



Network availability & reliability are main targets for every DAS operator or owner. And both targets cannot be fulfilled without timely insights about the DAS infrastructure. The DASwizard system is Consultix DAS monitoring system which is engineered to promptly report RF defects along the DAS infrastructure and to significantly reduce troubleshooting effort and costs.

Extending the options of DASwizard monitoring nodes, the Neuron tag is designed to cover those scenarios where the detection mechanism of the DASwizard probe is not relevant.

The tiny battery-operated device is directly mounted on each DAS antenna to periodically transmit a keep-alive signal backward along the DAS path down to the equipment room where the Neuron gateway is located to report all probe alarms to the SpectraQual server.

The **Keep-alive** signal which is transmitted back into the antenna path verifies the infrastructure continuity regardless of the carried technology or operational bands.

# Neuron

DAS Monitoring System



## **SYSTEM** SPECIFICATIONS

#### **NEURON**

| Parameter/Feature                          | Value   |  |
|--|---|--|
| Mode                                       | DAS continuity check  |  |
| Communication with the gateway             | Keep-alive signal   |  |
|  | (coded with each Neuron ID)                                 |  |
| Communication media                        | Keep-alive signal transports through the DAS infrastructure |  |
| Keep-alive Frequency Band                  | 900 MHz ISM band  |  |
|  | (custom option choose from 287 to 1054 MHz)                 |  |
| Keep-alive signal Modulation               | GFSK  |  |
| Keep-alive Signal BW                       | 50 KHz  |  |
| Keep-alive Signal Power                    | 12 dBm  |  |
| Reporting Interval                         | 5 minutes to 1 day (Factory Settings)                       |  |
| Keep-alive Signal Duration (active period) | 30 ms   |  |
| Neuron battery Life                        | 4 years @ 15-minute reporting interval                      |  |
| Battery Type                               | Built-in, Coin CR2032 (Replaceable)                         |  |
| Weight                                     | 35 grams (1.25 oz) including battery                        |  |
| Dimensions                                 | Diameter; 45 mm (1.77"). Hight; 20.3 mm (0.8")              |  |
| Mounting                                   | Adhesive (screw-mount optional)                             |  |
| Settings                                   | Neuron ID, site and floor location                          |  |
| Operating Temperature                      | -10 to 50 °C (14 to 122 °F)                                 |  |
| Operating humidity                         | Up to 95%   |  |
| Certifications                             | FCC (part 15.109 and 15.107) and                            |  |
|  | EN55022/CISPR 22 EMI  |  |
| Enclosure material                         | ABS Plastic. White color                                    |  |
|  | (custom color available)                                    |  |

### **NEURON GATEWAY**

| Parameter/Feature      | Value  |
|------------------------|--|
| Capacity               | >100 Neurons / gateway   |
| Connectivity to server | Ethernet (Optional WIFI and Cellular)  |
| Back-up mechanism      | Store & forward  |
| Security method        | SSL  |
| Alarming Method        | Direct access (hotspot GUI), SpectraQual server, SNMP interface (optional) or Drycontact (optional)                    |
| Power Supply           | DC input (5 VDC; connector 5.5 × 2.1 mm) and AC/DC adapter included (100-240 VAC, 50-60 Hz). Optional 24/48 VDC input. |

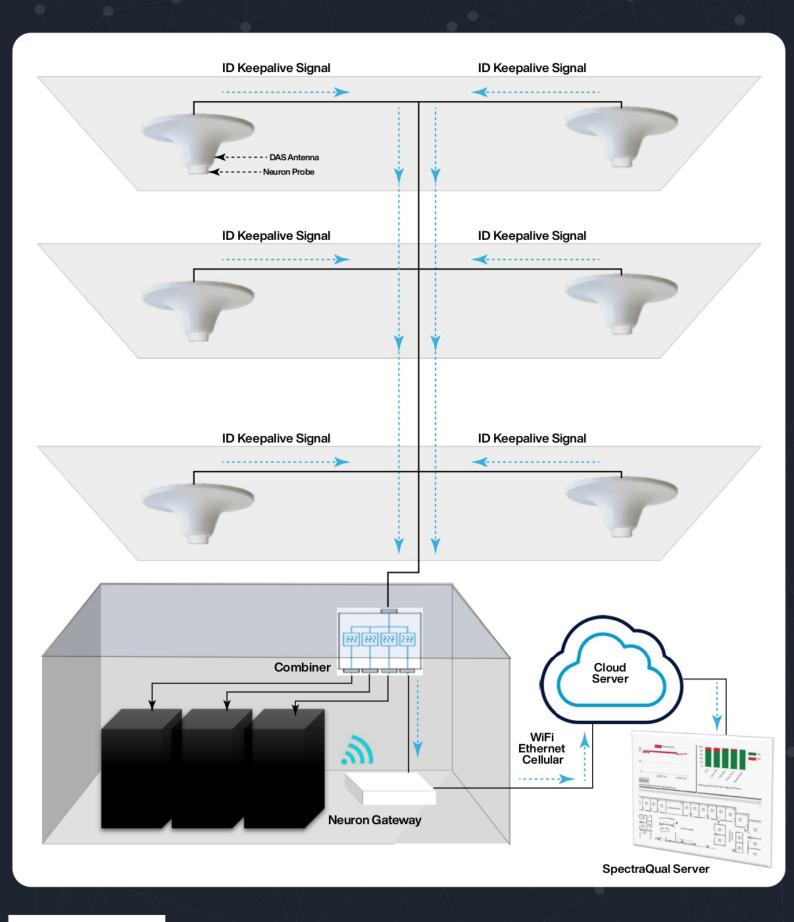
### **SYSTEM** SPECIFICATIONS

### **SPECTRAQUAL SERVER**

| Parameter/Feature             | Value   |
|-------------------------------|---|
| User access                   | Web-based   |
| Setup                         | On-Premises or Cloud  |
| Security                      | SSL to gateway, token for user authentication and access levels |
| Widgets                       | Standard or customizable  |
| Data Representation           | Tabular, time graph, bar chart, pie chart and maps              |
| Capacity                      | As per ordering information below                               |
| Notifications                 | Dashboard, visual floor map, e-mail and SMS                     |
| OS                            | Windows Server  |
| Database                      | MySQL   |
| Integration with existing OSS | Custom option   |

### **ORDERING INFORMATION**

| Parameter/Feature  | Value                |
|--|----------------------|
| RF beacon for DAS continuity check; built-in battery, adhesive-mount.  | Neuron               |
| Neuron Gateway: Receiver unit for Neuron keepalive checks; Ethernet connection to SpectraQual server; incl. AC/DC Adapter. | Neuron-GW            |
| Form C Dry-contact interface for Neuron Gateway.   | Neuron-GW-FC         |
| External Directional Coupler for Neuron Gateway connection with site equipment.  | Neuron-GW-DIR        |
| Neuron gateway option: WIFI backhaul connection to SpectraQual server.   | Neuron-GW-WIFI       |
| Neuron gateway option: Cellular backhaul connection to SpectraQual server.   | Neuron-GW-CELL       |
| SNMP interface for Neuron Gateway.   | Neuron-GW-SNMP       |
| RSSI mode for Neuron Gateway (Neuron signal level monitoring).   | Neuron-GW-RS         |
| Local Instance of SpectraQual Server Licence (< 100 Probes)  | SpectraQual-P100     |
| Local Instance of SpectraQual Server Licence (< 200 Probes)  | SpectraQual-P200     |
| Local Instance of SpectraQual Server Licence (< 1000 Probes)   | SpectraQual-P1K      |
| Local Instance of SpectraQual Server Licence (> 1000 Probes)   | SpectraQual-Mega     |
| SpectraQual server (Cloud): Annual subscription (< 100 Probes)   | SpectraQual-Light100 |
| SpectraQual server (Cloud): Annual subscription (< 200 Probes)   | SpectraQual-Mini200  |
| SpectraQual server (Cloud): Annual subscription (< 1000 Probes)  | SpectraQual-C1K      |
| SpectraQual server (Cloud): Annual subscription (> 1000 Probes)  | SpectraQual-Mega/C   |



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