We transform **digital information** into **physical motion.**

TRINAMIC
MOTION CONTROL

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PANdrive™
Best in Class Smart Motors

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trinamic.com

Trinamic's PANdrive was one of the first smart motor solutions to hit the market when most people were still thinking in terms of motors and amplifiers.

Pioneers in Smart Motors

Nowadays, the PANdrive families embody decades of experience in motor and motion control that give stepper motors the advantage over other electric motors. They are the complete mechatronic solution for all your needs.

Trinamic is the technology leader in embedded motor control with over 20 years of experience in design and marketing of motion control chips, modules, and mechatronic drives.

Leading Technologies

Within its history, Trinamic engineers have been granted many patents including sensorless motor-load detection and automatic mixed decay. Benefit from well-known technologies like StealthChop™, SixPoint™, CoolStep™, and many more.
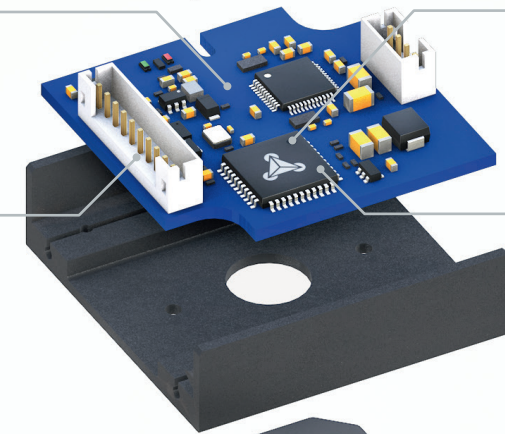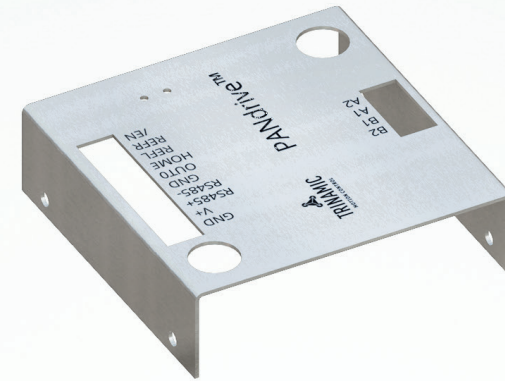
Based on Trinamic's leading-edge chips and modules, the PANdrive smart motor solutions embody decades of experience in a compact, rugged package.

The fully integrated solution that gives best-in-class performance. Ready to deploy.

Onboard TMCL mini-PLC for standalone operation. Programmable with the free TMCL-IDE software and packed with Trinamic's innovative technologies.

Various standard interfaces such as CAN, RS485, USB, and step/direction for easy implementation.

Simply use the industry standard CANopen protocol or Trinamic's TMCL™ for easy to use commands.

NEMA8 to NEMA34 stepper and BLDC motors with 0,0175Nm to 7Nm torque

Integrated ramp controllers with linear, SixPoint™, or S-shaped ramping profiles.
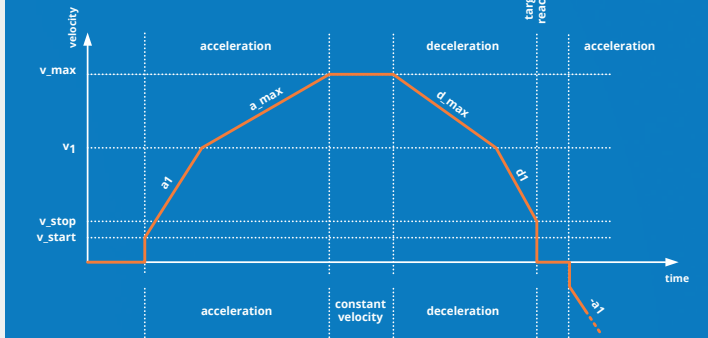
Latest motor and current control technologies using Trinamic's advanced motor driver and controller ICs.

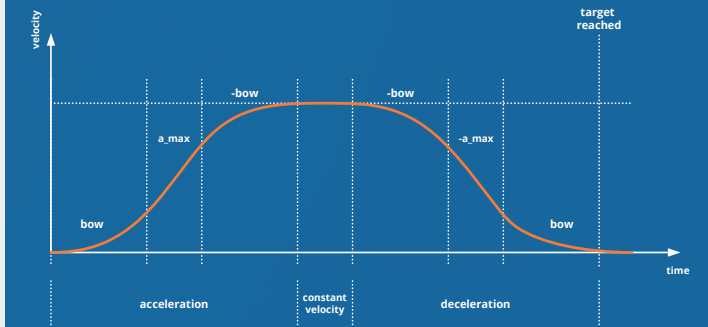Never lose track of position with SensOstep™.

Most Trinamic PANdrive products have a built-in encoder, bringing the advantage of position monitoring, closed-loop control with anti-hunting, or even field oriented control.

Learn more about PANdrive solutions at:
trinamic.com/PANdrive

Trinamic's advanced SixPoint™ ramping profile allows for fast positioning by adding a freely configurable start/stop frequency to a linear motion profile and by adding a reduced acceleration value at high velocity to reduce the jerk at the end of a standard acceleration ramp.

S-shaped ramping profiles ensure a continuous acceleration, resulting in jerk-limited motion. Ideal for handling liquids and precious goods, the seven ramp segments forming the S-shaped ramp can be optimized to suit your application.

Best in Class Smart Motors

PRODUCT	PD20-1-1210	PD28-X-1021	PD42-X-1240	PD42-X-1241	PD57-X-1260	PD60-X-1260	PD86-3-1180
Motor type	stepper	stepper	stepper	stepper	stepper		stepper
Flange size	20mm	28mm	42mm	42mm	60mm	60mm	86mm
NEMA size	8	11	17	17	23	24	34
Motor supply voltage	6…30V	9…28V	10…30V	10…30V	12…54V		18…55V
Max. microsteps per revolution	51200	51200	51200	51200	51200		51200
Motor resolution (full step)	1,8°	1,8°	1,8°	1,8°	1,8°		1,8°
Serial interface	RS485	RS485	RS485	RS485	RS485		RS232, RS422, RS485
CAN interface	-	-	✓	✓	✓		✓
EtherCAT interface	-	-	-	-	-		-
USB interface	-	-	✓	✓	✓		✓
Step/Dir interface	-	GP input	✓	✓	GP input		✓
Bus protocol	TMCL	TMCL	TMCL	TMCL / CANopen	TMCL / CANopen		TMCL / CANopen
Ramp generator	SixPoint™	Trapezoidal	SixPoint™	SixPoint™	SixPoint™		Trapezoidal
StallGuard2™	✓	✓	✓	✓	✓		✓
CoolStep™	✓	✓	✓	✓	✓		✓
SpreadCycle™	✓	✓	✓	✓	✓		✓
StealthChop™	✓	-	✓	✓	✓		-
MicroPlyer™ (microsteps)	1…256	1…256	1…256	1…256	1…256		1…256
Encoder	SensOstep™	SensOstep™	SensOstep™	SensOstep™	SensOstep™		SensOstep™
PDXX-1-XXXX torque [Nm]/[oz in]	0,0175 / 2	0,06 / 8	0,22 / 31	-	0,55 / 77	-	-
PDXX-2-XXXX torque [Nm]/[oz in]	-	-	0,36 / 50	-	1,01 / 143	-	-
PDXX-3-XXXX torque [Nm]/[oz in]	-	0,12 / 16	0,44 / 62	0,4 / 62	-	2,10 / 297	7 / 991
PDXX-4-XXXX torque [Nm]/[oz in]	-	-	0,7 / 99	0,8 / 113	-	3,10 / 438	-

Best in Class Smart Motors

PRODUCT	PD42-X-1070	PD42-X-1270	PD42-X-1370	PD42-X-1670	PD57-X-1076	PD60-X-1076	PD57-X-1276	PD60-X-1276
Motor type	stepper	stepper	stepper	BLDC	stepper		stepper	
Flange size	42mm	42mm	42mm	42mm	60mm		60mm	
NEMA size	17	17	17	17	23	24	23	24
Motor supply voltage	9...26V	6...26V	9...28V	5...30V	10...30V		10...30V	
Max. microsteps per revolution	51200	51200	51200	51200	51200		51200	
Motor resolution (full step)	1,8°	1,8°	1,8°	1,8°	1,8°		1,8°	
Serial interface	TTL UART	TTL UART	RS485	RS485	TTL UART		-	
CAN interface	-	✓	-	✓	-		✓	
EtherCAT interface	-	-	-	-	-		-	
USB interface	-	-	-	-	-		-	
Step/Dir interface	✓	-	-	-	✓		-	
Bus protocol	TMCL*	TMCL / CANopen	TMCL	TMCL / CANopen	TMCL*		TMCL / CANopen	
Ramp generator	-	SixPoint™	S-shaped	Trapezoidal	-		SixPoint™	
StallGuard2™	✓	✓	✓	-	✓		✓	
CoolStep™	✓	✓	✓	-	✓		✓	
SpreadCycle™	✓	✓	✓	-	✓		✓	
StealthChop™	✓	✓	-	-	✓		✓	
MicroPlyer™ (microsteps)	1...256	1...256	1...256	-	1...256		1...256	
Encoder	-	SensOstep™	SensOstepCL	SensOstepFOC	-		SensOstep™	
PDXX-1-XXXX torque [Nm]/[oz in]	0,27 / 38	0,27 / 38	0,22 / 31	0,0625 / 8	0,55 / 77	-	0,55 / 77	-
PDXX-2-XXXX torque [Nm]/[oz in]	0,35 / 49	0,35 / 49	0,36 / 50	0,125 / 17	1,01 / 143	-	1,01 / 143	-
PDXX-3-XXXX torque [Nm]/[oz in]	0,49 / 69	0,49 / 69	0,44 / 62	0,185 / 26	-	2,10 / 297	-	2,10 / 297
PDXX-4-XXXX torque [Nm]/[oz in]	-	-	0,7 / 99	-	-	3,10 / 438	-	3,10 / 438

*only for setting parameters

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