



FLEX-IR™ **Feed System Control**



Installation and Operating Instructions
Item Number: ST73000

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PigTek Warranty

The PigTek Pig Equipment Group warrants each new product manufactured by it to be free from defects in material or workmanship for one year from the date of initial installation by the original purchaser. If such a defect is found by The PigTek Pig Equipment Group to exist within the one-year period, The PigTek Pig Equipment Group will, at its option, (a) repair or replace such product free of charge, F.O.B. the factory of manufacture, or (b) refund to the original purchaser the original purchase price, in lieu of such repair or replacement.

Conditions and limitations:

1. The product must be installed and operated in accordance with instructions published by **The PigTek Pig Equipment Group or warranty will be void.**
2. Warranty is void if **all components** of a system are not supplied by **The PigTekPig Equipment Group.**
3. This product must be purchased from and installed by an authorized PigTek Pig Equipment Group dealer or certified representative thereof, or the warranty will be void.
4. Malfunctions or failure resulting from misuse, abuse, negligence, alteration, accident, or lack of proper maintenance shall not be considered defects under this warranty.
5. This warranty applies only to systems for the care of pork and livestock. Other applications in industry or commerce are not covered by this warranty.

The PigTek Pig Equipment Group shall not be liable for any **Consequential or Special Damage** which any purchaser may suffer or claim to have suffered as a result of any defect in the product. **“Consequential”** or **“Special Damages”** as used herein include, but are not limited to, lost or damaged products or goods, costs of transportation, lost sales, lost orders, lost income, increased overhead, labor and incidental costs and operational inefficiencies.

THIS WARRANTY CONSTITUTES THE PIGTEK PIG EQUIPMENT GROUP ENTIRE AND SOLE WARRANTY AND THE PIGTEK PIG EQUIPMENT GROUP EXPRESSLY DISCLAIMS ANY AND ALL OTHER WARRANTIES, INCLUDING, BUT NOT LIMITED TO, EXPRESS AND IMPLIED WARRANTIES AS TO MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSE SOLD AND DESCRIPTION OR QUALITY OF THE PRODUCT FURNISHED HEREUNDER.

Any exceptions to this warranty must be authorized in writing by an officer of the company. The PigTek Pig Equipment Group reserves the right to change models and specifications at any time without notice or obligation to improve previous models.

1. Importance of User/Installer Manual

PLEASE READ ALL INSTRUCTIONS CAREFULLY BEFORE USE.
SAVE THESE INSTRUCTIONS.

- The User/ Installer Manual forms an integral part of the installation, its components, equipment and devices. Furthermore:
- It must be kept within immediate reach at all times, i.e. until the installation, its equipment, components and devices are disposed of.
- It must be considered a permanent part of the equipment and passed on when selling, transferring or lending the installation, its components and devices.

Contact PigTek Pig Equipment Group should you have any questions or suggestions concerning the information contained in this User/Installer Manual.

All information in this publication is based on the latest product information available at the time of printing. Because of our commitment to continuous improvement, PigTek Pig Equipment Group reserves the right to make changes to the information, products and/or services referenced herein at any time without notice and without incurring any obligation.

PigTek Pig Equipment Group shall not be liable for direct, indirect, special or consequential damages resulting from the use of the information contained in this User/Installer Manual.

The instructions contained in this User/Installer Manual are not intended to cover all details or variations in equipment and configurations, nor may it provide for every possible contingency concerning the installation, operation or maintenance of your equipment. Should additional information be required please contact your PigTek Pig Equipment Group Authorized Dealer.

These Operating and Assembly Instructions and the information contained in them have been compiled with all due care. However, PigTek Pig Equipment Group does not assume any liability for printing errors or other errors and any damage or loss resulting from such errors.

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2. FLEX-IR™ OVERVIEW

The FLEX-IR™ is designed to control a livestock feeding system. FLEX-IR™ uses infrared technology to sense feed at the last drop of the system. This infrared sensor combined with included electronic controls completes the FLEX-IR™ system. FLEX-IR™ electronics contain all timing and alarm functions to efficiently control a livestock feeding system.

FLEX-IR™ electronics feature a delay start timer, maximum run timer, and maximum run alarm outputs. FLEX-IR™ can operate with or without an existing time clock. If an external time clock is used to control the system, FLEX-IR™ will recognize the time clock and bypass the delay start time initially.

FLEX-IR™ infrared sensor design allows the sensor to detect a variety of feed densities and flow rates without adjustment. The sensor is impervious to changes in air temperature and humidity.

3. DESCRIPTION OF TIMER FEATURES

Delay start timer – Delay start is the time in minutes from when feed falls away from the sensor until the auger starts. This delay prevents short cycling of the system.

Maximum run time – Maximum run time is the amount of time in minutes the system is allowed to run continuously without sensing feed. FLEX-IR™ will stop the feed motor if the max run time is surpassed. **Adjust knobs or cycle power to reset after a max run time out.** Turn max run knob fully clockwise to disable max run function.

4. OPERATING INSTRUCTIONS

Set the delay start time based on the size of animals and feeder capacity. For tube feeders 20 minutes is typical; for hopper feeders 3-6 hours is typical. The FLEX-IR™ will start in 3 seconds upon initial power up and will utilize the delay start time on subsequent feedings. Set the max run time slightly longer than the time it takes to fill all of the feeders.

Indicator light status:

Top light (max run indicator)

- Flashing - max run mode
- Steady red - max timed out, indicating hours timed out

Bottom light (delay start indicator)

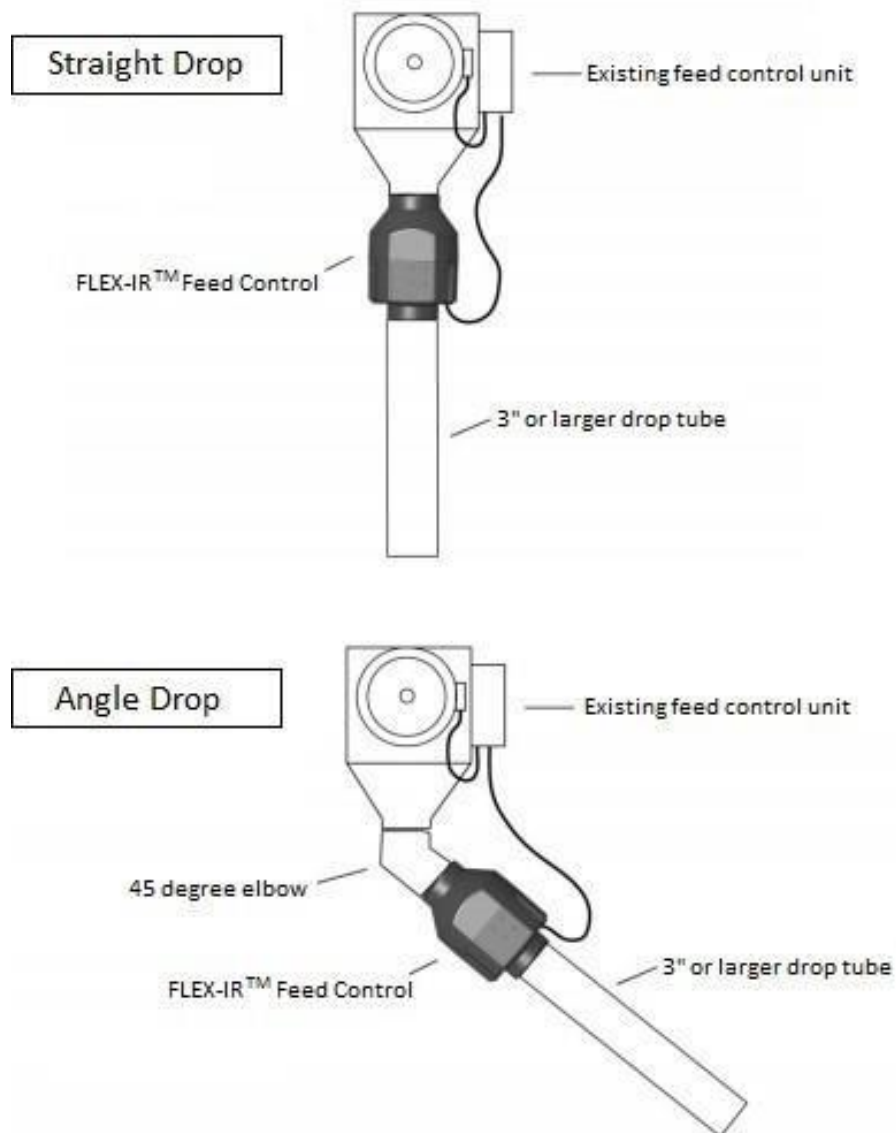
- Flashing - delay start mode
- Steady red - motor running
- Steady green - feeders full

5. INSTALLATION

Installation of the FLEX-IR™ Feed System Control involves both electrical and tubing applications.

Installing the tubing

Connect the FLEX-IR™ to other feed system components with metal screws or pins. In general applications the FLEX-IR™ can be installed as shown below:



The FLEX-IR™ should be attached directly to the power unit funnel as shown on page 6. Below the FLEX-IR™ a 3” PVC tube can be used to extend to the feeder. If a 3” tube is used, make sure the tube is fully inserted into the FLEX-IR™ to provide a smooth inner wall for feed to slide on.

In some applications a 4” tube may be required below the FLEX-IR™ in order for feed to completely clear out of the FLEX-IR™ sensor. In this case the 3” tube would not be used and a 4” tube would go around the outside of the outlet of the FLEX-IR™. In any case the extension tube below the FLEX-IR™ should be straight and not get smaller as it approaches the feeder or else feed bridging will result.

If the tubing from the power unit funnel to the feeder is required to be at an angle, such as 45 degrees, a 45 degree elbow should be placed between the FLEX-IR™ and the power unit funnel. An elbow should not be placed between the FLEX-IR™ and the feeder unless it causes the feed flow to be more vertical.

A "Y" drop at the last feeder may require the addition of an extra drop in the line right before feed reaches the power unit. This extra drop would supply one side of the "Y" and the FLEX-IR™ mounted at an angle on the power unit funnel would supply the other side of the "Y".

Electrical Wiring

The FLEX-IR™ is capable of operating a feed motor up to 1.5 HP at 240 volts without an external relay. Use of an external relay above these loads is required; use of an external relay at or below these loads is optional.

Description of FLEX-IR™ Wires:

Black: 50-300 VAC

Blue: 50-300 VAC

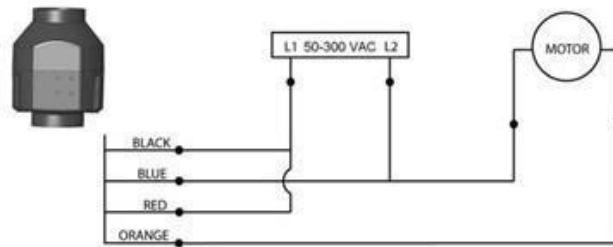
Red: Dry Contact

Orange: Dry Contact

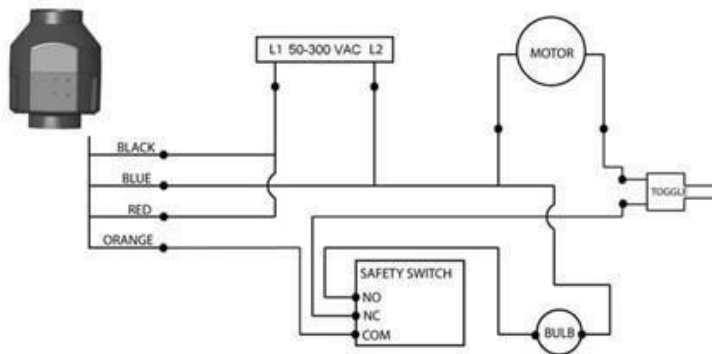
Grounding is not required.

6. FLEX-IR™ WIRING DIAGRAMS

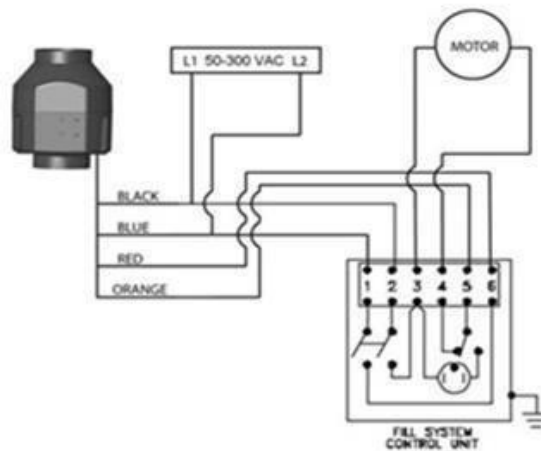
Universal Wiring



Universal Wiring with Safety and Toggle Switch



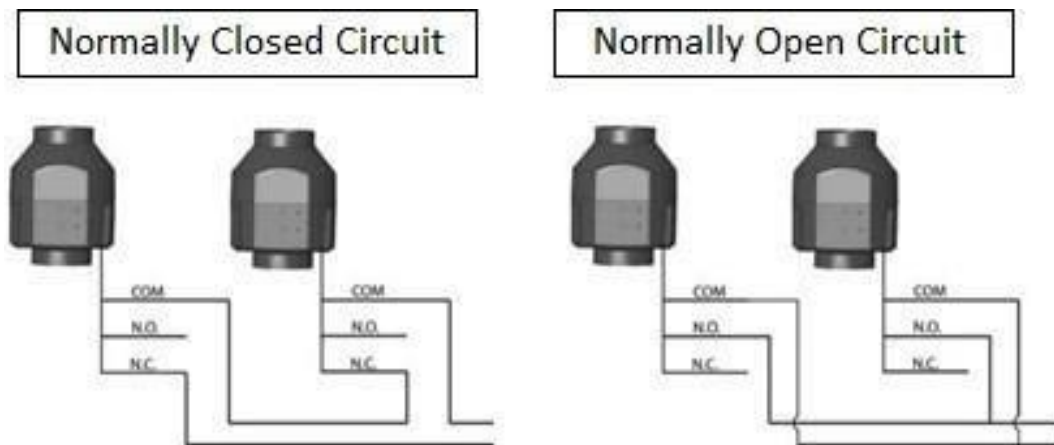
Chore-Time Wiring Diagram



7. ALARM CONNECTIONS

Connecting the FLEX-IR™ to an existing alarm system, dialer, light, or siren will notify the operator that the system has run out of feed or a problem exists. The FLEX-IR™ is compatible with both normally open and normally closed alarm systems.

Multiple FLEX-IR™s may be connected together using the examples below:



To connect the FLEX-IR™ to the alarm system, remove 3 screws and remove the top of the FLEX-IR™ enclosure. Use a small screwdriver to connect the alarm wires to the proper terminals labeled C, NC, or NO on the terminal strip. The alarm contacts are rated at 1 amp, 120 volts.



- A) Drill a hole and install a water tight grommet.
- B) Temporarily remove sensor tube if required.
- C) Connect alarm wires.

8. Accessing Setup Menu

Note: Setup is not required for standard operation.

To access menu mode:

1. Turn power off to FLEX-IR™.
2. Rotate top knob to zero.
3. Turn power on and rotate top knob to RED ZONE within two seconds of power on.
4. Both Indicator lights will flash three times to indicate menu mode is activated.

To adjust FLEX-IR™ operating parameters:

1. Rotate bottom knob to feature to be changed.
2. Rotate top knob to desired mode.
3. Feature is changed and locked in when number of blips on top indicator light changes.

BOTTOM KNOB	TOP KNOB
0	ALARM RELAY IS ALARM SIGNAL OR RUN SIGNAL 0 = ALARM SIGNAL <i>DEFAULT</i> 1 BLIP RED ZONE = RUN SIGNAL 2 BLIPS
30	DELAY START AFTER POWERUP CONFIGURE 0 = 0 SECOND DELAY START 1 BLIP 30 = 3 SECOND DELAY START <i>DEFAULT</i> 2 BLIPS 60 = 6 SECOND DELAY START 3 BLIPS 90 = 9 SECOND DELAY START 4 BLIPS 120 = 12 SECOND DELAY START 5 BLIPS 150 = 15 SECOND DELAY START 6 BLIPS RED ZONE = DELAY START IS WHATEVER KNOB IS SET AT 7 BLIPS
60	DELAY START KNOB MINUTES OR SECONDS 0 = MINUTES <i>DEFAULT</i> 1 BLIP RED ZONES = SECONDS 2 BLIPS
90	REMAIN IN MAX TIMED OUT AFTER CYCLING POWER 0 = YES 1 BLIP RED ZONE = NO <i>DEFAULT</i> 2 BLIPS
120	BLANK
150	RETURN TO FACTORY SETTINGS YES/NO 0 = YES 2 BLIPS (NOTE: Must exit menu through next step and not cycle power to lock in factory reset) RED ZONE = NO 1 BLIP
RED ZONE	EXIT MENU YES/NO 0 = YES RED ZONE = NO NOTE: Cycling power will also exit the setup menu.

9. TROUBLESHOOTING

No power at FLEX-IR™: Check breaker and motor disconnect, make sure external timer is on, check fuse on FLEX-IR™ circuit board, check wiring.

Feeders empty and FLEX-IR™ not turning system on: System timed out, feed bridged below FLEX-IR™, internal or external relay bad.

Feed goes past FLEX-IR™ and system does not stop: Internal or external relay bad, sensor tube bad.

FLEX-IR™ detects feed when feed is falling through sensor: Moldy or caked feed likely plugging inside of sensor - clean out with rag.



Made to work. Built to last.®

Contact your nearby Chore-Time distributor or representative for additional parts and information.

Distributor Contact Information

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Phone Number: _____

Email: _____

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