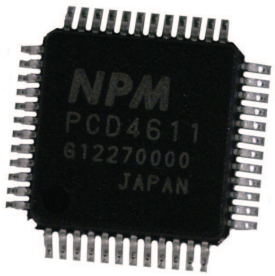
NPM Nippon Pulse
Your Partner in Motion Control

PCD46x1
Control Chip

PCD46x1 Control Chip	
Power Source	+3.3V
Reference Clock	4.9152MHz standard (10MHz max.)
Setting Positioning Pulse Range	0 to 16,777,215 pulses
Settable Steps Range	1 to 8,191 steps
Speed Magnification Range	1x to 300x (when using 4.9152MHz) When 1x: 1 to 8,191pps When 2x: 2 to 16,382 When 300x: 300 to 2,457,300pps
No. of Speed Registers	Two (FL and FH)
Ramping-down Setting Range	0 to 16,777,215 (24 bit)
Ramping-down Setting Method	Manual or Automatic Setting
Acc/Dec Setting Range	2 to 65,535 (16 bit)
Current Position Counter	24 bit UP/DOWN counter one circuit/axis
Standard Operations	- Continuous operation - Preset operation (positioning) - Origin return operation - Timer operation
Standard Functions	- Linear and S-curve acc/dec - Immediate stop and dec stop - Speed change - External start/stop function - Idling pulse output function - Excitation sequencing output for 2-phase steppers - 4 bit general purpose ports (sequence output)
Operating Temp.	-40 to +85°C
Storage Temp. Range	-65 to +150°C
Dimensions	PCD4611 - 7.0mm x 7.0mm PCD4621 - 10.0mm x 10.0mm PCD4641 - 14.0mm x 14.0mm
Package	PCD4611 - 48-pin QFP PCD4621 - 64-pin QFP PCD4641 - 100-pin QFP
Chip Design	C-MOS

PCD4611 - 1 axis
PCD4621 - 2 axes
PCD4641 - 4 axes

Nippon Pulse's PCD46x1 series control chips are cost-effective, programmable pulse generators equipped with an excitation sequence generator to drive 2-phase stepper motors. The three chips, PCD4611, PCD4621, and PCD4641 offer linear and S-curve acceleration/deceleration and can output a CW/CCW pulse train.



Features of the PCD46x1

1. Excitation sequencing output for a 2-phase stepper motor
2. Linear and S-curve acceleration/deceleration control
3. CW and CCW pulse train output
4. External start and stop control
5. Origin return operation
6. Idling pulse output
7. 2.4Mpps maximum output frequency (speed magnification 300 times)
8. 3.3V single power source (signal terminal with 5V tolerance feature)
9. Add 24-bit current position counter
10. Add wait control for I/F with CPU
11. Sequence output terminals can be used as I/O ports
12. Selection of stop method by ORG, +EL, -EL, STP signals (Immediate stop/deceleration stop)

Main Differences Between PCD46x1 and PCD45x1

Item	PCD46x1	PCD45x1
Power Source	+3.3V	+5.0V
Recommended Speed	1x to 300x (when using ref. clock 4.9152MHz) when 1x: 1 to 8,191 pps when 2x: 2 to 16,382 pps when 300x: 300 to 2,457,300 pps	1x to 2x
Ramping-down point setting range	0 to 16,777,215 (24-bit)	0 to 65,535 (16-bit)
Ramping-down point setting method	Manual/Automatic	Manual
Acc/Dec rate setting range	2 to 65,535 (16-bit)	2 to 1,023 (10-bit)
Current position counter	24-bit UP/DOWN counter one circuit/axis	None
Typical Functions	4-bit general purpose port (can also be used as sequence output)	Same as PCD46x1 except general purpose port
Operating temp. range	-40~+85°C	0~+85°C
Storage Temp. range	-65~+150°C	-40~+125°C
Package	PCD4611 - 7.0mm x 7.0mm PCD4621 - 10.0mm x 10.0mm PCD4641 - 14.0mm x 14.0mm	PCD4511 - 10.0mm x 10.0mm PCD4521 - 20.0mm x 14.0mm PCD4541 - 20.0mm x 14.0mm