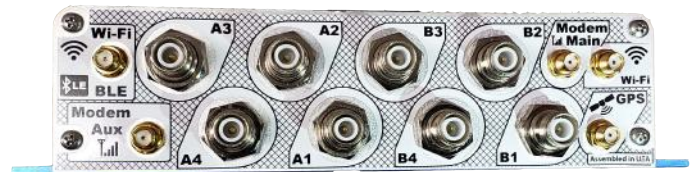# Hytrak™ 8 Port RFID/GPS/BLE Cellular Reader

RFID/BLE Solutions

The Most Features in a Single Reader

The Venture Research HyTrak™ reader sets the standard for integrated RFID and IoT solutions to satisfy the requirements of an open reader design that can be used in a variety of industries. The reader is packed with RF and communications features to accommodate the most demanding tracking scenarios. The HyTrak Reader combines:

UHF RFID - US and ETSI* (optional) frequencies – 8 port
BLE - Low Energy Bluetooth Reader
WiFi - a,b,g,n - Mimo WiFi support
Cellular - 4G LTE - Multiple Carrier Support
GPS - Dual constellation satellite
CAN - CAN Bus Support

in a single rugged enclosure driven by a high performance Linux operating system.

Support for Both Active IoT and Passive RFID Tags

The HyTrak reader is the only reader on the market that has integrated the ability to read passive RFID tags and also active (battery assisted) BLE (Low Energy Bluetooth) tags. This allows cost effective passive tags to be placed on general assets and critical assets to be tagged with BLE beacons to ensure readability.

Suitable for Mobile Applications

The HyTrak reader can run on POE or 10v–48v power allowing for battery operated applications. Direct connections to a forklift reader or vehicle is now possible through its regulated power supply. With the GPS feature and BLE, mobile equipment can be tracked outside and inside of buildings and deliver their coordinates through a cellular backhaul.

Designed for the Cloud

The HyTrak solution shares the same API as all other Venture Research Products that are designed for direct cloud interfacing. Store and Forward to a direct REST interface is built in for rapid deployment. Using the REST interface, the requirement for expensive middleware is eliminated.

Additional Peripheral Support

Along with the RFID, BLE and GPS tracking capability, the HyTrak solution provides 4 in, 8 out GPIO along with dual USB A ports, OTG USB port and a direct console port. 10/100 ethernet is integral and serial and CAN Bus support extends the communication options available in the reader. CAN Bus support provides the ability to connect in a daisy chain fashion standard Venture Research peripherals such as stacklights, thermal sensors, machine sensors and locking systems.

24 x 7 x 365 Support

Venture Research maintains a world class support organization that can provide real time monitoring and alerting of system operability. All hardware products from Venture Research contain automatic self-diagnosis and alerting. Connecting the product to the remote Venture Research monitoring system called SiteWatch, allows non-stop read point sensing for mission critical applications.

Applications

- WIP Tracking
- Mobile Asset Management
- Dock Door Portals
- Forklift Cycle Count Readers
- Health Care equipment/personnel tracking
- General Purpose RFID/BLE applications

Features	Benefits
UHF RFID up to 8 ports	Allows applications to have more antenna support than a 4 port reader
Low Energy Bluetooth support	For Critical Asset tracking and Geo Fencing
GPS built in	Accurate mobile positioning outside of buildings
Integral Mimo WiFi a/b/g/n support	Allows faster deployments
POE or 12vDC	Flexible power options
4 in 8 out GPIO with CAN and Serial	Provides direct peripheral control and flexible input sensing
Integral store and forward capability for all transactions	Ready for the Cloud
Optional 4G LTE Cellular with removable SIM card	Provides direct cloud interfacing for mobile applications
Integral SD storage card	Allows virtually unlimited storage and application loading capability

*Specify US or ETSI at time of order

Specifications

TAA COMPLIANT

HyTrak™ Electrical Specifications

Model	HYTRAK-001
RFID Reader	1 Watt (30 dBm) Class 1 GEN2 (ISO 18006c) reader, US (902-928 Mhz)(European frequencies ETSI - 865-868 Mhz/1/2 Watt also available
Power	48 or 56 v POE 10-48 v DC regulated -10W
RFID Ports	8 Port RTNC connections

Interfacing

Ethernet	10/100 Mbps (POE)
WiFi	WiFi(802.11 a/b/g/n), MIMO Antenna Support
BLE	Low Energy Bluetooth reading of iBeacon or Eddystone beacons
GPS	GPS/GLONASS - with external antenna port
USB	Dual USB A, USB OTG
Serial	Console Serial Port with FTDI support DB9 Female RS232 - AUX Port
CAN BUS	1 Mbps CAN Bus Interface
Sim Card	Externalized SIM Card for Cellular Integration
Additional Sensors	Biometrics, HF Badge, Facial Recognition, Floor mat sensor, motion sensor, Thermal/Humidity sensor, door sense
I/O	4 in (Sink or Source) /8 out Conditioned
Diagnostic LEDs	RGB Programmable

Operating System

Linux Build	Yocto project build (Android 4.x also available)
VPN Support	Built in multiple end point VPN embedded secure client(s)
Programming	C,C++,Python, Node, Java
Cloud Computing	Store and Forward with all filtering/aggregation being performed in the reader. Direct web service update capability using HTTP Post

Notes:
- Call for compatible Antennas and Cabling
- Cellular requires yearly service contract
- Specify service provider at time of order
- ETSI/EU - 865-868 MHZ Version available at extra cost
- For an IP67 rated version of the product refer to the MultiTrak™ Product

Shown with optional cable protection end caps

Mechanical

Dimensions: 8"W x 8.5"D x 2"H without End Caps
13 1/2"L x 9"H x 2 1/2"H with End Caps

Options

Power	Part Number
Battery Backup	HYTRAK-OPT-BATT-PACK
Battery Charger - Single Battery	HYTRAK-OPT-BATT-CHRG1
Battery Charger - Quad Battery	HYTRAK-OPT-BATT-CHRG4
Spare Battery	HYTRAK-OPT-BATT
POE Injector - 48v	HYTRAK-OPT-INJECT
Communications	
4G LTE Module	HYTRAK-OPT-CELL
Carrier Service - 1 Year	HYTRAK-OPT-CELL-CARRIER
Peripherals	
External Input (PIR Motion Sense)	HYTRAK-OPT-PIR
CAN Bus Stacklight	HYTRAK-OPT-CAN-STACK
Hi Gain WiFi Antennas (MIMO)	HYTRAK-OPT-WIFI-ANT
Mobile External GPS Antenna	HYTRAK-OPT-GPS-ANT
Mobile External Cellular Antenna	HYTRAK-OPT-CELL-ANT
Combined WiFi/GPS/Cellular Antenna	HYTRAK-OPT-COMBO-ANT
Operating System	
Open Embedded Linux	HYTRAK-OPT_OS-LINUX
Android 4.0	HYTRAK-OPT_OS_Android4
Cabling	
CANBUS Interconnect Cable 15'	HYTRAK-OPT_CAN_15
Serial Interface Cable to USB	HYTRAK-OPT-USB-SER