# Standard and Optional Equipment

## Standard Equipment

→ Safety type laser scanner
→ Safety type PLC control system
→ Traction motor duplex encoders
→ Traction electro-magnetic brake
→ QR code + IMU navigation
→ CE certified lithium-ion battery
→ Automatic charging
→ 1* Front laser scanner
→ 1* Top load identification camera
→ 2* Emergency stop
→ Visual and acoustic warning indicators
→ Differential drive
→ Electrical linkage lifting
→ Electrical rotating platform
→ Suspension chassis

## Optional Equipment

→ Front and rear mechanical bumpers
→ Fast battery swapping
→ Manual battery charge

## Other Options Available on Request

Linde Material Handling 林德物料搬运

# Linde Robotics
# Turtle Mover

C-MATIC 06/10 - LOAD CAPACITY 600kg, 1000kg

### Safety

Laser scanner for front safety detection. Mechanical bumpers both front and rear* with emergency stop button providing a secondary level of safety. Robot prioritises forward travel; reverse travel can be achieved should the application environment meet certain safety criteria.

*optional equipment

### Performance

Drive unit can achieve maximum 1.5m/s rated travel speed, the independent lifting and steering can move simultaneously, reducing waiting time and improving efficiency. The new generation of electrical lift mechanism can achieve 1.5s fast lifting further improving productivity.

### Flexibility

The dual wheels differential drive can achieve point rotating, curve turning and U shape turning. The load can stay static during turning with help from the steering unit. This greatly reduces turning radius and aisle width, minimising infrastructure changes.

### Reliability

The robot features a durable solid aluminum casting structure and all in one construction design. The suspended chassis improves the traction and drive force providing robot stability and consistent productivity.

### Service

The AGV housing is easy to disassemble. The component layout is maintenance friendly. The modular electrical system is simple to troubleshoot and repair. All of this with our local service support and parts availability ensures peace of mind 24/7, 365 days a year.

# Features

### Smart safety

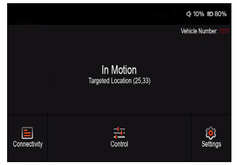
→ 360° all round safety protection
→ Lithium-ion battery
→ Automatic charging
→ Front laser scanner protection
→ Mechanical bumpers (optional)
→ Lower rack code reading
→ Front and rear emergency stop

### Navigation system

→ Accurate and reliable laser reflector navigation system
→ High precision inertial measurement unit (IMU) module

### Efficient Design

→ Differential drive
→ Electrical linkage lifting
→ Point rotation steering
→ Suspended chassis




### User interface

→ Indicator lights
→ Switch operation
→ Touch screen
→ App remote control
→ Vehicle status / alarm indicator
→ Real-time task management
→ Basic parameter setting
→ Fault diagnosis

### Operations management

→ Supports multiple communication protocol interfaces
→ Third-party signal access: safety door/ field sensors / photoelectric switch / elevator / mechanical arm, etc.
→ Dynamic path planning to avoid traffic jams caused by hot spots or disabled AMRs

*Subject to modification in the interests of progress, illustrations and technical details not binding for actual constructions and may show the optional equipment.*

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Linde Material Handling

# Technical Data

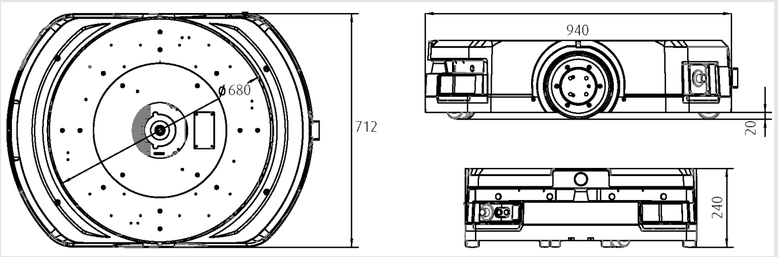
| | | | | | |
|---|---|---|---|---|---|
| Characteristics | 1.1 | Manufacturer | | LINDE | LINDE |
| | 1.2 | Model designation | | **C-MATIC 06** | **C-MATIC 10** |
| | 1.3 | Rated load capacity | Q (kg) | 600 | 1000 |
| | 1.4 | Power type | | Lithium-ion battery | Lithium-ion battery |
| | 1.5 | Drive type | | Differential drive | Differential drive |
| | 1.6 | Lifting type | | Electrical lifting | Electrical lifting |
| | 1.7 | Navigation type | | QR code+IMU | QR code+IMU |
| | 1.8 | Service weight | kg | 145 (5) | 210 (5) |
| Wheels | 2.1 | Tyres, Drive/castor: C=cushion P=polyurethane | - | P/P | P/P |
| | 2.2 | Tyre size, drive wheel | mm | Ø200x40 | Ø200x40 |
| | 2.3 | Tyre size, castor wheel | mm | Ø75x(2x30) | Ø75x(2x30) |
| | 2.4 | Wheels, number drive wheels/castor wheels (x=driven) | | 2X+2 (6) | 2X+4 (6) |
| Detection | 3.1 | Front obstacle avoidance | | Laser scanner | Laser scanner |
| | 3.5 | Crash detection (optional) | | Front & rear mechanical bumpers | Front & rear mechanical bumpers |
| | 3.6 | Emergency button | | Front & rear emergency stop | Front & rear emergency stop |
| | 3.7 | Stop precision | mm | ± 5 | ± 5 |
| | 3.8 | Stop angle precision | ° | ± 1 | ± 1 |
| | 3.9 | Navigation precision | mm | ± 10 | ± 10 |
| Dimensions & Performance | 4.1 | Overall length (with mechanical bumper/w.o. mechanical bumper) | mm | 940/956 (2) | 1150/1184 (2) |
| | 4.2 | Overall width (with mechanical bumper/w.o. mechanical bumper) | mm | 712/730 (2) | 800/834 (2) |
| | 4.3 | Overall height | mm | 240 (2) | 250 (2) |
| | 4.4 | Ground clearance | mm | 20 (4) | 20 (4) |
| | 4.5 | Rotating diameter, Unladen | mm | 956 | 1250 |
| | 4.6 | Lifting height | mm | 55 (4) | 60 (4) |
| | 4.7 | Rated travel speed, Unladen* | m/s | 2 (1) | 1.5 (1) |
| | 4.8 | Rated travel speed, Laden* | m/s | 1.5 (1) | 1.2 (1) |
| | 4.9 | Rated acceleration, Unladen* | $m/s^2$ | 1.5 | 1 |
| | 4.10 | Rated acceleration, Laden* | $m/s^2$ | 0.6 | 0.6 |
| | 4.11 | Lifting speed | m/s | 0.04 (3) | 0.04 (3) |
| | 4.12 | Maximum gapping ability | mm | 5 | 5 |
| | 4.13 | Maximum bulging ability | mm | 5 | 5 |
| | 4.14 | Maximum climbing ability | % | 3 | 3 |
| | 4.15 | Communication mode | | WiFi | WiFi |
| Drive | 5.1 | Battery type | | NMC | LFP |
| | 5.2 | Battery voltage/rated capacity (5h) | V/Ah | 48/33 | 48/38.5 |
| | 5.3 | Drive motor power (S1) | W | 750 | 1000 |
| | 5.4 | Lifting motor power (S2-5min) | W | 480 | 580 |
| | 5.5 | Rotating motor power (S1) | W | 400 | 400 |
| Others | 6.1 | Type of drive control | | Servo control | Servo control |
| | 6.2 | Noise level | dB(A) | 75 | 75 |

Figures for standard version may vary when optional equipment is fitted.

1) ±5%
2) ±5mm
3) ±10%
4) ±2mm
5) Standard configuration with battery weight
6) The castor wheels are double distributed

* The actual running speed is dependant on the application and environment

## C-MATIC 06




## C-MATIC 10