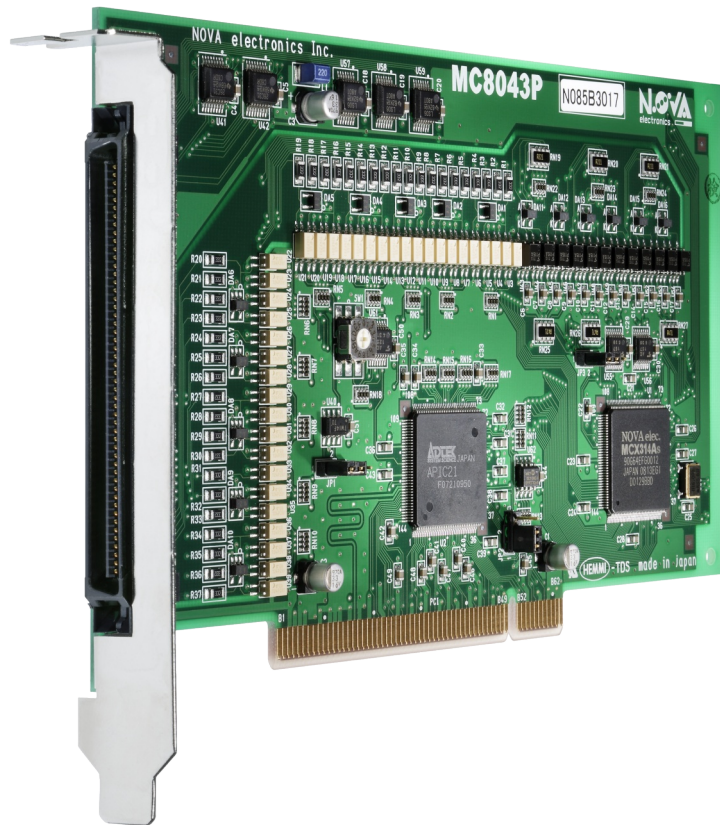


**POSYS® 604**

PCI Motion Controller for up to 4 Axes for Servo & Stepper Motors



- Absolutely simultaneous start/stop/continuous operation of all 4 axes (no update rates = Real Time Operation of each axis); 96/16 MHz clock bus
- I/O mapped communication interface, 16 bytes, 16 bit data length
- For 4 axes for DC-brushed/brushless servo or microstepping/stepper motors; each axis individually
- POSYS® 604 support hardware linear and circular interpolation, Bit Pattern interpolation and continuous interpolation
- Velocity, acceleration changes "on-the-fly"
- 32-bit command and actual position registers
- Programmable S-curve, trapezoidal or contoured profiles
- Incremental encoder input (TTL and inverted) up to 4 MHz
- High speed inputs are used for the encoder signals
- 4 MHz speed available for point-to-point, linear and circular moves
- 32-bit compare registers (breakpoints) for each axis
- Advanced breakpoint capability allows precise sequencing of events.
- 8/8 digitally filtered IOs, 4 emergency inputs, 4 in-position inputs
- Advanced breakpoint capability allows precise sequencing of events.
- Two directional limit switches, index input, and home/high speed input per axis.
- Interrupt processing for motion complete, constant speed, accelerating/ decelerating, compare breakpoint
- Capability for host interrupt for all interrupt processing events
- extensive software tools
- RoHS conform

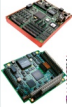




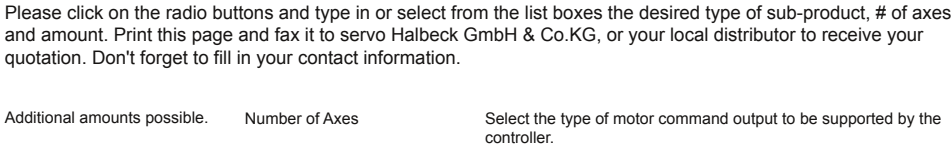
- Available configurations:  
PCI-Bus 4 axes
- Position range:  
-2,147,483,648 to +2,147,483,647 counts
- Velocity range:  
0 - 4.000.000 Counts/Sec.
- Acceleration and deceleration ranges:  
125 - 500x106 counts/sec<sup>2</sup>
- Deceleration counter offset:  
1 - 65535 Counts
- Jerk range (S-curve):  
954 - 31.25x109 counts/sec<sup>2</sup>
- Profile modes:  
S-curve point-to-point (w. symmetric accel./decel and asymmetric accel./decel.)  
Trapezoidal point-to-point (w. symmetric accel./decel and asymmetric accel./decel.)  
Linear interpolation of any 3 out of 4 axes  
Circular interpolation of any 2 out of 4 axes  
Bit Pattern interpolation of any 2 out of 4 axes  
Continuous interpolation of any 2 out of 4 axes  
Constant Vector Speed Control  
Electronic Gear
- Compare Registers & Software Limit:  
32 bit compare registers & software limit for commanded and actual position
- Automatic Home Search:  
Automatic execution of specialized home search routine without cpu host intervention
- Limit Switches:  
smooth or abrupt stop programmable  
2 per axis: one for each direction of travel; digitally filtered
- Synchronous action:  
Breakpoint capability for several events with automatic activation of new sequences
- Input signal filter:  
each input is equipped with a programmable signal filter (enable/disable and time constant)
- Driving by external signal:  
continuous and fixed pulse driving by external signal for JOG and Teaching mode
- Interrupt Signals  
selection of interrupts for certain events; selectable interrupts are 0-10
- Real-time Monitoring:

of actual and commanded position, speed, acceleration/deceleration, status of accel./decel. aso.

- Maximum encoder rate:  
TTL Incremental (up to 4 Mcounts/sec)  
Signal resolution: x1, x2 and x4
- Update Rate:  
No update rate - all axes work absolutely simultaneously with up to 4 MHz (clock bus 16 MHz)
- Position-capture triggers:  
2 per axis: index and home signals; digitally filtered
- Emergency stop:  
A low Level will stop all axes immediately (no deceleration)
- I/Os:  
general purpose inputs: 8  
dedicated purpose inputs: 24  
general purpose outputs: 12  
multiple purpose outputs: 16
- Selectable Interrupts:  
handled by PCI-Bus
- Motor check:  
programmable max. motion error with or without automatic motor shutdown
- Connectors:  
IO connector type Hirose FX2B-100PA-1.27DS
- Cable:  
Hirose FX2B-100SA-1.27R (1,2 m long)
- Dimensions:  
PCI half size card; (176,5 x 106,7 mm)
- Temperature range:  
Operating temperature extended: 0° - +45° C
- External supply voltage:  
12 ~ 24 VDC

## OPTIONS:

**IO700/800-1 Interface** - interface and interconnect board (1 for each set of 4 axes); Mounting: Phoenix EN snap-on rail

Controller	Model	Supported Motors Types	# of Axes	Specials - Remarks	Accessories	Supported Boards	# of Axes	Specials - Remarks
<b>Standalone</b> (embedded RTOS, Ethernet, CAN, RS232/485, USB) 	POSYS® 4000	DC brushed, DC brushless, microstepping, stepper, Piezo (option)	4, 8	web, ftp, telnet, ssh server included; Piezo; option		SSI800/900	4	Addon Board to read SSI Absolute Encoders supports 10, 11, 13 and 25 bit single turn & multiturn
	POSYS® 3004	Stepper and stepper-like servo systems	4	Hardware circular and linear Interpolation; default		IO700/800	4	Interconnect Module for POSYS® 800-B, 900, 1800, 1900, 3104 universal interconnect module
<b>PCI-Bus</b> 	POSYS® 1900	DC brushed, DC brushless, microstepping, stepper, Piezo (option)	2, 4	Piezo; option		IO3000	4	Interconnect Module for POSYS® 3004 universal interconnect module includes COM-connections
	POSYS® 900	DC brushed, DC brushless, microstepping, stepper	2, 4	Filtered Trapezoidal Profile (Blending); default		Cable700-1M & Cable700-2M	4	For POSYS® 900 & 1900, connects to IO700/800-1 100-position, shielded and locking cable; 1m and 2m
	POSYS® 604	Stepper & stepper-like servo systems	4	Hardware circular and linear Interpolation; default		Cable800B-1M	4	For POSYS® 800-B & 1800, connects to IO700/800-1 50-position, flat cable; 1m
<b>PC104</b> 	POSYS® 1800	DC brushed, DC brushless, microstepping, stepper, Piezo (option)	2, 4	Piezo; option				
	POSYS® 800-B	DC brushed, DC brushless, microstepping, stepper	2, 4	Filtered Trapezoidal Profile (Blending); default				
	POSYS® 3104	Stepper and stepper-like servo systems	4	Hardware circular and linear Interpolation; default				

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