EZ-AUTOCART
EASILY AUTOMATE MACHINE TENDING

THE NEW EZ-AUTOCART
Designed with simple job setup in mind

EZ-AUTOCART

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STREAMLINED MACHINE TENDING WITH MINIMAL EFFORT

## No-Code Automation Empowers Users

Embark on a new era of automation with Lyndex-Nikken's innovative EZ-AutoCart machine tending solution. This cutting-edge technology empowers machine shops to automate the tending of CNC lathes, mills, and similar machines, significantly boosting spindle time and enhancing overall machine efficiency. Embrace lights-out operation for uninterrupted production, marking a significant leap forward in the seamless integration of automation into your manufacturing processes.

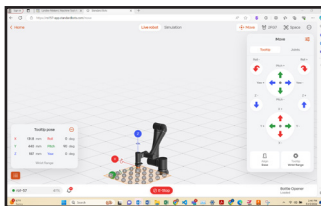**EZ-AutoCart Program Interface Display**
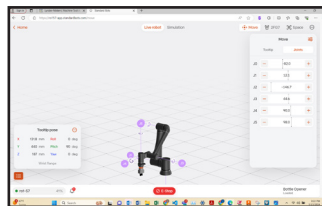

PREMIUM CART
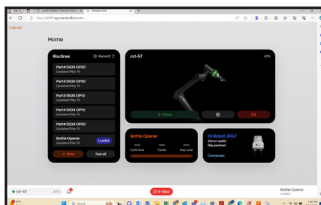
Home Screen
The Home Screen allows for easy navigation to Routines, Robot Settings and Move Screen. It also provides easy access to routine and equipment information.
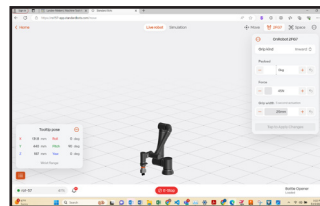

Cartesian Move
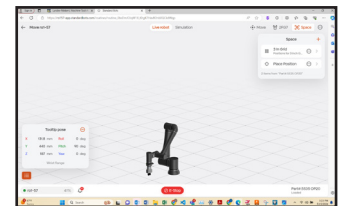Cartesian Move allows you to easily translate your robot in a cartesian coordinate system.

Joint Move
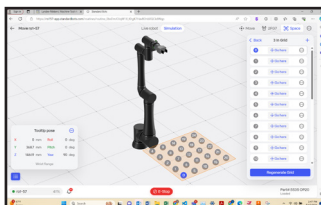Joint Move allows you to easily manipulate individual joints.

Gripper Control
An easy centralized place to manipulate all supported grippers.
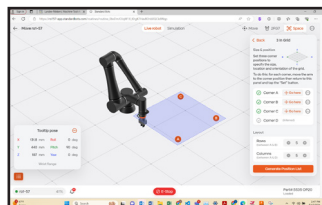

Space/Positions
The Space page allows easy access to reference and modify stored positions.

Simulation
Simulation mode allows you to both move the robot and run your programs in a 3D graphical simulation to allow you to proof out programs before running them live.

Grid Training
Grids allow you to easily create a grid of positions that works well with the carts built in grids by training 3 positions.
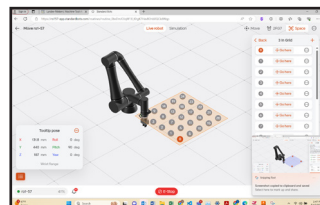
Grid Positions
Grid Positions can be easily referenced in a program to cycle through your whole grid.

Conversational Programming
Conversational Programming allows you to easily create programs without any advanced knowledge requirements.

EZ-AUTOCART
FUNCTIONS AND FEATURES

Integration Capability:

- Includes 16 digital I/O to control peripheral devices
- Manage auto doors open/close
- Manage workholding conditions
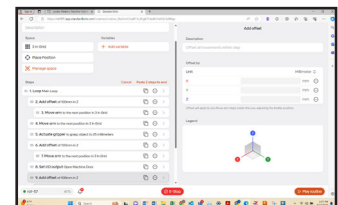- Optional Hub provides data mining and quick change between multiple CNC machines
- Monitor CNC machine conditions

Vision Capability:

- Includes integrated camera for 2/3D vision
- Optional software for 2.5D picking

BASE CART
See page 4 for customized configuration
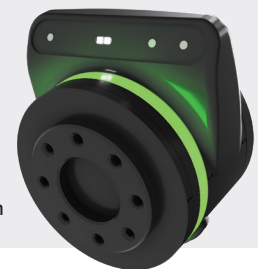
Integrated Camera for 2/3D Vision

EZ-AutoCart - Designed for Machine Tending

- Payload capacity: 18kg
- Reach: 1300mm
- Max joint speed: 435° /s
- Repeatability: +/-0.025mm

EZ-AutoCart System Includes:

- Robot arm, cart, and tablet
- Support, including joint and hardware replacements
- Options (not included): Workholding, end-of-arm tooling, fixturing plates for the cart, safety scanners, and integration support.

Includes camera for optional 2D vision

CONFIGURE TO YOUR SPECIFICATIONS

Choose from the base model, premium model or build your own with the following options.
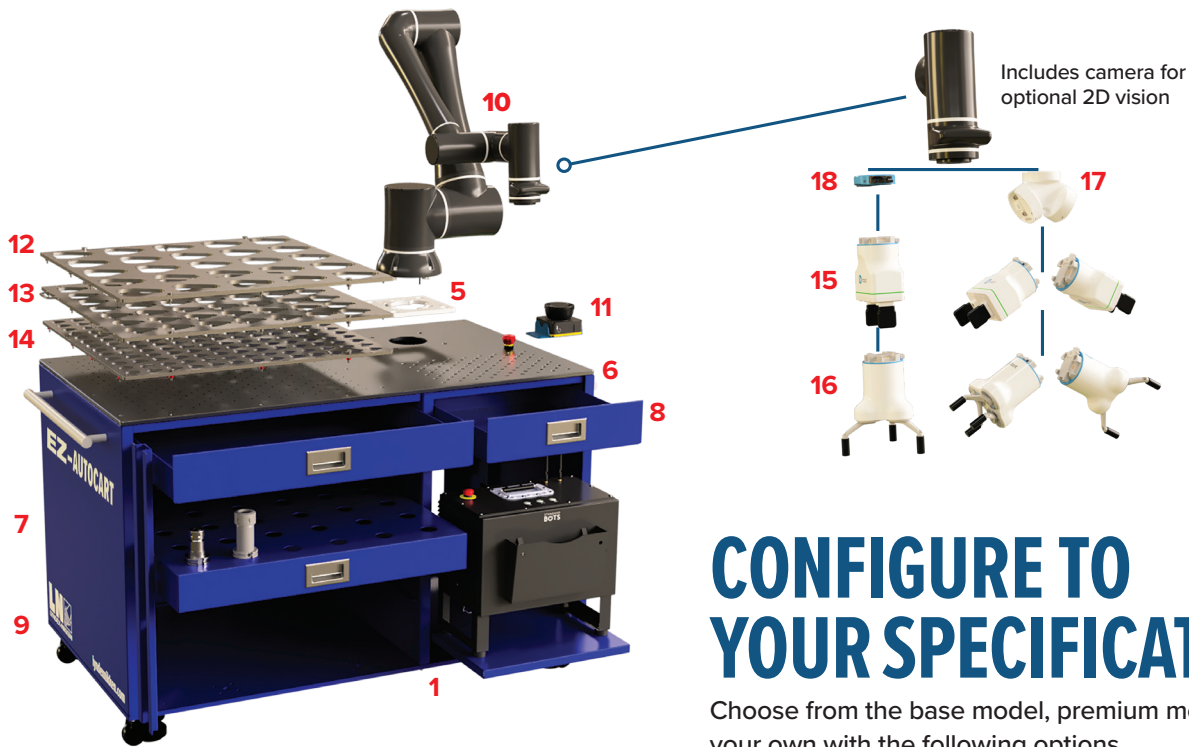
EZ-AutoCart Model Options

SEQ	PREBUILT PART NO.	INCLUDING	DESCRIPTION
1	EZ-ACART-BASE	1 & 6	AutoCart base cart with 55X30.7 top plate
2	EZ-ACART-BASE-LN1813	1, 5, 6 & 10	AutoCart base cart with 55X30.7 top plate, cobot mount plate & LN1813 cobot
3	EZ-ACART-PREM	1 & 6-9	AutoCart premium with 55X30.7 top plate and drawers
4	EZ-ACART-PREM-LN1813	1 & 5-10	AutoCart premium with 55X30.7 top plate, drawers, cobot mount plate and LN1813 cobot
	ACCESSORIES PART NO.		
5	EZ-ACC-CMP		Cobot mounting plate
6	EZ-ACART-TP5531		AutoCart anodized top plate-55x30.7
7	EZ-ACART-DWRS1		AutoCart long drawers
8	EZ-ACART-DWRS2		AutoCart short drawers
9	EZ-ACART-DWRS3		AutoCart tool holder drawers
10	EZ-COBOT-LN1813		LN cobot arm-only 18Kg 1300 Reach
	REQUIRED OPTIONS PART NO.		
11	EZ-ACART-SCAN		AutoCart safety laser scanner
12	EZ-ACART-GRD01-169		AutoCart universal part grid-1" capacity-max 169 parts cap
13	EZ-ACART-GRD02-49		AutoCart universal part grid-2" capacity-max 49 parts cap
14	EZ-ACART-GRD03-25		AutoCart universal part grid-3" capacity-max 25 parts cap
15	EZ-EOAT-2FG7		OnRobot 2FG7 2-fingers for RO1 with adapter
16	EZ-EOAT-3FG15		OnRobot 3FG15 3-fingers for RO1 with adapter
17	EZ-EOAT-QC2		OnRobot dual quick change adapter for LN1813
18	EZ-EOAT-QC1		OnRobot single quick change adapter for LN1813

OPTIONS

Elevate your automation with options for enhanced robotic performance.

GRID PLATE (OPTIONAL)

3 Grid Plates

Grid plates synergize with the robot's grid capabilities to allow for repeatable, easy to set up machine tending operations.

Grids come in 3 different sizes. The sizes are focused on the square dimension, but circles will still fit:

0-1 in square - 169 total parts
1-2 in square - 49 total parts
2-3 in square - 25 total parts

DYNAMIC TOP PLATE (INCLUDED)

Top Plate

Top plate with bolt patterns to allow for dynamic workholding to fit your needs. Cobot mount adapter for compatibility across different cobot brands. M6 50mmx50mm grid to accommodate future in feed needs. M12 50mmx50mm grid to accommodate future accessory needs.

SAFETY SCANNER (OPTIONAL)

Safety Scanner Integration Capable

A safety assessment and score will determine the need for added safety accessories.
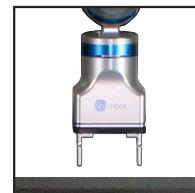
END-OF-ARM TOOLING (OPTIONAL)

2 Grippers

2-finger and 3-finger grippers for square and round parts across a broad spectrum of sizes and materials.

2 Quick Changes

- Allows you to switch grippers with the touch of a button.
- Dual quick change can reduce robot cycle time and increase spindle efficiency.

2-Finger Gripper   3-Finger Gripper

Quick Change

EZ-AUTOCART AND COBOT SPECIFICATIONS

Performance

Power consumption	Depends on program and payload; range from 25W to 1500W
Collaboration operation	Speed & force limiting per ISO/TS 15066, collision detection, and other safety functions
Ambient temperature range	0-55°C
Humidity	90%RH (non-condensing)
Operation	Collaborative or high-speed non-collaborative

Specification

Payload capacity	18kg (39 lbs)
Reach	1.3m (51.2 in)
Max joint speed	435° /s
Degrees of freedom	6

Cobot and EZ-AutoCart physical

EZ-AutoCart footprint	L = 1530 mm (60 in), W = 780 mm (30 in), H = 920 mm (36 in)
Cobot footprint	Ø 200 mm
Materials	Aluminum, steel, plastic
Cable length, robot arm	2m (79 in)
Weight, including cable	32.5 kg (71.6 lbs)
IP classification	IP54
Noise	Depends on program; typically less than 58dB
Robot mounting	Floor mount [1]

Tooltip connector

Tool connector type	M8 8-pin & M8 4-pin
Compatibility	Electrical and mechanical compatibility with large gripper ecosystems
Native gripper support	Two-finger, three-finger, and suction grippers
Tool I/O ports[2]	Digital In: 2 Digital Out: 2 (Open-drain or push-pull, 1A)
	Analog In: 2 (24V tolerant) Analog Out: 0
	RS-485 / UART max data rate: 10mbps
Tool power supply[2]	12V/24V, 3A continuous max

Control box

IP classification	IP54
IP class cleanroom	N/A
Ambient temperature range	0-55° C
I/O ports	Digital In: 16 (24V Tolerant) Digital Out: 16 (24V 0.7A Out continuous)
	24V 0.7A (3A combined if using internal power) 24V 0.7A (12A combined with external power supply) Analog In: 4 (24V Tolerant)
Communication[3]	24V I/O TCP/IP Modbus TCP
	Coming later this year via software update
	RS-485 (UART / Modbus), USB 2.0, USB 3.0, CAN FD
Power source	90 ~ 264VAC, 47-63Hz
Humidity	90%RH (non-condensing)
Control box size (WxHxD)	460 mm x 430 mm x 315 mm (18.1 in x 16.9 in x 12.4 in)
Weight	14.4kg (31.7 lbs)
Materials	Powder coated steel

Movement

Repeatability	+/- 0.025 mm
Shoulder 1 & 2	Working range: ±360° Maximum speed: ±287°/sec
Elbow	Working range: ±360°
	Maximum speed: ±335°/sec
Wrist 1, 2 & 3	Working range: ±360° Maximum speed: ±435°/sec

1. Ceiling/wall mount enabled in software update.
2. Hardware supported. Software support coming later this year via software update.
3. More industrial protocols to be enabled via software update.

# EZ-AUTOMATION – INCREASE EFFICIENCY AND PRODUCTIVITY

Imagine an operation that effortlessly maximizes spindle time and enhances machine efficiency – that's what Lyndex-Nikken's EZ-Automation can help you do. Our modular and scalable products are crafted with simplicity in mind, ensuring a stress-free entry into Industry 5.0 and smart factory capabilities. We get it – the challenges you face are real, and our mission is to simplify your journey towards unattended lights-out machining without requiring a high skill level in robotics or automation.

It's not just about automation; it's about making your job easier. Our user-friendly approach means you can seamlessly integrate and navigate our products, all while keeping costs in check. Whether you're aiming for lights-out machining or analyzing machine data for process improvement, Lyndex-Nikken is here to support you – and you don't need to be a tech whiz to make it happen.

Let's make your machine shop thrive with streamlined operations, improved processes, and a bottom line that reflects your success. Lyndex-Nikken is your partner in progress and we're here to make automation work for you - no advanced robotics degree required.

Additional EZ-Automation Products Include:
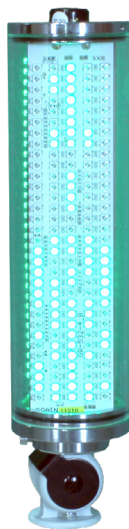
EZ–SMARTTOWER

Increase machine shop efficiency with machine tracking system

EZ-TEND™

Non-intimidating industrial robotic machine tending platform

ABOUT US

At Lyndex-Nikken, we have made it our mission to provide the two most important points to keep you ahead of the competition: advanced technology and the innovation to keep it moving forward. In addition to manufacturing the best machine tool accessories available on the market, our team of highly experienced technicians and product specialists offers unmatched customer service and engineering support to our customers worldwide.

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