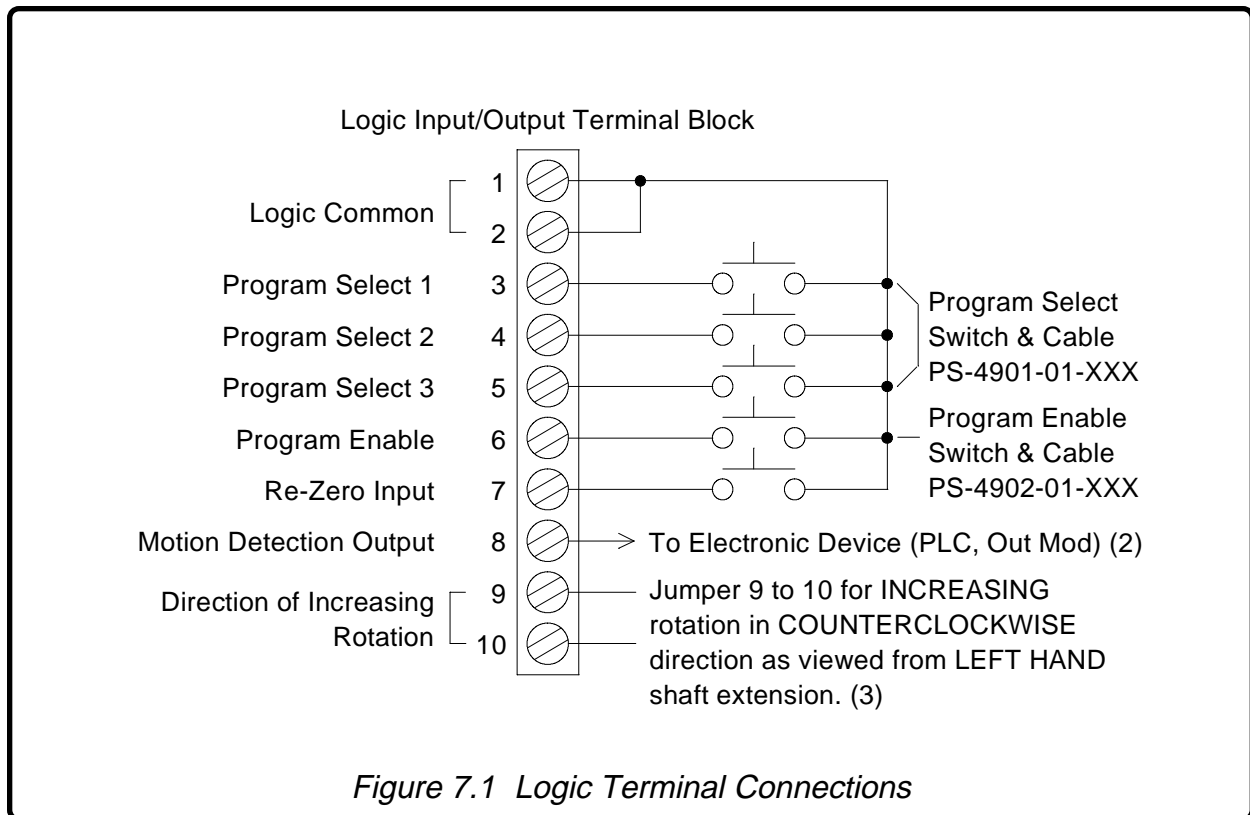


7 Logic Terminals



NOTE:

- 1) Logic inputs (terminals 3 - 7) are "ON" when connected to logic ground and "OFF" when their circuit to logic ground is open. Logic inputs may be connected to logic ground through switches, relays, or open collector transistor outputs (PLC's or other electronic devices).
- 2) Motion detection output is capable of SOURCING 5 Volts (6 mA max) to LOGIC GROUND (Terminals 1 & 2) through the output of an opto-coupler.
- 3) Do not connect terminals 9 & 10 to anything but each other.

Logic Terminals

PROGRAM SELECT INPUTS (GRAY CODE)

The three program select inputs specify which program is currently active. Only one program is active at a time. The active program may be changed at any time by changing the status of the program select inputs. The active program may be changed while the unit is in motion. Programs are selected as follows:

Program Number	SEL3	SEL2	SEL1
1	OFF	OFF	OFF
2	OFF	OFF	ON
3	OFF	ON	ON
4	OFF	ON	OFF
5	ON	ON	OFF
6	ON	ON	ON
7	ON	OFF	ON
8	ON	OFF	OFF

Figure 7.2 Program Select Gray Code Chart

The program select inputs may be wired to switches, relays, open collector outputs of programmable logic controllers, or other control devices.

A Program Select Switch with Cable (part number PS-4901-01-XXX) is available which provides the Gray Code output to directly interface with the program select inputs. It comes ready to install with a shielded cable cut to any desired length.

When used with a programmable logic controller, these inputs provide the ability to change programs in real-time through a simple four wire connection (three program select inputs and logic ground).

Logic Terminals

PROGRAM ENABLE INPUT

The Program Enable Input must be ON to allow program changes to be made to output channel set points or Function Programming. If programming changes are attempted when this input is OFF, the flashing “E3 -Pro” (Programming Not Enabled) error message will be displayed.

NOTE:

This input MUST be ON before ANY programming changes can be made to the PLS controller. This includes output channel setpoints, motion set points, offset value, active program, and speed compensation values.

Units are supplied with a factory installed jumper between terminals 2 and 6 to enable programming. Typically, these terminals would be connected to a key switch or to the open collector output of a programmable logic controller to restrict programming.

A Program Enable Switch with Cable (part number PS-4902-01-XXX) is available. It is a lockswitch which comes ready to install with a shielded cable cut to any desired length.

RE-ZERO INPUT

When the Re-Zero input is energized the controller position is immediately set to 0 whether the encoder is turning or stationary. The controller will begin incrementing or decrementing position from the 0 position even if the Re-Zero input is held ON. The re-zero function is edge triggered and the input is a one-shot. The input must be turned OFF and back ON before another Re-Zero function will occur.

NOTE:

Changes made to the Offset value by the Re-Zero input are not stored in the EEPROM memory of the controller. If Power is removed and restored, the Offset will be set according to the last values programmed by Functions #3 or #4. Therefore the Re-Zero input can NOT be used to permanently synchronize the controller position to the machine. Functions #3 or #4 must be used for this purpose.

The Re-Zero input may be wired to switches, relays, photo detectors or any electronic device which provides a current Sinking signal (typically an open collector output).

Logic Terminals

MOTION DETECTION OUTPUT

The motion detection output turns ON (sourcing) when the encoder shaft rpm is between (or equal to) the low and high motion detection setpoints (See functions 5 & 6). If the shaft rpm is below the low setpoint or above the high setpoint this output is OFF. The output is updated on a .1Sec interval. Internal logic ignores small variations in shaft positions so that this output will not turn ON due to shaft oscillation.

If the low motion setpoint is set to be greater than the high motion setpoint, the motion detection output will NEVER turn ON.

If the low motion setpoint is set to zero, the motion detection output will ALWAYS be ON.

DIRECTION OF INCREASING ROTATION

With terminals 9 & 10 jumpered, the controller position will increase with counterclockwise shaft rotation (as viewed from the left hand shaft extension). The controller is shipped with these terminals jumpered. To indicate DECREASING position with counterclockwise rotation, remove this jumper.

NOTE:

These terminals are only sampled when the controller powers up. If terminals 9 & 10 are connected or unconnected after power is applied, the corresponding direction change will not take effect until the controller is powered down and powered up again.

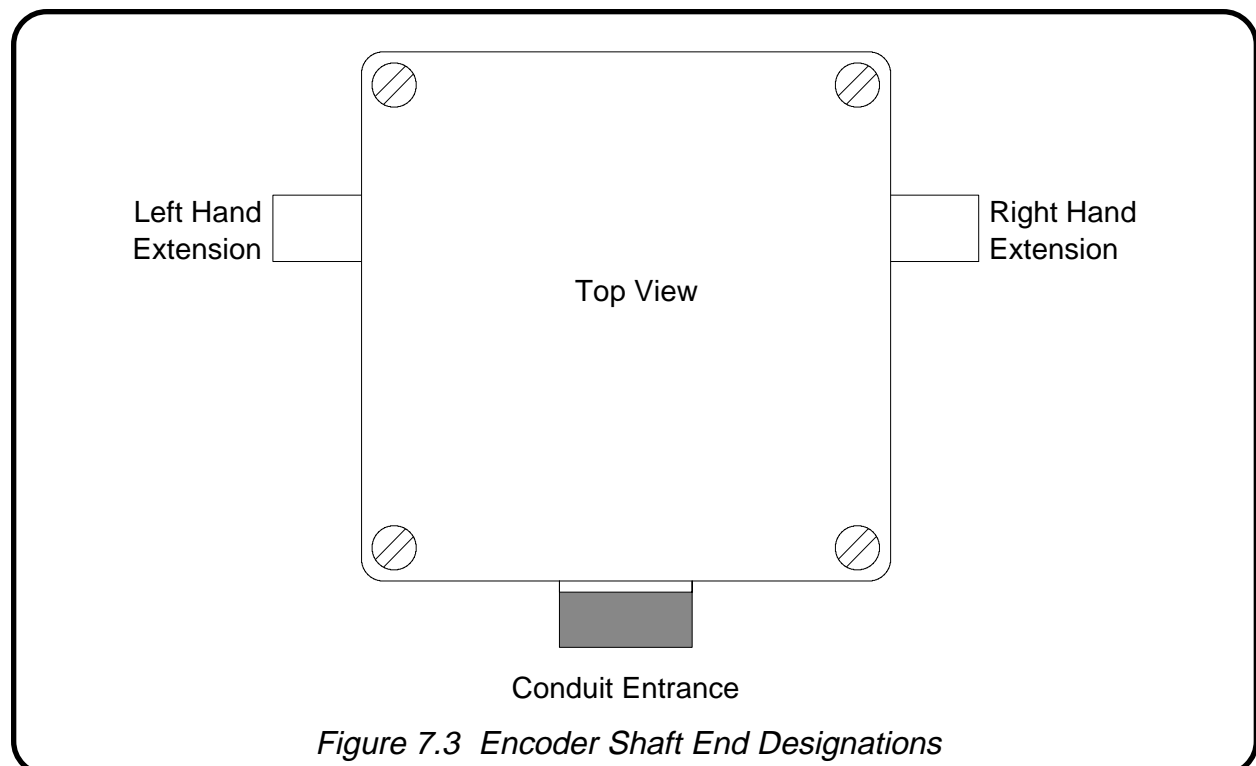


Figure 7.3 Encoder Shaft End Designations