CAN *Newsletter Online*

SERVO DRIVE

One or two axis

The Accelnet Plus amplifier and servo drives are available in a one- or two-axis version and as a panel or a module. All versions communicate via CANopen.

COPLEY CONTROLS (US) ACCELNET AMPLIFIER is the smaller brother of the Xenus drive and is also a digital servo drive developed for the use with DC supplies. It is

(Photo: Copley Controls)

dedicated as a replacement of analog DC-drives in central control designs. The drives have a default CAN interface, which allows them to be used in automation concepts.

The comoany says, Accelnet Plus is the high-end version of the Accelnet controllers with an enhanced current resolution, more inputs and outputs, and more feedback options. These feedback options include Halls, AquadB encoder, sine encoder, resolver, absolute encoders and additional fieldbus systems: CANopen, Ethercat, and Macro.

The drive is available as a dual axis version, both the panel and the module. Operating from 14 V_{DC} to 90 V_{DC}, the high power density modules are offered in three continuous current ratings for brushless motor control (3 A, 7 A, 15 A) with peak current capability up to 30 A. The drive's dimensions are 77 mm x 59 mm x 20 mm and 114 mm x 73 mm x 20 mm.

Dual axis panel version

The Accelnet Plus BP2 is a DC-powered drive for position, velocity, and torque control of brushless and brush motors via CANopen. Drive commissioning is possible using Cme2 software operating under Windows and communicating with the drive via EIA-232. The drive operates as a CANopen CiA 402 node. Supported modes include: profile position-velocity-torque, interpolated position mode (PVT), and homing.

Feedback from both incremental and absolute encoders is supported. A multi-mode encoder port functions as an input or output depending on the drive's basic setup. As an input it takes feedback from a secondary encoder to create a dual-loop position control system or as a master encoder for driving a cam table. As an output, it buffers the digital encoder signals from the motor's digital encoder and eliminates split cables that would be needed to send the signals to both drive and control system.

There are ten non-isolated inputs. Eight opto-isolated digital inputs are bipolar types that source or sink current into a common connection that can be tied to ground or +24 V. The other inputs are programmable. All inputs have programmable active levels. Five opto-isolated outputs have individual collector/emitter connections. Two Mosfet outputs are programmable to drive motor brakes or other functions.

The drive power is transformer-isolated DC from regulated or unregulated power supplies. An Auxhv input is provided for "keep-alive" operation permitting the drive power stage to be completely powered down without losing position information, or communication with the control system.

Dual axis module

Accelnet Plus AP2 is a DC-powered servo drive for position, velocity, and torque control of brushless and brush motors. Using FPGA technology, the drive provides a reduction in the cost per node in multi-axis CANopen systems. Each of the two nodes in the drive operates as a CANopen node using the CiA 402 protocol for motion control devices. Supported modes include: profile position-velocity-torque, interpolated position mode, and homing. Command sources also include ±10 V analog torque/velocity/ position, pWm torque/velocity, and stepper command pulses. Feedback from a number of incremental and absolute encoders is supported.

Seventeen high-speed digital inputs with programmable functions are provided, and two low-speed inputs for motor temperature switches. A Sli (switch and led interface) function is supported by another high-speed input and four high-speed digital outputs. If not used for Sli, the input and outputs are programmable for other functions. Three open-drain Mosfet interfaces can drive loads powered up to 24 V_{DC}.

An EIA-232 serial port provides a connection to Copley's Cme2 software for commissioning, firmware upgrading, and saving configurations to flash memory. The drive power is transformer-isolated DC from regulated or unregulated power supplies. An Auxhv input is provided for "keep-alive" operation permitting the drive power stage to be completely powered down without losing position information, or communications with the control system.