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Loop Control 2

Model Number: LC-2

For Motorized & Non Motorized Reels

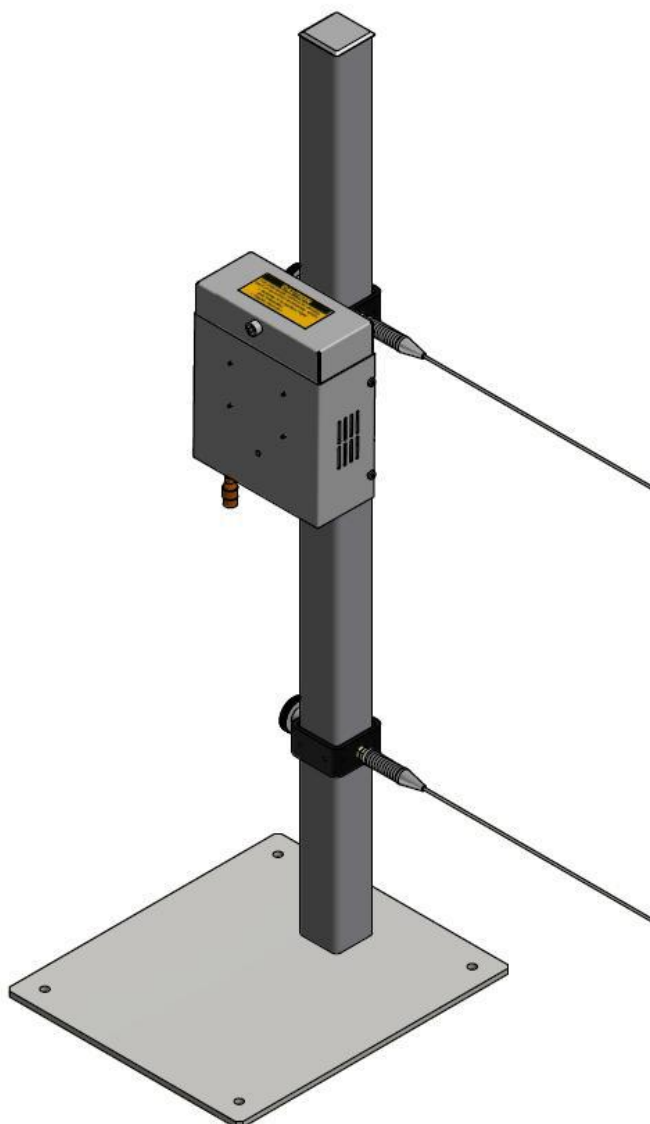


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Thank you for selecting our product for your coil handling needs. This manual will provide you with all the information necessary to install, operate, apply and maintain your machine. Safety is always a priority so please follow all the caution and warning stickers labeled on our machines.

1 Introduction



Please read this manual thoroughly before installing, operating, applying and maintaining this machinery. Failure to do so may result in serious injury to yourself and/or others.

1.1 General Safety program

Accident free operation will result from a well developed, management sponsored and enforced safety program. Of vital importance to any successful program is the proper selection of guards and devices. However, there is no safety device that will bring “automatic” safety to your operation.

Of equal importance to this proper selection of the guard and the device is the training of your personnel. Each person must be trained as to the operation of the guard or safety device, highlighting why they have been provided on the equipment. Rules for safe operating should be written and enforced at all times. A final major concern of an effective safety program is regularly scheduled inspection and maintenance of all of the equipment.

To ensure continued safety at all times, top management, line supervision, safety engineers and all employees must assume their proper share of the responsibility in the program. Only as a group, one that knows your own operation and its problems, can you carry out an effective safety program.

To assist you in the development of and continued use of safety programs, many safety minded groups have made guidelines available to you. However, you must know when and how to apply these guidelines. The manufacturer provides information to assist you in properly adjusting and maintaining your equipment. There is no short cut to proper safety; therefore, it is recommended that you comply with their recommendations at all times.

1.2 Warning

This equipment offers various means of operating or controlling machines. The operator must not be in or near the point-of-operation of the machine, or the operating parts of any equipment installed on the machine, or bodily injury could result. The EMPLOYER must post adequate warning signs onto the machine with proper warnings for his machine and the specific application to which the machine and equipment are being applied.

Occupational Safety and Health Act (OSHA) Sections 1910.211, 1910.212, and 1910.217 contain installation information on the distance between danger points and point-of-operation guards and devices. No specific references have been made to which paragraph of OSHA 1910.211, 1910.212, 1910.217 or any other applicable sections because the paragraphs may change with each edition of the publication of OSHA provisions.

All equipment manufactured by us is designed to meet the construction standards of OSHA in effect at the time of sale, but the EMPLOYER installs the equipment so the EMPLOYER is responsible for installation, use, application, training, and maintenance, as well as adequate signs on the machine onto which this equipment will be installed.

Remember, OSHA says that the EMPLOYER must use operating methods designed to control or eliminate hazards to operating personnel.

It shall be the responsibility of the EMPLOYER to establish and follow

ow a program of periodic and regular inspections of his machine to insure that all their parts, auxiliary equipment, and safeguards are in a safe operating condition and adjustment. Each machine should be inspected and tested no less than weekly to determine the condition of the machine. Necessary maintenance or repair of both shall be performed and completed before the machine is operated. The EMPLOYER shall maintain records of these inspections and the maintenance work performed.

Our Company is not responsible to notify the user of this equipment of future changes in State or Federal laws, or construction standards.

1.3 Warranty Program

We warrant our new parts against defects under normal use and service for a period of 12 months after date of shipment. Our obligation under this warranty is limited to replacing or repairing (at our option) the defective part without charge, F.O.B. our plant in Bloomfield, Connecticut. The defective part must be forwarded to our plant, freight prepaid, for our inspection prior to replacement or repair. **EXCEPT AS EXPRESSLY PROVIDED HEREIN, THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING A WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** Furthermore, the seller does not warrant or represent that the equipment complies with the provisions of any law, particularly including the Occupational Safety and Health Act of 1970, and regulations promulgated there under. In no event shall we be liable for special, indirect incidental or consequential damages, however rising.

1.4 Receiving and Inspection

SPECIAL NOTE: P/A INDUSTREIS INC. ASSUMES NO RESPONSIBILITY IN CONNECTION HEREWITH, NOR CAN IT BE ASSUMED THAT ALL ACCEPTABLE SAFETY MEASURES ARE CONTAINED IN THIS PUBLICATION, OR THAT OTHER ADDITIONAL MEASURES MAY NOT BE REQUIRED UNDER PARTICULAR OR EXCEPTIONAL CIRCUMSTANCES OR CONDITIONS.

RECEIVING INSPECTION

Before removing the unit from its packaging, check for visual damage, especially if crate, skid, or carton had been damaged in transit. Any damage caused by shipping should be immediately reported to the carrier. If the unit appears in satisfactory condition, remove all the packaging. Read these instructions. They are provided to answer questions regarding the Operation and use of this equipment.

2 Installation and Assembly

2.1 Electrical

Refer to schematic 19167-01

- Ground the loop control stand to the same ground as the main equipment ground.
- Check to make sure that the upper probe lead wire is plugged into the upper jack on the control box and the lower probe lead wire is plugged into the lower jack for unwind reel operation. The procedure is reversed for rewind reel operation.
- Verify that all coil material is electrically conductive and makes continuous contact with the ground either through the reel, straightener, feed or press. For best operation, the circuit resistance from probe to ground (through material when the material is lightly in contact with the probe) should not exceed 5 ohms.
- When connecting the output signal, connect the positive and neutral to the stock reel motor starter. Ground all electrically conductive materials together to include the frame of the reel, straightener, feed, press and connect it to the main supply ground.

- The relay contact ratings are: 7 Amps @ 30VDC and 10 Amps @ 125VAC. Do **NOT** exceed this rating when driving the stock reel motors directly. Smaller size motors may be switched directly as shown in the Larger size motors require a motor-starter, and in that case, the relay contacts may be used to energize the motor-starter coil as a two-wire controller.
- Larger size motors require a motor starter; in this case, the relay contacts may be used to energize the motor starter coil as a two wire controller.

2.2 Mechanical

- Set the base and column sub-assembly onto the floor.
- Locate the “Lo Probe” lower probe sub-assembly (square collar and antenna with control box attached). Loosen the hand knob, if necessary, to enable sliding the square collar down over the square column. Install the lower probe as shown in the drawing 15284. Tighten the hand knob to lock its position. Check that the wire from the probe is plugged into the lower jack (receptacle) at the rear of the control box for unwind reel operation; or into the upper jack for rewind reel operation.
- Locate the “Hi Probe” upper probe sub-assembly (square collar and probe with long pig-tail cord attached) and loosen the hand knob, if necessary, to enable sliding the square collar down over the column as shown in drawing. Tighten the hand knob to lock its position. Plug cable connector at the end of the pig-tail into the upper jack also at the rear of the control box for Unwind Reel Operation or plug into the lower jack for rewind reel operation.

3 Setup and Operation

The P/A Loop Control is an automatic electrical switching device. The device works through the grounding of the material on the top and bottom probes to control the speed of the material paying off. Once the material makes contact with one of the probes, the device then reacts by properly opening and closing relay contacts. The relay contacts are used to control the motor driving a Stock-Reel or similar machine (such as a Stock-Straightener or Pinch-Rolls) in a production line involving unwind or rewind of coiled material (wire or flat). The loop control works to maintain slack in the loop between the limits established by the adjustable probe positions. A typical unwind arrangement of a press, loop control, and motorized stock-reel, is shown in Figure 1. In an unwind line, the production machine starts by taking material from the slack loop until it touches the upper probe. This triggers the loop control to switch the reel-motor on. The motor then unwinds the coil until material touches the lower probe and the motor is switched off again. The process continues in a catch up and wait fashion. In a rewind line, the connection between the upper and lower probe leads and the loop control box is reversed. The reel starts by taking material from the slack loop until it touches the upper probe and triggers the loop control to switch the reel-motor off. This allows material to be added to the slack loop from the production machine until it touches the lower probe and switches the reel motor on again. These steps repeat to maintain the desired loop slack.

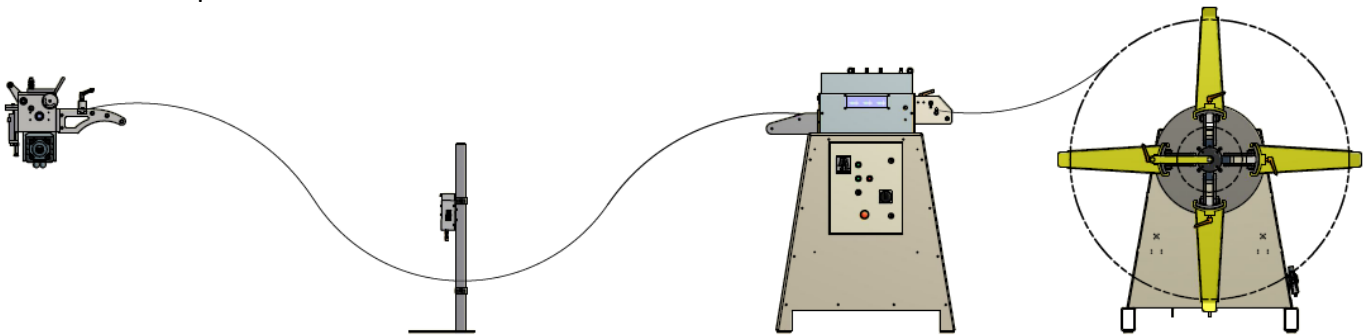


Figure 1

Unwind Reel Operation: When the feed material touches (momentarily or continuously) the upper probe the relay's K1A (for single unit), K1A and K2A (for dual units) will energize and close its contacts to turn ON (Run) the Stock-Reel-Motor-Starter to unwind the coil. It will remain ON until the feed material touches (momentarily or continuously) the lower probe. Once the feed material touches the lower probe the Relay's will de-energize and open its contacts to turn OFF (Stop) the Stock-Reel-Motor-Starter. The corresponding red LED will illuminate to indicate when the relays are energized.

Rewind Reel Operation: For this operation the process is reversed. When the feed material touches (momentarily or continuously) the lower probe the relays K1A (for single unit), K1A and K2A (for dual units) will energize and close its contacts to turn ON (Run) the Stock-Reel-Motor-Starter to Rewind the Coil. It will remain ON until the feed material touches (momentarily or continuously) the upper probe. Once the feed material touches the upper probe the relays will de-energize and open its contacts to turn OFF (Stop) the Stock-Reel-Motor-Starter. The corresponding red LED will illuminate to indicate when the relays are energized.

4 Maintenance

4.1 Electrical

- **Motor Fuse Size:** Select the fuse size to protect the motors from short-circuits and ground-faults in accordance with the N.E.C. Article 430, Section IV (Motor Branch-Circuit Short –Circuit And Ground-Fault Protection) and Table 430.52.

- The following table shows the maximum size fuses that should be utilized (by motor size and voltage):

- **Fuse Type:** Fusetron Dual-Element ceramic-tube slow-blowing fuses, symbol MDA, are recommended or equivalent fuse type.

These fuses do not protect the motors from overloads.

Refer to N.E.C. Article 430, Section III

(Motor and Branch-Circuit Overload Protection) to select and size the Motor Overloads.

	Branch Circuit Protection Only		Branch Circuit & Motor Running Overload Protection	
Motor HP	120 VAC	240 VAC	120 VAC	240 VAC
1/6	MDA-8	MDA-4	MDA-5	MDA-2 1/2
1/4	MDA-10	MDA-5	MDA-7	MDA-3 2/10
1/3	MDA-10	MDA-6.25	MDA-8	MDA-4
1/2	MDA-15	MDA-8	MDA-10	MDA-5

5 Troubleshooting

If Stock-Reel-Motor does not start check the following:

1) Confirm that the Power is on in the Loop Control Panel.

The green LED will illuminate to indicate the Power is on in the Panel.

2) Confirm that Relay's K1A (for single unit), K1A and K2A (for dual units) will energize (turn On) once the corresponding probe has been activated.

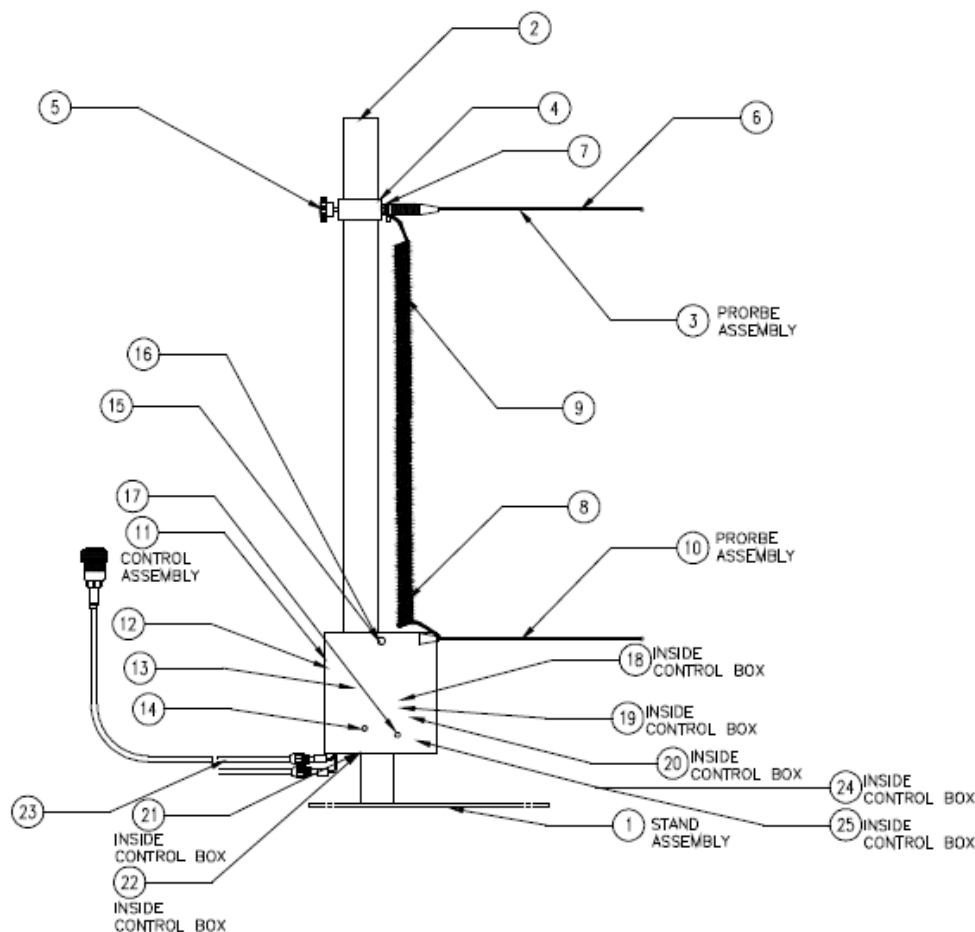
The red LED, will illuminate to indicate the Relay's are on.

3) Confirm that the corresponding Circuit-Breakers are not opened.

4) Confirm that the power source to run the motor(s) is on.

6 Specifications

6.1 Parts List



REPLACEMENT PARTS LIST FOR LC-2		
ITEM	PART NUMBER	DESCRIPTION
1	15321	STAND
2	13650-16	PLUG
3	14606-02	PROBE ASSEMBLY-UPPER
4	14604	SQUARE COLLAR
5	12416-08	HAND KNOB SCREW
6	15336	PROBE
7	16500	INSULATED STUD
8	14603-01	CORD & PLUG
9	14603-02	CORD & PLUG
10	14606-01	PROBE ASSEMBLY-LOWER
11	19166-10	ELECTRICAL CONTROL ASSEMBLY
12	15263-02	HOUSING BASE
13	15264-02	COVER
14	12095-70	LIGHT PIPE, 0.62 LG, ROUND
15	12086-29	PUSH BUTTON
16	12086-30	PUSH BUTTON RING GUARD
17	12095-71	LIGHT PIPE, 1.52 LG, ROUND
18	12101-125	SENSITIVE RELAY, 12/24VDC
19	15448-36	POWER SUPPLY, 12VDC @ 1.66A
20	12194-18	PHONO JACK
21	12106-18	FUSE HOLDER
22	16284-47	FUSE, 1/4-AMP, MDA-1/4
23	12194-16	POWER CORD
24	15448-37	POWER CORD, IEC WIRE CORD
25	12106-95	TERMINAL BLOCK

YOU SUPPLY THE PRESS . . . WE'LL SUPPLY THE REST.

