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Mfrs OF All type CNC LINEAR Coil Winding Machines and

All type TOROIDAL Coil Winding Machines and Custom Build Machines. And also Exporter

Registered in- GST/MSME/CE/IEC/ISO 9001-2015 Certified Company.

INSTRUCTION MANUAL

FOR ALL LINEAR WINDING MACHINES

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How to Edit a New Program?

As soon as the machine is switched ON, the machine recalls the previous program that was executed prior to switching OFF the machine and it is ready for executing that program. After loading the program parameters from the memory, the machine waits for the user to start the "winding cycle" by pressing START key. The Display shows following message.

Prog :001-upto 499 <<<
TURNS: 00.000.0- 99.999.9

If the user needs to create/modify a program, he has to press **ENTER** key. Upon pressing this key the machine switches to MAIN MENU and prompts the user to select among the two options (EDIT/ RUN).

EDIT – RUN
■

User can select the desired mode by making use of **Left** and **Right** (◄/►) arrows provided on key panel. To Edit/Create new program, choose **EDIT** mode and press **ENTER**. The controller asks for the **PASSWORD** for editing program data only for the first time after power ON. One should enter correct password to edit a program.

ENTER PASSWORD
000000

Maximum 499 Programs can be edited by making use of the programming keys one can enter the program number. After entering the program number press **ENTER** key.

PROG TO EDIT: 000

How to SET PASSWORD?

By default, the Password will be "000000", to change the Password follow the below steps.

1. Select EDIT Mode.
2. The Display reads "ENTER PASSWORD"
3. Enter your current "PASSWORD"
4. If user wishes to edit only the program parameters press ENTER and proceed to make changes in Program.
5. If user wishes to CHANGE password, press & hold START button and then press ENTER.
6. The display reads "CHANGE PASSWORD". Make use of up/down arrow (▲/▼) to choose "Yes" and press ENTER.

7. Display reads, "Enter New Password". User can now enter his PASSWORD and press Enter. The new Password will be activated.

8. Description of the Menus:

Note: *In order to move between the digits of the menu use ◄/► keys. In order to Increment/ Decrement the numbers use ▲/▼ keys. In order to move between the Menus use ENTER and STOP keys. To save the data and return to main menu use Start*

PRG: 001 MENU: 01

TOTAL TURNS: 00000.0

MENU 1

Enter the total number of turns that is to be wound and press ENTER when finished. Maximum number of turns that can be entered is 99999.9

Note: If one tries to enter the number of turns as 00000.0 the machines displays an Error message,

PRG: 001 MENU: 01

INVALID DATA!

MENU 2

PRG: 001 MENU: 02

DE ACC TURNS: 000

These are the balance turns where speed starts decreasing. Number of decelerations turns that has to be entered is dependent on different parameters such as Maximum speed of the motor, the Wire gauge & Motor Pulley Ratio One can obtain a correct number of Deceleration turns by trials.

MENU 3

PRG: 001 MENU: 03

WIRE DIA: 0. 000mm

This is the Actual Diameter of the wire being wound.

Note: If one tries to enter the Diameter as 0.000mm the machine outputs an error message,

PRG: 001 MENU: 03

INVALID DATA!

MENU 4

PRG: 001 MENU: 04

BOBBIN WIDTH: 000.0

Enter the inner width of the bobbin, which has to be occupied by the wire. Maximum width that can be specified is 999.9 mm.

Note: If one tries to enter the width as 000.0 mm the machine outputs an error message

PRG: 001 MENU: 04

INVALID DATA!

MENU 5

PRG: 001	MENU: 05
TRAVERSE START: 000.0	

The traverse start is an artificial home where the actual winding starts. This specifies the distance between Original traverse home to the first wall of the bobbin being wound (First wall is that wall which is encountered first if one moves from the home position)

Note:

PRG: 001	MENU: 05
INVALID DATA!	

If one tries to enter the traverse start value, which will make the total traverse distance, added with bobbin width, more than 999.9mm, the machine outputs an error message

MENU 6

PRG: 001	MENU: 06
WIND-START FROM: LEFT	

This specifies the starting point of the traverse on the bobbin section. With a LFT (Left) start the traverse will position to the left of the bobbin section before the winding starts. With a RGT (Right) Start traverse is positioned to right of the Bobbin. The desired Start can be selected using **UP/DOWN** Keys.

MENU 7

PRG: 001	MENU: 07
WIND DIRECTION: CW/CCW	

This specifies the direction of rotation of motor during winding. The direction is specified either as CW or CCW. the suitable option can be selected using UP / Down arrow.

MENU 8

PRG: 001	MENU: 08
WIND SPEED: 00 %	

This specifies the maximum speed at which the bobbin is to be wound with wire. The Speed is specified in terms of % of Maximum Speed of the DC Motor can attain. Maximum Speed is 99%, it corresponds to maximum speed of the winding spindle according to the belt size. Minimum Speed is 0%, It corresponds to Minimum Speed of the winding spindle.

MENU 9

PRG: 001	MENU: 09
JOG SPEED: 00 %	

This specifies the constant speed at which the bobbin is to be wound with wire when selected online with the JOG switch. The Speed is specified in terms of % of Maximum Speed of the DC Motor can attain. Maximum Speed is 99%, it corresponds to maximum speed of the winding spindle according to the belt size. Minimum Speed is 0%, It corresponds to Minimum Speed of the winding spindle.

MENU 10

PRG: 001	MENU: 10
TAP [01]: 00000.0	

This option allows user to stop in between winding to have tapping. A maximum of 8 tapings can be set for a particular winding. The Display reads TAP [XX] where the XX indicates the TAP No. The user can allocate particular number of turns for each tapping. Spindle stops after specified No of turns and facilitates user to take out tapping.

MENU 11

PRG: 001	MENU: 11
DEACC WDTH: 0.0mm	

This specifies the [illegible]ich spindle starts deceleration for layer stop if layer stop switch is ON. If the value is entered as 0.0mm, machine will save the default value 3.0mm.

MENU 12

PRG: 001	MENU: 12
SPEED BRAKE: 0.0	

This specifies the part of the last turn at which the brake is applied before stopping.

MENU 13

PRG: 001	MENU: 13
NEXT PROG: 000	

This specifies the next program that has to follow after the completion of this program. User can enter any program number ranging from 1 to 499. If the next program is entered as 000, then the current program will be the last program of a winding and a production will be completed after completion of the winding.

MENU 14

PRG: 001	MENU: 14
AUTO START: NO	

If selected as YES, the next program will be started automatically otherwise it will wait for the user to press START key.

MENU 15

PRG: 001	MENU: 15
TRAVERSE LOCK: NO	

If selected as YES, the traverse will stop after the end of a winding and not get reset to the initial position of the winding otherwise traverse will get reset automatically.

MENU 16

PRG: 001	MENU: 16
OL DATA CHNG: YES	

To disable the online data changes like SPEED, WIRE DIA and TRAV START, select this option as NO.

Automatic Power Fail Detection:

The user may come across problems such as sudden power failure during winding cycles. This leads to incomplete winding cycle and in turn affects production. Automatic Power Fail detection option makes easy for user to handle such situations. Upon sudden power failure during the winding cycle (Run Mode), the winding turns will be saved. Again when the power resumes the controller will recall the saved number of turns and become ready to start the winding from same turns and position.

Here TURNS correspond to the completed number of turns prior to power failure. Now user can press START key to continue the winding without any change in its old status. If ENTER key is pressed the last run program will be initialized.

How to RUN (EXECUTE) a Program?

As soon as the machine is powered **ON,** the machine recalls (& loads) the program number, which was executed prior to switching **OFF** the machine. The machine displays the parameters shown below and waits for the command from the user,

```
PRG:000   L:000   <<<
    TURNS: 00000.0
```

If it is required to run the same program being displayed, press **START** key. If it is required to run a different program, press **ENTER**. The machine displays the MAIN MENU.

```
EDIT                    RUN
■
```

Select RUN Mode using cursor & Press **ENTER** at this point. Then enter the program number in the following display.

```
PROG TO RUN: 000
```

The entered program number will be initialized and the following display will appear.

```
PRG:000   L:000   <<<
    TURNS: 00000.0
```

Now press START Switch to do the winding.

Some Important Online Features:

Press ▲/▼ Keys to change speed of the machine Keys to change speed of the machine. The speed will be updated immediately and saved in the current program after pause or end of the program.

Press DIA key to change the wire diameter when the machine is in pause condition.

Corresponding LED glows while changing the wire diameter.

Press JOG key to Enable/Disable the JOG SPEED. Corresponding LED indicates the status of JOG SPEED.

Press LAYER key to Enable/Disable the LAYER STOP after each layer of winding. Corresponding LED indicates the status of LAYER STOP.

Press BRAKE key to Enable/Disable the BRAKE during the pause, layer stop, taping or after end of the winding. Corresponding LED indicates the status of BRAKE.

Note:

Fine/Coarse adjustments in the Traverse starting position can be done by pressing the▲/▼ key or ◄/►key when the machine is in stop condition. Pressing the ▲ key the traverse moves outwards at a faster rate and pressing ▼ key moves the traverse inwards at faster rate. At any moment the position of the traverse is displayed on the **LCD** display. The ◄/► keys are used for fine adjustments. The traverse moves slowly upon pressing these keys. ►key moves traverse outwards while ◄ key moves traverse inwards. The new traverse starting position gets updated automatically into the program once the **START** key is pressed.

Note: If the selected program does not contain any valid data the machine displays the error message,

NO DATA IN PROG…

Press **ENTER** key to go back and select a valid Program Number.

How to Erase the Memory:

If user wishes to Erase the previously Edited / Run Programs, he can do so by following these steps:

1. First Switch off the Machine.
2. Press & Hold Down the **RESET** Key.
3. Now Switch **ON** the Machine.
4. The Display Panel Reads "**RESET MEMORY: NO** ". By default, this Option is set to " **NO**". Select "**YES**" and Press **ENTER.**
5. You can notice the Progress Bar in the Display Panel. Once the Erasing is over, the display shows the MAIN MENU, and user can continue Creating/Editing New Programs as before.

How to get the Production Count?

Number of coils that are wound in a program can be viewed only after the initialization of the program and before the start of winding. In order to get the production count, press the STOP key. The production count will be displayed in place of the turns display, pressing the same key again the display will show the turns again.

How to reset the Production Count?

PRG: 001
PRODUCTION:000

If user wishes to Erase the PRODUCTION COUNT of a Program, he can do so by following these steps:

1. Press & Hold Down the **RESET** Key after the program is initialized.
2. The Display Panel Reads "**RESET PROD: NO** ". By default, this option is set to "**NO**". Select "**YES**" and Press **ENTER.**

How to view the Speed of winding in RPM?

During the winding the speed of winding can be viewed on the display by pressing START key. Upon pressing START key the display changes to

PRG:000 L:000 <<<
RPM: 0000

The display continues to display the RPM of winding until the START key is kept pressed. Upon releasing the key the display reverts back to TURNS display.

Special operations during Pause condition

User can move the spindle CW or CCW if required in pause condition by pressing Up or Down switch. It can be stopped by leaving the switch.

User can set the traverse position within the bobbin width if required in pause condition by pressing Left/Right switch. Winding will be started from the last set position.

User can change the traverse direction at any position by pressing and holding the Stop key for 2 seconds. The current direction is displayed in the display always

	MENU	EXAMPLES			
	PROG TO EDIT				
1	TURNS				
2	DEAC TURNS				
3	WIRE DIA				
4	BOB WIDTH				
5	TRAV START				
6	START FROM				
7	WIND DIR CW/CCW				
8	MAX SPEED				
9	JOG SPEED				
10	TAP				
11	DEACC WIDTH				
12	SPEED BRAKE				
13	NEXT PROG				
14	AUTO START				
15	TRAV LOCK				
16	OL DATA CHNG				

PARAMETERS AND SETTINGS

All Type of CNC Linear Coil Winding Machines