



ArrowTrack Reefer LoRa

SENSE, TRACK, TRACE & MONITOR YOUR ASSETS, ANYTIME, ANYWHERE



FULL GLOBAL COVERAGE

ArrowTrack Reefer Lora is a hybrid device that combines Cellular, LoRa, BT5 communications to provide comprehensive global coverage, offering fleet managers full visibility of their supply chain to enhance utilization and optimize operations. The device automatically switches between communication means based on their availability to ensure continuous communication. It is installed in a refrigerated shipping container. It is powered by 24VAC provided from the power source and contains a Li-ion battery pack to ensure continuous operation during power disconnect from the Reefer.

SENSING

The device is equipped with GNSS to indicate the asset's location, an impact sensor to detect critical movements of the asset or strong impacts, and a control box door-opening sensor that sends a message when the control box door is opened. Additionally, the device can receive data from external sensors and transmit it to the application.

APPLICATION

The data is collected, analysed, and presented on the ArroWatch designated application or the client's application via an API or directly, according to the client's preference.

ENDURANCE

- Designed to withstand harsh maritime and terrestrial working environments.
- Keep alive on save mode 6 months without reefer power.
- Capability to receive and send controller data when power off.

BI-DIRECTIONAL COMMUNICATION

ArrowTrack Reefer LoRa offers bi-directional communication options for receiving and transmitting data to the desired application/platform. The device can be reconfigured and updated remotely.





SPECIFICATIONS

Communication Technology

- Global 4G LTE (CAT-M & NB IoT) and 2G Fallback with seamless connectivity.
- Optional - LEO satellite bi-directional communication by Astrocast
- LoRa (Multiple Frequencies), leverage LoRa technology with support for various frequencies to comply with specific country regulations :
 - 868/915MHz
 - 433/470MHz
- Bluetooth 5, Enables short-range communication with the latest technology, facilitating seamless connections and data exchange between devices and sensors.

CELLULAR PROTOCOLS

- TCP/UDP
- FTP(S)
- MQTT

SUPPORTED GNSS

- GPS, GLONASS, BeiDou, Galileo, QZSS, AGPS

WIRELESS FIRMWARE UPDATES

- Cellular and BLE

WIRELESS CONFIGURATION UPDATES

- Cellular, LoRa and BLE

SECURITY

- Secure communication over all channels (Cell, LorA,BLE)

SIM TYPE

- DUAL CHIP SIM TYPE MFF2 (QFN8) embedded

CONNECTION DESCRIPTION

- Connector 12 pin micro-ft 3mm
 - 12v output
 - RS232 Terminal
 - POWER supply voltage 24VAC (nominal)
 - 2-wire to support daisy chain sensors
- Connector Fakra for external GNSS antenna

CERTIFICATIONS (IN PROCESS)

- FCC/IC
- CE RED 2014/53/EU
- IEC 62368-1
- IEC 62133-2
- UN38.3
- ROHS

INTEGRATED SENSORS

- Accelerometer, 3-axis digital accelerometer with motion detection
- Light Sensor - Control box door opening sensor
- Microphone - Future maintenance prediction

ENVIRONMENTAL

- Operating temperature: -40°C to +80°C
- Storage temperature: -40°C to 85°C
- Vibration: AAR S-9401 (in process)
- Mechanical shock: MIL-STD-810H (in process)

BATTERY

- 3.6V/6Ah Li Ion Pack
- With circuit Protection:
 - over voltage
 - under voltage
 - over current
 - short circuit

DIMENSIONS:

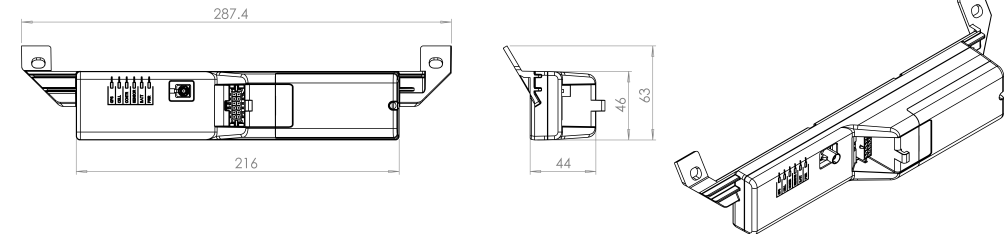
- 216mm x 46mm X 47 mm (8.48 x 1.79 x 1.8 inches)
- Plastic material: Polycarbonate
- Color: Grey

FLAMMABILITY

- Enclosure: UL 94 V0

SPECIFICATION CONT.

UNIT DRAWING



LED INFORMATION

LED	BLINKING	TURNED ON
GPS	Searching for GPS	GPS connected
CELL	Searching for Cellular	Cellular connected
CONTR	Controller communicating	Controller connected
SENSOR	Sensor communicating	Sensor connected
BATT	Charging	Battery Full charged
PWR		Power ON

SUPPORTED REEFER CONTROLLERS

- Star Cool
- Carrier
- Daikin

SATELLIE ANTENNA OPTIONAL

When having LEO satellite solution external antenna is needed for optimal reception.

Patents:

- REFRIGERATED CARGO MONITORING: US - 11,854,368 B2
- ACTIVE RESPONSE COLD TRETMENT FOR REFRIGERATED CARGO:
 - US: 2022/0196306A1
 - EUROPE: EP3948120B1
 - SOUTH AFRICA: 2021/08645

Note: Installation must be done according to the User guide instructions



SENSE, TRACK, TRACE & MONITOR YOUR ASSETS, ANYTIME, ANYWHERE



ARROWSPOT

Total Supply Chain & Asset Control. Sense. Track. Trace. Monitor. Manage your moving & stationary assets. Anytime. Anywhere.



ARROWWATCH APP

Total asset and logistics control, offering real-time monitoring for supply chain and fleet management. The application combines clear insights into individual assets with a bird's-eye view of the entire fleet.



ARROWWATCH 24/7 CONTROL CENTER

An operating room that proactively monitors and remediates failures for high value cargo during transit through AI-powered monitoring and 24/7 human expert oversight.



PROTECTED COLD TREATMENT

A smart solution that recognizes in advance when the cold treatment process is about to fail, intervenes automatically, and adjusts the set point of the refrigerated container to maintain the desired temperature range and ensure successful completion of the cold treatment.

CONTACT US

Tel. +972-72-2502230

Email: office@arrowspot.com

Dolev 4, Raanana, Israel



For more information on any of our products or services please visit us on the Web at: www.arrowspot.com