SapIP Wireless Mesh Network

Features

- The Gateway collects and forwards all data to the servers
- Gateway data transmitted with optional Cellular GPRS package
- Data can be transmitted with LAN if on-site internet accessible
- Fully integrated wireless sensor mesh-networking platform
- Self-Healing Network
- From 10 min to 1 hr data collection
- Up to 50 SapIP Nodes per Gateway
- LAN – Data port – standard data retrieval
- Cellular Data Retrieval for remote sites with annual data service subscription
- Data Retrieval GUI Software provides csv data file collection

SapIP Network Gateway – Proven Technology

- Integrated Gateway package ensures security, flexibility, and a full range of Gateway functions
    - o Device Interface and WEB based communication, monitoring and reliability controls
    - o All tools are structured for Dynamax Engineering teams to support field installations quickly and interactively
    - o An engineer monitors the signals, sensors, data integrity and starts data collection before the installer leaves the field. Guaranteed success the first time

Grower Dashboard with Map Views

- Field irrigation management and monitoring using interactive graphic displays
- Account management with password protection
- Field specific data saved for a full year or growing season

Interactive Graphics

- Data charts are defined by the customer to show the latest days, weeks, or any specific historical period
- Soil moisture and field weather data can also be displayed

Detail Irrigation Block or Field View

- As the grower reviews sensors in each block, the location is identified in a satellite picture window
- Moisture trends can be compared to sap flow, transpiration stress, weather and projections for water or harvest needs

Network – Monitoring

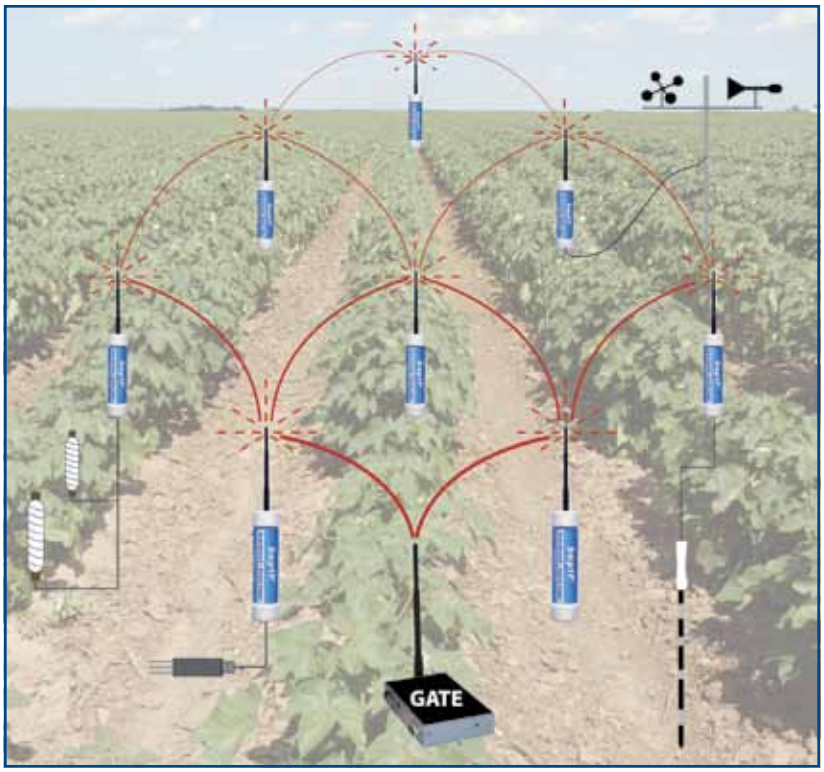
- Interactive Node and Gateway consoles on map overlays with key information, battery status, communication, and signals.
- Additional layer of communications tools for device discovery, node additions, or repositions

Field Monitoring – Device Control

- Factory Designated channel management
- Sensor cables are preconfigured before shipment
- No Field installation changes, add batteries and solar panels
- Channel definition and sensor conversions are set at the factory, but can be modified for field conditions, soil type, and a variety of sensor manufacturers

DYNAMAX

SapIP Specifications



Function	Specification
Range to next Mote	2.4 Ghz configuration - 350 m (1,150 ft.) urban; Rural 500 m (1,600 ft.) 900 MHz Configuration - 1,000 m ; USA Only
Antennas	7 dBi Mobile. Supplied with lightning protection, mounting, and 12 ft cables. Recommended for 3 m (10 ft) pole mounting above crop or canopy
Differential signal inputs (8)	24 bit analog to digital converter. 22 bit effective accuracy (±4 uV) - 1 uV resolution.+2.5 to – 2.5 V, to +.000100 to - .000100 mV in seven defined ranges All ranges provided with data checking, validation codes. Voltage scaling supported on board for high voltage inputs. All Differential inputs have offset and noise elimination. All signals protected from surge, over voltages
Pulse Inputs (2)	Switch closures up to 150 hz / Frequency signal (wind)
Sensor Heater Supply	1.5 to 9 V, 1.5 A max, Regulated and monitored voltage- current Sensor heaters require large external battery and solar panel charging
Output excitation	5.00 V fixed, up to 150 ma
Logging/transmit period	1 minute to 1 Hour in 6 ranges. Sampling – averaging supported
Environmental	Operating Range –20° to 50° C

Features

- Sensor Node with Eight Channel Differential Signal Logger
- Self-Healing Sleeping Network. Real-time data collection
- Wide range of input signals: micro Volts to ± 2.5 Volts
- High accuracy and high resolution
- (2 to 8) sensors per node typical. 30,000 records saved to flash memory
- Completely sealed field enclosure
- Radio Transmission at low power 50 mW, programmable to 1 mW
- Two versions available – 2.4 Ghz, and 900 Mhz spread spectrum, FCC licensed
- Up to 7 hops in network nodes supported automatically
- Distances covered up to 1 mile
- Compact Size 7 cm x 30 cm
- Easily mounts with straps provided

Dynamax Inc
10808 Fallstone Rd #350
Houston, TX 77099 USA
Tel: 281-564-5100 Fax: 281-564-5200
admin@dynamax.com
www.dynamax.com