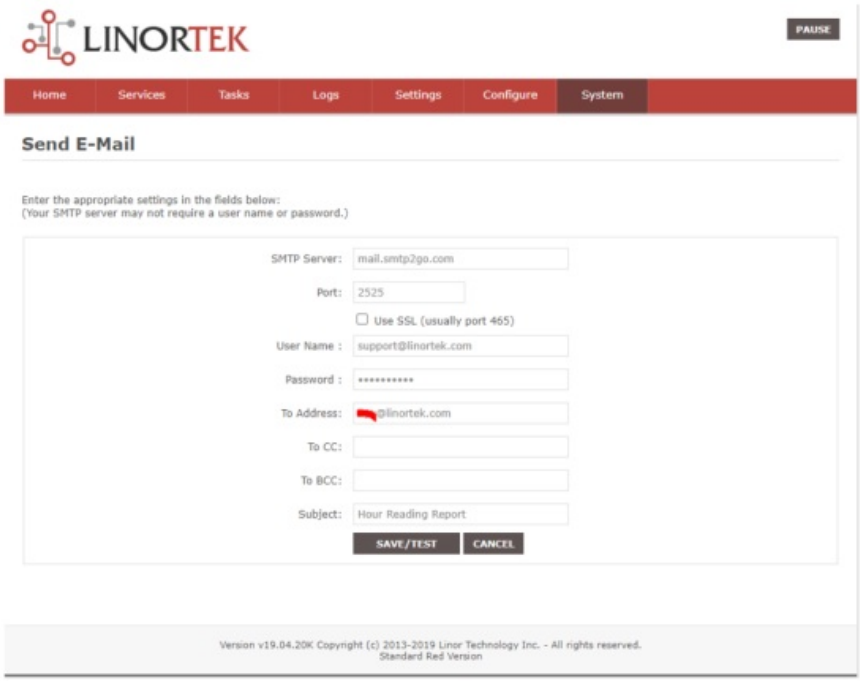
After the user is added to your SMTP2GO account, it will display the information you need to setup the email notification on your Fargo/Koda devices.



Step 3. Configure the Linortek device.

After you created an account and added a user, login to your Linortek device, navigate to Configure – Email setup page to setup Email notification:

- SMTP Server – Enter the outgoing mail server that you want to use, it's mail.smtp2go.com in our example.
- Port – This is the port on that server. The SMTP port is 2525 in our example.
- Use SSL – Leave it unchecked when you use 3rd party SMTP server.
- User Name – The username from SMTP2GO when we created a user in previous step.
- Password – The user's password from SMTP2GO when we created a user in previous step.
- To Address – Enter up to 3 addresses for this email set up. An addressee, a CC and a BC.
- Subject – Subject line of the email header.

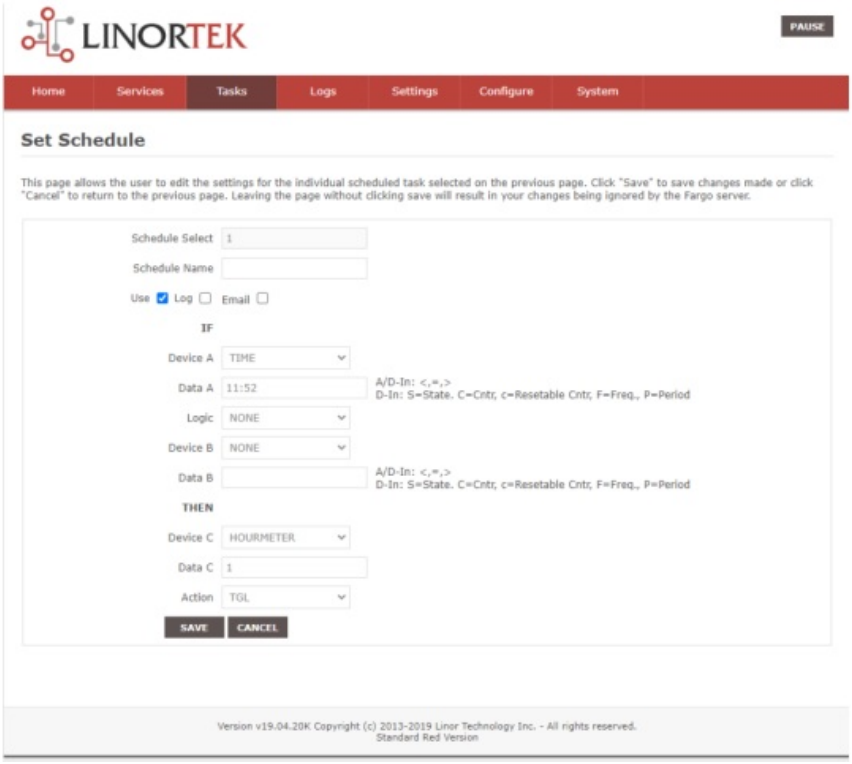


As soon as you hit “Save/Test”, the device automatically sends the test email. Please check Junk/Other folder to find it if it is not in Inbox folder.

Step 4. Set the task for automatic Email notifications.

You should be able to receive email notifications for various events from the Fargo/Koda boards at this point. If you need to receive condition logic notification, you can use our condition logic configuration to setup such report. To setup the logic condition report notification, go to Tasks page on your Fargo/Koda device, click the Edit icon of a Schedule. For details of how to create a logic-based event, please refer to the Set Schedule Page on the Fargo/Koda User Manual, which can be downloaded here: https://www.linortek.com/download/fargo%20g2_koda%20downloads/fargo%20g2_koda%20documentation/Fargo-G2-and-Koda-User-Manual.pdf

In this sample We will use the Network Hour Meter device as an example for how to receive email reports every day at 11:52am.



As soon as all conditions of the task are met, you get the following email:

Hour Reading Report

support@linortek.com

Mon 4/11/2022 11:52 AM

To: Liyu Nalven

HM 1, my machine, is at 000242.01 hrs.

Reply Forward

Documents / Resources

	LINORTEK Fargo G2 TCP/IP Web Based Relay Controller [pdf] User Manual Fargo G2, Koda, Fargo G2 TCP-IP Web Based Relay Controller, Web Based Relay Controller, Based Relay Controller, Relay Controller

References

- User Manual

LINORTEK

Based Relay Controller, Fargo G2, Fargo G2 TCP-IP Web Based Relay Controller, KODA, LINORTEK, Relay Controller, Web Based Relay Controller

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