Ruggedized Forklift Reader with Integrated Antenna

VENTURE Research Inc.

Gateway BAR CODE AND RFID SOLUTIONS

RFID Solutions

EPCglobal

Sealed Enclosure Suitable for Harsh Environments

The Venture Research Forklift solution provides fully integrated reader / antenna configurations in a sealed enclosure. The sealed enclosures allow RFID tracking in environments that are high humidity or chilled environments with high condensation or wash down requirements. The integrated reader is well suited for the food processing industry. Additionally the readers are suitable for outdoor and yard tracking requirements by providing an IP65 or NEMA 4 rating.

Integrated unit with Reader and Antenna

By combining the reader and antenna in a single compact (7 5/8" X 5" X 2") enclosure, it can be easily retrofitted into tight spaces on a forklift with minimal installation effort. The integrated antenna is a 3dBic gain antenna that allows excellent performance for pallet level reading. An auxiliary connector is available that allows connection to a secondary antenna to improve coverage where needed. An optional 4 or 8 antenna switch is also available.

Flexible Power Options

The unit provides an internal 10V to 48V DC to DC power conditioner and supply to allow direct connection to any forklift power suppy. For installations that require more portability, an optional external removable battery mount is available with fully radiating power duration of over 9 hours. POE is also integrated.

Versatile Communication Options

The Venture Research Forklift reader supports direct Ethernet plug in, RS232 or WiFi (802.11b/g). The WiFi configuration provides the quickest implementation with only power required. Configuration and setup can be performed via WIFI or a direct Ethernet cable to pre-configure the units for special network requirements. Both WEP and WPA configurations are supported.

Proximity Detection Provides Accurate Triggering

A built in analog proximity sensor provides feedback on the material moving on and off the forks and provides a distance to the material. There is an external connector provided for an additional photo eye or user triggered switch to control the reading of the reader. Pre defined pallet pick, location sense and pallet drop algorithms are built into firmware to minimize middleware support. An optional Height sensor provides stacking configuration.

Optional External Antenna Provides Location Sensing

The optional antenna can be configured to read tags placed on racking, door frames or the floor to establish positional information about where the fork lift is at any moment. This provides operator independent material tracking and can be further expanded to performance tracking of the forklift operators by giving a indication of movements and time spent at each location.

24 x 7 x 365 Support

Venture Research maintains a world class support organization currently supporting over 240 distribution centers with 24x7x365 proactive support.

For further information contact Venture Research at 866-RFID-111

Sealed Reader / Antenna Combination

Shown with Optional Battery Pack

Integrates with any standard back stop

Now with Integrated Height Sensor

NEMA4 / IP65 Rated

Features	Benefits
NEMA 4 rating allows for harsh environment	Suitable for food service or outdoor applications
Integrated Reader and Antenna in a single enclosure	Simplifies installation and maintenance
9V to 45 V integrated power conditioner / regulator, POE or battery power	Accommodates all forklift power requirements including battery, propane and new fuel cell forklifts
802.11b/g WiFi, RS232 or Direct Ethernet connectivity	Provides the most flexible solutions including vehicle mount terminal interfacing
Proximity sensing and stacklight visibility integral	Ability to create operations feedback on tag read success and reader power management

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Specifications

Fork Lift Reader Electrical Specifications

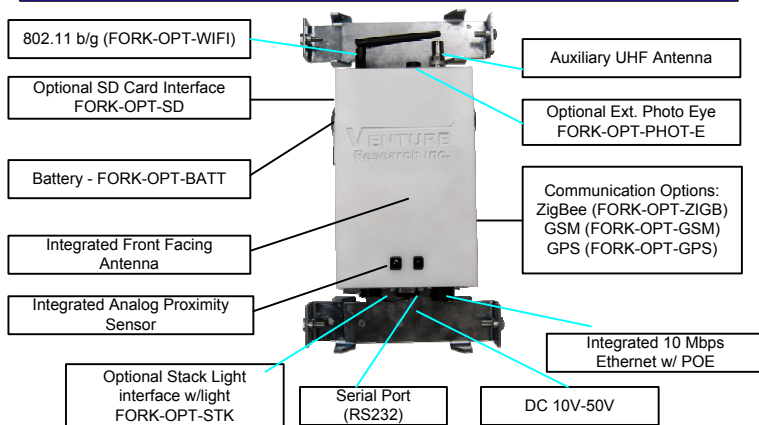|	
Model	FORK-RDR
Reader	1 Watt – 2 Port GEN2
Trigger	Software, Embedded Photoeye (3' range), Optional External Photo Eye or switch
Antennas	Internal 3dBic Circularly polarized, connection for External (RP-TNC) to auxiliary antenna
Power	Power Over Ethernet – VR Battery Pack – DC 10V-48V Direct regulated input
LED Indicators	Red, Yellow and Green diffuse LEDs

Interfacing

Data	TCP / IP, Serial or WiFi
Network	Configurable IP, Port, HostName, DHCP option, direct autonomous HTTP updating
Connection	Serial (DB9), Cat5/6 (RJ45), optional WiFi w/ SMA antenna mount
Communication	Integrated Serial RS232, 10 Mbps Ethernet – Optional WiFi, GPS, GSM or ZigBee, HTTP, SNMP
Protocol	Simple text based configuration and tag read stream (via Telnet). Online help is built in for all commands. Up to 5 independent sessions.
Specialty Modes	Conveyor, Pulse, Fork Lift, Continuous Read, Height
Antenna Select	Internal and Optional External Monostatic, optional 4 port or 8 port antenna switch
Stacklight	Integrated Interface for External Stacklight, Annunciator or direct GPIO (4 out)

Fork Lift Reader Mechanical

7 5/8" X 5" X 2" no Battery, 7 5/8" X 5" X 4 ¼" with Battery

Configuration Options

- 802.11 b/g (FORK-OPT-WIFI)
- Optional SD Card Interface FORK-OPT-SD
- Battery - FORK-OPT-BATT
- Integrated Front Facing Antenna
- Integrated Analog Proximity Sensor
- Optional Stack Light interface w/light FORK-OPT-STK
- Auxiliary UHF Antenna
- Optional Ext. Photo Eye FORK-OPT-PHOT-E
- Communication Options: ZigBee (FORK-OPT-ZIGB) GSM (FORK-OPT-GSM) GPS (FORK-OPT-GPS)
- Integrated 10 Mbps Ethernet w/ POE
- Serial Port (RS232)
- DC 10V-50V

Fork Lift Reader Options

Base Reader	Part Number
Sealed Reader	FORK-RDR
Power Configuration	
Optional Battery Pack	FORK-OPT-BATT-PACK
Battery - Li-Ion	FORK-OPT-BATT
Single Slot Charging Station	FORK-OPT-CHRG-1
Quad Slot Charging Station	FORK-OPT-CHRG-4
10-48V Conditioner	FORK-OPT-40
Power over Ethernet	FORK-OPT-POE
Communications	
Serial Port	FORK-OPT-SPI
10 Mbps Ethernet	FORK-OPT-Ethernet
802.11 b/g WiFi	FORK-OPT-WIFI
Zigbee	FORK-OPT-ZIGB
GSM-Cellular	FORK-OPT-GSM
GPS	FORK-OPT-GPS
Sensor	
External Photo Eye	FORK-OPT-PHOT-E
Height Sensor	FORK-OPT-HEIGHT
Stack Light Interface	FORK-OPT-STK
Internal Photo Eye	FORK-OPT-PHOT-I
Zigbee Stacklight	FORK-OPT-STK-ZIGB
Antennas	
Internal 3dBic Antenna	FORK-OPT-ANT-INT
Floor Read Antenna	FORK-OPT-ANT-FLOOR
Side Mount Antenna	FORK-OPT-ANT-SIDE
Slave Antenna Connection	FORK-OPT-ANT-EXT
Sealed 5" x 6" x 1.5" - 3dBic	FORK-OPT-ANT-ENC
4 Antenna Mux	FORK-OPT-ANT-MUX-4
Mounts	
RAM Antenna Mount	FORK-OPT-MNT-ANT
RAM Fork Reader Mount	FORK-OPT-MNT-RDR
4 hole drilled backplate	FORK-OPT-MNT-BACK
Variable adjustment Backstop mount	FORK-OPT-MNT-VAR
Take up Reel for power / data	FORK-OPT-MNT-REEL
Additional Water Gasketing	FORK-OPT-MNT-GASKET
Storage	
SD Card Slot	FORK-OPT-SD

Fork Lift Antenna Configurations

- Integrated Front Facing Antenna (FFA) – Included

Additional Slave Antenna Options (no mux required)
- Single Side Facing Antenna
- Low pallet level antenna
- Floor Facing Antenna

Additional Multi Antenna Options (mux required)
- Second side facing antenna
- Low pallet antenna + floor facing antenna
- Low pallet antenna + floor facing antenna + side facing antenna

Specify antenna configuration at time of order

Warranty

EPCglobal Compliant

1 year parts and labor
NEMA4 / IP65 Rated
Certified for use in China

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