

INFOMATE

Introduction

Welcome to the 12th issue of our newsletter. The newsletter is used to send product and information updates to our customers on a regular basis.

New Machine Tool Builder's Panels

MACHINEMATE, INC has announced two new models of machine tool builder's panels (MTBP). With the release of a two-piece operator panel in 2002, an appropriately sized MTBP is now available with the same width (11.4"). Pictured below left, this new MTBP offers the common operator switches, just like the current 19" rack mount MTBP (shown below right, for reference). These common switches are emergency stop, machine start, cycle start, cycle stop, feed rate override, spindle speed override, jog plus and jog minus. This new narrower (but taller) model comes with ten programmable low-profile push buttons (each with a programmable LED). **MACHINEMATE**, INC can have these low-profile push buttons (used on several different operator panels) custom engraved at a nominal charge. Both models have the same shallow depth. The list price for this new slim line MTBP is \$755.



Another new MTBP model is also available for the 19" rack mount configuration. This new panel, called the Auxiliary panel (shown below), has 16 programmable low-profile push buttons (each with a programmable LED). The panel also comes with a handwheel in either a 5V encoder style or a 24V-logic input style. This new panel has the same physical size as the 19" MTBP. It also has the same 50-pin D-shell connector and together the two panels provide the integrator with a total of 22 programmable push buttons. The list price for this Auxiliary panel is \$575.



New Operator Panel Configuration

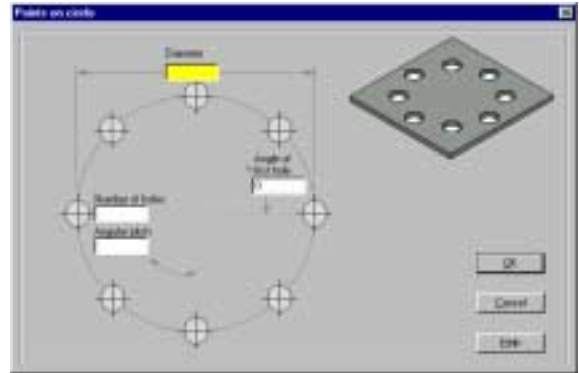
MACHINEMATE, INC has announced a new front panel configuration for the L2 and eCNC models. This 19" rack mount panel has a 15" color TFT display with a touch screen. This panel (pictured to the right) has the same size and hole positions as the current 19" rack mount panel and it has the same shallow 2" depth for convenient operator pendant design. This panel uses the same VGA cable as the other panels, so the IPC can be remotely mounted up to 30-feet away.



With the large display there is no operator keypad on the front panel (unlike the other **MACHINEMATE**[®] operator panels). Instead a complete virtual keyboard is provided from Windows for any alphanumeric entries. The integrator also has two other options for the alphanumeric entry by the operator: a separate PC keyboard to be used only for those data entry activities (such as part program editing) or the operator keypad half of the two-piece operator panel (which is 11.4" wide, not 19" wide like this front panel). The touch screen uses the PC's PS/2 mouse port (with an adapter in the cable for a PS/2 mouse input also) and the COM1 port so a serial (COM1) or USB mouse cannot be used at the same time with this touch screen.

New Offering – CAM Software Packages from Cadem

To complement the Conversational Synergy package (from Weber Systems, in Wisconsin) that we already offer, we can also provide the Cadem CAM packages: CAPSmill (for milling applications) and CAPSturn (for turning applications). Cadem is a CAD/CAM vendor based in India, with distribution also here in the US. Check their home page, <http://www.cadem.com>, for more information about the company and products. The Cadem CAM packages are a little easier to use than the Conversational Synergy CAM packages, as dialogs with illustrations (an example is to the right) are provided for data entry rather than a single line prompt with separate help text, but are also more expensive. The list price for either package from Cadem (via **MACHINEMATE**, INC) is \$2000.



MACHINEMATE users can use a number of other standard Windows-based CAM packages as post processor configurations are already available or they can be added.

New Offering – Linear Encoder Feedback Systems

MACHINEMATE, INC has announced a line of linear encoder feedback systems. These systems have an IP67 environmental rating (completely sealed) so they continue to provide accurate and reliable readings even when completely immersed in water, oil or coolant. This feedback system is able to handle more rugged environments than Inductosyn scales and most linear encoder feedback systems. The ease of installation is an added benefit since it does not require a machined surface for mounting.



The scale is either a stainless steel or a (smaller) carbon-fiber tube that contains a column of high-precision, nickel-chrome ball bearings. The reader head contains a series of coil assemblies along with the supporting electronics. An electromagnetic field is generated to interact with the balls within the scale. A set of pickup coils detect the variations in the induced field which are then processed to generate the incremental encoder TTL output signals. This is a rugged system, having a shock resistance to 100g and a vibration resistance to 30g. These are 10 times the ratings available with common glass scale technologies. The resolution for the smaller scale can be down to 0.2microns while the other's resolution can be down to 0.5microns.

These encoder systems are priced based on their length. The scale length of the smaller system ranges up to almost 4-feet while the larger system ranges to over 38-feet.

This feedback system is applicable to some control retrofits (in addition to new applications requiring this rugged linear feedback technology). Where the old machine used linear Inductosyn scales, the retrofitter previously was limited in alternatives in providing encoder feedback to the CNC: either add an Inductosyn feedback to encoder feedback interface conversion assembly for each axis (which tends to be rather expensive, while keeping the old hardware intact) or replace the Inductosyn scales with encoders on the motors (which moves the feedback system from the physical axis motion to the motor, behind any gear box and/or ball screw introducing the mechanical inaccuracies in the feedback system, requiring compensation). This system remains attached to the axis motion and provides the required encoder feedback.

VMC, lathe and other machines with short travels of approximately 7-feet or less will have both a price and ruggedness benefit over the signal conversion assemblies for an Inductosyn scale input to encoder output.

Added Functionality in New CNC Software Release

Several new features have been added to the most recent release of our CNC software. The significant changes in release 2.0 (Spring 2003) include:

- New optional electronic gear box feature (also called a gear hobber).
- New optional angled wheel transformation (for such grinding applications).
- New letter for thread cutting feature has been added – for a programmable start angle.
- New browser-based operator interface for the Windows 2000 (L2 and eCNC) models (shown in the display at the right).

This new HMI (called the HMI, for human machine interface, to help distinguish this innovative approach from the previous operator interface, the MMI, for man machine interface), is accomplished using html scripts with C or Java applets for the data handling and gif files for the icon presentations. This is the first (patented) browser-based CNC operator interface on the market. This HMI has a better 'look' than the previous operator interface and it also has a defined standard technology for its customization.



- New HMI NC program editor offers many features, including NC syntax highlighting and checking, find and replace actions, etc., making the changing of part programs easier when at the control.
- New HMI CNC table editor is provided, making the table data entry process easier.

The new table editor allows the operator to manipulate the CNC table as a table (supporting convenient cursor movements like up/down/left/right/page up/page down) whereas the previous MMI editor was just a line editor. The standard CNC tables are the D-table with tool radius or diameter compensations, the H-table with tool length compensations, the Tool table (with tool life management), the zero offsets table (for G54 to G59) and the cycle parameters (for macro and cycle programming).

- New PLC interface functions allow the PLC to directly access the SERCOS ring, including the drives on the ring (enabling read/write of SERCOS drive parameters from the PLC application).
- Additional PLC interface signals are provided (including more CNC inputs enabling PLC to execute features and functions previously available only via the operator interface and more CNC outputs enabling the PLC to monitor certain operator selections).

New Brochure

Enclosed with the mailed copy of this newsletter is a copy of our new color four-panel product brochure. The brochure is also available from our web site (<http://www.machinemate.com/fourpanelbrochure.htm>). The brochure summarizes our company and our main products. The back of the brochure provides a box for the printing of a VAC's contact information.

Class Schedule for 2003

The 2003 class schedule is available on our web site (www.machinemate.com/classschedule.htm). The classes will occur every even month. That is the initial class schedule at the beginning of each year, but there is scheduling flexibility since the previous levels of interest have resulted in additional classes in past summers. We have already added an extra class in March.

Conclusion

If you do not want to receive this newsletter, please tell us with a phone call or just respond with an e-mail with 'unsubscribe' in the subject line. If you received a printed issue and you wish to receive it via e-mail, please tell us that by an e-mail to us at info@machinemate.com or call us at 920-907-0001.

Our web site www.machinemate.com has a wealth of information about our products and applications; a link can be provided to our customers for the complete manual set. A number of **MACHINE**MATE control retrofit articles are now available. Please periodically check the site for news.

Thank you,

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