

PATLITE®
New Frontiers in Safety, Security and Comfort.

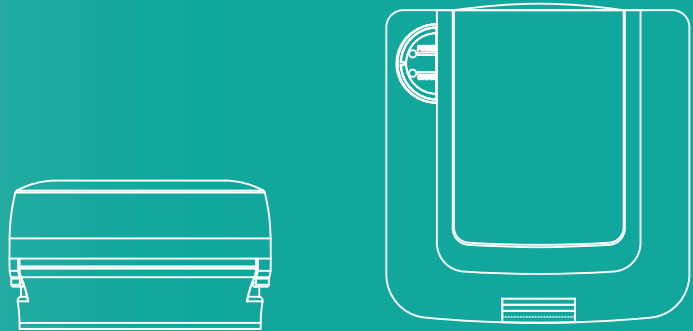
GENERAL CATALOG



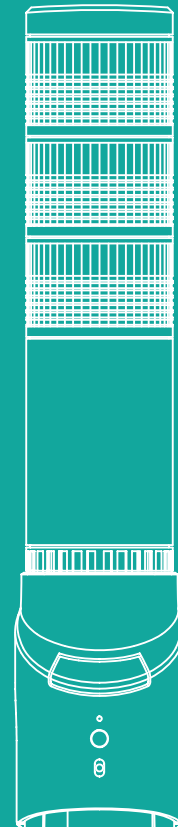
sensorMATIC
SPECIALIST&SOLUTIONS

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Network Products



NHL

Network Monitor Signal Tower



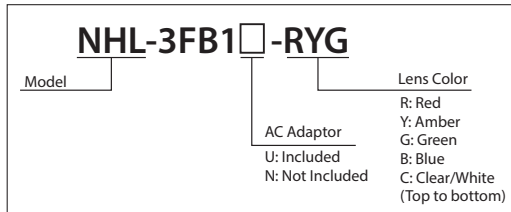
- LED
- 4 Alarm Sounds
- 80db at 1m
- Φ60
- Network

Network Monitoring With a New Look

FEATURES

- Not dependent upon the OS.
- Supports common protocols such as HTTP, SMTP, SNMP and includes RSH.
- Easily works with NMS (network management/integration / monitoring) software, etc.
- Easily controllable by the SNMP SET command and RSH commands.
- Conforms to the CE requirements. (AC Adaptor does not carry the CE mark.)
- Four different alarm sounds can be correlated to match the prioritized monitoring level.
- Contains the ICMP protocol so PING monitoring can be set up for a maximum of 24 nodes.
- Using the IP Address of the NHL Tower, detailed setup functions can be accessed via a browser.

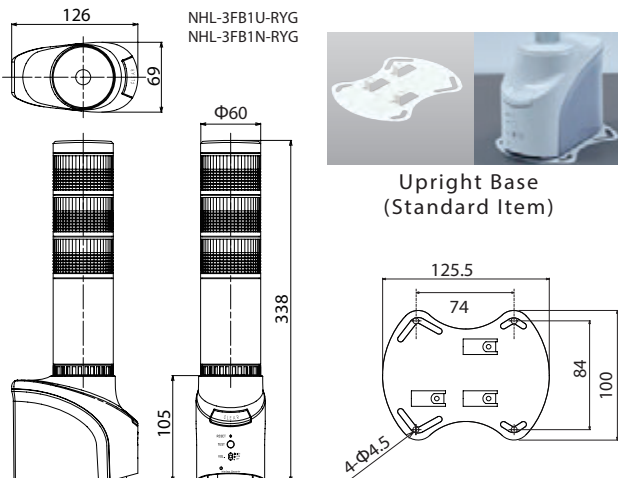
How to Order



Specifications

Model		NHL-3FB1U-RYG	NHL-3FB1N-RYG					
AC Adaptor	Rated Voltage	AC 100V to 240V	-					
	Operating Voltage Range	AC 90V to 264V	-					
Main Unit	Rated Voltage	DC 24V						
	Power Consumption	Unit	Red	Amber	Green	Blue	White	Buzzer
		2.0W	1.5W	1.5W	0.8W	0.8W	0.8W	2.0W
Operating Temperature Range		0°C - +40°C						
Storage Temperature Range		-10°C - +60°C						
Relative Humidity		RH of 20 to 80% (No Condensation)						
Vibration Resistance		19.6m/s ²						
Protection Rating		IP20 (Not Waterproof)						
Alarm Sound	Audio Level	Three-position switch for "HIGH", "LOW", "OFF" "HIGH": 80dB or more "LOW": 70dB or less (Tested at 1m from diaphragm in upright position)						
	Tone Pattern	Four distinctive patterns: (Slow Intermittent), (Fast Intermittent), (Fast Burst), (Continuous)						
Switches	"CLEAR"	Pushbutton Switch						
	"TEST"	Pushbutton Switch						
	"RESET"	Pushbutton Switch						
	"BUZZER"	Slide Switch						
Communication Method	Ethernet	Physical Layer: 10BASE-T/100BASE-TX (Auto-negotiation/Full Duplex/ Half Duplex)						
		Data Link Layer: CSMA/CD						
		Network Link Layer: IP / ARP / ICMP						
		Transport Layer: TCP / UDP						
Application Layer: HTTP / RSH / SMTP / SNMP / POP / DNS / NTP / DHCP / Socket								
Mounting	Location	Indoors Only						
	Direction	Desktop or Wall-mount in the Upright Position						
Mass		800g (AC Adaptor not included)						
Accessories		AC Adaptor, Rubber Feet, Adhesive Tape, Support Base			Rubber Feet, Adhesive Tape, Support Base			

Dimensions (Unit: mm)



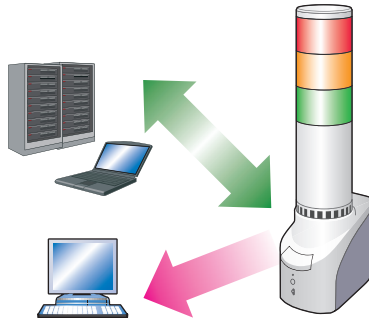
Easy Integration for many system applications

PING Device Monitor

Monitors Device Existence on the Network

The NH Tower initiates PING interaction with network devices to verify existence of up to 24 nodes. When the response to a PING fails, a warning with light and sound occurs to alert administrators.

Among the 24 nodes, 12 nodes (13th - 24th) can be set up for more detailed monitoring parameters.



Application Monitor

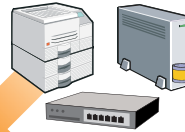
The tower can monitor important background applications and signal the administrator upon any failure.

SNMP v1-v2c

Monitor networking equipment at a low cost

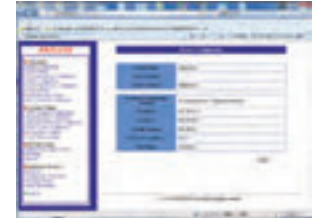
Many network devices (UPS, printers, routers, switches, etc.) generate SNMP TRAP messages when a failure occurs. The NHL tower can trigger a light and sound signal based on these SNMP TRAP messages to alert the administrator.

It can distinguish the various TRAPS. Register up to 16 groups (4 nodes per group).



Easy setup from a web browser

Detailed tower setup is accessed from a web browser directly to its IP Address. Firmware can also be upgraded remotely.

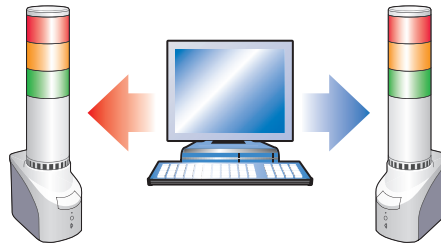


Web Setup Screen

Communication Commands for many customized applications

RSH

The RSH protocol is flexible with easily controllable commands. With the use of Network integrated management software; event information obtained from various monitoring tools etc., can be used as a trigger to cause a combination of flashing and alarm patterns to sound in synchronicity with the event.



Event Occurrence: Command Tier to light, alarm to sound.

RSH Example Code: rsh 192.168.10.1 -l root alert 111001

SOCKET Transmission

PHN Command Compatibility

Controlled with 2 byte commands.
 * Compatible with NHE-3FB, NHC-3FB, NHM-3FB, and PHN-3FBE1.
 * Some functionality is limited.

Event Occurrence: Command Tier to light, alarm to sound
 PHN Example Code: 0x57,0x17

New PNS Command Compatibility

The PNS command can be used to control all pattern information.
 * **The PNS command is a unique command from PATLITE.**

Event Occurrence: Command Tier to sound alarm

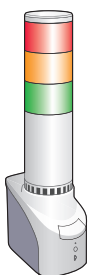
PNS Example Code:
 0x58,0x58,0x53,0x00,0x00,0x06,0x01,0x01,0x01,0x00,0x00,0x01

Diagnostic / Reporting/ Notification Features

E-mail Transmission

Send e-mail with a maximum of eight selectable events

Up to eight events can be created and sent as a secure e-mail with the subject name and text corresponding to the event.



SNMP v2c

SNMP TRAP Transmission

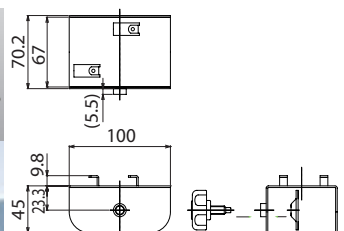
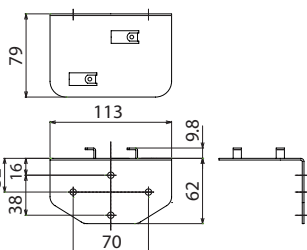
Can transmit from a maximum of eight network devices.

Self-diagnosis



The test switch on the front of the Body can check the Signal Tower and alarm operation functions easily without it being controlled through the network.

Options



PHC-100A

Interface Converter



Network

Terminal

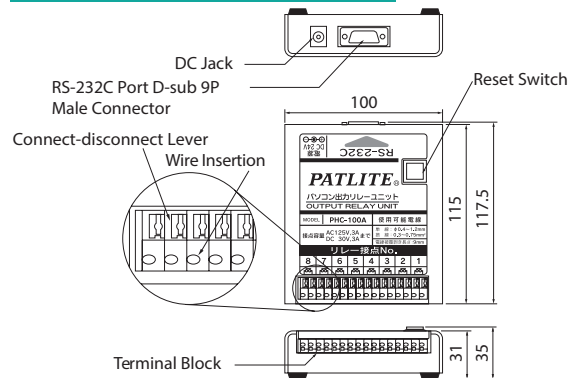
- This product requires the knowledge to program with ASCII commands to output through an RS-232C port.

The PHC-100A Interface Converter can be connected to the RS-232C port on your programmed PC to control most PATLITE products, both visual and audible.

FEATURES

- 16 terminals provide 8 isolated non-voltage contact outputs.
- Reset pushbutton provided to reset all outputs to the off state.

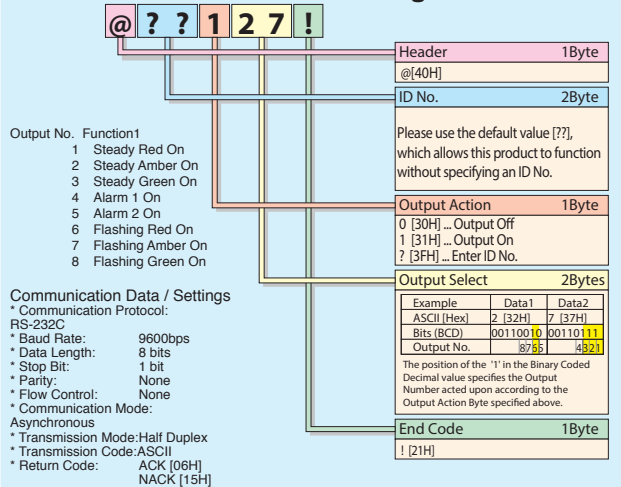
Dimensions (Unit: mm)



Specifications

Model		PHC-100A
Communication Protocol	Interface	RS-232C (Based on EIA)
	Method	Half-duplex, Full-duplex, Asynchronous
	Baud Rate	9,600 bps
	Data Bit	8 bit
	Stop Bit	1 bit
	Parity Bit	None
	Flow Control	None
PHC Base Terminal Buss Specifications	I/O Port	D-sub 9 pin Male Connector
	Contact Type	Non-voltage Contact
	Contact Outputs	8
	Output Load Capacity	AC 125V 3A / DC 30V 3A
PHC Base Terminal Buss Specifications	Connector	Screwless Terminal
	Applicable Wire Size	Solid Wire: AWG18 - 26 (0.4 - 1.2mm ²) Stranded Wire: AWG20 - 22 (0.3 - 0.75mm ²)
PHE Base Specifications	Dimensions (mm)	100(W) x 31(H) x 115(D)
	Power Supply Source	AC Adaptor (Sold Separately)
	Power Consumption	4.0W
	Operating Temperature Range	0°C to +40°C
	Humidity	20 to 80% RH (No Condensation)

PHE-3FBE1 / PHC-100A Control • ASCII Command String



• The above example shows how to turn on the following output numbers : 6, 3, 2, 1



PHE-3FBE1

RS-232C / PC Controlled Signal Tower



- LED
- 2 Alarm Sounds
- 85dB at 1m
- Ø40
- Network

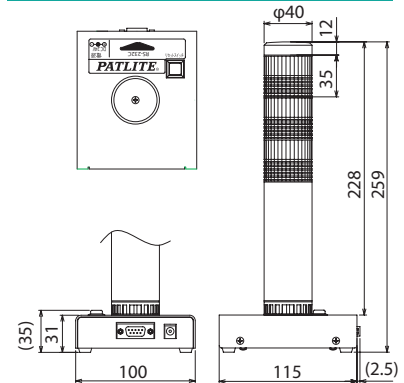
• This product requires the knowledge to program with ASCII commands to output through an RS-232C port.

Signal Tower can be controlled directly by PC through RS-232C.

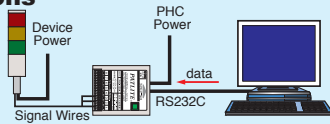
FEATURES

- Alarm is adjustable up to 85dB at 1m
- High-volume alarms (two patterns) can be heard even in a noisy factory.
- Bright LED signal tower
- PATLITE's original double reflection system with its exclusive hybrid prism-cut lens and 3 color LED modules create distinctive illumination that is bright and even.
- Light and alarm functions can be turned off by pressing the reset switch on the base.

Dimensions (Unit: mm)



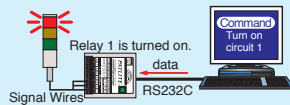
• Basic Connections



• Application Examples

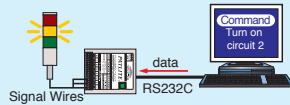
Transfer data to turn on relay circuit 1 from PC.

Data @??101!



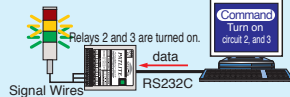
Transfer data to turn on relay circuit 2 from PC.

Data @??102!



Transfer data to turn on relay circuits 2 and 3 from PC.

Data @??106!



Specifications

	Model	PHE-3FBE1
Communication Protocol	Interface	RS-232C (Based on EIA)
	Method	Half-duplex, Full-duplex, Asynchronous
	Baud Rate	9,600 bps
	Data Bit	8 bit
	Stop Bit	1 bit
	Parity Bit	None
	Flow Control	None
Signal Tower Specifications	I/O Port	D-sub 9 pin Male Connector
	Flashing Rate	60 flashes per minute
	Sound Level	Adjustable from 70dB to 85dB (at 1m)
PHE Base Specifications	Tone Pattern	2 Alarms (Slow Intermittent, Fast Intermittent)
	Dimensions (mm)	100(W) x 259(H) x 115(D)
	Power Supply Source	AC Adaptor (Sold Separately)
	Power Consumption	6.5W
	Operating Temperature Range	0°C to +40°C
Humidity	20 to 80% RH (No Condensation)	

PHU-3

USB / PC Controlled Signal Tower

- LED 
- Ø25
- IP20
- Network
- USB 



Signal Tower can be controlled directly by PC through the USB Port.

FEATURES

- Bright LED available as RYG or RYB three-tiered Signal Tower.
- PATLITE's original double reflection system with its exclusive hybrid prism-cut lens and 3 color LED modules create distinctive illumination that is bright and even.
- Power source supplied by USB Buss Power.

How to Order

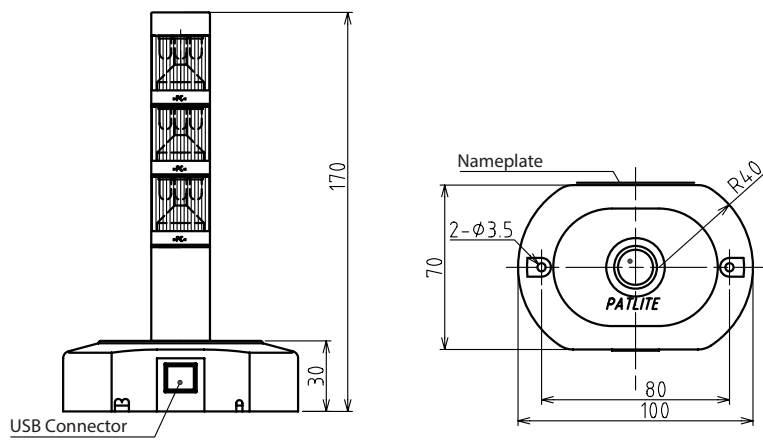
PHU-3-RYG

Color
 RYG: (Red, Amber, Green)
 RYB: (Red, Amber, Blue)
 (Top to bottom)

Specifications

Model		PHU-3-RYG	PHU-3-RYB
General	Rated Voltage	5V DC (USB Buss Power)	
	Operating Voltage Range	DC 4.4V to DC 5.25V	
	Rated Current Consumption (Power Source)	Standby Mode: 25mA Operating Mode: 230mA Max.	
	Operating Temperature Range	-10°C to +55°C	
	Relative Ambient Temperature	RH 90% or less (No Condensation)	
	Electric Noise Intensity Level	VCCI Class-B Equivalent	
Signal Tower	Installation	Upright Position Only	
	Protection Rating	IP20	
	Insulation Resistance	More than 1MΩ at DC500V between the terminals and Chassis	
	Withstand Voltage	AC 500V applied for 1 minute between the terminals and chassis without breaking insulation.	
	Mass	0.18kg	
Interface	Input / Output	Input: USB / Output: Lighting (Red, Amber, Green, Blue LED)	
	Physical Specifications	Connector Input: Series-B Receptacle (USB Rev. 1.1 Compliant)	

Dimensions (Unit: mm)



Example) PHU-3-RYG controlling Red and Green LED lights (*1)

• Logic Specifications

Action	Bit Data
"Red" Light ON	00000001
"Amber" Light ON	00000010
"Green" Light ON	00000100
"Blue" Light ON	00001000
"Red" and "Amber" Light ON; "Green" and "Blue" Light OFF	00000011
"Red" and "Green" Light ON; "Amber" and "Blue" Light OFF	00000101
"Amber" and "Green" Light ON; "Red" and "Blue" Light OFF	00000110
"Amber" and "Blue" Light ON; "Red" and "Green" Light OFF	00001010
"Red", "Amber", "Green" and "Blue" Light ON	00001111
"Red", "Amber", "Green" and "Blue" Light OFF	00000000

• Transfer Mode

Bulk Transfer

• Data Error Detection Criteria

CRC (Cyclic Redundancy Check)

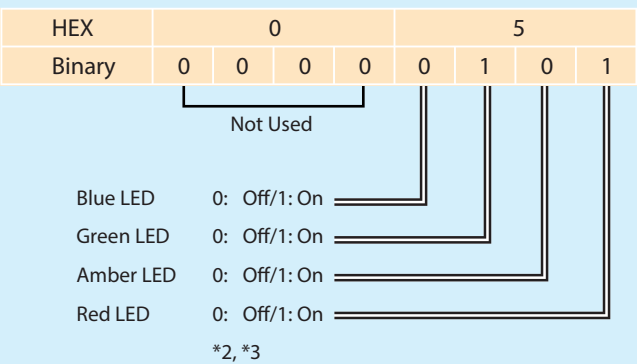
• Packet Commands

Token Packet (SOF, SETUP, OUT, IN)

Data Packet

Handshake Packet

Transmission Setting (Virtual COM)	
Bit Rate	: 19,200bps
Data Length	: 8 bits
Parity	: None
Stop Bit	: 1 bit
Control Flow	: None



*1 Drivers for Windows OS may have to be installed prior to use. Refer to the Instruction Manual on how to get the latest downloads.

*2 This product does not include a flashing function, but it can be controlled by programming it through the USB output.

*3 The control commands for the Green LED and Blue LED for the PHU-3-RYG and PHU-3-RYB are controlled separately.

* This unit is designed to be controlled by one computer, improper operation may occur with two or more units connected.

WD-Z2

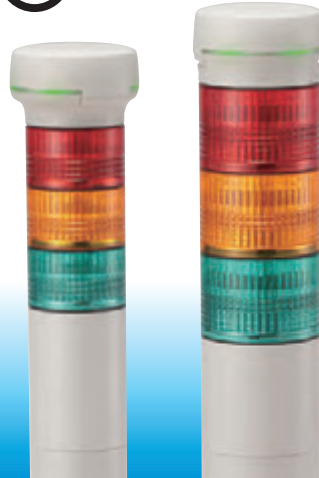
Wireless Data Acquisition System



WDT-6M $\Phi 60$ Fits LME

WDT-5E $\Phi 50$ Fits LE

Wireless Network

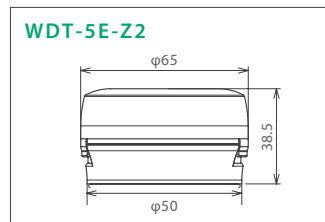
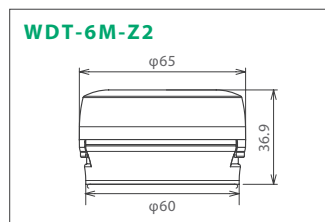
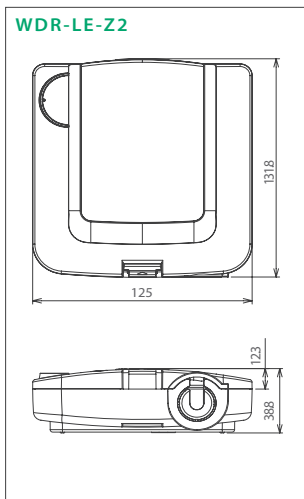
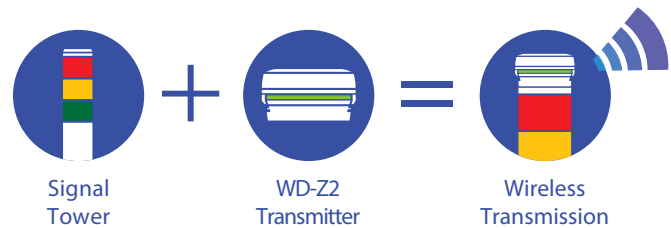


Monitor remotely and collect data wirelessly from a PATLITE Signal Tower

PATLITE wireless add-on modules and receivers make PATLITE Signal Towers capable of sending electrical signals over a wireless network to a data center. PATLITE wireless add-on modules and receivers are a uniquely practical and economical solution for data acquisition, machine status remote monitoring, and supervisory control of industrial processes. The WD-Z2 is an effective solution for lean manufacturing and a visual factory. PATLITE wireless add-on modules comply with IEEE802.15.4, operating in the 2.4 GHz band.

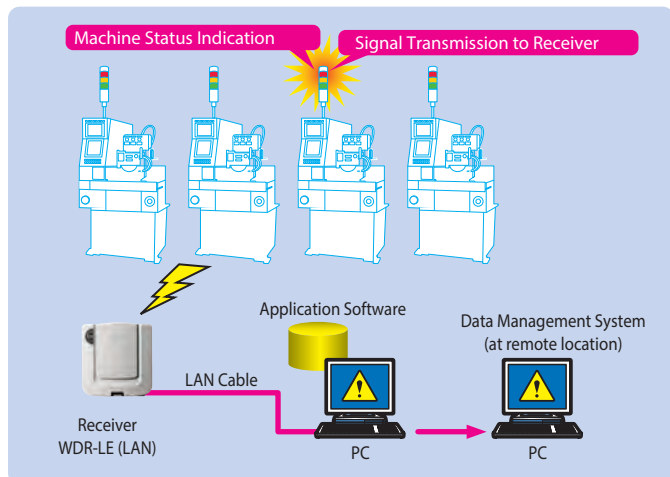
- 1) Simply add-on to a PATLITE Signal Tower
Operating conditions of Patlite signal towers installed on production machines or process systems can be transmitted wirelessly to a data center. Data acquisition and remote monitoring are possible instantly and economically through the WDR-Z2 receiver.
- 2) Wireless technology of today eliminates tedious wire installation
The WDT-Z2 add-on wireless modules tap their power from the PATLITE Signal Towers and transmit their electrical signals to the data center. This can reduce wiring, component installation and other related costs.
- 3) Multi-hopping topology and high transmitting reliability
With wireless multi-hopping, it minimizes potential transmitting failures or errors, adding a high level of stable operation and transmission reliability.

Dimensions (Unit: mm)



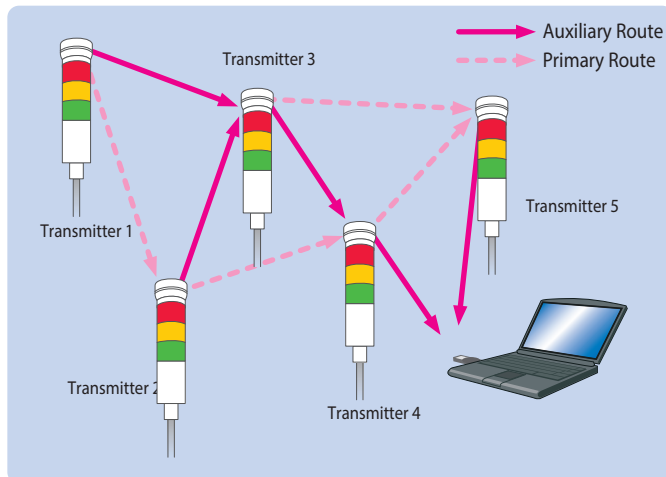
Typical Applications

- Multiple stand-alone machines can be networked by the WD-Z2 for data archiving and remote monitoring.
- The status and condition of the machines are indicated by the PATLITE signal towers.

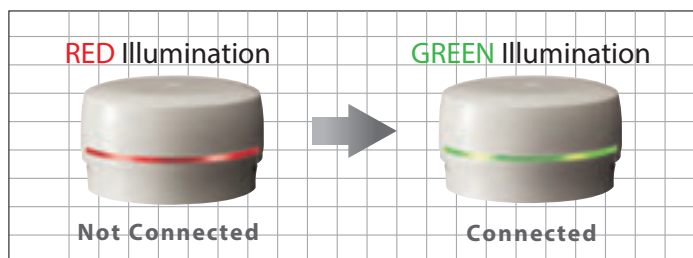


Wireless Concept IEEE 802.15.4 2.4GHz

- Wireless hopping/routing functions and mesh topology can make flexible and reliable wireless network configurations possible.
- Data archived by the WD-Z2 is stored in a file format CSV which any off-the-shelf data management software e.g, SCADA can handle.

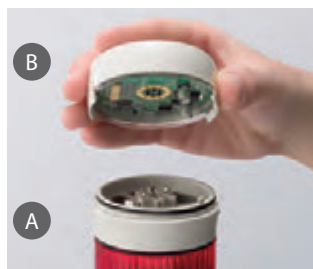


Network Connection Condition



※ The transmitter is designed for PATLITE Model Series LME and LE Signal Towers. (As of Dec, 2012)

Transmitter Installation



Affix the transmitter adaptor **A** on the Signal Tower and fasten it with the center screw. Then simply attach the transmitter **B** to the bracket. (Some applications don't require additional wiring.)

Specifications

Transmitters

Model	WDT-6M-Z2	WDT-5E-Z2
Applicable Signal Tower	Φ60 LME Series	Φ50 LE Series
Rated Voltage	DC 24V (No Polarity)	
Voltage Range	20.4V - 26.4V DC	
Current Consumption	35mA	
Operating Temperature	-10°C - +60°C (No Condensation)	
Storage Temperature	-20°C - +70°C (No Freezing)	
Relative Humidity	RH 85% or less	
Mounting Direction	Upright Position (Indoors Only)	
Protection Rating	Determined by PATLITE Signal Tower IP Ratings	
Dimensions (mm)	Φ65 x 36.9	Φ65 x 38.5
Mass	55g	

Ask your PATLITE Sales Representative for WD-Z2 compatible PATLITE Signal Towers

Receiver

Model	WDR-LE-Z2 (LAN/USB)
Rated Voltage	DC 24V (Power Supply not included)
Voltage Range	DC 20.4V - 26.4V
Current Consumption	150mA
Operating Temperature	-10°C - +60°C (No Condensation)
Storage Temperature	-20°C - +70°C (No Freezing)
Relative Humidity	RH 85% or less
Mounting Direction	Horizontal, Wall-mount (Indoors Only)
Protection Rating	IP20
Dimensions (mm)	131(H)x125(W)x38.5(D)
Mass	165g

Features

Wireless Standard	IEEE 802.15.4 for Zigbee 2.4GHz
Frequency Bandwidth	2,400MHz - 2,483.5MHz (16 Channels at 5MHz Step starting from 2,405MHz)
Networking Connections	up to 20 Units (*1)
Antenna Output	Maximum 1mW
Compliances	Wireless Telegraph Law, Electrical Appliance and Material Safety Law (AC Adaptor), RoHS, CE (R&TTE), FCC, China, Indonesia, Taiwan, Thailand, Phillipines

(*1) Number of possible Units to connect is based on the wireless environment and installation location

- * This product operates on a frequency in compliance to FCC laws in the United States and its territories. Radio Laws for individual countries vary, and it is, therefore, the responsibility of the customer to comply with the laws in the country which applies to the application. Our company takes no responsibility directly, or indirectly, for claims from a customer or third party regarding Radio Laws or Wireless ordinance.
- * This product requires application software for configuration and data acquisition. For more information on the latest software and solution to fit the application, please contact your nearest PATLITE Sales Representative indicated on the backside of this Catalog.