Technical Information

Using PLuS ™ Controller to Place Stitch Pattern on Random Size and Spaced Products

An Electro Cam Corp. Programmable Limit Switch with Groups and Modes can be used to control a continuous repeating pattern on products or parts that are different sizes, and have a random spacing between parts.

By using one output in the first group operating in Mode 2, you can create a setback or spacing from the leading edge of the part. This operation makes the adjustment for the random part spacing and detection that the part is present. The output from this channel is used to control the power source to the actual glue control channels. The power source is brought to one side of the Channel One output module, and the other is taken to one side of all the glue control channels. This allows the glue control channels to actually be turning OFF and ON without the glue heads being turned ON. The glue control channels function continuously, but because there is no power to turn ON, the glue guns don't fire.

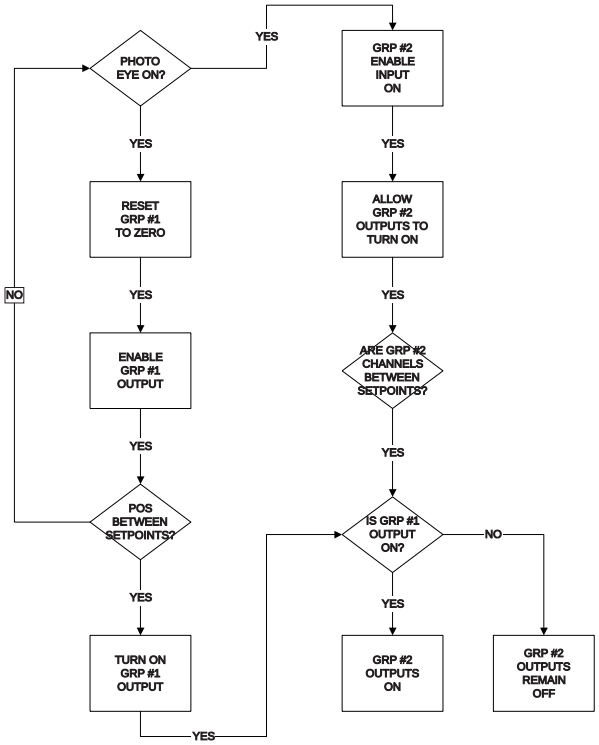
The number One Channel's setpoints are programmed as ON all the time, except for the setback distance. Example: ON= 20, OFF=359, with a scale factor of 360. The resolver has to be set in a ratio that is greater than the longest part length to ensure that there are no skips in the applied bead.

The second Group (that contains the glue control channels) is programmed to operate in Mode 3. The same photoeye that is used for the logic input for Group One is also wired to the logic input for Group Two. This configuration allows the Group Two channels to turn on as long as the photoeye can see the product. The setpoints for the glue control channels must be a repeating (stitch) pattern.

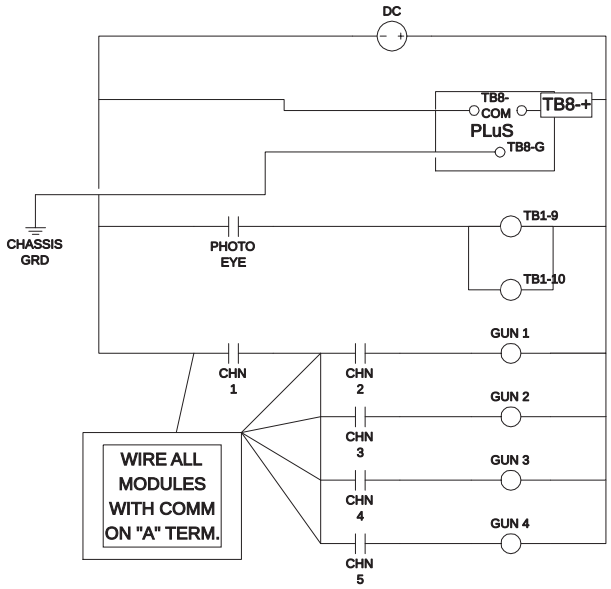
The placement of the photoeye in relation to the glue guns is critical. The distance that the photoeye leads the glue gun will equal the setback from the trailing edge of the part being processed. This happens because as soon as the photoeye doesn't see the product, the logic input goes OFF and the second Group's outputs turn OFF. Those outputs remain OFF until the next time the photoeye sees the product, and the first channel allows the outputs to energize.

If multiple glue guns are used in this application, care must be taken to ensure that all the guns are placed an equal distance from the photoeye. If they are not the same, different setbacks will occur for each gun that is not the same distance from the photoeye.

Flow Chart of Logic Sequence of Operation.



Wiring Diagram Showing Electrical Connections.



13647 Metric Rd • Roscoe, IL 61073 USA • 815-389-2620 • FAX 815-389-3304 • 800-228-5487 (USA & Canada)
Web Site: www.electrocam.com • email: ecam@electrocam.com