

Powering On the CNC

This manual describes the ANILAM 6500M Manual Panel, P/N 34000705, and Remote Handwheel RM600, P/N 34000860, devices.

NOTE: When you power On the Computer Numerical Control (CNC), ensure that the **E-STOP** switch is in the in (Stop) position.

To power On the CNC:

1. Turn on the CNC according to the builder's instructions. When the power switch is turned on, the CNC completely resets.
2. Turn the power switch ON. The startup screen activates and prompts you to **Press F10 to continue**.
3. Press (**F10**). The CNC displays the Software Options menu.
4. Highlight **1. CNC Control** and press **ENTER** to activate Manual Mode.

Shutting Down the CNC

1. Press **E-STOP** to disengage the servos and revert to Manual Mode.
2. Press **EXIT (SHIFT+ F10)** to display the Software Options menu.
3. Follow the builder's instructions for turning off the CNC.

Emergency Stop

Press Emergency Stop (**E-STOP**) to take all axes and spindle servos off-line. This ends all machine movement.

To reset **E-STOP**, pull out and turn the rotary switch clockwise in the direction of the arrows. The switch makes a clicking sound when it resets.

Resetting **E-STOP** does not automatically reactivate the servos. The servos must be reset to move the machine. Press **SERVO RESET** to reset the servos.

Activating/Resetting the Servos

For safety reasons, the CNC powers up with the servomotors disengaged. While the servos are off, the CNC cannot move the machine. When the servos are disengaged, the CNC displays the message **SERVO OFF!** The servos are also disengaged when you press **E-STOP**, or if the machine attempts to travel beyond a limit switch.

Reset the servos as follows:

1. If a limit switch disengaged the servos, manually reposition the machine inside its normal range of travel.

2. Press **E-STOP** to display **MESSAGE: E-STOP IN-SERVO OFF!**
3. Rotate the **E-STOP** switch in the direction of the arrows to reset it. The **E-STOP** switch makes a clicking sound when it resets.
4. Press **O.T. RELEASE** to override machine limit switch if machine reached the hardware limit switch.
5. Press **SERVO RESET** to display **MESSAGE: SERVO DELAY, PLEASE WAIT...** while the CNC resets the servos. The message disappears when the servos reset.

Manual Panel and Remote Handwheel RM600

Use the keys on the manual panel and Remote Handwheel RM600 to move the machine manually. Refer to [Figure 1, Manual Panel, P/N 34000705](#) and [Figure 2, Remote Handwheel RM600, P/N 34000860](#).

Manual Panel Connections

Refer to **Table 1**, [Table 2, Manual Panel Connection, HA Pin-out](#), [Table 3, Manual Panel Connection, X23 Pin-out](#), and [Table 4, Manual Panel Connection, IO Pin-out](#) for Manual Panel connection pin-outs. Refer to [Figure 1, Manual Panel, P/N 34000705](#).

Table 1, Manual Panel Connection, X46 Pin-out

Pin	Description
1	SPDL FWD – PB
2	SPDL OFF – PB
3	SPDL REV – PB
4	SVO REST – PB
5	JOG (–) – PB
6	JOG (+) – PB
7	HOLD – PB
8	START – PB
9	AXIS SW/1 (NO2)
10	AXIS SW/2 (NO4)
11	AXIS SW/3 (NO6)
12	JOG FEED SW/1 (NO2)
13	JOG FEED SW/2 (NO4)
14	JOG FEED SW/3 (NO6)
15	JOG FEED SW/5 (NO3)
16	H** SW/1 (NO2)
17	H** SW/2 (NO4)
18	H** SW/3 (NO6)

(Continued...)

Table 1, Manual Panel Connection, X46 Pin-out (Continued)

Pin	Description
19	SP FEED SW/1 (NO2)
20	SP FEED SW/2 (NO4)
21	SP FEED SW/3 (NO6)
22	SP FEED SW/5 (NO3)
23	COOL1 –PB
24	COOL2 –PB
25	LIGHT – PB
26	CYCLE LED (L)
27	HOLD LED (L)
28	LUBE LED (L)
29	ALARM LED (L)
30	M02 LED (L)
31	SPDL FWD – LED (L)
32	SPDL REV – LED (L)
33	SPDL OFF – LED (L)
34	0V
35	0V
36	24V
37	24V

Table 2, Manual Panel Connection, HA Pin-out

Pin	Description
1	SPDL FWD – PB
2	SPDL OFF – PB
3	SPDL REV – PB
4	SVO REST – PB
5	JOG (–) – PB
6	EMG2 – PB
7	EMG2 – PB
8	INPUT COM 24V
9	HANDLE – LED (0V)
10	AXIS SW/1 (NO2)
11	AXIS SW/2 (NO4)
12	AXIS SW/3 (NO6)
13	H** SW/1 (NO2)
14	H** SW/2 (NO4)

(Continued...)

Table 2, Manual Panel Connection, HA Pin-out (Continued)

Pin	Description
15	H** SW/3 (NO6)
16	SPDL FWD – LED (L)
17	SPDL REV – LED (L)
18	SPDL OFF – LED (L)
19	SPDL LED COM (H)
20	H0V
21	H12V
22	DTR
23	TXD
24	RXD
25	DSR

Table 3, Manual Panel Connection, X23 Pin-out

Pin	Description
1	NC
2	H0V
3	NC
4	H12V
5	NC
6	DTR
7	TXD
8	RXD
9	DSR

Table 4, Manual Panel Connection, IO Pin-out

Pin	Description
1	F1
2	F2
3	CHIP FOR
4	CHIP STOP
5	CHIP BACK
6	MAG CCW
7	ARM SBK
8	MAG CW
9	F1
10	F2

(Continued...)

Table 4, Manual Panel Connection, IO Pin-out (Continued)

Pin	Description
11	LIGHT
12	CHIP FOR (SRC)
13	CHIP STOP (SRC)
14	CHIP BACK (SRC)
15	COOL1 (SRC)
16	COOL2 (SRC)
17	SVO RESET (SRC)
18	MAG CCW (SRC)
19	ARM SBK (SRC)
20	MAG CW (SRC)
21	SVO RESET
22	SVO RESET
23	Z L.S
24	OT
25	EMG2 & OT

Remote Handwheel RM600 Connector

Refer to **Table 5** for Remote Handwheel RM600 mating connector pin-out. Refer to [Figure 2, Remote Handwheel RM600, P/N 34000860](#).

Table 5, Remote Handwheel RM600 Mating Connector Pin-out

Pin	Description
1	SPDL FWD – PB
2	SPDL OFF – PB
3	SPDL REV – PB
4	SVO REST – PB
5	JOG (–) – PB
6	EMG2 – PB
7	EMG2 – PB
8	INPUT COM 24V
9	HANDLE – LED (OV)
10	AXIS SW/1 (NO2)
11	AXIS SW/2 (NO4)
12	AXIS SW/3 (NO6)
13	H** SW/1 (NO2)

Pin	Description
14	H** SW/2 (NO4)
15	H** SW/3 (NO6)
16	SPDL FWD – LED (L)
17	SPDL REV – LED (L)
18	SPDL OFF – LED (L)
19	SPDL LED COM (H)
20	H0V
21	H12V
22	DTR
23	TXD
24	RXD
25	DSR
26	NC

(Continued on adjacent table)

GENERAL NOTES
1. ALL DIMENSIONS ARE IN INCH [MM].

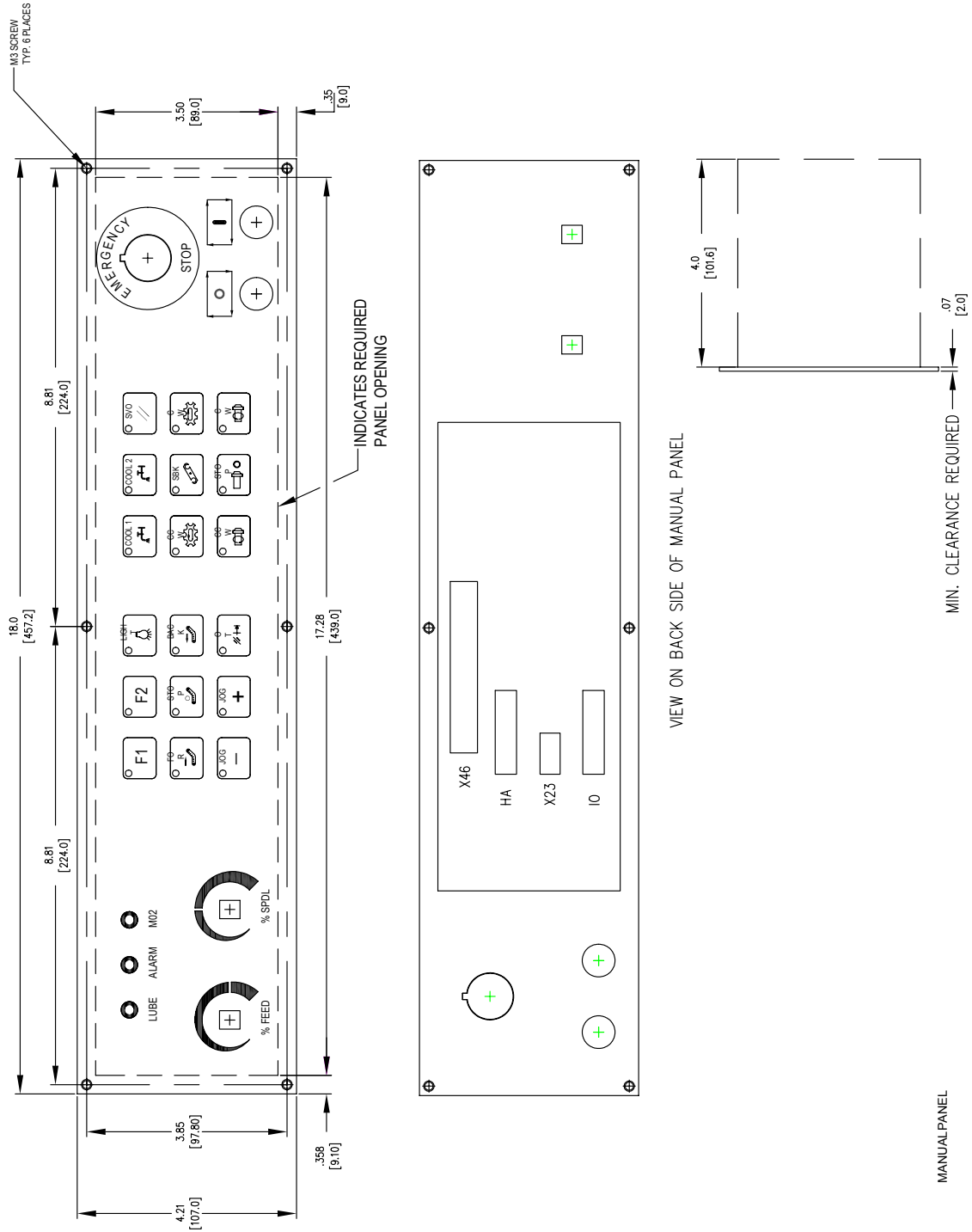


Figure 1, Manual Panel, P/N 3400705

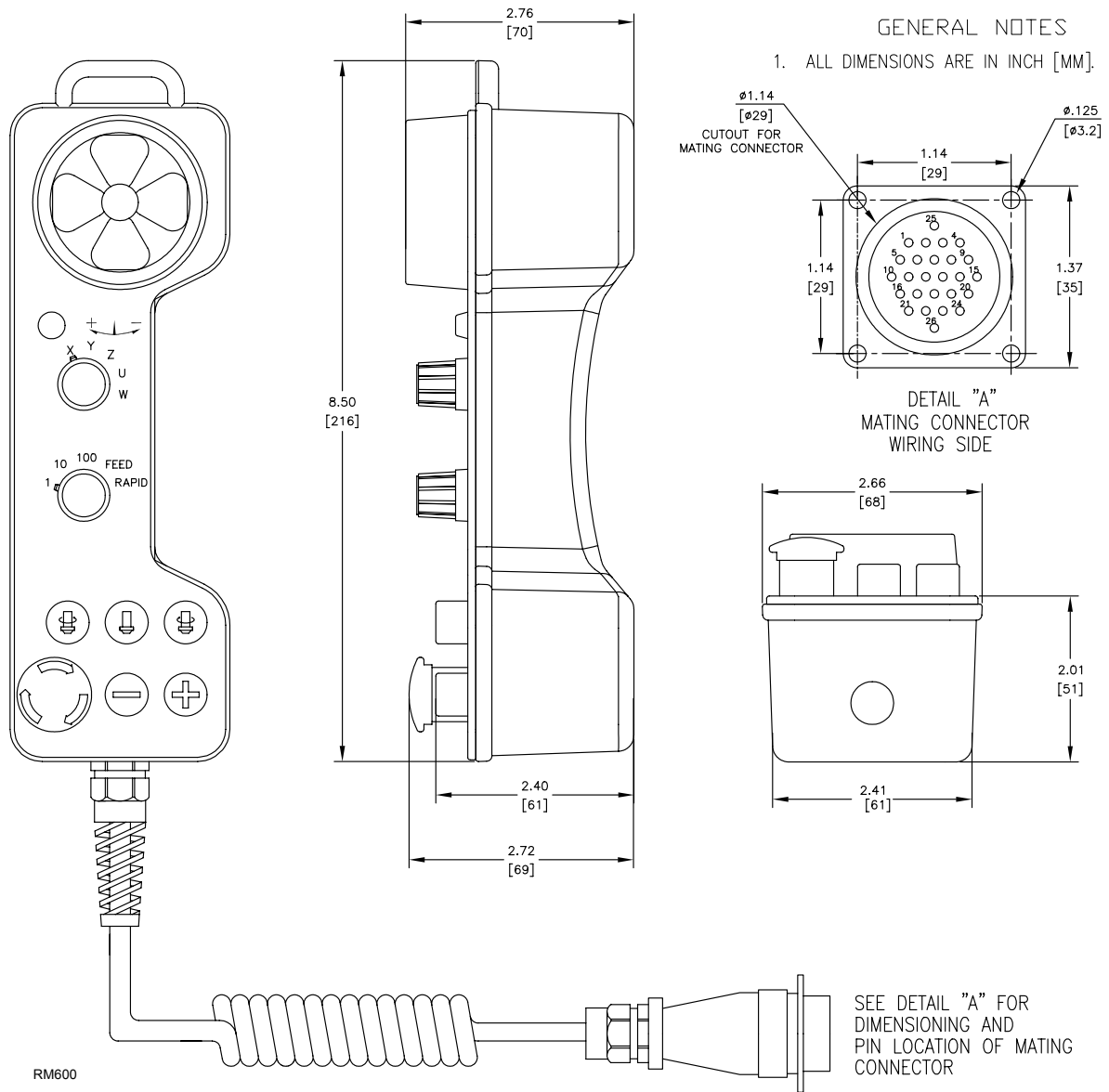







Figure 2, Remote Handwheel RM600, P/N 34000860

Manual Panel and Remote Handwheel RM600 Keys

Manual Panel and Remote Handwheel RM600 keys allow you to control machine movements manually. These keys are located on the Manual Panel and the Remote Handwheel RM600. Each key on the Manual Panel has a Light Emitting Diode (LED) to indicate the function status. LED lighted indicates that function is active. Refer to **Table 6**.

Table 6, Manual Operation Keys

Label/Name	Key Face 34000705 & 34000860	Purpose
E-STOP Emergency Stop		Press E-STOP to halt all axes and machine-related functions. When you activate E-STOP , the servomotors and any programming operations shut down. The CNC defaults to Manual Mode. Use E-STOP for emergency shutdown or intentional servo shutdown.
START	 Green	Starts all machine moves except jog.
HOLD	 Red	Halts any running program or programmed move. Press START to continue.
FEEDRATE OVERRIDE		Overrides the feed and/or rapid rate of the axes in Manual, Auto, and Single Step modes. It is a 13-position rotary switch, which ranges from 0 to 120 percent. (Each increment adjusts the feedback override by 10%). NOTE: The override range for rapid rate is 100%. The CNC will not exceed the maximum rapid rate.
SPINDLE OVERRIDE		Overrides the programmed spindle RPM rate. It is a 13-position rotary switch that ranges from 40 to 160 percent. (Each increment adjusts the spindle override by 10%.) This feature can be used only on machines with programmable spindles.

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Table 6, Manual Operation Keys (Continued)

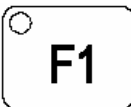
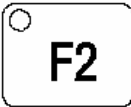
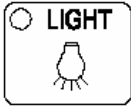
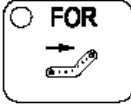
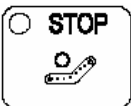
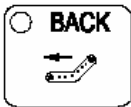


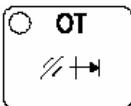
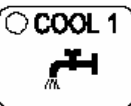
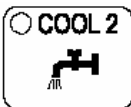
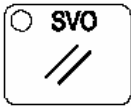
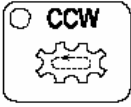

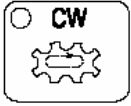

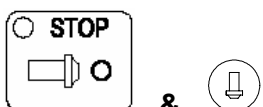
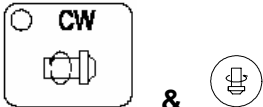

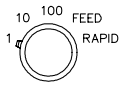
Label/Name	Key Face 34000705 & 34000860	Purpose
F1 Option 1		Refer to machine tool operation manual.
F2 Option 2		Refer to machine tool operation manual.
WORK LIGHT		Light on / off when button pressed
CONVEYOR FORWARD		Starts the conveyor in a forward direction to send chip out. NOTE: It will keep conveyor forward direction.
CONVEYOR OFF		Stops the conveyor.
CONVEYOR REVERSE		Starts the conveyor in a reverse direction when pressed. NOTE: Active only when pressed.
JOG -		Moves the selected axis in a negative direction. Available in all modes. The machine builder specifies Feedrate.
JOG +		Moves the selected axis in a positive direction. Available in all modes. The machine builder specifies Feedrate.
O.T. RELEASE		Hardware over travel limit override. Press to jog axis off limit switch.
COOLANT1		Coolant1 turned on via M8 or manual push button pressed
COOLANT2		Refer to machine operation manual for details.




Table 6, Manual Operation Keys (Continued)

Label/Name	Key Face 34000705 & 34000860	Purpose
SERVO RESET		Activates the servo motors.
CAROUSEL CCW		Carousel CCW once per pressed in Manual Mode. For auto tool change machine only.
ARM SINGLE STEP		For Arm type machine only. For trouble shooting of tool change
CAROUSEL CW		Carousel CW once per pressed in manual mode. For auto tool change machine only.
SPINDLE CCW		Starts the spindle in a reverse direction. NOTE: On some machines, you must provide gear range and RPM before you activate this key.
SPINDLE OFF		Stops the spindle.
SPINDLE CW		Starts the spindle in a forward direction. NOTE: On some machines, you must provide the gear range and RPM before you activate this key.
AXIS SELECT		In Manual Mode, selects the axis to be jogged.
JOG		Cycles the CNC through manual movement modes (RAPID, FEED, 100, 10, 1). The machine builder sets Default rapid and feed rates at setup. NOTE: The machine builder determines the actual speed of the machine during a move.

Manual Panel LEDs

The three LEDs on the Manual Panel are described in **Table 7**.

Table 7, Manual Panel LEDs

Label/Name	LED Face	Purpose
Lube alarm	 LUBE	Lubrication alarm
All alarm	 ALARM	All alarm
Program end	 M02	Program end