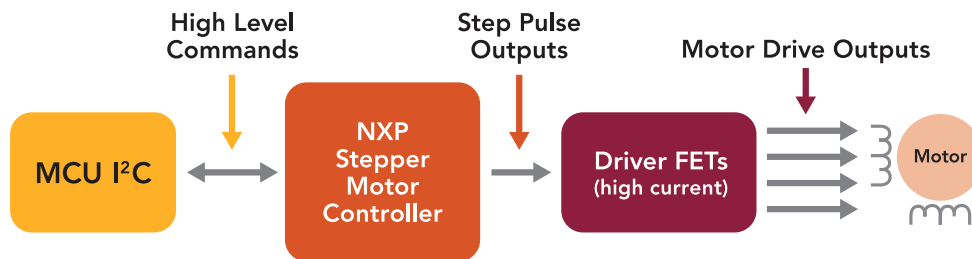




NXP I²C stepper motor controller PCA9629A

Off-load the MCU for stepper motor control

Stepper motors can be accurately controlled without the requirement of expensive position sensors. The new NXP controller seamlessly generates motor waveforms and makes dynamic speed and range control easy, while reporting motor activity.



Features	Benefits
Off-load Microcontroller burden	Easier control: no burden on host processor, minimal I ² C bus traffic
Dynamic Speed Control	On the fly (while motor is running) speed control with smart motor commands
Integrated controller for Uni-polar four-phase stepper motors	Multiple modes: one phase (wave drive), two phase, and half-step drive
Output Protection	On Chip timer to prevent motor overhear (when motor stopped with power applied)
Wide Range and Accuracy	Best-in-class programmable step rate and accuracy: 333.3 kpps to 0.3 pps with 3% accuracy
Flexible Motor Control for continuous or repeat action	Perform up to 255 actions or repeats without MCU overhead
Single command to Home Position or Emergency Stop	Safely and accurately return to motor home position or stop without MCU overhead
On Chip Step Counter (32-bit)	MCU reads 32-bit counter that keeps track of motor output steps and position
Programmable motor output states after motor stop	Output states: hold last state, Outputs on; Outputs off



TARGET USE

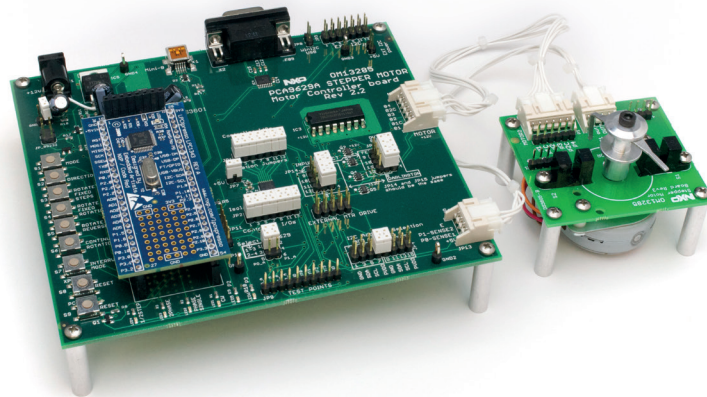
Driving Uni-polar Four-Phase motors

APPLICATIONS

- ▶ Vending machines
- ▶ Gaming and slot machines
- ▶ Factory and office automation machines
- ▶ Security and surveillance cameras
- ▶ Variable-speed fans and pumps
- ▶ Robotics and toys
- ▶ Home appliances
- ▶ HVAC and building climate-control systems

STEPPER MOTOR DRIVER DEMO KIT

The PCA9629A is available with a self-contained demo kit (OM13285) that enables detailed evaluation of its operation. The kit includes a motor with position sensors and a demo board with pre-programmed push-button switches that make it easy to select functions. Advanced users can quickly reprogram the on-board microcontroller to evaluate custom functions.



OM13285 demo kit

Documentation information

Item	Description
PCA9629A	PCA9629A Product data sheet
OM13285	PCA9629A demo kit
UM10798	PCA9629A demo kit user manual
UM10799	PCA9629A demo kit quick start guide
AN11483	Application Note "How to design and program the PCA9629A"

Ordering information

Type number	Package		
	Name	Description	Version
PCA9629APW	TSSOP16	Plastic thin shrink small outline package; 16 leads; body width 4.4 mm	SOT403-1

ADDITIONAL INFORMATION

For more information visit www.nxp.com



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