PATLITE Corporation E-mail: overseas@patlite.co.jp
8-8, Matsuyamachi, Chuo-ku, Osaka, Japan 542-0067
International Division, Sales and Marketing Department
TEL: +81-6-6763-8220 FAX: +81-6-6763-8221

PATLITE (U.S.A.) Corporation E-mail:sales@patlite.com
20130 S. Western Ave. Torrance, CA90501, U.S.A.
TEL: +1-310-328-3222 FAX: +1-310-328-2676

PATLITE Europe GmbH E-mail:info@patlite.eu
Am Soeldnermoos 8, D-85399 Hallbergmoos, Germany
TEL.+49-0-811 9981 9770-0 FAX.+49-0-811 9981 9770-9

PATLITE (SINGAPORE) PTE LTD E-mail:sales@patlite.com.sg
No.2 Leng Kee Road, #05-01 Thye Hong Centre, Singapore 159086
TEL: +65-6226-1111 FAX: +65-6324-1411

PATLITE (CHINA) Corporation E-mail:sales@patlite.cn
Room 512, Jufeng Business Building, No.697-3 Lingshi Road, Shanghai China 200072
TEL: +86-21-6630-8969 FAX: +86-21-6630-8938

P T. PATLITE INDONESIA (FACTORY)
LOT 321 Batamindo Industrial Park, Jalan Beringin Mukakuning, Batam 29433 Indonesia
TEL: +62-770-61-1123 FAX: +62-770-61-2444

http://www.patlite.com Enter Patlite and click Search or go to:

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VEGETABLE OIL INK

1226A	1012 D(D)/D(SM)A

PATLITE®

AirGRID®
Wireless Data Acquisition System

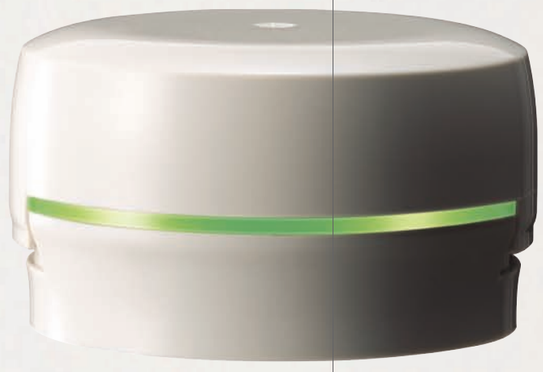
Wireless Data Acquisition System

AirGRID

From the reporting tower light to the recording tower light...

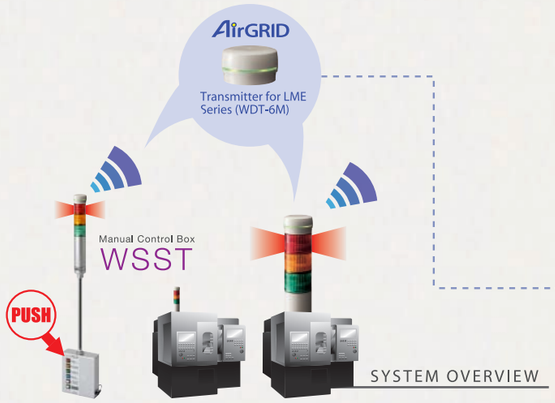
The AirGRID, a system which forwards the status information of machines, can easily be attached to the Patlite signal towers.※

The User's objective for various information and practical use has become possible with acquisioned data based on the production process of bottlenecking, etc. Adopting international wireless communication standards, even with multiple communications occuring simultaneously, having secure communication is worth boasting about. With wireless meaning "air" and the layout of signal towers representing different points to form a "grid", the name "AirGRID" was given to the wireless acquisition system.



Just mount※ it !!

Operating Condition is sent Wirelessly.



SYSTEM OVERVIEW

※Easy installation is done with exchanging the existing headcover with the unit and fixing it with the existing screw. (For more details, refer to pg. 5)
※The signal tower and unit are sold separately.

We want to know the condition of machines in our factory that stop onoccasion but we have new and old machines which makes knowing the status for each one to be difficult.

AirGRID possibilities

RETROFIT

Just by simply attaching to existing Patlite Signal Towers※,easily acquisitioning data is possible. The data can be very helpful to visualize bottlenecking.

Wanting to examine the operating ratio of the machine connected to the PC takes up too much time and labor.

AirGRID possibilities

FREE LAYOUT

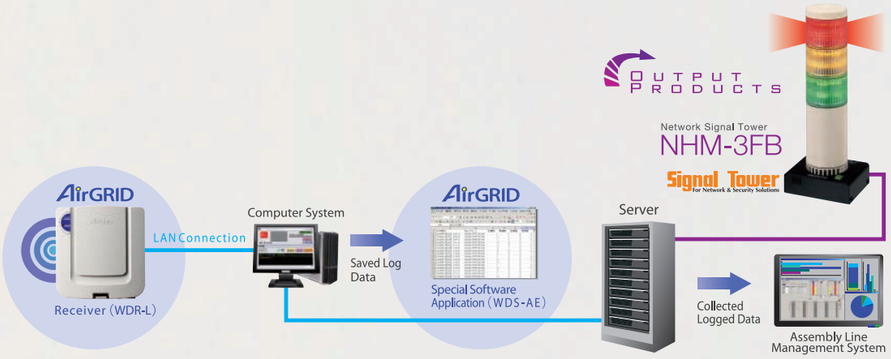
With a wireless application, information can be recorded for several machines. When there's an equipment layout change or expansion, time and labor can be reduced when no wiring is necessary.

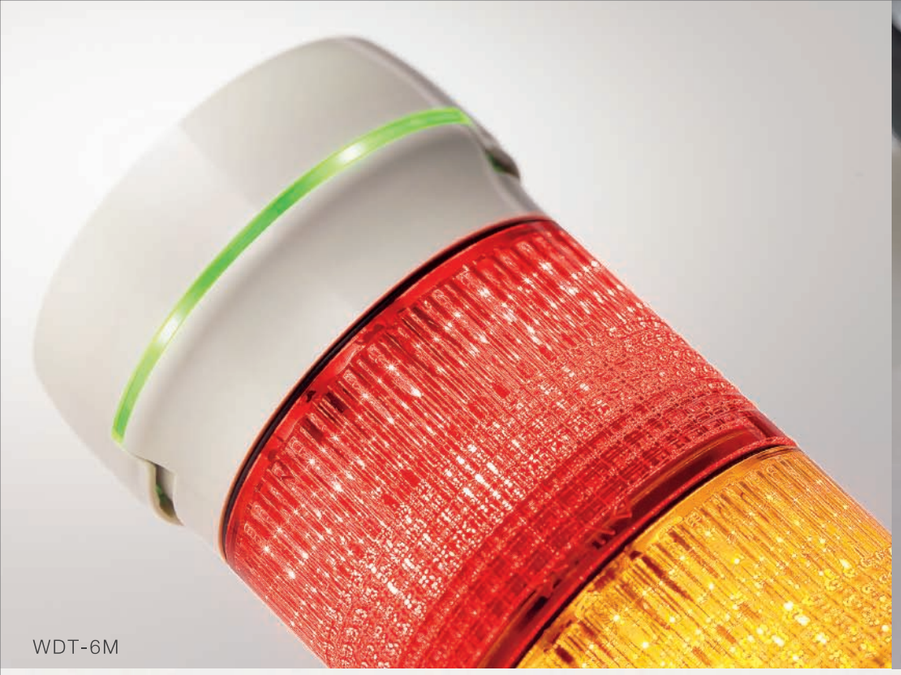
For optimization, recording the production line operating condition needs rewiring, but there is no budget for it.

AirGRID possibilities

COST PERFORMANCE

Initial costs in comparison to the costs of wire installation can be drastically reduced. More so, a special application to record machine information can be put to use when performing annual maintenance for machinery.




WDT-6M

WDR-U

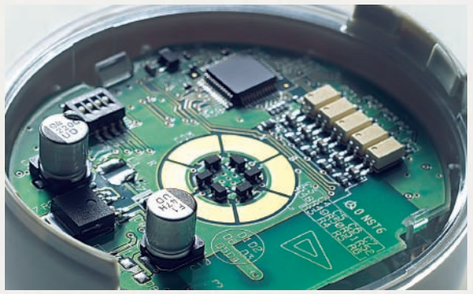
WDR-LE

With only the attachment of a wireless unit, information can be transferred to a reciever from the transmitter, and reduce implementation costs.

Layout-free and unneccessary wiring for a secure wireless data acquisition system

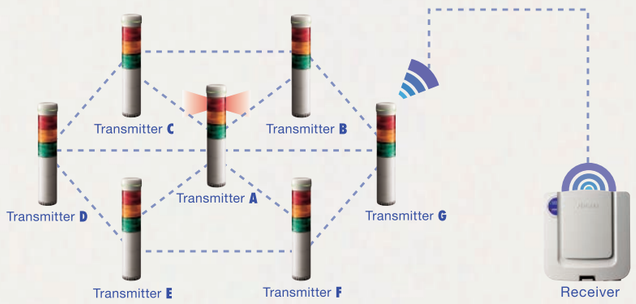
Utilizing international wireless communication standards, radio emissions can provide complete functionality with reliable communications flying about in locations with other various electrical signals.

■ Worldwide proven communication standards (Wireless Frequncy 2.4GHz Band)



The WD series is a sensor network with high achievements for adopting the conformity of telecommunication standards (IEEE802.15.4) to make stable communication data possible. In addition, the 2.4GHz frequency band can be used world-wide, so it is supported whether you're inside or outside the country.

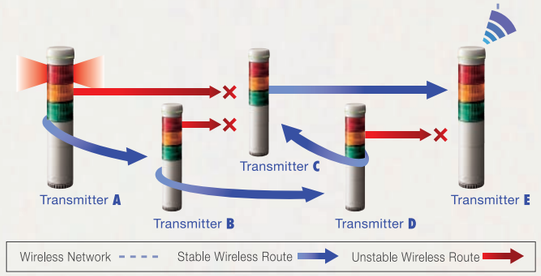
■ Multihopping wireless mesh networking implemented for accurate and reliable communication



The transmitted data mutally selects the best route for radio wave communication.
Even with modifications of the floor layout, data communication starts automatically from power-up.
Multi-hop mesh network communication is flexible enough to respond to the circumstances of radio communication.

■ Routing function automatically selects optimum communication route

This product doesn't need complicated wireless or network settings, the automatic selection for a good route to carry data communication is done as soon as the power source is connected. In addition, when an obstacle impares the data transmission of the wireless communication, the transmitter automatically searches for a different route to re-connect.



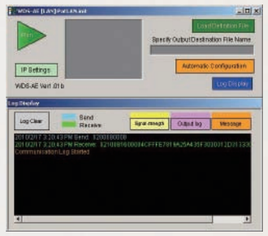
Operating hours or machinery downtime can be calculated daily! After gathering data for the operation rate of the downed machines, the progress in production can be understood!

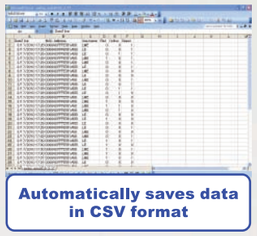
The exclusive application software package (WDS-AE) can demonstrate the potential of the AirGRID when integrated with a computer

Ask your nearest PATLITE Sales Representative for our Free Demo Software

The "WDS-AE" is a packaged application, which includes three applications to perform various configurations and one main application to collect and store data.

■ Status Condition Display Application





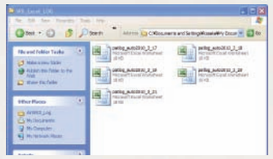
Automatically saves data in CSV format

An application to display the status condition of the Signal Tower. Because the transmitter is directly connected to the Signal Tower, it can send the status condition data in real time. The data is then stored in the CSV format which is updated whenever the status condition changes.

Can even do this ! Data computation application examples

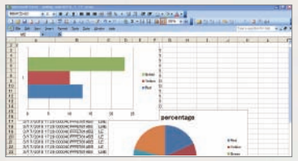
① Ratio for machine's accumulated operating hours
② Number of machine's run-time and down-time
③ Machine's maintenance time

☐Generates date for new Log



Data management is smoother because the log data file is specified (1 day per file).

☐Easier to understand with Software

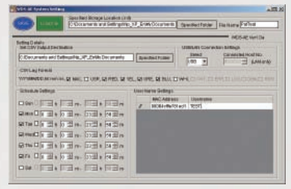


With calculation functions in 『Excel』, displaying graphs, charts etc., is easier.

■ Individual Configuration Applications

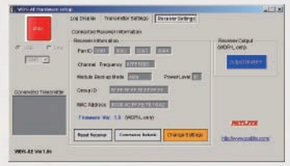
'WDS-AE'is the application package which can make detailed settings as well as verify the transmitter signal strength.

☐ File Set up



This application sets up status condition parameters before operation.
Detailed settings for the CSV data is also performed on this application.

☐ Hardware Set up



Individual settings for the transmitters, such as the frequency or channel, can be performed.

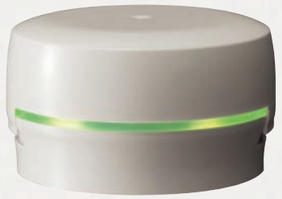
☐ Signal Strength Scanner

The condition of radio reception can be classified into three different easy to comprehend levels. It's also useful for checking the radio reception when introducing a new floor layout.

Software Requirements

●OS : Windows7 (32bit, 64bit ver), Windows XP sp2 or higher (32bit ver.), Windows Vista (32bit ver.) ●CPU : Celeron 1GHz or higher ●Memory : 512MB or more (1GB or higher recommended) ●HDD Space : Available space of 1MB or more

TRANSMITTER
SPECIFICATIONS



Signal Tower LME Transmitter

WDT-6M

Open Price

RoHS　Commerce of Radio Law Conformity

Corresponding Model	Current Consumption	Maximum Links	Transmission Distance
LME Series ※1	typ.35mA	20units ※2	30m ※3

Rated Voltage	DC24V (Non-polar)
Operating Voltage Range	DC21.6V to DC26.4V
Operating Temperature Range	-10℃ to 60℃ (No Condensation)
Operating Humidity Range	85% RH or less (No Condensation)
Storage Temperature Range	-20℃ to 70℃ (No Freezing)
Installation	Upright Position (Indoor Only)
Maximum Relay Connections	5 Relays
Protection Ratings	Conforms to LME Standards
Outer Dimensions	ϕ65×36.9mm
Mass	52g

※1　Due to restricted compatability to the Signal Towers, please inquire for more details.
※2　The radio reception depends on the environment and installed location.
　　20 units represents the recommended number of links.
※3　The characteristic of the wave value becomes a numerical reference value.

Signal Tower LE Transmitter

WDT-5E

Open Price

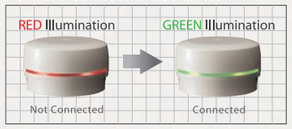
RoHS　Commerce of Radio Law Conformity

Corresponding Model	Current Consumption	Maximum Links	Transmission Distance
LE Series ※1	typ.35mA	20units ※2	30m ※3

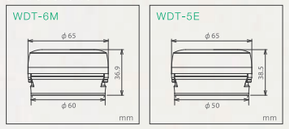
Rated Voltage	DC24V (Non-polar)
Operating Voltage Range	DC21.6V to DC26.4V
Operating Temperature Range	-10℃ to 60℃ (No Condensation)
Operating Humidity Range	85% RH or less (No Condensation)
Storage Temperature Range	-20℃ to 70℃ (No Freezing)
Installation	Upright Position (Indoor Only)
Maximum Relay Connections	5 Relays
Protection Ratings	Conforms to LE Standards
Outer Dimensions	ϕ65×38.5mm
Mass	52g

※1　Due to restricted compatability to the Signal Towers, please inquire for more details.
※2　The radio reception depends on the environment and installed location.
　　20 units represents the recommended number of links.
※3　The characteristic of the wave value becomes a numerical reference value.

Network Connection Condition



Dimensions



Transmitter Installation

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

■ Conformity　Wireless Conformity/IEEE 802.15.4　Frequency Range/2400MHz～2483.5MHz (16 channels total from 2405MHz in 5MHz steps)
Wireless Input-Output/Maximum of 1mW (from Antenna)

※The unit does not light up.　※The transmitter is designed for PATLITE Model Series LME and LE Signal Towers.　(As of Apr, 2010)

RECEIVER
SPECIFICATIONS

Stationary Reciever

WDR-LE

Open Price

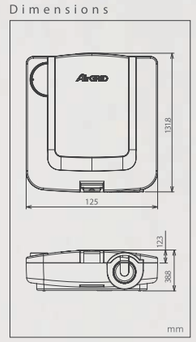
RoHS　Commerce of Radio Law Conformity

Connection Type	Current Consumption	
LAN/USB	typ.75mA	Multiple Units ※1

Rated Voltage	DC24V (Non-polar)
Operating Voltage Range	DC21.6V to DC26.4V
Operating Temperature Range	-10℃ to 60℃ (No Condensation)
Operating Humidity Range	85% RH or less (No Condensation)
Storage Temperature Range	-20℃ to 70℃ (No Freezing)
Installation	Wall Mount, Sideways (Indoors Only)
Protection Ratings	IP20
Outer Dimensions	H131.8×W125×D38.8mm
Mass	160g

※1　Multiple LAN connections can be simultaneously linked. (Please inquire for more details)

Dimensions



Mobile Reciever

WDR-U

Open Price

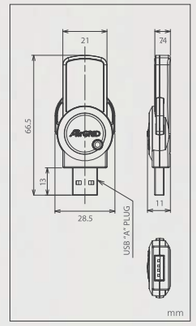
RoHS　Commerce of Radio Law Conformity

Connection Type	Current Consumption
USB ※	typ.80mA

Rated Voltage	DC5V (USB Bus Powered)
Operating Voltage Range	DC4.5V to DC5.5V (Depends on USB)
Operating Temperature Range	5℃ to 40℃ (No Condensation)
Operating Humidity Range	85% RH or less (NoCondensation)
Storage Temperature Range	-5℃ to 50℃ (No Condensation)
Installation	USB Port Connection (Indoors Only)
Outer Dimensions	H11×W28.5×D66.5mm
Mass	10g

※　USB1.1/USB2.0 (Full Speed) non-compatable for USB hubs.
◎ For large scale equipment (transmitters exceeding 20units), the stationary receiver (WDR-LE) is recommended.

Dimensions



Tower lights, cables and poles are sold separately.

INPUT

Manual Control Box

WSST

Open Price

size	size	
ϕ50	ϕ60	5 PB INPUTS

Applications

- Lean manufacturing workstations
- Remote visual indication of line status for managers and line supervisors
- Manual assembly operations
- Retail Check-out Stands
- Call centers