Single axis, programmable position controller
OPERATING AND DATA ENTRY CONTROLS

3 - SINGLE STEP KEY
4 - OPENING A PROGRAM KEY
5 - RESET KEY
6 - LED DISPLAY OF DEMAND POSITION
7 - PROGRAMM NUMBER DISPLAY
8 - LED DISPLAY OF ACTUAL POSITION
9 - LED DISPLAY OF QUANTITY COUNTER
10 - NUMERIC KEYBOARD
11 - PROGRAMM KEY
12 - CURSOR KEY
13 - CURSOR KEY
14 - ENTER KEY
15 - FUNCTION KEY
16 - CLEAR KEY
CAP. 1 - PROGRAMMING MODE

- Depress (4) "PROG" key.

- Depress (11) "NO" key, and the led display window (7) shows the first step of our selected program.

- Input through the keyboard (10), the demand value, and then we will see this value on the led display window (6).

- Depress (12) " \( \rightarrow \) " key, the cursor moves to the led display window (9) " QTY ".

- Input through the keyboard (10), the number of cuts to do, with the bakstop at the same position, and we will see this number on the led display window (9) " QTY ".

- If, we want to make programs with several steps, depress (12) " \( \rightarrow \) " key, and input the demand values, for each step.

- Depress (14) "E" key, to finish the program.

CAP. 2 - VERIFY ONE PROGRAM

- Depress (4) "PROG" key.

- Depress (11) "NO" key, to see all steps of the program we want to verify.

- To finish the verification, depress (15) "T" key.
CAP. 3 - SELECTION WAY OF A PROGRAM AND START THE PROCESS

- Depress (14) " E " key.

- The LED display window (6) "mm" show us the number of the program selected (blink), and the message "bloc nr".

- Input through the keyboard (10), the number of program selected (from 0 to 39).

- Depress (14) " E " key.

- If we want to start immediately the process, depress (4) "PROG" key, and then depress " START " key.

CAP. 4/5 - SINGLE STEP

- If we want to make a single operation (without program), do as follows:

- Depress (3) " SINGLE STEP " key.

- Input through the keyboard (10), the demand value, and we will see this value on the led display window (6) " mm ".

- Depress " START " key, and the backstop moves to the demand value.
CAP. 6 - TO CHANGE MEASUREMENT SYSTEM (mm ==> in)

The ELGO 76 P controller has the possibility of reading the backstop position in millimeters or in inches. To change the measurement system from millimeters to inches, do as follows:

Opening parameters security code

- Depress (4) "PROG" key.
- Depress (13) "<" key.
- Depress (16) "C" key.
- Input through the keyboard the value "98", by depressing "9" and "8" keys.
- Depress (12) ">" key.
- Depress (16) "C" key.
- Input through the keyboard (10), the value "50565", by depressing "5", "0", "5", "6", "5" keys.
- Depress (14) "E" key.

Programming of new parameters

- Depress (13) "<" key.
- Depress (16) "C" key.
- Input through the keyboard (10), the value "13", by depressing "1" and "3" keys.
- Depress (12) ">" key.
- Input through the keyboard (10) the value "0", by depressing "0" key, if we want a millimeters measurement system. Input the value "1", if we want a inches measurement.
- Depress (14) "E" key.
Closing parameters security code

- Depress (13) " < " key.
- Depress (16) "C" key.
- Input through the keyboard (10) the value "98", by depressing "9" and "8" keys.
- Depress (12) " > " key.
- Depress (16) "C" key.
- Depress (14) "E" key.
- To close, also, it's enough to turn-off the machine on the general electric switch.

CAP. 7 - ADJUST OF SWITCHING POINT

The position of the backstop positioning can be vary throughout the time due to the alterations of clearance and the time of control's reply. If the value saw at the led digital window (6) " mm " doesn't coincide with the value saw at the led display window (8), do as follows:

- Input the OPENING PARAMETERS SECURITY CODE as we saw on the CAP. 6.

Programation of new parameters

- Depress (13) " < " key.
- Depress (16) "C" key.
- Input through the keyboard (10) the value "3", by depressing "3" key.
- Depress (12) " > " key.
- Input a value between " 1.2 " and " 2 ".
- Depress (14) "E" key.

The value "1.2" to "2" is changeable depending of the stopping time, being the correct value found by successive experiences according to the precedent process.

- Input the CLOSING PARAMETERS SECURITY CODE as we saw on the CAP. 6.
CAP. 3 - TO RESET THE BACKSTOP POSITION

If it's found that the width of cutted strips does not correspond to the readings of led digital window, the backstop position controller ELGO 76 P, must be adjusted by resetting.

Proceed as follows:

- Depress (3) "SINGLE STEP" key.
- Input through the keyboard (10), the value "50", by depressing "5" and "0" keys.
- Depress "START" key.
- Cut a strip and accurately measure it's width.
- The real value was 51.5, for example.
- Depress (16) "C" key.
- Input through the keyboard (10), the value 51.5.
- Depress, with a pen for example, "RESET" push-button.
- Verify, cutting a new strip, if the real value it's the same from the demand value.

CAP. 9 - BACKSTOP RETRACT DURING CUTTING ACTION

When cutting narrow strips, to avoid blades damage, the backstop position controller allows the backstop bar to retract during cutting action: the backstop bar retract about 10 millimeters, returning automatically to the pre-selected position as soon as the top blade holder reaches it's top limit position. If this action is required, actuate on the mini lever switch accordingly.

WARNING:

Unless your motorized backstop is equipped with ball type leadscrews, avoid to use the backstop bar retraction effect: it is advised to use the backstop bar retraction only when cutting narrow strips.
The memory of the ELGO 76P CONTROLLER is divided into 40 partial memories, in which each of them can have a program with 10 steps. In the maximum, we can get 40 different programs, selecting through a number (0 to 39) (that identifies a fixed program) we pretend.

One can manage the way of a program to another as follows:

- Depress \[\text{key}\] key.

- Depress \[\text{key}\] key.

- Depress \[\text{key}\] key.

- The LED display window [No. 10] shows us the number of the program selected (blink), the LED display window [12345] the message "bloc", and "nr" on the LED display [01].

- Depress \[\text{key}\] key.
- Input the program number, for example 14, by depressing 1 and 4 keys.

- Depress E key.

- Depress No key, we will see automatically, the first step from program 14.

- To see the several steps of 14 program, depress several times No key until the last step.

- Repeat this process to change another program.

INTRODUCTION MODE OF A PROGRAM

Example:

1 - Definition number of a program

- Depress 1 key.

- Depress * key.

- Depress E key.

- The LED display window show us the number of the program selected (blink), the LED display window the message "bloc", and "nr" on the LED display.

- Depress C key.

- Input the number of the program that we want to give to this program, for example 1, by depressing 1 key.

- Depress E key.
2 - Introduction of program 1

Step number 1:
- Demand value = 250.00 mm
- Number of cuts = 2

Step number 2:
- Demand value = 170.00 mm
- Number of cuts = 3

- Depress $\text{No}_{\text{No}}$ key, we will see, on the led display window $\text{No}_{\text{1}}$, the number 1; first step from program number 1.

- Depress $\text{C}_{\text{C}}$ key.

- Input the demand value, from the first step of program by depressing $250000$ keys.

- After this operation, depress $\text{>}_{\text{>}}$ key, the cursor moves to the led display window $\text{On}_{\text{1}}$.

- Depress $\text{C}_{\text{C}}$ key.

- Input through the keyboard the number of cuts to do, with with the backstop at the position 250.00 mm by depressing $2$ key.

- Depress $\text{>}_{\text{>}}$ key, and we will see automatically on LED display window $\text{No}_{\text{2}}$, the number 2; second step from program number 1.
- Depress [C] key.
- Input the demand value, from the second step of program, by depressing [1 7 0 0 0] keys.
- Depress [>] key, and the cursor moves to the led display window [0].
- Depress [C] key.
- Input through the keyboard the number of cuts to do, with the backstop at the position 170.00 mm, by depressing [3] key.
- Finally, depress [E] key, that close our program.
- If we want to start the process, depress [nep] key, and then depress the push-button [start].

SINGLE STEP

Example:

- Demand value = 125.70 mm
- Depress [start] key.
- Depress [nep] key.
- Input through the keyboard (10), the demand value, by depressing [1 2 5 7 0] keys, and we will see this value on the led display window [1 2 3 4.5].
- Depress [start] push-button, the backstop moves to the position 125.70 mm.
<table>
<thead>
<tr>
<th>Reg.-Nr.</th>
<th>Function</th>
<th>Resolution</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Slowdown</td>
<td>0,1 mm</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Creepspeed</td>
<td>0,1 mm</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Stop offset</td>
<td>0,1 mm</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Backlash compensation</td>
<td>0,1 mm</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Auto retract</td>
<td>0,1 mm</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Saw blade</td>
<td>0,1 mm</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>System parameter see table</td>
<td>0,1-0,7</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Time of &quot;in position&quot; pulse</td>
<td>0,1 sec.</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Standstill time</td>
<td>0,1 sec.</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Time of &quot;quantity reached&quot; pulse</td>
<td>0,1 sec.</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Tolerance window</td>
<td>0,1 mm</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Inch/mm selection 0=mm 1=Inch</td>
<td>0/1</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Incremental mode selection</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0 = external input</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 = internal selection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Decimal point</td>
<td>3 - 5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5 = no decimal point</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>4 = 1 digit after dp</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 = 2 digits after dp</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Reg. 8 System parameter  * = Function activated

<table>
<thead>
<tr>
<th>Function</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Backlash compensation</td>
<td>*</td>
<td></td>
<td>*</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td>Incremental error comp.</td>
<td>*</td>
<td>*</td>
<td></td>
<td>*</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>automatic quantity count.</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td></td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ST 1 ENCODER INPUT

PIN 1 0 VOLTS
PIN 2 POWER SUPPLY + 24 VOLT DC  150 mA
PIN 3 CHANNEL A
PIN 4 CHANNEL B
PIN 5 CABLE SCREEN

ST 2 POWER SUPPLY

PIN 5 0 VOLTS FOR 10 VOLT
PIN 4 POWER + 10 VOLT DC
PIN 3 LENGTH SCREEN
PIN 2 0 VOLTS OF 24 VOLT
PIN 1 POWER +24 VOLT DC

ST 3 INPUT/OUTPUT SIGNALS

INPUTS
PIN 1 DATUM
PIN 2 AUTO RETRACT
PIN 3 QUANTITY DECREMENT
PIN 4 START POSITIONING
PIN 5 STOP POSITIONING
PIN 6 INCREMENTAL OPERATION IN SINGLE MODE
PIN 7 INCREMENTAL POSITIVE IN SINGLE MODE
(PIN 5 MUST ALSO BE SELECTED

OUTPUTS
PIN 9/10 SCREEN
PIN 11 + 24 VOLT POWER-OUTPUT
PIN 14 CREEP SPEED
PIN 15 SLOW SPEED
PIN 16 FAST SPEED
PIN 17 REVERSE (DIRECTION ZERO)
PIN 18 POSITION REACHED
PIN 19 QUANTITY REACHED
PIN 23 0 VOLT OUTPUT
TECHNICAL DATA

Power supply requirement: +24V/600 mA +10V/900 mA galvanically isolated. Standart ELGO NG 13.0

Encoder power supply....: +24V DC 130 mA

Input signals...........: Negativ logic: connect to zero volts. 
                        (Option: positiv logic: connect to +24 volts 
                        Input 0.75 Sec min. 10 mA/pin max.

Output signals.........: Open collector PNP (NPN on request). Output 
current 30 mA output. Freewell diodes integrated.

Memory..................: Battery backed for about 5 years.

Indicators...............: Red LED 8 mm.

Connectors...............: D type

Hardware................: Elgo counter chip plus 8 bit CMOS micro-
                        processor with 32 kbyte E-Prom an 16 kbyte 
                        RAM.

System accuracy.........: + / - 1 bit.

Position speed..........: 10 KHZ (60 m/min with 0,1 mm resolution).

Enclosure...............: Back polycarbonate, for fitting into control 
                        panel. Can be mounted in any attitude.

Dimensions...............: 72 mm high, 144 mm wide 
cut out 67 X 139.