

M300-SC

Single Conveyor 1451 kg Capacity

The M300-SC is a powered conveyor deck vehicle with high value features for today's demanding material handling solutions.

FEATURES

Conveyor Deck: 1,451 kg load capacity. Allows pallet movement to/from conveyors, with a transfer time in as little as 10 seconds.

Safe: The M300-SC offers a 16-pattern laser to detect obstructions and personnel.

Efficient: The M300-SC operates on battery power, while also automatically charging, yielding up to 24/7 fully automatic operation.

Integration: Can integrate with Plant Control Systems via Wi-fi communications and our System Automation Manager™ (SAM) software providing traffic control.

Affordable: Many applications can demonstrate Return On Investment in three months or less.

Simple: CartTools™ and AGV Tools software provide a user-friendly interface to implement/make changes.



NAVIGATION AND GUIDANCE OPTIONS

Natural Feature Navigation (NFN): Environmental feature data is collected by on-vehicle sensors and used by the vehicle computer to determine location.

Laser Navigation: Field of reflective targets seen by on-vehicle sensors and used by vehicle computer to determine location.

Magnetic Tape/Bar Guidance: Magnetic path is followed using sensors.

NAVIGATION ENHANCEMENTS

Enhanced Navigation: Additional sensors can be added to augment the vehicle's navigation technology.

Co-Navigation Technology: Multiple navigation packages may be used on a vehicle in challenging environments

FEATURES AND OPTIONS

- Wi-fi Communications 802.11 a/b/g/n/ac
- Automatic Shut Off
- Sleep/Auto-wake
- Automatic Charging
- Lithium Battery Pack
- Wheel Brushes
- Side Swipe Optics
- Warning Light/Horn
- Cab Side Covers

This product is available with Magnetic Guidance Technology



"The Best Magnetic Guidance on the Market."

General Specifications

Weight / with batteries	1070 kg / 1179 kg
Dimensions	W: 1448 mm L: 2311 mm H: 1295 mm
Maximum Load	1451 kg Minimum 1016 mm x 1016 mm distributed load
Maximum Pallet	1200 mm x 1200 mm
Roller Conveyor	64 mm dia., 11 GA wall 83 mm on center
Effective Widths	1041/1092/1168/1245 mm- width of pallet in direction of transfer
Top of Roll	457 mm to 813 mm in 25.4 mm increments
Transfer Speed	13.7 to 3.1 MPM, soft start
Load Sensing	Yes, using cross conveyor option
Transfer	Left and Right side
Transfer	Interface Optical with emitter and receiver pair on each side
Safety – Front	CE/UKCA rated safety bumper
Speed – Laser Bumper	4.6 to 73.2 MPM, (73.2 MPM with laser guidance)
Battery Options	6 speeds, 0.3 MPM increments AGM 210 AH 24VDC battery pack AGM/TPPL 204 AH 24VDC battery pack Lithium 180AH 24VDC battery pack
Automatic Charge	80 amp charge rate (if equipped)
Fast Automatic Charge	140 amp charge rate (if equipped)
Manual Charge	Up to 25 amp charge rate

Environment

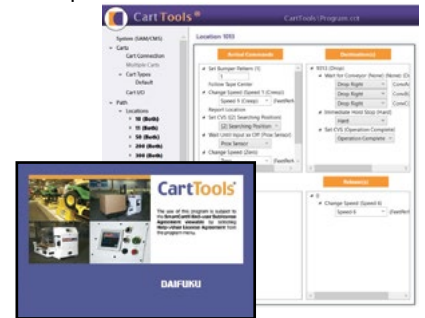
Environment – Atmosphere	0 to 40° C, 25% to 95% non-condensing humidity
Dust/Water-proof	No
Floor Specs – Edges/Debris	6 mm abrupt elevation change maximum, smoothed
Expansion Joints	6 mm maximum
Grade Rating	0%
Flatness	1% and 6 mm variation in 127 mm or less
Friction	0.6 coefficient of friction between wheels and floor, minimum
Floor Conductivity	Static dissipative, less than $3.5 \times 10^7 \Omega$
Radio Communication	IEEE 802.11a/b/g/n/ac, plus security encryption (if equipped)

Detailed Specifications

Drive Direction – Automatic	Forward and Reverse (if equipped)
Duty Cycle	95% @ Maximum Load Rating
Drive Unit – Wheel	Vulkolan 210 mm diameter x 70 mm wide
Drive Type	Gear driven steerable turntable
Motor	1000 watts 24VAC
Steering	24 VDC motor
Brake	10Nm, spring actuated (fail-safe)
Navigation	Daifuku AGV - Natural Feature Navigation and Laser
Steering Angle Encoder	Yes
Steering/Stopping Accuracy	+/- 13 mm
Location	Virtual
Caster Wheels	Polyurethane on cast iron 152 mm diameter x 76 mm wide
Guidance	Magnetic Tape/Bar SmartCart AGV
Steer Angle Sensor	Analog 10 turn potentiometer
Steering Accuracy	+/- 25 mm from physical path
Guide Loss Error	Error generated within 152 mm of path loss
Hunt for Path	Not offered
Sensor	16 millisecond data rate, 50 updates per second
SmartSteer Accuracy	+/- 76 mm @ 3m
Stopping Accuracy	13 mm proximity sensor, 38 mm transponder reader @ 9.1 mpm
Location Method	Transponder tags, 5 data bytes including checksum Virtual Locations via distance initiated functions
Program Capacity	5000 program steps
HMI Display	145 mm color touch screen – errors & destinations
Manual Movement	Pendant – via pendant plug receptacle, Fork Pockets
Minimum Path Radius	610 mm – 90° turn, 1524 mm – 180° turn
Drive Stalled Detection	Yes
Distance Initiated Functions	Yes – in 25 mm increments
Obstacle Detection	Front and rear (if equipped) programmable up to 2.8 meters
Emergency Stop	Front
Wiring	Per CE/UKCA ampacity guidelines
Side swipe optics	Both sides full length of vehicle (if equipped)

CARTTOOLS SOFTWARE

Simple, standardized toolbox of commands that make configuration a snap.



Pendant Control – When manual movement is required, it's as simple as driving the AGV where it needs to go.



SmartSteer – CartTools directing the AGV to intentionally leave the magnetic tape path. It allows maneuvers like pivot turns and ignoring floor problems when in full automatic operation.

System Automation Manager – (SAM) is a robust, easily-configured control system option for Automatic Guided Vehicles (AGVs) and SmartCart® Automatic Guided Carts (AGCs). SAM is the result of more than 60 years of experience engineering, manufacturing and installing more than 20,000 vehicles. SAM's framework can be easily customized to meet our customers' individual needs and improve the efficiency of our AGV and AGC systems.

