MITSUBISHI M830
HIGH-PERFORMANCE CNC CONTROL
15" LCD SCREEN WITH FULL COLOR GRAPHCS
"World's Fastest and Most Powerful CNC Control!"

270,000 Block Per Minute Block Processing Speed

2,700 Block Look-Ahead

32GB Data Server

Nano Smoothing

# Feature Explanations

SSS (Super Smooth Surface Control)
With CAM software being used for creating tool path for complex parts, SSS solves the problem of creating a smooth tool path from programs that create small straight-line segments. Not only does the NANO SMOOTHING provided by SSS create a better finish by blending the straight lines into smooth lines and curves, but it also reduces cycle time by up to 20% by reducing unneeded acceleration and deceleration time.

Tolerance Control
Tolerance control can be activated within a program or by parameter. This function allows the user to select the deviation amount with a simple parameter change. Set a large value during roughing to reduce the cycle time, and set a smaller value while finishing to get a more accurate cut.

3D Graphics
2D and 3D graphics are standard on all M830 controls. With today's machines producing complex parts it's important to verify the tool path. Finding errors before they occur saves valuable time. With the addition of the touch screen, the operation becomes even easier on the M830 control. Intuitive functions such as pinch to zoom in and out, drag with a single finger, and rotate with two fingers make work more productive.
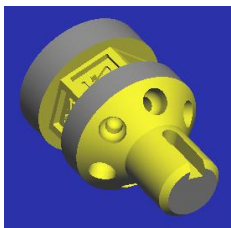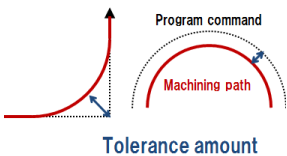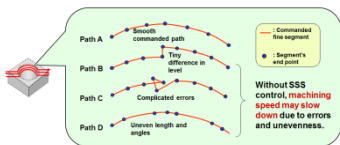
SD and USB Memory Slots and 32GB Data Server

Don't pay for expensive memory upgrades. The M830 control uses the latest SD Memory and USB memory cards. No need to obtain these cards from the builder for hundreds, or even thousands of dollars. A SD or USB memory card can be purchased from your local electronics store. USB and a SD memory card slots are located on the front of the control, and a 32GB Solid-State Data Server is embedded within the control.

USB Running

Programs can run directly from the USB slot or the SD card slot on the front of the control, as well from the 32GB Data Server inside the control. Sub program calls can be made from any device to another device. Programs can be both be edited and created on all devices and no performance lag will result when running from SD or USB memory cards.

High Speed-High Accuracy Mode G05 P20000

With the 64-bit RISC processer and 64-bit fiber optic backplane the M830 is the fastest control in the industry. The M830 control can run programs up to 270,000 blocks per minute, which equates to 4,500 BPS. 2,700 block look-ahead with a 0.2ms block processing time is standard. This function is essential for processing large CAM programs as the control must process using NANO SMOOTHING for efficient point-to-point movement while generating a smooth surface finish without tool hesitation.
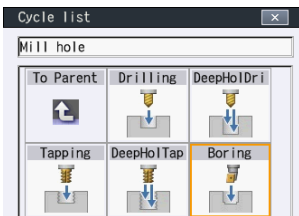
Interactive Cycle Insertion

This icon based programming method lets you choose and customize the cycles and features you want to add to your G-code program. Milling functions such as facing, pocket milling, contouring as well as all of the drill cycles you need are available at the touch of a button.

Touch Screen

With touch screens being introduced into every market imaginable it only makes sense that this technology would be adopted in the CNC Industry as well. Standard on the M830 control, the touch screen features are completely intuitive. Pinch to zoom in and out, scroll through screens, and move pop-up windows on the screen.
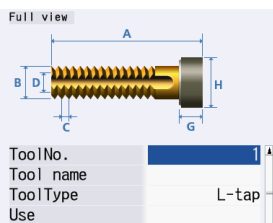
Tool Management

Create custom data for each tool. Displays all data for each tool in one place, including tool shape, offset values, Tool Life data, Tool Specifications. Tool icon is brought up on Monitor Page during each tool change, creating peace of mind for the operator that the right tool data is assigned to the actual tool doing the cutting. This data is migrated over to the Navi conversation programming for use during program development.

Edit 3 Programs

With the 15-inch monitor you can display and edit 3 programs at one time.

- Makes it easy to compare programs side by side.
- Open programs from the Data Server, SD Card, or USB card.
- Saves time switching back and forth between programs.
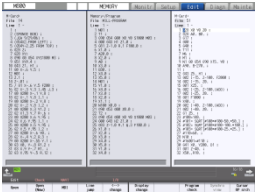
Customized Navigation

The ease of Setup and Navigation can be further enhanced to better suit the operator by arranging the data to be displayed where they want it.

- SoftKeys can be organized freely.
- Position Displays can be organized and changed with a push of a button. Display 1, 2 or 4 position counters and customize each one freely.
- Data such as Variables, Tool Offsets, Work Offsets, etc., can be viewed on the monitor page so you can easily choose the ones you want to see.

G-CODE

G-Code Compatibility

By using industry standard G-Code or EIA programming there will be no need to retrain operators on a new language. All the same familiar G-codes used by the top Control Manufacturers are implemented. Macro programming is standard on all M830 controls and many of the variables are the same as other control builders use.


NC Monitor2

This free software allows any networked machines in a shop to be monitored from a PC in the office. Just open the software, click on the machine, and the CNC screen can be displayed and navigated. Screen changes will not affect the machine, so the operator can continue the current job functions. Access levels can be set by parameter to View and Change Data, View Only, or for No Access.
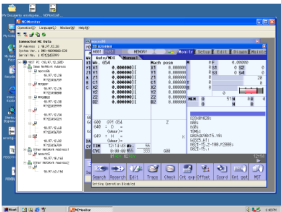

NC Explorer

This free software allows access to the memory on any networked machine. Attached to Windows Explorer, this software will allow you to drag and drop files to the machine memory or SD memory cards just as you would do any other file inside of Windows Explorer.
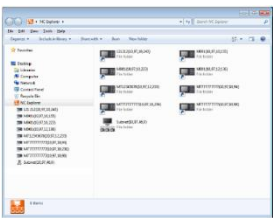
Remote Desktop

Remote desktop connection enables you to operate an external personal computer through the NC screen when UltraVNC server is installed in the PC. Access your CAM software or check your email, the sky is the limit. This function is only available on certain models.
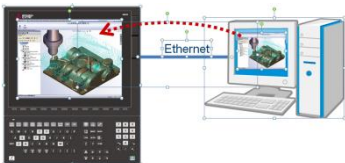
NC Trainer2 Plus

This software mimics the M8 or M7 CNC controls on a PC. You can navigate the control, create programs, change tool offsets, change parameters, run programs, open ladders, and much more. Short of running and actual machine, if it can be done on our CNC it can be done on NC Trainer2 Plus.

Mid-Program Restart

Restarting the program on an M830 CNC can be done in a variety of circumstances. The most common would be after a tool breakage. The control remembers exactly where it left off in the program. Do a simple M/S/T history and the user chooses where to restart. This function also works great after power outages. You can also visually choose a spot in the program to start from by simply tapping the section, then press INPUT.

G-Code Guidance

In the EDIT screen we have given you an easy guide to all the G-Codes. Just type the G-Code desired and a diagram will appear showing you the program format as well as all the variables needed for that code. The control will also tell you if this is a Modal command.
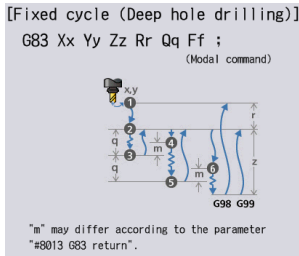
Machining Conditions Selection

This feature provides complete control over the most common parameters related to high-accuracy control and can be configured in advance for each machining application. Up to 9 different conditions can be set. Each condition is activated on the fly within a program by a simple G-code. As an example, set up Stainless Steel for Rough cutting, Medium Fine cutting, and Fine cutting.

Data Protection by User Level

Up to 8 levels of access permission are used to help to keep your data safe. Set different passwords for different users, as well as what data each user can have access to.

Navi Mill

Mitsubishi's Conversational program can make it easier for users that are not used to G-Code programming to create programs. With cycles for Facing, Contouring, Pocketing, Drilling, Pecking, Step-Drilling, Boring. Tapping, Helix cuts. EIA G-Code segments can also be added in to a program. Easy to follow diagrams are provided for each cycle so complex parts can be machined with ease. Easy one-time setup for tools and material selection guides make switching between jobs effortless.
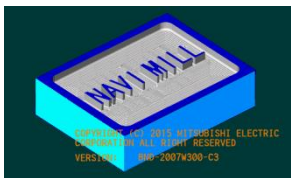
MT Connect

Our industry is moving toward using enterprise systems and looking at data collection to improve efficiencies, quality, and throughput. Mitsubishi is on the forefront of data collection and has adopted MT Connect as a standard control feature. Software adapters for the M830 control can work with the software provider of their choice for creating their dashboard. Mitsubishi will be there to supply the software adapter to collect the data needed to move them to the next level in efficient data collection.

Automation Needs

The M8 control offers connectivity devices for CC-Link (Master/Slave), PROFIBUS-DP (Master), and Ethernet/IP (Scanner) for all your automation needs. Mitsubishi also offers a wide variety of automation products including Robots, PLC's, HMI's, General Purpose Servo's, VFD's to meet your factory automation needs
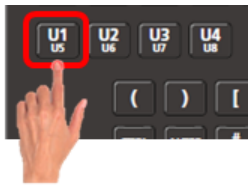
User-defined Keys

Custom user-defined character generation keys are offered as standard on the M830 control. Generally used for programming, the user can define up to 8 different commonly used strings of characters with a single touch of a button improving program efficiency.

Guidance Function

While all manuals can be downloaded for free from Mitsubishi, it's not always easy to find the information you need without doing timely research. Not to worry as the M830 control has much of the same information stored on board. While searching through the parameter data just press the help menu button (?) and a complete description will be provided right there on the control screen. The same function exists to provide an explanation for Mitsubishi generated alarms.

Automatic Power Shut-Down

The advanced circuit-breaker in the machine electrical cabinet will trip to the off position when programmed, after the control signals that the machining is completed.
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