DATA SHEET

KY-LOC 2D.03.01

- Range measurements for 2D vehicle position
- Data link

Anchor

Anchor

Anchor

Anchor

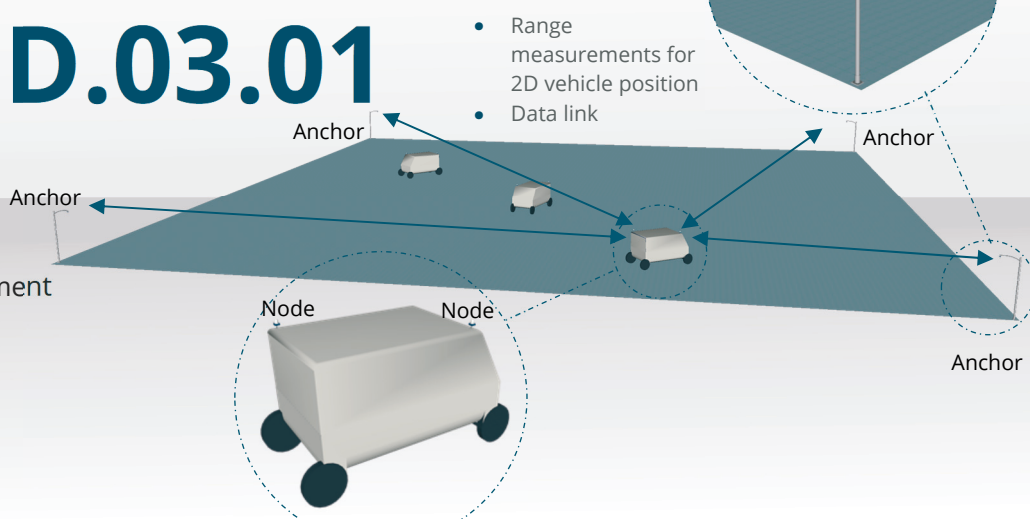Node Node

- Highly precise and dynamic Radar based 2D position measurement for free ranging vehicles/objects.

- Unlimited coverage area.

- Unlimited number of vehicles with unrestrained position accuracy.

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

The KY-LOC 2D.03.01 sensor suite consists of typically two node units per vehicle and four to six anchor units, forming a cell. Cells serve as a position reference for the nodes. The coverage area can be extended unlimited with further cells.

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.
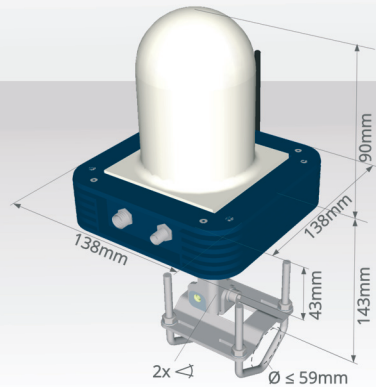
KY-LOC 2D.03.01- Quick Facts

- Precise and reliable 2D local positioning sensor suite for an unlimited number of vehicles in the system coverage area.

- Trigger early collision warnings with other machines and buildings, light poles, conduits, etc.

- Coverage area can be easily extended by further cells, without touching existing system parameters.

- High position integrity by system self-monitoring and parallel range measurements to multiple anchors per cell.

- Totally independent of 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.

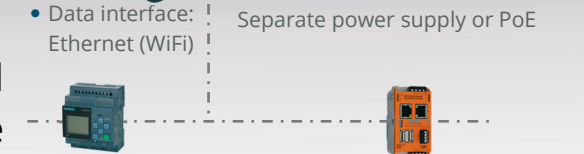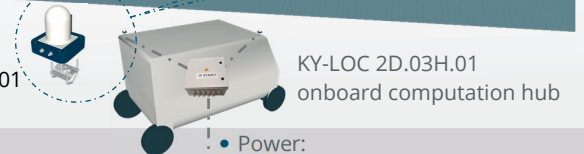| TECHNICAL DATA: KY-LOC 2D.03.01	
Operating range[1] between anchor and node	typ. 250 m
Accuracy of speed measurement[1]	typ. ±0,2 m/s
Accuracy of range measurement[1]	typ. ±0,1 m
Update rate	10 Hz (could be increased with use of onboard IMU)
Protection	IP 66, IP66k and IP68 (cntd. plugs, 24h@1m)
Operating 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

www.kymati.com, +49 89 515 759 900

KYMATI
WAVES ARE OUR VISION

DATA SHEET

KY-LOC 2D.03.01

KY-LOC 2D.03A.01
anchor

• Separate power supply or PoE

KY-LOC 2D.03N.01
node

KY-LOC 2D.03H.01
onboard computation hub

Mechanical Interface

90mm
138mm
138mm
43mm
143mm
2x ◁
Ø ≤ 59mm

Electrical Interface

• Data interface:
Ethernet (WiFi)

• Power:
Separate power supply or PoE
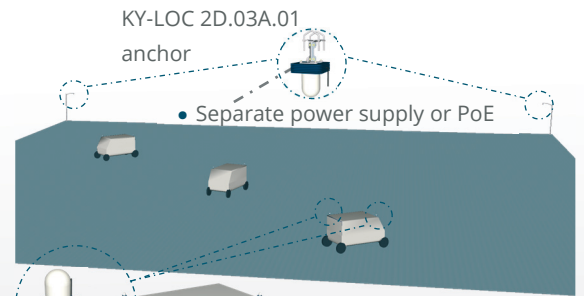
• Output signal module
KY-XTRA B.10.01 with digital
output signals based on
defined vehicle positions

• Interface converter
KY-XTRA B.01.01 enabling:
Profibus, Profinet,
Ethernet IP, Modbus, CAN

APPLICATION EXAMPLES

CONTAINER TERMINAL
• Track all crane and
vehicle movement
• Precise vehicle
position under cranes
• Collision warnings

KY-OMNI VISUALIZATION
• 3D, web based
• Unlimited users with
individual viewport
• 3D movement replay –
choose your viewport

SEVERAL CRANES, ONE BAY
• Position measurement to
anchors on one side of the bay
• Trolley and crane (xy) position
acquired simultaneously

LOADING NAVIGATION
• Loading and unloading of big
construction machines
• Find exact trailer position
without seeing the trailer

FORKLIFT TRACKING
• Track vehicles to assign
transport jobs efficiently
• Track pick&place to monitor
where products are stored

KYMATI
WAVES ARE OUR VISION