netGauges – mesh network gateway

netGauges mesh network gateway provides remote control of 100's of individual LED lighting circuits using a distributed wireless mesh network. Individual dimmer modules connect to a central gateway which provides local and cloud-base control using any web browser. netGauges gateway can be used stand-alone (AdHoc) with any tablet/iPad/iPhone/SmartPhone or attached wirelessly to a local router (infrastructure) for network control. Internet cloud service can provide remote control and monitoring of all lights and alert when problems occur.

The gateway's built-in server hosts Web pages that allow user control of any of the attached LED Light circuits. The netGauges web pages are completely customizable using a browser interface to match any installation. All positions can be custom labeled. Current dimmer state is constantly monitored and shown on the browser page. Up to 32 different mesh modules can be monitired and controlled.

A single gateway is deployed with up to 32 mesh dimmer modules. Wireless mesh modules are available for AC Triac, 0-10 VDC control wire, dual channel relay, and direct PWM DC dimming. Modules can be mixed on the network and can drive multiple led fixtures (up to 16 lamps). Each mesh module has a wireless range of up to 4000 feet to its next neighbor and self-heal if a node goes down.
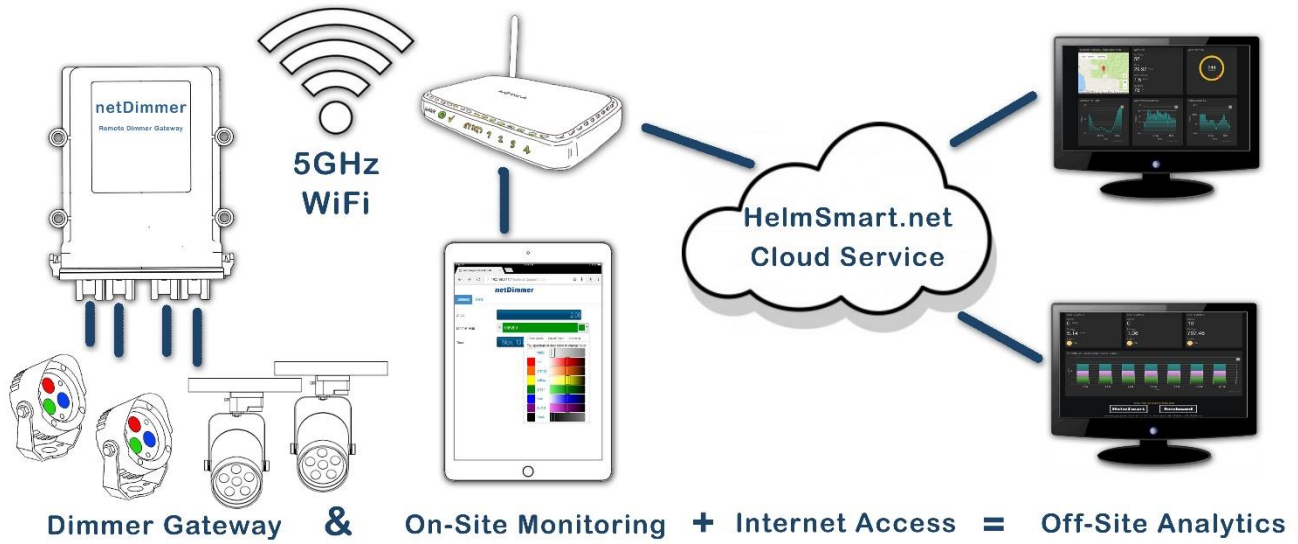
When paired with a netGauges Mesh Gateway, a complete stand-alone closed loop control system can be created. For example, ambient light detected by a netGauges Mesh Gateway can create a command message to be sent over the network to mesh modules to decrease lights levels during daytime.

netGauges mesh module options include support for TRIAC, 0-10 Volt, dual channel relay, and direct PWM circuits. TRIAC is ideal for existing 2-wire AC mains and can support up to 8 dimmable loads to 6 amps @ 277 VAC. A 0-10V control option is also available for 4-wire lights with a 15 amp relay for direct AC cutoff. The dual channel relay module will switch loads up to 277 VAC @15 amps and can be gang controlled to provide pseudo-dimming by switching off banks of lights within a group. Direct PWM options are available for 12-32 VDC and 120VDC LED lights up to 6 amps per circuit. All mesh modules fit into standard 2-gang electrical boxes and are direct AC powered.

The gateway's rugged water-resist design features flying lead harness for secure connections and easy installation. A 4-pin twist-lock Conxall Mini connector provides the Ethernet interface with included mating 15' Cat5 patch cable. This design prevents cable engagement failures common with RJ45 connectors and provides enhanced environmental protection. WiFi and 4G Cellular options are also available for wireless internet access. Zigbee/Xbee mesh networking provides wide area distribution of individual dimmer modules for campus, street lights, and grid deployments. Wireless range up to several miles can be achieved.

netGauges Cloud service provides a complete remote control and monitoring system for your LED lighting network. The netGauges Mesh Gateway links individual modules to the cloud data service which provides 24/7 storage of current status information. Live monitoring allows actions like sending SMS messages when a light fails or a mesh module is off-line. The service also allows clients to create action lists to control lights based on events such as sunrise/sunset or time-of-day profiles.

User designed dashboards can be created to view live and historical data in a variety of graphic widgets using any modern web browser device. View current status on your phone/tablet/pc anywhere at any time.

netGauges cloud service is also compatible with emerging voice control devices like Amzon's echo products. A Echo Skill links voice commands with enabled mesh modules to activate and dim individual lights or as a whole group. Add multiple echo devices to command lights over any internet access point.

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Model Number	NDMESHGW	NDMESHRELAY*	NDMESHPWM*	NDMESHVC*
Dimmer Channels (control/slave)	32 mesh modules	1-16 @ 15 amps	1-8 @ 6 amps	1-12 @ 0-10VDC
Dimmer Output type	Zigbee/Xbee mesh network modules	Relay Switched 85-277 @ VAC @15 amps 2 channels	PWM @300 Hz 12/24/36VDC, 160VDC	0-10 VDC @ 200mA and 15 amp relay @ 277VAC
SD Memory Storage (removable)	4GB			
Serial Port (RS232)/USB Port • Supplied weather-resist USB - 2m • Supplied PC Instrumentation S/W for live view	☑	☑	☑	☑
Ethernet Port (10/100 Base-T) • Supplied weather-resist RJ45 patch cable-3m • 5-pin micro Twist-lock connector	☑			
WiFi Port (802.11 b/g) 2.48 GHz • Supplied 6" di-pole or Optional remote Antenna • Range of 300'	☑			
Cellular 4G embedded modem • Remote wireless access • Verizon/AT&T data plans	☑			
Zigbee/Xbee Mesh • Spans large area peer-to-peer • Multi-node self configuring WiFi	☑	☑	☑	☑
Embedded Web Server • Included Web Pages for live view	☑			
Network Protocols • TCP – Single Client • UDP - Broadcast	☑			
Remote Access via Internet • Direct Push to netGauges.net	☑	☑	☑	☑
Power Supply	5 VDC	110-277 VAC	12V-177 VDC	110-277 VAC
Supply Current	1 A	15A X 2	8 A	1 A
Enclosure Material	Thermoplastic	PVC-1 Gang	PVC-2 Gang	PVC-2 Gang
Dimensions	6"X4"X2"	3.5"X1"X1"	3.5"X2"X1"	3.5"X2"X1"

* Requires separate gateway – multiple dimmer modules are inter-connected via central gateway device

☑ denotes product configuration option