Using the Encoder for Allen Bradley PLC-2 Programmable Logic Controllers

The Encoder is a Rotary Sensor which provides the Programmable Logic Controller (PLC) with a "0" to "359" degree value. The unit operates on 5 VDC plus or minus 0.2 VDC and is connected with a 50 foot cable between the Encoder and input module 115. The word value may be monitored by using the "ENCODER" screen or the "DATA TABLE ACCESS" screen.

1. Monitor the Encoder word value 115 using the "DATA TABLE ACCESS" screen.

2. Rotate the Encoder by hand in the same direction the machine rotates. The Encoder coupler must be loose to perform this function.

3. Insure the Encoder provides a "0" to "359" degree value and increments by ones.

4. The coupler needs to be tightened after this procedure. The value must be equal to 100 at 1st stop.

5. If letters appeared during the check, any one bit stays on, or the numbers do not increment by ones, check the following:
   a) Check for 5 VDC plus or minus 0.2 VDC at the Encoder connector pins Z and X. Wire 160 & 161.

6. The VDC power supply in the electrical panel may need to be adjusted.
   a) Insure the cable connections at the input module 115 are secure and dust free.
   b) Insure the Encoder is secure and clean. Use of contact cleaner on the connectors may be necessary.
   c) Insure the Encoder cover is secure. If not, inspect the internal components for any contamination. Clean if necessary and replace cover.

Vibration of the Encoder will cause premature failure. Besser recommends the use of an Anti-Vibration Kit to protect against this problem.

Sets of Parts for Anti-Vibration Kit:
No. 646215       V3-12
No. 646184       Dynapac, Ultrapac, and Superpac

Other part numbers associated with the Encoder:
No. 113034        Encoder for use with PLC-2/16
No. 434177        Power supply - 5 VDC
No. 434930        Cable 50 Ft.
No. 113020        Cable connector
No. 113021        Cable clamp
No. 113022        Cable rubber bushing
No. 112785F0017   Input Module 16 point 5 VDC
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Diagram of encoder connections and logic instructions.
SAFETY BULLETIN

This notice is issued to advise you that some previously accepted shop practices may not be keeping up with changing Federal and State Safety and Health Standards. Your current shop practices may not emphasize the need for proper precautions to insure safe operation and use of machines, tools, automatic loaders and allied equipment and/or warn against the use of certain solvents or other cleaning substances that are now considered unsafe or prohibited by law. Since many shop practices may not reflect current safety practice and procedures, particularly with regard to the safe operation of equipment, it is important that you review your practices to ensure compliance with Federal and State Safety and Health Standards.

IMPORTANT

The operation of any machine or power-operated device can be extremely hazardous unless proper safety precautions are strictly observed. Observe the following safety precautions:

**ALWAYS:**

- Be sure proper guarding is in place for all pinch, catch, shear, crush, and nip points.
- Be sure that all personnel are clear of the equipment before starting it.
- Be sure the equipment is properly grounded.
- Turn the main electrical panel off and lock it out in accordance with published lockout/tagout procedures prior to making adjustments, repairs, and maintenance.
- Wear appropriate protective equipment such as safety glasses, safety shoes, hearing protection, and hard hats.
- Keep chemical and flammable material away from electrical or operating equipment.
- Maintain a safe work area that is free from slipping and tripping hazards.
- Be sure appropriate safety devices are used when providing maintenance and repairs to all equipment.
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NEVER:

- Exceed the rated capacity of a machine or tool.
- Modify machinery in any way without prior written approval of the Besser Engineering Department.
- Operate equipment unless proper maintenance has been regularly performed.
- Operate any equipment if unusual or excessive noise or vibration occurs.
- Operate any equipment while any part of the body is in the proximity of potentially hazardous areas.
- Use any toxic flammable substance as a solvent cleaner.
- Allow the operation or repair of equipment by untrained personnel.
- Climb or stand on equipment when it is in operation.

It is important that you review Federal and State Safety and Health Standards on a continual basis. All shop supervisors, maintenance personnel, machine operators, tool operators, and any other person involved in the setup, operation, maintenance, repair or adjustment of Besser-built equipment should read and understand this bulletin and Federal and State Safety and Health Standards on which this bulletin is based.