Webinar 2011
New PTO Utility

What Is It Good For?

PTO – Pulse Train Output
- Stepper Motors
- Frequency converters + servo motors

- Conveyors
- Robotics
- Elevators

And more

UNITRONICS®

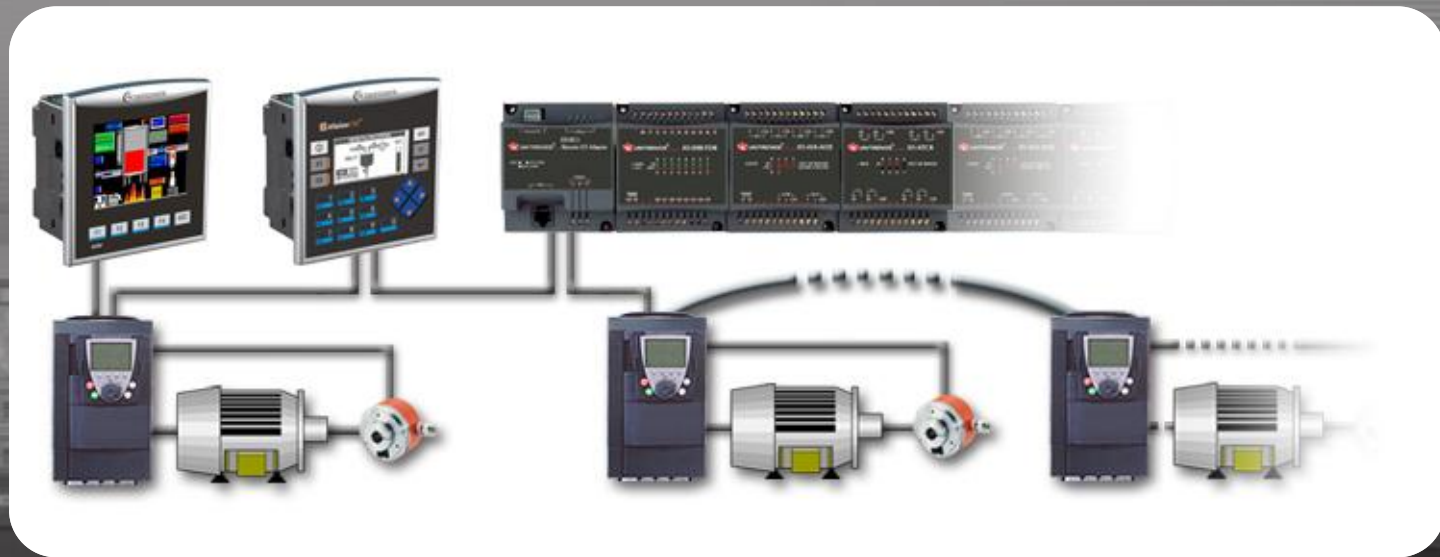# Unitronics Way to PTO
First Step – Simple HSO

- Frequencies:
  PNP 0.5 kHz
  NPN 60 kHz

- Frequency + Duty Cycle

- Every PLC with transistor outputs

Unitronics Way to PTO
Second Step – Hardware PTO

- Vision 130, 350 TR – 200 kHz
- Snap-in – 60 kHz
- Pulses can be counted
- Target can be set – precise stop
- Setting acceleration and deceleration times – via Ladder
- Work is in pulses
- Direction – via Ladder

Unitronics Way to PTO
Third Step – Ladder utility PTO

- Pulse, Pulse+Dir and CW/CCW
- Ladder modules for all operations – easy and intuitive programming
- Work is in Engineer units
- Jerk Control – from trapezoid to full 'S' curve in 16 steps
- Absolute and relative target
- Open Loop
- Control of each Axis by itself

Range	Minimum	Maximum
1	5 Hz	15 kHz
2	10 Hz	20 kHz
3	305 Hz	133 kHz
4	610 Hz	200 kHz

The Modules – PTO Configuration

Select the appropriate model

A Channel comprises the inputs used to carry out the PTO function, and determines their function

The possible modes are:
- Pulse
- Pulse + Direction
- Clockwise/Counter Clockwise

Unitronics way to PTO
Third Step – Ladder utility PTO

Possible combinations for numerous PTO channels

	Output used per Channel				
Channel 0	Pulse (O0)	Pulse (O0) + Direction (O2)	Pulse (O0) + Direction (O2)	Pulse (O0)	Clockwise (O0) / Counter Clockwise (O1)
Channel 1	Pulse (O1)	Pulse (O1) + Direction (O3)	Pulse (O1)	Pulse (O1) + Direction (O3)	Disabled
Channel 2	Pulse (O2)	Disabled	Disabled	Pulse (O2)	Pulse (O2)

UNITRONICS®

The Modules – PTO Set Profile

The Modules – PTO Move

Params	Type	Add	🔌	👓	Format	Description
IN	D#		0		DEC	Channel 0
	D#		0		DEC	Movement Type: Absolute
	DW	2			DEC	Velocity: PTO Move
	ML	0			DEC	Target Position: PTO Move
OUT	MI	12			DEC	Status: PTO Move
	MB	4				Success: PTO Move

PTO Move

Ok   Cancel

UNITRONICS®

The Modules – PTO Read Status

Params	Type	Add	🔧	👓	Format	Description
IN	D#		0		DEC	Channel 0
	MI	13			DEC	Current Position: PTO Read Status
	DW	3			DEC	Current Velocity: PTO Read Status
OUT	MB	5				Current Direction: PTO Read Status
	MB	6				In Progress: PTO Read Status
	MI	14			DEC	Status: PTO Read Status
	MB	7				Success: PTO Read Status

Ok   Cancel

UNITRONICS®

The Modules – PTO Set Home

Params	Type	Add	⚡	👓	Format	Description
IN	D#		0		DEC	Channel 0
	MI	16			DEC	Offset: PTO Set Home
OUT	MI	17			DEC	Status: PTO Set Home
	MB	9				Success: PTO Set Home

Ok   Cancel

Demonstration