

DSI/Dynamatic promotes the philosophy of Total System Solutions, providing options to cost-effectively upgrade obsolete controls with proven technology.



Figure 1: Dynamatic EC-2000HP Control, enclosure and digital keypad

DSI/Dynamatic offers a highly-reliable Dynamatic® product line of controls, allowing customers the ability to easily upgrade existing Eddy Current or Variable Speed Drive Controls in a wide range of applications, from water/wastewater plants to metal stamping presses.

As well, DSI/Dynamatic produces some of the most reliable variable speed drive units in history, many of which have been in operation with minimal maintenance for multiple decades. It is now possible to retrofit drive systems with new upgraded controls for increased monitoring capabilities is key to extending the use of the drive even further. The Dynamatic® EC-2000 controller supports stop and start push buttons, as well as potentiometers and 0-10V signals for control references. The programmable EC-2000, is carefully designed to be a compatible replacement, regardless of coil voltage or speed feedback format, for any Eddy Current Drive system in operation, regardless of the manufacturer.

While an end user can certainly control the Dynamatic® EC-2000 from its digital keypad, it can also be configured to operate from commonly used pilot devices. The programmable relay outputs give it another level of compatibility within existing systems or ultimately updating them altogether. An outdated controller may have multiple sensors for motor current, clutch current, or speed that have set trip values. Those trip outputs could be sent to additional relays, creating a large and complicated system of relays. The EC-2000 streamlines all of that by including programmable relay outputs (+12VDC logic or dry). Each relay output can be set for a certain speed, when the motor hits a specific load, or even when a load is met on the clutch. End users can also monitor simple status changes, i.e. when the control is stopped, when the control is running, or when it is in a different mode of operation. The EC-2000 can easily be programmed to monitor virtually any relevant parameter, allowing flexibility to the end user to replace antiquated sensor and relay network controllers.

Additionally, the Dynamatic® EC-2000 enables digital or analog integration of Eddy Current Drives with digital process control systems, SCADA systems or PLCs. While the controls contain industry standard features such as 4-20mA control, analog outputs, start/stop control, and status relays, customers have recently requested features such as temperature and vibration sensors on their mechanical unit, interfaced with our control. The flexibility in the EC-2000 keypad enables customizable options for simple and intuitive programming that can interface with the majority of 3rd party products.

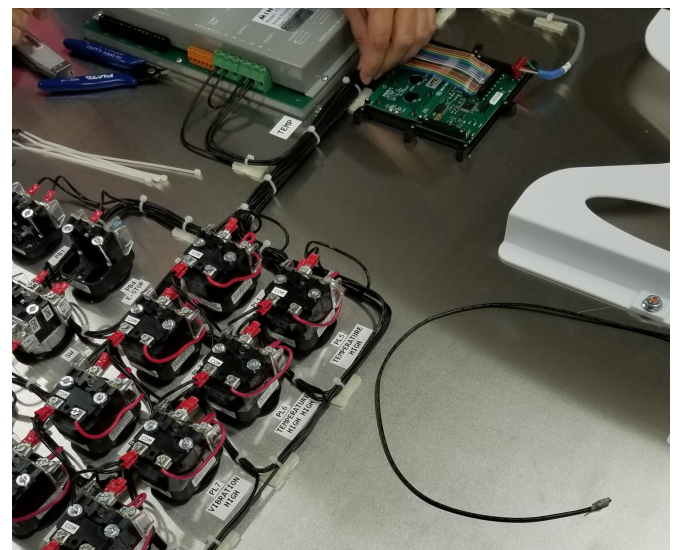


Figure 2: Additional customized sensor design for a EC-2000HP panel

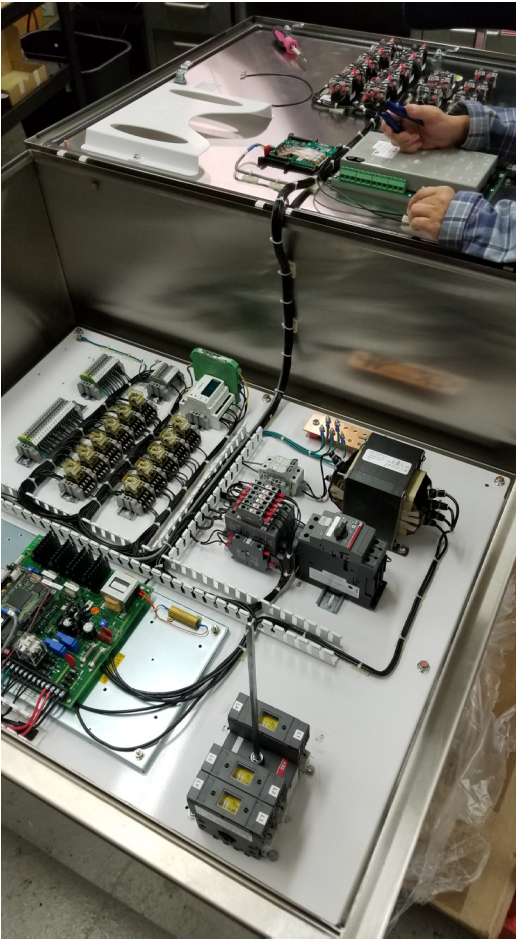


Figure 3: Production of a custom EC-2000HP

Recently, DSI/Dynamic worked on an application with a well-known engineering firm and a large, international end user who required a customized Dynamic® EC-2000 HP controller. The company had a preexisting system which utilized a program on a PLC that could not be cost-effectively changed. They requested the DSI/Dynamic team of engineers to greatly increase the scope of the EC-2000 HP control by applying their existing system to it. While ambitious, DSI/Dynamic designed the system from the ground up, incorporating all custom requirements. The control production team added multiple status contacts, a temperature sensor, vibration sensor, motor starting equipment, external fault shutdowns, and timing relays for precise control. When completed, the controls were mounted in a properly NEMA rated stainless steel enclosure with multiple pilot devices. The custom EC-2000 HP controls were extensively tested in its own personalized simulation program of their end application before being shipped.

Although such extensive customization options are available, most of the applications come in the form of simple additions of enclosures and pilot devices. The Dynamic® control product line comes standard on ready to be mounted panels and in many cases, can be provided in properly NEMA rated enclosures, based on the environmental requirement. These enclosures can then be modified in size to fit almost anywhere. Considerations such as the component requirements, ambient temperature of the room, NEMA requirements, requested enclosure material and available space are evaluated to ensure a proper design to meet all functional requirements. After an enclosure design is conceived, the completed unit goes through a series of

calculations and test procedures to verify that all requirements are being maintained even on the hottest of days or the heaviest of loads.

In addition to the enclosures, DSI/Dynamic provides enclosure-mounted pilot devices such as start and stop buttons, set-point potentiometers, manual/auto switches, and power disconnects. Having an enclosure with pilot devices allows the end user to have streamlined, user-friendly, and safe access to their high-end equipment.

DSI/Dynamic can provide a total system solution that fits every end users. The engineering and production teams work collaboratively with the customer to offer solutions that work best for each specific job scope.

Contact DSI/Dynamic to learn more about these options for updating controls and enhance the proven reliability of Eddy Current technology.



Figure 4 : Completed modified enclosure with customized EC-2000HP Controller