Smart Single Facer Drive

Roll Stand — Single Facer — Overhead Conveyor — Roll Stand — Roll Stand — Single Facer — Overhead Conveyor — Roll Stand — Roll Stand — Triplex Preheater — Gluing Machine
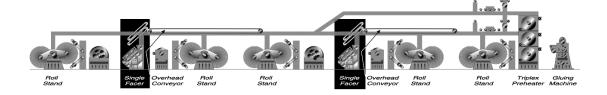
Overview

Unico's Smart Velocity Drive is a digital signal processor (DSP) based variable speed drive with an embedded software block to control a single facer. The program offers a number of programmable features that enable OEMs, integrators, and users to customize the functionality of the software to the application.

Features

Modes of Operation

The embedded software has manual and automatic/run modes of operation. In manual mode, the drive can be jogged in both directions. In automatic/run mode, velocity cruise control is enabled and two parallel inputs are used to increase ordecrease motor velocity. A third input is used to command the drive to return to a previous speed.

Flexibility and Ease of Use

The software allows the user to easily adjust the velocity and acceleration rates as well as to set up and tune the drive. Fault messages and warning indications are provided for the machine operator. An alphanumeric display shows current drive speed, drive state, and drive status. Analog outputs are available to provide other drives or controls with proportional references of drive speed and/or torque. The drive supports UEdit®, Unico's Windows-based IEC 1131 standard ladder-logic and function-block programming package that provides even greater customization and flexibility. The drive is ideal for retrofits, and seamlessly interfaces into existing logic and with other logic controllers.

Smart AC Digital Drives

Unico's 1000 and 2000 drive families provide powerful, flexible digital flux vector control for sophisticated, performance-oriented applications. The drives have been designed for complete flexibility and offer a variety of feedback, programmable I/O, and communication options. They incorporate a number of energy-conserving features, including line regenerative capabilities for exporting energy back to the power grid. Both drive families can take advantage of a modular DC bus configuration for sharing or recirculating energy among multiple drives.

Communications Protocols

The drive supports a variety of serial communication protocols for connecting to virtually any PLC or HMI. The drive can also operate in a stand-alone mode using the built-in keypad/display with an ANSI protocol connection to a simple serial display unit.

• ControlNet	• EtherCAT	• CANopen
• CC-Link	• Profibus	• DeviceNet
• Ethernet	• ProfiNet	• Modbus RTU

Automatic Splice Control Option

An automatic splice control option permits splicing at speeds up to 1400 FPM (425 MPM). Additional drives, motors, and Unico's 4000 Series controller are required. Since mechanical modifications are necessary, the option may not be available on some older machines.

Inputs & Outputs

All inputs and outputs are user-enabled and are mapped to hardware I/O points to allow customization of the control. They are also accessible through a high speed serial communication link.

Inputs
- motor on request
- fault reset
- motion enable
- automatic/run mode
- jog forward
- jog reverse
- increase speed/accel
- decrease speed/decel
- resume speed
- velocity select 0
- velocity select 1
- velocity select 2
- velocity select 3
- tracking start
- blower motor OK

Outputs
- motor on grant
- no fault
- forward motion
- reverse motion
- automatic
- manual
- at zero velocity
- at requested velocity
- at max velocity
- no warning
- motor RMS warning
- thermal warning
- tracking preset

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Unico is a leading global innovator of motion-control solutions for industry. Founded in 1967, the company develops, manufactures, and services variable-speed drives, application-engineered drive products, integrated drive systems, and ancillary products that improve operations by increasing productivity, safety, and equipment life while lowering energy and maintenance costs.