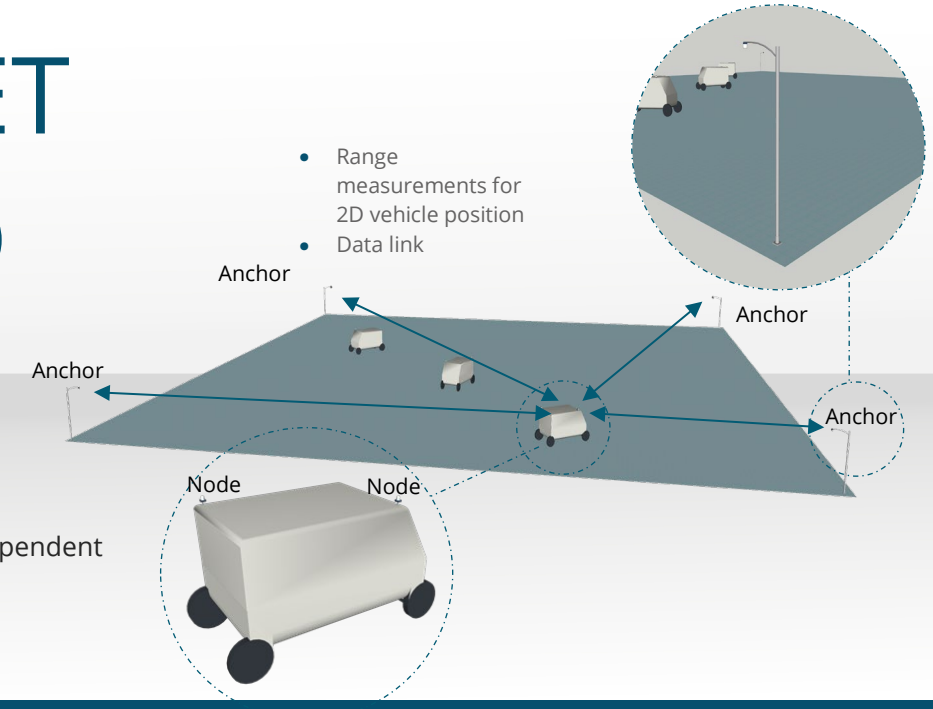
DATA SHEET

KY-LOC 2D



- Highly precise and dynamic Radar-based 2D position measurement for free ranging vehicles/objects
- Unlimited coverage area, GPS/GNSS independent
- Unlimited number of vehicles with unrestrained position accuracy
- Parallel, own data communication

SENSOR SUITE FOR 2D POSITION MEASUREMENT FOR ANY NUMBER OF VEHICLES IN AN UNLIMITED 2D AREA

The KY-LOC 2D sensor suite consists of one or two nodes per vehicle and a number of anchors units as position reference. The coverage area can be extended unlimited by further anchors.

Each node computes its precise position and speed in a predefined coordinate system. With two nodes on the vehicle, a precise heading can be determined even if the vehicle is not moving.

Anchors are typically installed at the same or higher level than the vehicle nodes. The devices are maintenance-free and do not need any recalibration. Anchor positions do not have to follow any pattern and could even be on one side of the coverage area, if existing mounting infrastructure (e. g. light poles, buildings) shall be used.

TECHNICAL DATA: KY-LOC 2D	
Operating range[1)] between anchor and node	typ. 250 m
Accuracy of speed measurement[1)]	typ. ±0,2 m/s
Accuracy of range measurement[1)]	typ. ±0,03 m
Update rate	up to 20 Hz
Protection	IP 66, IP66k and IP68 (cntd. plugs, 24h@1m)
Operating temperature	-30 ... +75 °C; -22 ... 167 F
Voltage, power consumption (M12, 5 pin, male, A-coded)	9 ... 36 V DC or PoE (802.3af), 5 W
Integrated radio data transmission	up to 1 kbit/s
Frequency	61 GHz (ISM band)
Interface (M12, 8 pin, female, X-coded)	Ethernet (100Base-Tx), PoE (802.3af)

1) Values may vary regionally with radio regulations applicable

KY-LOC 2D- Quick Facts

- Precise and reliable 2D local positioning sensor suite for an unlimited number of vehicles in the system coverage area.
- Own data communication.
- Precisely triggered collision warnings with other machines and buildings, light poles, conduits, etc.
- Coverage area can be easily extended by further anchors, without touching existing system parameters.
- High position integrity by system self-monitoring and parallel range measurements to multiple anchors per cell.
- Totally independent of GPS/GNSS.
- Resistant to adverse weather, signal spoofing or jamming.
- Web-based dynamic KY-OMNI visualization in 3D.
- Simple integration into existing 3rd party navigation & control systems.
- Maintenance-free.

Dokument: KY-DOC.0188, Ver. 5/2025

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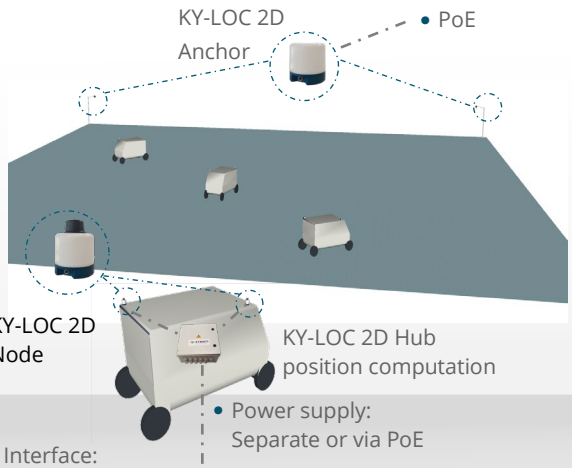
DATA SHEET
KY-LOC 2D



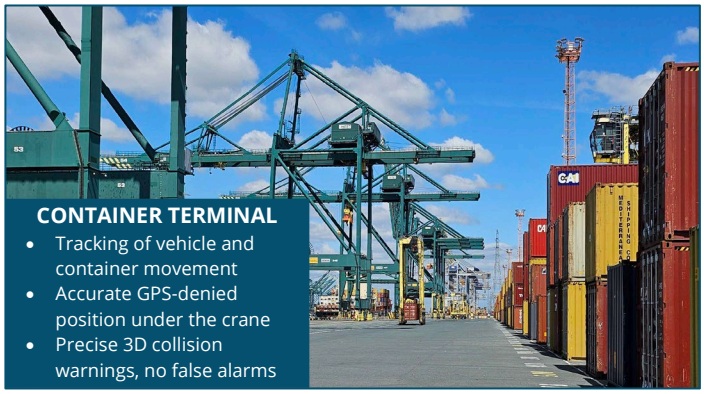
Mechanical Interface

without RTK GNSS

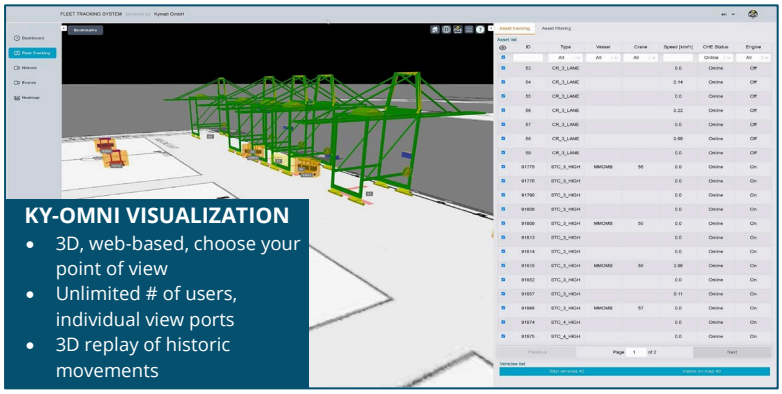
with RTK GNSS

Electrical Interface

APPLICATION EXAMPLES

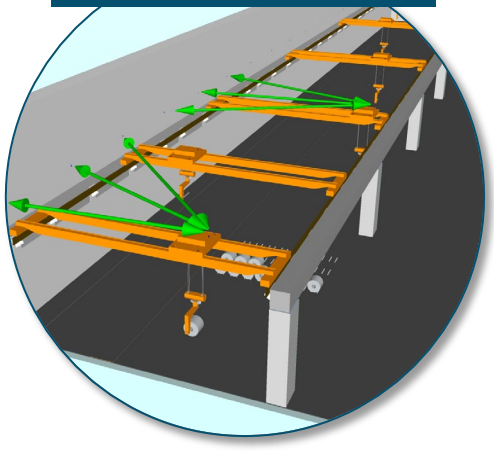


CONTAINER TERMINAL
- Tracking of vehicle and container movement
- Accurate GPS-denied position under the crane
- Precise 3D collision warnings, no false alarms



KY-OMNI VISUALIZATION
- 3D, web-based, choose your point of view
- Unlimited # of users, individual view ports
- 3D replay of historic movements

MANY CRANES, ONE CRANE BAY
- Position measurement with achors on one side of the bay
- Crane and crab (x,y) position are measured simultaneously



FAST RETROFIT
- Simple installation on existing equipment
- Commissioning during normal operation

COLLISION AVOIDANCE
- Protection of moving and static objects
- Precise alarm trigger, no false alarms by coarse measurements

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