TB157 (Rev1) - MPG Specifications and Compatibility w/ Control Pendant

Overview

This document details the use and technical specifications for our currently available MPGs (Manual Pulse Generators). Also listed in this document are the requirements for third-party MPG compatibility with our control systems and control pendant.

MPG Use

MPGs are manually operated optical encoders used in conjunction with the control pendant for controlling axis movement. They are not only limited to jogging, but may be used with the CNC control in manual mode to machine parts, giving the user full control over the machines computerized precision. In other words, MPGs offer the precision of CNC control with the feel and operation of a hand turned machine.

MPG Specifications

We currently offer two MPGs for use with our control pendant, a 32 step and a 100-step model. Both MPGs come with an axis selector switch and our MPGPIC board that communicates directly with the control pendant through a supplied cable. Both MPG models mount inside the handle of the control pendant for convenient use. *Note: Reference Tech Bulletin TB095 for MPG installation in control pendant.

Model	Agilent 32 Step	Nemicon 100 Step
Type	TTL	TTL
Resolution (Steps/Rev)	32	100
Power Supply (Vdc)	4.5-5.5	4.5-5.5
Max Supply Current (mA)	40	60
Output Wave Type	Square in Quadrature	Square in Quadrature
High Level Output (Vdc)	>2.4	>3.5
Low Level Output (Vdc)	≤0.5	≤0.4
Operating Temp. (?aC)	0 - 70	-10 - 60

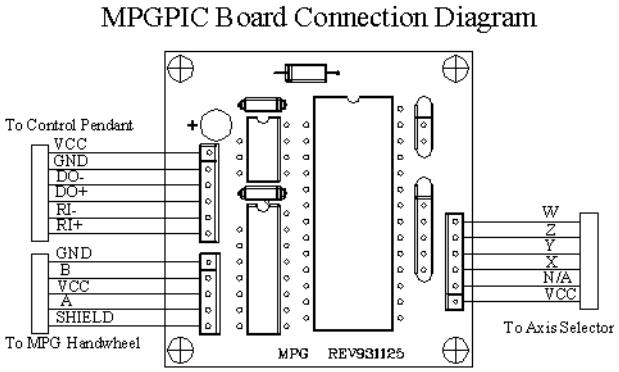
Requirements for Compatibility w/ Control Pendant and CNC7 Control

The control pendant and CNC7 control will support third-party MPGs that meet these requirements:

1.Our MPGPIC board must be purchased in order for any MPG to communicate with the control pendant.
2.The third-party MPG must be a TTL type optical encoder.
3.The output must be a dual square wave in quadrature.
4.Operating voltage must be 5vdc +/- 10% with a max current no more than 80mA.

Wiring of MPG Components

The diagram below details the connections between the MPG hand wheel, the axis selector switch, and the control pendant. *Note: If using third-party MPG hand wheel, board will only accommodate TTL style MPG.



Document History

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