



**Multi-Control**  
**Operation Manual**  
P/N 1604010 Rev C (ECN 34225)

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# General Safety Instructions for Controls



## WARNING

**Personal Safety:** Through out this manual and on all safety signs, the precautionary statements (“DANGER”, “WARNING”, “CAUTION” and “NOTICE”) can be found, followed by a hazard description and preventative actions to be taken. These precautions are intended for the personal safety of the operator and those within the vicinity of the machinery. Please take time to read these precautions.

Hazard Severity Panels			
Background Color of Panel	Contrast Color	Meaning/Use	Hazard Severity Panel Illustration
Red	White	Indicates a hazardous situation, that, if not avoided, will result in death or serious injury.	
Orange	Black	Indicates a hazardous situation, that, if not avoided, could result in death or serious injury.	
Yellow	Black	Indicates a hazardous situation, that, if not avoided, could result in minor or moderate injury.	
Blue	White	Indicates information considered important, but not hazard- related (e.g. messages relating to property damage).	

## NOTICE

**Machine Integrity:** Additional precautionary statements (“ATTENTION” and “IMPORTANT”) are intended for machine integrity and are followed by specific instructions.

**ATTENTION:** The word “ATTENTION” is used to warn the operator of potential machine damage if a certain procedure is not followed.

**IMPORTANT:** The word “IMPORTANT” is used to provide the reader with information necessary to prevent minor machine damage if a certain procedure is not followed.



**WARNING:** All maintenance and service must be performed by a Lindsay Dealer.



## WARNING

**Lock Out/Tag Out:** Disconnect all sources of energy and lock out machine before doing any maintenance or repairs to the machine. Proper Lock Out procedures will prevent the energy source from starting the machine or allowing parts to move unexpectedly as well as prevent the machinery from being accidentally turned on or restarted. Shut off and Lock Out all sources of potential or kinetic energy. These may include, but are not limited to, electrical, mechanical or hydro energy sources.

Lock Out is a procedure used for placing an actual locking device on the power source, preventing unexpected start up or accidental release of energy. Lock Out is the preferred method of accident prevention.

Tag Out procedure is used when the power can not be disconnected. Tag Out's do not shut down the power source, Tag Out's only provide a warning about the danger of activating the machine.

Never try to operate machinery that is locked out or tagged out. Never attempt to remove these locks or tags on machinery. Doing so will result in injury to personnel working on the machine. Only the initiator of the Lock Out or Tag Out procedure may remove locks and tags.



## WARNING

**Main Disconnect:** The main power disconnect is located at the main service breaker or generator. The disconnect at the panel is not the main disconnect. A fuseable service disconnect device must be placed previous to this panel with the fuses sized for the load being supplied and installed in accordance to NEC codes.

It is important to understand the differences between the Pivot Enable switch (if installed), High Voltage On/Off switch and the service breaker On/Off throw switch.

The power company service disconnect provides the ability to turn off or return full service to the equipment from the power company service line. This switch must be turned off and locked out when performing maintenance and repairs on the system.

The High Voltage On/Off provides the ability to turn off or return power to the equipment from the service disconnect. This switch must be turned off and locked out in conjunction with the service disconnect switch. The High Voltage switch only disconnects the power in the control panel, as energy is still coming in from the main power line.

The Pivot Enable switch (if installed) provides power to the system controls. When enabled, the entire system and the controls will power up. When turned off, the controls and system will not be energized. However, there will be power in the panel circuitry. The Pivot Enable switch is **NOT** a disconnect and should not be treated as such.



## WARNING

**Training:** All individuals involved in the installation, operation or maintenance of this equipment must receive and understand training in the safe and proper methods of performing all duties assigned to them at the time of the initial assignment and at least annually thereafter. Safety messages and appropriate response procedures to emergencies or other situations which may arise should be fully understood.

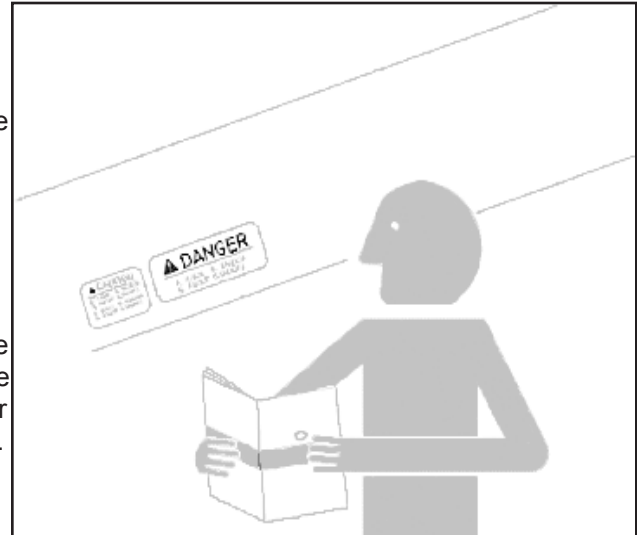


## WARNING

**Follow Safety Instructions:** Carefully read all safety messages in this manual and safety signs on the machinery. Keep safety signs in legible condition. Replace any missing or damaged safety signs.

Learn how to operate the machine and controls properly. Do not allow anyone to operate the machinery without proper instructions.

Keep the machine in proper working condition. Only have the machine serviced by a trained service technician on a routine basis. Unauthorized modifications to the machine may impair the function and/or safety and reduce the life of the machine.



## CAUTION

**Practice Safe Maintenance:** Understand maintenance procedures before doing work.

Always follow proper Lock Out/Tag Out procedures before performing any maintenance.

Never lubricate or service machine while it is moving. Keep hands, feet and loose clothing from power-driven parts. Disengage all power and operator controls to relieve pressure. Allow all heat-generating units to cool.

Keep all parts in good condition. Remove any build up of grease, oil and debris. Ensure that all parts have been properly installed by a certified technician.

Tower alignment, pressure switch adjustment and tower control switch adjustment must be performed by a qualified service technician.



## WARNING

**Electric Shock:** Follow these precautions to prevent serious injury or death.

DO NOT allow moisture to enter the main panel. Moisture can allow voltage to conduct across surfaces, creating a shock potential.

Dangerous voltage potential may be present at lightning arrester. Visually inspect arrester before each operation. If lightning arrester shows signs of impairment, contact a Lindsay Dealer.



## WARNING

**Electrical Connections:** Keep all sparks and flames away from battery, as gases given off by electrolyte are explosive. Avoid sparks by connecting the ground cable last and disconnecting it first.

**WARNING**

**Inspecting the System Prior to Operation:** Always inspect the system before operation. If the system appears impaired, do not operate the machinery and contact a Lindsay Dealer.

**CAUTION**

**Area Lighting:** The owner shall provide area lighting as may be required.

**WARNING**

**Repairing the System:** In the event that the Zimmatic System needs to be repaired; disconnect the power source, depressurize the system and contact the Lindsay Dealer.

Only a Lindsay Dealer should make necessary repairs to the system.

Ensure that only Genuine Lindsay Parts are used on the system.

**WARNING**

**Overhead Maintenance:** Overhead maintenance should be performed by a Lindsay Dealer.

Never attempt to climb on an irrigation machine for any reason.

**WARNING**

**Lifting Components:** Extreme care is needed for lifting components during installation/assembly. Only a Lindsay Dealer using the proper lifting equipment may perform this task.

Use caution when lifting heavy objects. Components weighing in excess of 50 lbs. (22.7 kg.) must be lifted with the assistance of another individual or mechanical lifting device.

Do not work or stand under system or components during assembly. Due to the weights involved, severe injury or death can result if components should fall.

**WARNING**

**Dismantling the System:** If it is ever necessary to dismantle a Zimmatic System, extreme care must be taken. As with installation and assembly, dismantling must only be performed by a Lindsay Dealer.

**WARNING**

**Impaired Safety Protection:** Do not attempt to operate if protection may be impaired. If the equipment appears to have been changed or operates abnormally, protective devices may be impaired.

Do not attempt to operate and have the equipment serviced by a Lindsay Dealer.



**WARNING:** Wear appropriate PPE (Personal Protective Equipment)

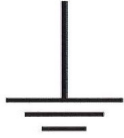


**WARNING:** Ensure that power is turned off/disconnected before removing any protective covers.



**WARNING:** Do not use this product in a manner not specified in this manual.

The following symbols indicate grounding connections that can be found on irrigation systems..



Earth Ground



Protective Earth Ground



Frame or Chassis Ground



**CAUTION**

**Prepare for Emergencies;** Be prepared for any emergency that may occur.

Always wear appropriate Personal Protective Equipment (PPE).

Keep emergency numbers for doctors, hospital, ambulance service and fire department near your telephone.





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# Section 1- Specifications and Compliance

## Requirements for Electrical Service

All electrical equipment shall be installed by a qualified electrician. As a result, a correct installation will allow the irrigation system to protect itself from overloads and ground faults with minimal downtime, or possible damage and hazards.

Refer to ANSI, ASAE Standard S397.2 (latest revision) Electrical Service and Equipment for Irrigation for exact requirements.

## Compliance Standards

### Federal Communications Commission (FCC) Statement

**NOTE:** This equipment has been tested and found to comply within the limits for a Class B digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and radiates radio frequency energy and, if not used in accordance with the manufacturer's instruction manual, may cause harmful interference with radio communications.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

These limits are designed to provide reasonable protection against harmful interference. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference with radio or television reception, which can be determined by turning the equipment on and off, try to correct the interference by one or more of the following measures:

- Reorient or relocate the antenna of the radio/television receiver.
- Increase the separation between this equipment and the radio/television receiver.
- Plug the equipment into a different outlet so that the equipment and the radio/television receiver are on different power main branch circuits.
- Consult a representative of Lindsay Corporation for additional suggestions.

### Industry Canada Compliance Statement

This Class B digital apparatus meets the requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la Classe B respecte toutes les exigences du Règlement sur le Matériel Brouilleur du Canada.

### WEEE Statement

Lindsay Manufacturing, LLC products: D012-007-20 MC Panel; D012-007-11 MC Panel, 2.4 GHz; D012-007-14 MC Expansion Panel; D012-007-22 WS Panel and D012-007-13 WS Panel, 2.4 GHz are sold and distributed in the European Union only by:

Lindsay Europe SAS  
L'Epinglerie  
72 300 La Chapelle d'Aligne  
France  
Phone: 33 (0)2 43480205

The WEEE directive places an obligation on all EU-based manufacturers and importers to take back electronic products at the end of the useful life. Lindsay accepts its responsibility to finance the cost of treatment and recovery of redundant WEEE in accordance with the specific WEEE recycling requirements.

The “Do not use regular disposal containers” symbol (shown below) is placed on MC Panels, MC Expansion Panels and WS Panels indicating this product must not be disposed of with other waste. Instead, it is the user’s responsibility to dispose of their waste electrical and electronic equipment by handing it over to an approved re-processor, or by returning it to Lindsay for reprocessing. More information about waste equipment recycling locations is available at local City Government Offices or by contacting Lindsay Europe SAS.

Contact Lindsay Europe SAS with any questions or assistance with returning MC Panels, MC Expansion Panels or WS Panels.

## Product Specifications

### Regulatory Compliance Standards

United States & Canada  
UL 61010-1  
FCC Part 15

2014/35/EU-LVD  
• IEC/EN 61010-1  
• IEC/EN 60529: 1992+A2:2013

2014/30/EU-EMCD  
• EN 61326-1  
• CISPR 22 Class A

2014/53/EU-RED  
• ETSI EN 301 489-1 V1.9.2  
• ETSI EN 301 489-17 V1.3.2



2012/19/EU-WEEE

RCM  
• AS/NZS 3820:2009

### Multi-Control (MC) Panel Ratings:

2000 Meters Altitude  
120/230 ~ 60/50-60 Hz 1.5/0.75 Amps  
Class III Control (IEC 60730-1)  
IP44  
Operating Temperature (C): 0T 40  
Storage Temperature (C): -40T 75  
Pollutions Degree 1  
FCCID: (900MHz) MCQ-XB900HP, (2.4 GHz) OUR-XBEEPRO  
IC: (900MHz) 1846A-XB900HP, (2.4 GHz) 4214A-XBEEPRO  
Protocol: Proprietary  
Operating Frequency (MHz): 900 MHz/2.4 GHz  
Inputs:  
I/O Buss: 8 Pin Molex mini-fit, 1000 ft/304.8 m  
USB: USB Host Port: Type A/Female  
Non-Latching Valve Controls Outputs 1-10 (J1-J5): 24~/0.5A 50/60 Hz or a total sum output load of 60VA between all outputs.





Analog Inputs (J6-J8): 0-6   
Digital Inputs (J9-J10): Dry Contact Closure (Open circuit voltage is 5 )  
Insulation: All input and output devices shall have a minimum basic insulation.  
Antenna Connector: N-Type Female; 50 Ohms Impedance; Nickle Plated Brass Material.

### Expansion Panel Ratings:

2000 Meters Altitude  
120/230 ~ 60/50-60 Hz 1.5/0.75 Amps  
IP44  
Operating Temperature (C): 0T 40  
Storage Temperature (C): -40T 75  
Pollutions Degree 1  
Inputs:  
Buss: 6 Pin Molex mini-fit, 1000 ft/304.8 m  
USB: USB Host Port: Type A/Female  
Non-Latching Valve Controls Outputs 1-10 (J1-J5): 24~/0.5A 50/60 Hz or a total sum output load of 60VA between all outputs.  
Analog Inputs (J6-J8): 0-6V  
Digital Inputs (J9-J10): Dry Contact Closure (Open circuit voltage is 5V)  
Insulation: All input and output devices shall have a minimum basic insulation.

### Wireless Switch (WS) Panel Ratings:

2000 Meters Altitude  
3.3  1 Amps  
Lithium Iron Phosphate (LiFePPO4), 3.2V, 10.2 Watt Hours  
IP44  
Operating Temperature (C): 0T 40  
Storage Temperature (C): -40T 75  
Pollutions Degree 1  
FCCID: (900MHz) MCQ-XB900HP, (2.4 GHz) OUR-XBEEPRO  
IC: (900MHz) 1846A-XB900HP, (2.4 GHz) 4214A-XBEEPRO  
Protocol: Proprietary  
Operating Frequency (MHz): 900 MHz/2.4 GHz  
Inputs:  
Latching Valve Controls Outputs 1-4: Polarized Momentary (Minimum valve resistance of 4Ω); Maximum voltage of 15 ; Maximum current of 3.75 Amps.  
Insulation: All output devices shall have a minimum basic insulation.  
Antenna Connector: N-Type Female; 50 Ohms Impedance; Nickle Plated Brass Material.

## Dimensional Data and Weight

Multi-Control Panel  
Height x Weight x Depth:  
16" x 14" x 8" (41 x 35.5 x 20.5 cm)  
Weight: 22 lbs (10 kg)

Expansion Panel  
Height x Weight x Depth:  
16" x 14" x 8" (41 x 35.5 x 20.5 cm)  
Weight: 22 lbs (10 kg)

Wireless Switch  
Height x Weight x Depth:  
10" x 8" x 5" (25.4 x 20.3 x 10.2 cm)  
Weight: 5.1 lbs (2.3 kg)

## Service

For locations of the nearest Lindsay Dealer, visit [www.zimmatic.com](http://www.zimmatic.com) or write:


Service Department  
Lindsay Manufacturing, LLC  
214 East Second Street  
Lindsay, NE, USA 68644

Zimmatic Customer Service call:  
(800) 829-5300 (LAN lines require a local country code)

FieldNET Customer Service:  
866-MYFIELD (866-693-4353) (local country codes may apply)  
or email [fieldnet@lindsay.com](mailto:fieldnet@lindsay.com)

# Panels & Panel ID Locations

## Micro-Controller Panel




**MULTI-CONTROL** 




FOR IRRIGATION

**Lindsay Manufacturing LLC**  
214 East Second Street  
Lindsay, NE 68644

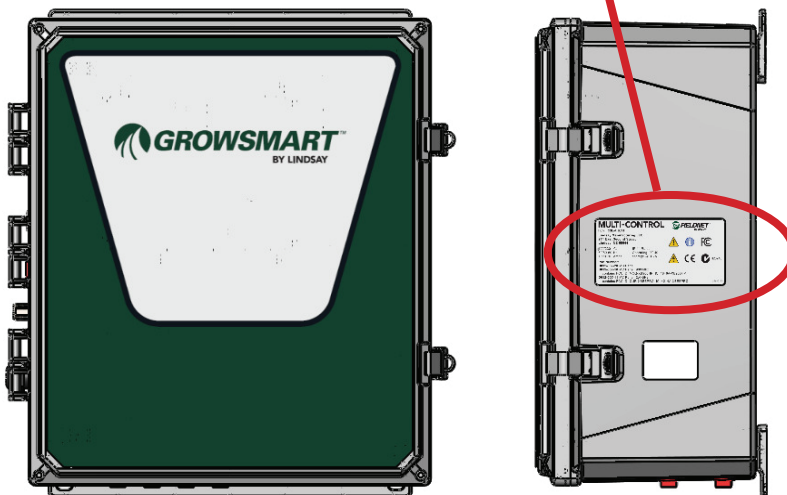
120/230 ~	IP 44 Rated
60/50-60 Hz	Operating -0T 40
1.5/0.75 Amps	Storage -40T 75

Part Numbers:  
**D012-007-20** MC Panel  
**D012-007-10** MC Panel, 900 Mhz  
 contains FCC ID: MCQ-XB900HP, IC: 1846A-XB900HP  
**D012-007-11** MC Panel, 2.4 GHz  
 contains FCC ID: OUR-XBEEPRO, IC: 4214A-XBEEPRO









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## Expansion Panel






**MULTI-CONTROL** 

FOR IRRIGATION

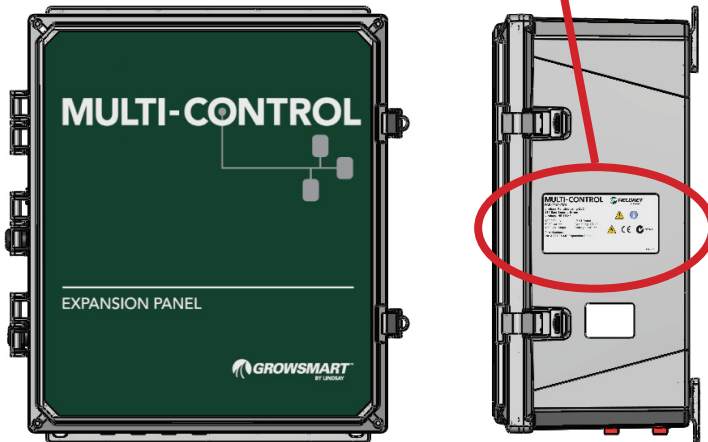
Lindsay Manufacturing LLC  
214 East Second Street  
Lindsay, NE 68644

120/230 ~ IP 44 Rated  
60/50-60 Hz Operating -0T 40  
1.5/0.75 Amps Storage -40T 75

Part Numbers:  
**D012-007-14** MC Expansion Panel

   
   N28748

pde-0151





## Wireless Switch

# MULTI-CONTROL

FOR IRRIGATION




Lindsay Manufacturing LLC  
214 East Second Street  
Lindsay, NE 68644



3.3 --- 1A      Operating -0T 40  
IP 44 Rated    Storage -40T 75



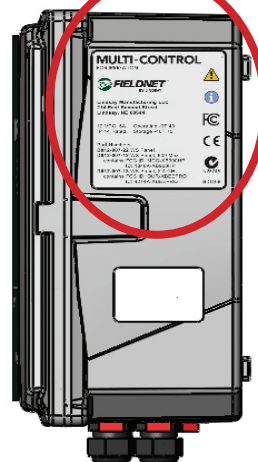
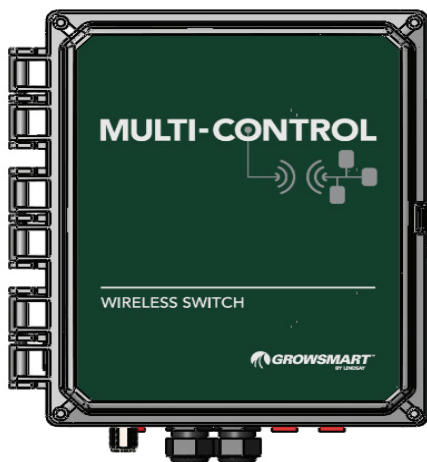
Part Numbers:  
**D012-007-22** WS Panel  
**D012-007-12** WS Panel, 900 Mhz  
contains FCC ID: MCQ-XB900HP  
IC: 1846A-XB900HP  
**D012-007-13** WS Panel, 2.4 GHz  
contains FCC ID: OUR-XBEEPRO  
IC: 4214A-XBEEPRO



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## Section 2 - Operation

### Introduction to Multi-Control (MC)

The microprocessor based GrowSmart Multi-Control provides the latest technologies in combining distribution network management with control of major components used throughout a micro-irrigation application.

Using both wired and wireless networking, the controller communicates output controls and zone irrigation scheduling. Integrating these components provides the benefits of efficient water and chemical delivery, sensor monitoring, temperature protection, and system awareness.

The Micro-Control allows for establishing multiple irrigation plans and remote control through FieldNET (Lindsay's integrated irrigation management platform, available on the web or on Apple iOS and Google Android mobile devices).

A typical Micro-Irrigation System is made up of the following components. The GrowSmart Micro-Control is capable of monitoring all of these system functions.

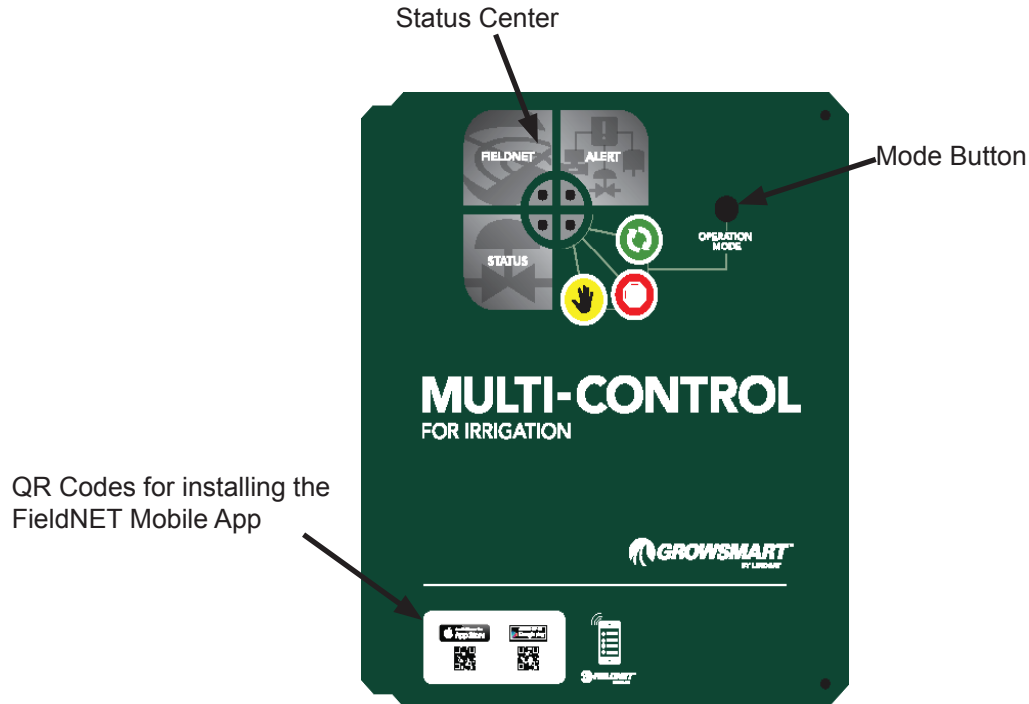
#### Typical System layout

- Head System
  - Multi-Control
  - Water Supply
    - System Flow Meter
    - System Pressure Sensor
  - Chemical Injection System
    - Injector Flow Meter
  - Filtration System
    - Post-Filter Pressure Sensor
- Distribution Network
  - Pipes
  - Pipe Fittings
  - Sprinklers and Valves

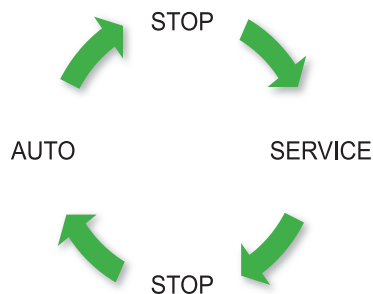


## Panel Controls

Upon opening the outer door to the Micro-Control panel, the following operator panel is available. Pressing the Operation Mode button will toggle the control in a loop between Auto (Run), Stop, Service, Stop and back to Auto again. Indicator lights in the “Mode” quadrant of the status center will illuminate with the proper status color when the mode button is pressed (see the status center diagram shown later in this section).



The following diagram shows the sequence for stepping through the operation modes. One press of the mode button will advance through one step of the cycle.



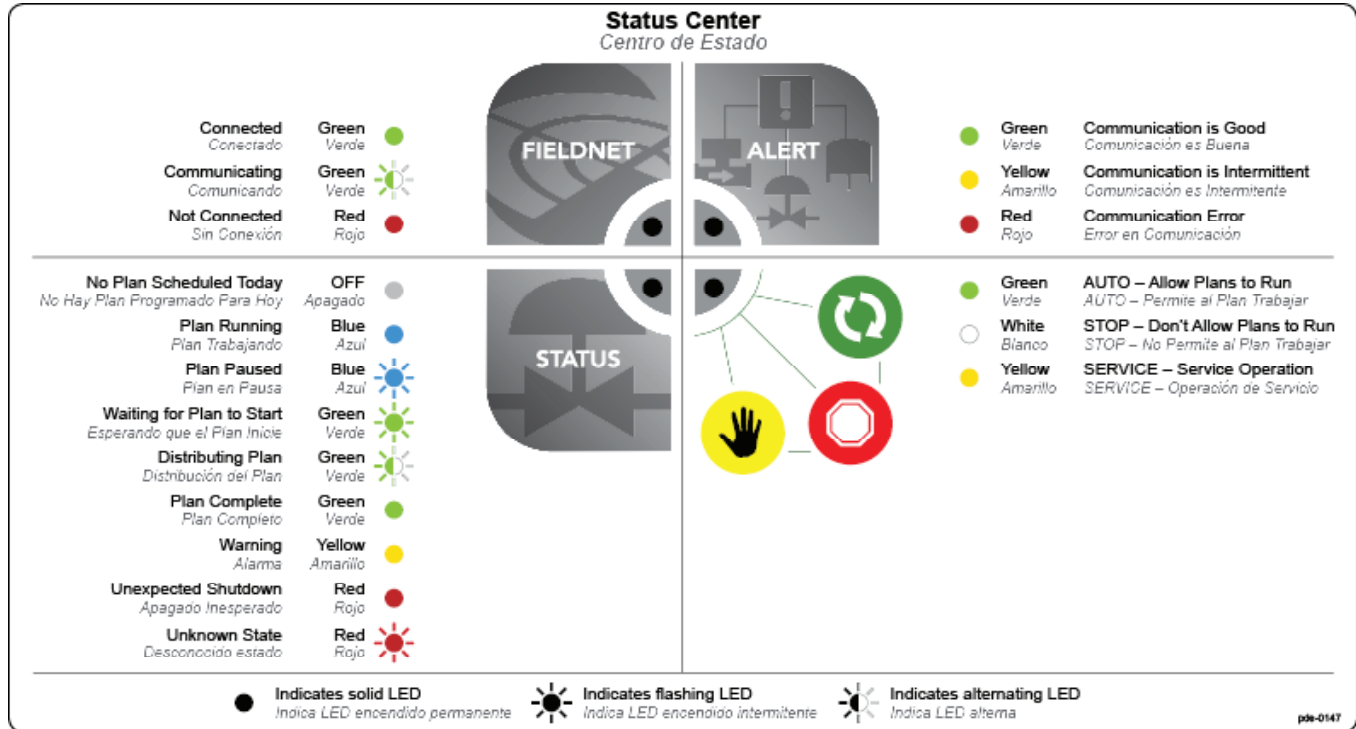
Changing the mode will take effect after three seconds from the last button press. The mode can also be changed remotely through the FieldNET interface.

Upon any reboot, the controller defaults to the Stop mode.

The Status Center is divided into four quadrants with their own indicator LED's :

- Alert: Displays any communication errors.
- Operation Mode: As describe previously, this will indicate which mode the Multi-Control is operating in.
- Status: Indicates the system status.
- FieldNET: Indicates the communication status with FieldNET.

The following diagram provides a definition for each LED status color and condition and are self-explanatory.





## Section 3 - Service

### System Alerts

All service should be performed by a Lindsay Dealer. For equipment issues or issues with the FieldNET portal / mobile application, please contact the FieldNET support team at 866.MY.FIELD (866-693-4353) in the USA, or email support at [fieldnet@lindsay.com](mailto:fieldnet@lindsay.com).

Alert	Default Level	Cause
High System Flow Shutdown	1- High	Shutdown due to system flow exceeding the allowable limit.
Low System Flow Shutdown	1- High	Shutdown due to system flow being lower than the allowable limit.
High Flow Disparity Shutdown	1- High	Shutdown due to flow disparity exceeding the allowable variation limit when flow is high.
Low Flow Disparity Shutdown	1- High	Shutdown due to flow disparity exceeding the allowable variation limit when flow is low.
High System Pressure Shutdown	1- High	Shutdown due to system pressure exceeding the allowable limit.
Low System Pressure Shutdown	1- High	Shutdown due to system pressure being lower than the allowable limit.
High Temperature Shutdown	1- High	Shutdown due to system temperature exceeding the allowable limit.
Low Temperature Shutdown	1- High	Shutdown due to system temperature being lower than the allowable limit.
High Injector Flow Shutdown	1- High	Shutdown due to flow through an injector exceeding the allowable limit.
Low Injector Flow Shutdown	1- High	Shutdown due to flow through an injector being lower than the allowable limit.
High Voltage Shutdown	1- High	Shutdown due to system voltage exceeding system capacity.
Low Voltage Shutdown	1- High	Shutdown due to system voltage being too low for system capacity.
Wireless Switch Battery Shutdown	1- High	A wireless switch has caused a shutdown due to a problem with the battery.
Wireless Switch Solar Panel Error	1- High	A wireless switch has caused a shutdown due to a problem with the solar panel.
Wireless Switch Communication Error	1- High	A wireless switch has failed to communicate with the system after multiple attempts to contact it.
Powered Off While Running Wet	1- High	The Multi-Control lost power or turned off while the system was irrigating.
High Rainfall Shutdown	1- High	Shutdown due to rainfall accumulation in the rain bucket exceeds the programmed limit.
High pH Shutdown	1- High	High pH amounts detected in the water exceed the expected limits.
Low pH Shutdown	1- High	pH amounts in the water are lower than the lowest programmed limit.
Hardware Shutdown	1- High	A component failure has caused the shutdown.

Alert	Default Level	Cause
Filter Hardware Error	2- Medium	One of the filter flush valves is reporting a problem which may impact filter flush cycles.
Zone Hardware Error	2- Medium	One of the wireless switch zone valves is reporting a problem which may impact irrigation plans or temperature protection.
High System Flow Warning	2- Medium	System flow is reaching the programmed high limit.
Low System Flow Warning	2- Medium	System flow is reaching the programmed low limit.
High Flow Disparity Warning	2- Medium	Possible a leak or broken pipe; the system flow is higher than expected, compared to the total for all the zone application rates.
Low Flow Disparity Warning	2- Medium	Possible stuck valve or drip tape is plugged; the system flow is lower than expected, compared to the total for all the zone application rates.
High System Pressure Warning	2- Medium	System pressure is nearing the maximum limit.
Low System Pressure Warning	2- Medium	System pressure is nearing the minimum limit.
High Post-Filter Pressure Warning	2- Medium	Pressure in the line, past the filter is nearing the maximum limit.
Low Post-Filter Pressure Warning	2- Medium	Pressure in the line, past the filter is nearing the minimum limit.
High Temperature Warning	2- Medium	Temperature is nearing the maximum limit.
Low Temperature Warning	2- Medium	Temperature is nearing the minimum limit.
High Injector Flow Warning	2- Medium	Flow through one of the injectors is nearing the maximum limit.
Low Injector Flow Warning	2- Medium	Flow through one of the injectors is nearing the minimum limit.
High Voltage Warning	2- Medium	System voltage is nearing the maximum allowable voltage.
Low Voltage Warning	2- Medium	System voltage is nearing the minimum allowable voltage.
Wireless Switch Battery Warning	2- Medium	One of the wireless switches is reporting problems with the battery power.
Maximum Filter Flush Cycles Warning	2- Medium	The Multi-Control has attempted the maximum number of contiguous filter flush cycles to reduce differential pressure.
Stopped	2- Medium	The Multi-Control has stopped operating.
Pressure Startup Delay	2- Medium	The system pressure alerts and shutdown conditions are temporarily being ignored due to the system pressurizing at startup.
Flow Delay	2- Medium	The system flow alerts and shutdown conditions are temporarily being ignored due to the system building up flow at startup.
Injector Flow Delay	2- Medium	The injector flow alerts and shutdown conditions are temporarily being ignored due to the system building up flow at startup.
Wireless Switch Communication Warning	2- Medium	One of the wireless switches has low signal strength or data loss.



Alert	Default Level	Cause
High Rainfall Warning	2- Medium	Rainfall accumulation in the rain bucket is nearing the programmed limit.
Communication Warning	2- Medium	FieldNET can communicate with the RTU but not with the Multi-Control. This would indicate a loose or severed serial cable connection.
Low pH Warning	2- Medium	The pH limit is falling close to the programmed low limit.
High pH Warning	2- Medium	The pH limit is increasing close to the programmed high limit.
Irrigating	3- Low	The Multi-Control is irrigating.
Chemigating	3- Low	The Multi-Control is chemigating.
Plan Paused	3- Low	The current plan is paused.
Injector Off for Filter Flush Delay	3- Low	Chemigation is temporarily stopped for a filter flush cycle.
Filter Flush Cycle Running	3- Low	The filter flush cycle is running.
Powered Off Normal	3- Low	The Multi-Control is properly powered off.
Temperature Protection Plan Running	3- Low	A temperature protection cycle is running.
Plan Running	3- Low	The current plan is running.
Post-Filter Pressure Delay	3- Low	The post-filter pressure alerts are temporarily being ignored due to the system building up pressure.

## Seasonal Maintenance

### Start of Season

- Check for damaged wires and/or loose electrical connections. Contact a Lindsay Dealer for any wire replacement.
- Make sure the solar panel is tilted to the optimum angle and direction for direct sunlight.
- Make sure the solar panel is clean.
- Remove debris from the rainfall collection bucket.

### End of Season

- Store all rechargeable batteries in a cool, ventilated area, away from heat and open flame. Cover the battery terminals to avoid accidentally creating a circuit due to exposed battery terminals.
- Turn off all wireless switches.



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<b>9Date16</b>	<b>ECN</b>	<b>Published ECN</b>	<b>Description</b>
8/22/14	32745	32745	Reformatted Manual
5/9/16	34225	34225	Updated Compliance Specifications and Certificate

