

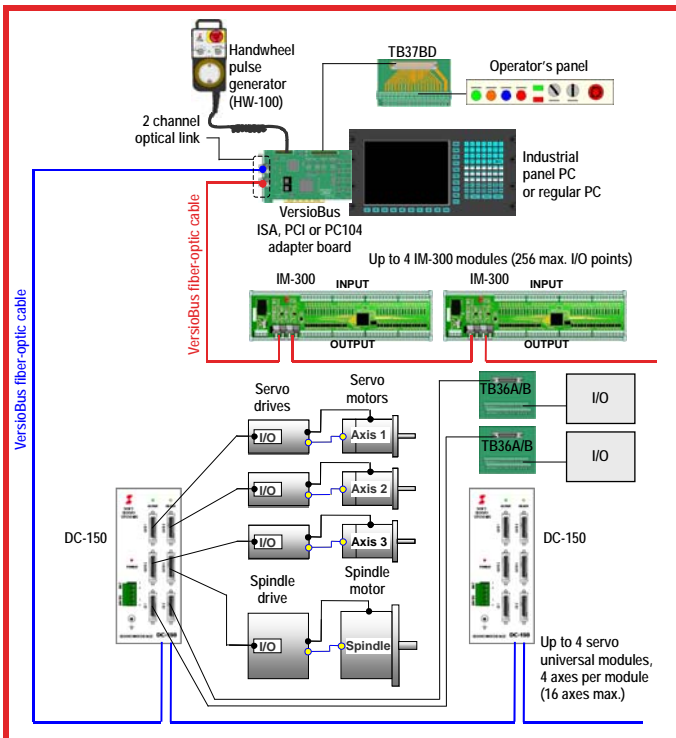
The VersioBus™ Interface System: Fiber-Optic Field Bus for Traditional Analog Servo Drives and I/O

Overview

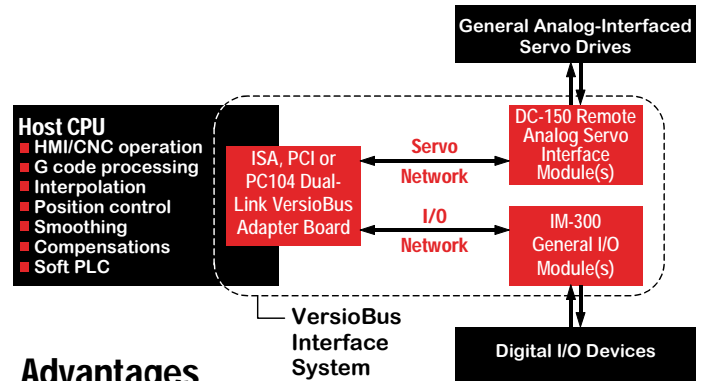
Soft Servo Systems offers a variety of PC-based CNC and general motion control (GMC) products for OEM machine builders. Each product is available with a choice of several servo and I/O communications hardware platforms, including the VersioBus™ interface system.

VersioBus™, Soft Servo Systems' original breakthrough technology, was designed to interface with any conventional analog-interface servo drive using a single fiber-optic cable. This unique proprietary technology is ideal for applications requiring noise resistance. Because VersioBus is compatible with most motors and with incremental encoders, it is also the ideal choice for servo communications for retrofitting existing machines or machine tools.

VersioBus™ is a proprietary 10 Mbps real-time fiber-optic digital servo and I/O communication protocol. The VersioBus interface system accommodates up to 16 axes of servo drives and 416 points of opto-isolated general digital I/O, and consists of a multi-function VersioBus adapter board (ISA, PCI or PC104), and one or more universal servo interface modules and optional I/O modules (connected with VersioBus fiber optics).



Hardware Connections in the VersioBus Interface System



Advantages








- No noise to interfere with system communications
- Distributed control and multiple nodes with daisy-chainable servo and I/O interface modules
- Fiber-optic cables go up to 10 meters for widely distributed control (longer cable is available if required)
- Reduced cables – a single fiber-optic cable replaces encoder and analog cables to communicate with the host PC
- Quick and simple connections make machine integration straightforward, reducing cost and time to market
- No maintenance of any connections reduces total cost of ownership – compare this to expensive twisted-pair wire cables, which can require considerable maintenance over the years
- Highly reliable, durable and long lasting hardware components and cables
- 16-bit analog output per axis
- Opto-isolated overtravel limits and home switch inputs for each axis

Compatibility Features

- Interfaces with any conventional analog-interface servo drive with a single fiber-optic cable
- Supports incremental encoders (up to 5 MHz), as well as AC and DC motors

Scalability

- Up to 16 axes of coordinated motion at 1 ms position feedback rate, scalable in 4-axis increments (each DC-150 servo interface module controls 4 axes – up to four can be daisy-chained together)
- Scalable I/O: general opto-isolated I/O from 64 to 416 points

Part No.	Description	Specification	Photo(s)
FP-80, FP-95 or FP-104	VersioBus adapter boards (PCI, ISA or PC104)	<ul style="list-style-type: none"> For insertion in a host PC (FP-80: ISA slot, FP-95: PCI slot, FP-104: PC104 stacking connector) Provides dual-link connections for VersioBus servo and I/O networks (2 half-duplex channels) – up to 4 daisy-chained DC-150s and 4 daisy-chained IM-300s Provides 32 points of on-board general I/O Provides an encoder and digital I/O connector for a handwheel 	 <p>FP-95</p>
DC-150	4-axis servo universal module	<ul style="list-style-type: none"> Connects to the servo drives of the machine Up to 4 DC-150s can be daisy-chained for up to 16 axes of control Provides 32 points of uncommitted opto-isolated general I/O, opto-isolated forward and reverse overtravel limits and home switch input for each axis Accommodates DC and AC servo motors and incremental encoders Mounting with brackets and screws 	
IM-300	64-point general I/O module	<ul style="list-style-type: none"> Provides built-in wire-entry screw terminals and LEDs Up to 4 IM-300s can be daisy-chained for up to 256 points of additional I/O Output points: 32 points, N-Ch MOSFET, optically isolated Input points: 32 points, optically isolated DIN rail mounting 	
TB36A or TB36B	36-pin breakout boxes	<ul style="list-style-type: none"> Provides screw terminal blocks for making connections between the DC-150 and the servo drives, or between the DC-150 and the I/O devices TB36A: 36-pin screw terminal module with two terminal blocks for spade terminals TB36B: 36-pin screw terminal module with a single terminal block for wire entry screw terminals DIN rail mounting 	 <p>TB36A TB36B</p>
TB37BD	37-pin breakout box	<ul style="list-style-type: none"> Provides screw terminal blocks for making connections between the VersioBus adapter board and local I/O 37-pin screw terminal module with a single terminal block for wire entry screw terminals DIN rail mounting 	
HW-100	handwheel	<ul style="list-style-type: none"> A handheld manual pulse generator for manual jog operation of the machine or machine tool Emergency Stop button 5 axes available for single-axis control 4 multipliers: X1, X10, X100 or X1000 	
	VersioBus fiber-optic cable	<ul style="list-style-type: none"> For connecting VersioBus hardware components 4.5 meters per DC-150 or IM-300 is included – more cable can be ordered 	
	Servo drive and I/O cables for DC-150 connections	<ul style="list-style-type: none"> Custom ordered servo drive cables and/or general I/O cables Preconfigured with the correct pin assignments for your servo drives and/or your I/O devices 	