SPECIFICATIONS

Product Name :

Wireless Data Acquisition System
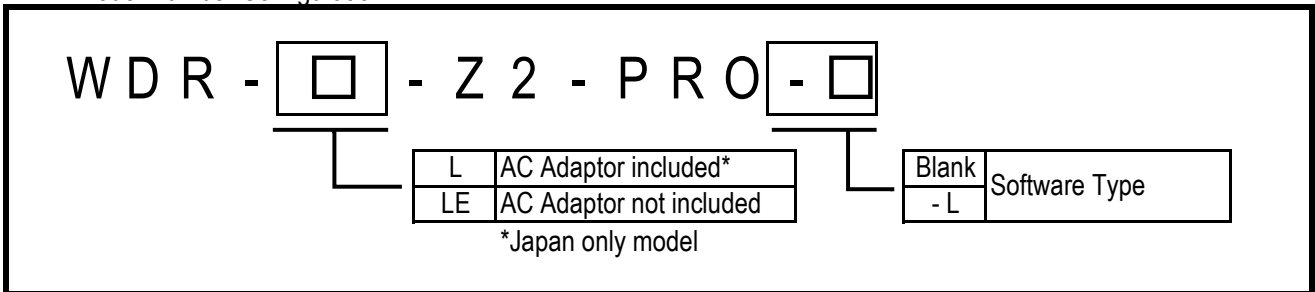WD PRO Receiver

Model : WDR-L(E)-Z2-PRO(-L)

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1. Product Overview

This product receives the data sent from the "Wireless Data Acquisition Transmitter",
centrally manages it, and outputs the received data to the host side.
Since this product supports PoE power reception, it can be installed
without worrying about power supply construction.

2. Model

2.1. Model Number Configuration

W D R - □ - Z 2 - P R O - □

L	AC Adaptor included*
LE	AC Adaptor not included

*Japan only model

Blank	
- L	Software Type

2.2. Model Number List

WDR-L-Z2-PRO   WDR-L-Z2-PRO-L   WDR-LE-Z2-PRO   WDR-LE-Z2-PRO-L

3. General Specifications

3.1. General Specifications

Model		WDR-L-Z2-PRO(-L)	WDR-LE-Z2-PRO(-L)
Rated Voltage	Power Terminal Block DC Jack	24V DC	
	PoE Power Supply	48V DC	
	USB bus power	5V DC	
	Accessory AC	100V AC to 240V AC 50/60Hz	-
Rated Voltage	Power Terminal Block DC Jack	21.6V DC to 26.4V DC	
	PoE Power Supply	43V DC to 57V DC	
	USB bus power	4.75V DC to 5.25V DC	
	Accessory AC	90V AC to 264V AC	-
Rated Current Consumption	Typ.	100mA(24V DC) 70mA(PoE:48V DC) 300mA(USB:5V DC)	
	Max	150mA(24V DC) 100mA(PoE:48V DC) 500mA(USB:5V DC)	
Rated Power Consumption	Typ.	3.0W(AC Adaptor:100V AC)	-
	Max	4.5W(AC Adaptor:100V AC)	-
Power Input	Power Terminal Block	Screwless Terminal Block (φ0.51mm to 1.29mm (AWG24 to 16))	
	DC Jack	DC Jack for AC Adaptor	
	USB	USB Type-B (USB bus power)	
	LAN(PoE)	RJ-45 connector (IEEE802.3af Class0 compliant)	
Remark			

3.1. General Specifications (continued)

Model		WDR-L-Z2-PRO(-L)	WDR-LE-Z2-PRO(-L)
Operating Ambient Temperature	Body	-10℃ to 50℃	
	Accessory AC Adaptor	0℃ to 40℃	-
Operating Ambient Humidity		85%RH or less (No Condensation)	
Strage Ambient Temperature	Body	-20℃ to 60℃	
	Accessory AC Adaptor	-10℃ to 70℃	-
Strage Ambient Humidity		85%RH or less (No Condensation)	
Mounting Location		Indoor Only	
Mounting Direction		Horizontal installation, Wall mounting, Celling mounting	
Protection Rating		IP20	
Mass		300g ±10% (except AC Adaptor accessory)	
Outer Dimensions		Refer to the Outer Dimension Drawing	
Status Lamp		Status display LED x4	
Operation Button		Setting DIP switch x1, Maintenance DIP switch x1, Reset switch x1	
Accessories		Cable tie x1, Cable fixing plate x1	
		AC Adaptor x1	-
Supported Countries and Regions *1		Japan only	Japan,United States, Canada Europe, China,Thailand, Vietnam Korea,Taiwan,Philippines,Singapore Malaysia,Mexico
Remark		*1 Do not use outsides of supported countries and regions. 　Failure to do so may come into conflict with the law.	

3.2. Conformity Standards

WDR-L-Z2-PRO(-L) WDR-LE-Z2-PRO(-L) Common Conformity Standards	Japan Radio Law (ARIB STD-T66 Conformity) FCC Part 15 Subpart B Class A, Subpart C EN62368-1, EN55032(Class A), EN55035, EN300 328, EN62479 EN61000-3-2, EN61000-3-3, EN301 489-1, EN IEC 63000
WDR-LE-Z2-PRO(-L) Conformity Standards	UL 62368-1, CAN/CSA C22.2 No.62368-1-14 RSS-247 Issue2, ICES-003(Class A) NBTC TS 1035-2562 NCC KN32,KN35,KN301 489-1/-17 MCMC MTSFB TC T007:2014 UL60950-1,CAN/CSA X22.2 No.60950-1-07 NOM-208-SCFI-2016,IFT-008-2015 MEMORANDUM CIRCULAR No.03-05-2007 MEMORANDUM CIRCULAR No.01-02-2020
Remark	・Conforms to the CE Requirements ・Conforms to the UKCA Requirements ・UL/cUL Listed (File No.E480103) *Only WDR-LE-Z2-PRO(-L)

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4. Communication Specifications

4.1. Wireless Communication Specifications

Connectable Transmitter	WDT-4LR-Z2、WDT-5LR-Z2、WDT-6LR-Z2、WDT-6LR-Z2-PRO、 WDT-5E-Z2、WDT-6M-Z2 (Mixed use is possible)
Wireless Standard	IEEE 802.15.4 compliant
Communication Frequency	2405MHz to 2480MHz (16 channels)
Transmission Method	Direct-Sequence Spread Spectrum (DSSS)
Communication Method	ZigBee compliant
Number of Transmitter	30 units MAX *1
Transmit Power	3mW MAX (at the antenna feed point)
Communication Range	Line of sight, Approximately 30m (reference value) *1
Remark	*1 It depends on the installation location and communication environment depending on the characteristics of the radio wave.

4.2. Interface Specifications

Network Communication Method	Ethernet IEEE 802.3 compliant 10BASE-T／100BASE-TX/1000BASE-T (Auto-MDI/MDIX)
USB Connection	USB Type-B USB1.1/USB2.0 (Full Speed)
Remark	

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5. Function Specifications

5.1. Data Acquisition Specifications

Model	WDR-L(E)-Z2-PRO	WDR-L(E)-Z2-PRO-L
Transmitter Linkage Function	Communicate with WD wireless network transmitter and collect incoming data.	
Host Communication Function	Connect to the host via LAN or USB, and output the collected data to the host. *1	
LAN Communication	Database Linkage, Socket Linkage, and Modbus/TCP Linkage can be used to link to the host side simultaneously via LAN communication.	
Database Communication	Send the data collected from the transmitter to the database.	-
Connectable Database	MySQL 5.6 or later	
SQL Command	INSERT, UPDATE	
Number of Connectable Database	1	
Socket Communication	Data collected from the transmitter is output to the host via socket communication. (WDR-PRO Protocol, WDR Protocol)	
WDR-PRO Protocol	communication method that simplifies traditional protocols and supports multiple	-
Connectable number	2	
WDR Protocol	Communication method compatible with WDR-L(E)-Z2	
Connectable number	1	
Modbus/TCP Communication	It operates as a Modbus slave and sends collected data in response to data acquisition requests from the Modbus master.	-
Connectable number	1	
Cloud Communication	Data acquisition and transmitter control are available using cloud services.	-
Data Acquisition	The data acquired from the transmitters can be uploaded to the cloud.	-
Transmitter Control	The signal light with the transmitter can be controlled from the cloud.	-
Supported Cloud Service	Siemens MindSphere ※3	-
Supported Protocol	HTTPS	-
USB Communication	Data collected from the transmitter is output to the host via USB communication.	
Corresponding application	WDS-WIN01 *2	

Remark	*1 When using a USB connection, the USB communication link has priority.
	     When using the Cloud Communication, the LAN Communication is not available.
	*2 Link with WDS-WIN01 via socket communication or USB communication.
	     When using the Cloud Communication, the Data Acquisition is not available.
	*3 MindSphere's base IoT platform is supported by Microsoft Azure, Amazon AWS and Alibaba Cloud.
	•MindSphere is a trademark or registered trademark of Siemens AG.
	•Microsoft Azure is a trademark or registered trademark of Microsoft Corporation in the United States and/or other countries.
	•Amazon and AWS are trademarks of Amazon.com, Inc. or its affiliates in the United States and/or other countries.
	•Alibaba Cloud is a registered trade marks or trade marks of Alibaba Group Holding Limited in various jurisdictions.	

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5.2 Setting specifications

Model	WDR-L(E)-Z2-PRO	WDR-L(E)-Z2-PRO-L
Main Unit Setting Function	The main unit can be set by browser access *1.	
Unauthorized Access Prevention	The first time accessing the site, a username and password can be registered *2.	
Network Setting	Network settings such as IP address are possible. It is possible to select whether to set manually or obtain automatically by DHCP.	
User Authentication Settings	Username and password to login in to the setting screen can be set.	
WD Wireless Setting	Wireless settings for the main unit and transmitter are possible.	-
Transmitter Operation Setting	Transmitter operation settings are possible. *3	-
Host Linkage Setting	The database that sends the collected data can be set.	-
	Modbus / TCP linkage can be set.	-
	The port number of the main unit can be set when using socket communication.	
Cloud Communication Setting	Cloud connectivity can be set up.	-
Clock Setting	The time of the main unit can be set.	
NTP correction	The time of the main unit is corrected by communicating with the NTP server.	
Time Correction by PC	The time can be set using the time of the computer used for login.	
Firmware Update	The firmware of the main unit can be updated.	
Update	The firmware of the main unit can be updated using a browser.	
Security Setting	Browser communication method can be set to [HTTP] or [HTTPS]	
Initialize	The settings of the main unit can be initialized by browser or switch operation.	
Display Language of Setting Screen	Japanese, English, Simplified Chinese	
Remark	*1 Supported browser are Google Chrome, Microsoft Edge and Internet Explorer 11 *2 Setting up the unit is possible by registering a user name and password. *3 Some functions of WDT-6LR-Z2-PRO cannot be set.	

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5.3 Maintenance Specifications

Model			WDR-L(E)-Z2-PRO	WDR-L(E)-Z2-PRO-L
Self-diagnosis Function			Diagnosis of the wireless environment of the WD network is possible.	
	System Diagnosis	Setting Confirmation	Displays a list of transmitter wireless settings and operation settings in a browser.	-
			A file containing a list of wireless settings and operation settings for the main unit and transmitter can be downloaded using a browser.	-
		Wireless Quality Diagnosis	The current wireless quality of each transmitter on the WD network can be diagnosed. *1	
			The communication quality with each transmitter can be continuously diagnosed. Diagnostic interval : 10 minutes Diagnosis period : 72 hours MAX	
			Diagnosis results can be checked on the browser screen or downloaded to a file.	
		Transmitter Call	The transmitter indicator can blink blue.	
Status Check Function			The current status of the signal light with the transmitter is displayed in the browser.	
	Displayable Information		Displays the lighting / flashing / off status of the signal light to which the transmitter is attached, the buzzer sounding / stopping status, and the wireless connection status.	-
	Number of Display Transmitters		30 units MAX *2	
	Display Update Interval		about 8 seconds	
Status Display Function			The status of the main unit is displayed with the status lamp on the main unit.	
	Display State	POWER	Lights when power is supplied to the main unit.	
		ERROR	Lights or blinks when there is something wrong with the unit.	
		STATUS	Lights as various status displays.	
		ACTIVE	Lights intermittently during wireless communication.	
Remark			*1 The diagnostic results obtained with this function are predictions and do not guarantee the wireless communication quality with the transmitter. *2 Only transmitters that are wirelessly connected to this product can be displayed, and transmitters that are connected to other receivers cannot be displayed.	

[Handling Precaution]

◆About handling this product

・This product (including software) is shipped only after undergoing strict quality controls and inspections. However, should you encounter any issues, please contact your PATLITE sales representative.

・This product (including software) is developed, designed and manufactured for general usage, such as office use, personal use, standard industry, and other related systems. Do not use, either directly or indirectly, in applications where a high level of safety is required, such as medical equipment or where human life is involved. We shall not be held liable for any damages or losses, nor be held responsible for any claims by a third party, as a result of using this product.

・The suitability of this product in the system, with other machines and equipment, shall be tested and confirmed by the customer. We assume no responsibility regarding this. Design safety into the system to cope with misoperation, misuse, going offline, and other unforeseen operation of this product.

・We bear no responsibility for damages, lost opportunities, lost profits, compensation for accidents, or other costs including but not limited to personnel, construction, transportation, and shipping costs, related to using this product. We bear no responsibility for defects in other products, regardless of the other product's connection to this product (such as a communication line), or for the cost of repairing damages, losses, defects, or recovering lost data related to using the other products, including but not limited to personnel, construction, transportation, and shipping costs.

・To improve the functionality in the software for this product, we will update the software at our own discretion. We bear no responsibility for the results of software updates, such as damages, lost opportunities, lost profits, compensation for accidents, or other costs including but not limited to personnel, construction, transportation, and shipping costs, related to using this product. We bear no responsibility for defects in other products, regardless of the other product's connection to this product (such as a communication line), or for the cost of repairing damages, losses, defects, or recovering lost data related to using other products, including but not limited to personnel, construction, transportation, and shipping costs.

・Note the following statements regarding the software for this product, which require prior written consent from PATLITE:

＊Do not duplicate the software for this product.

＊Do not alter, combine, reverse-engineer, decompile, or disassemble the software for this product.

＊Do not license, rent, or resell the software for this product to a third party.

＊Do not store the software of this product on a network so it can be transmitted to a third party.

＊Do not remove the copyright notice or other trademark and company rights attached to the software for this product.

◆Things you should always do for your safety

・Do not disassemble or modify the product. Failure to do so may lead to product malfunction or cause fire or electrocution.

・Be sure to use the included AC adapter or the AC adapter specified by the company to supply power to this product. If you use other AC adapter or other power source, it may cause fire or malfunction.

・Do not allow the voltage to exceed the specified voltage tolerance.

・Do not touch the electric socket with wet hands. It may result in electric shock.

・Avoid spilling liquids (such as water or chemicals) into this product. Avoid dropping foreign metallic objects (such as copper wire) into this product. Failure to follow these instructions could result in electric shock or equipment damage.

・Do not drop or hit this product. Failure to follow these instructions could result in electric shock or equipment damage.

・By allowing dust to adhere to the power receptical, it can be the result of fire or failure from short-circuiting.

・Do not pull strongly the cable to be connected, including the AC adapter's power cable, or use damaged cable. It becomes a disconnection or a short circuit, and this product or connected equipment may be broken or it may cause ignition.

・Do not multi-outlet extension cord. Fire may occur.

・Do not apply too much force to switches and buttons on this product. Failure to follow this instruction could result in equipment damage.

◆Installation

・Turn off the power when wiring, inspecting, or repairing this product. Failure to follow this instruction could result in equipment damage.

・Do not install in locations near fire, or environments with high temperature and humidity. Do not install this product where corrosive or flammable gas is present.

・Do not install on an unstable surface. Failure to follow these instructions could result in injury or equipment damage.

・This product is rated for indoor use only. Please install and use this product indoors only.

・Avoid the following locations for installation of this product.

＊Places exposed to direct sunlight.

＊Places near fire or environments with high temperatures and humidity.

＊Environments where temperature changes are severe, and where there is condensation.

＊Environments with poor breathability and ventilation.

＊Places where external vibrations are directly transmitted to this product.

＊Environments where corrosive gas is present.

＊Locations exposed to salty sea air.

＊Locations near strong magnetic fields.

＊Environments where there is dust, iron powder, and so on.

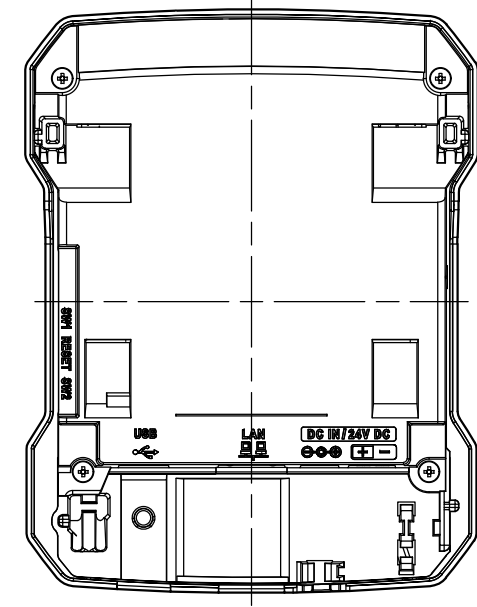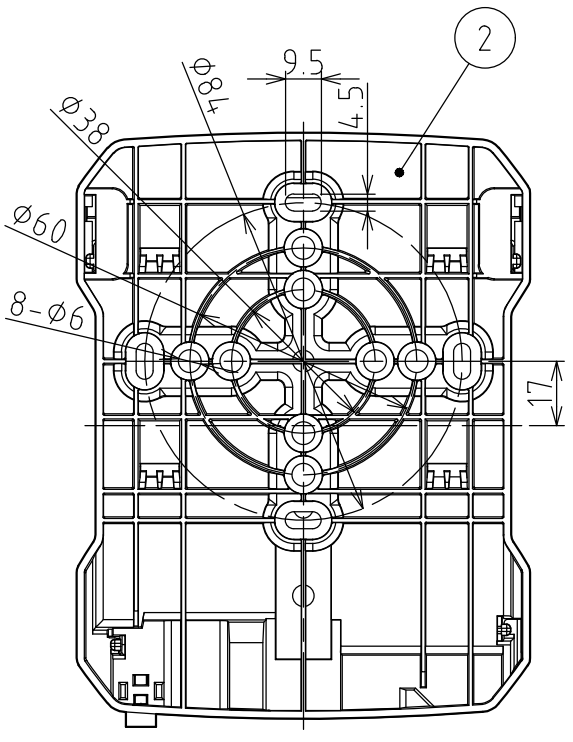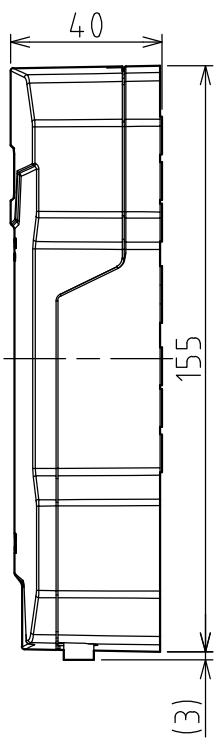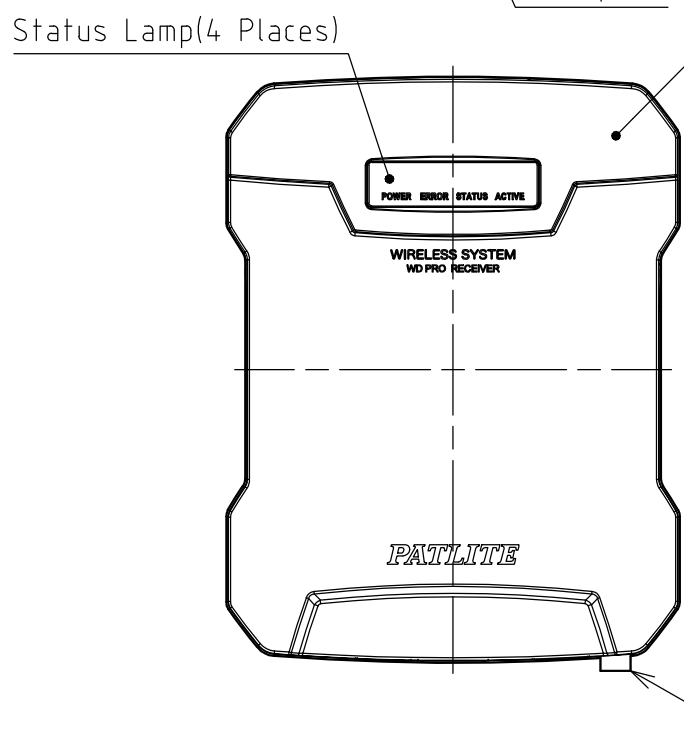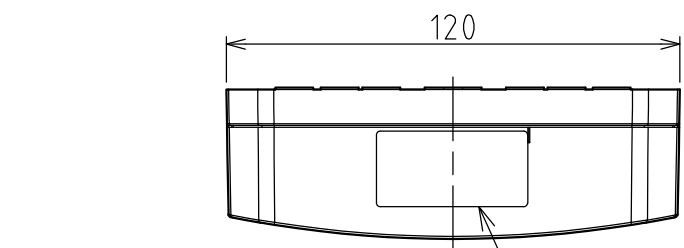＊Environments where chemicals and oil mist are present.

◆About maintenance

・Do not clean this product with volatile chemicals such as benzine or thinners, or with chemical wiping cloths as it could damage the product.

・Please clean this product with a soft, dry cloth.

・If the dry cloth is unable to clean off any dirt and grime, wipe the product firmly with a slightly water-moistened cloth.
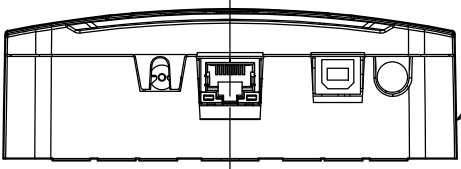
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指定 外部 General tolerance 公差	角度公差 Angular tolerance ±[°]				寸法公差 Dimensional tolerance ±[mm]					
	短辺 長さ Length of short side	10	50	100	~	6	30	120	300	1000
	~	~	~	100		6	30	120	300	1000
精 f	1	0.5	0.3	0.1	精 f	0.05	0.1	0.2	0.4	0.6
中 m					中 m	0.1	0.3	0.5	0.7	1
粗 v	3	1.5	1	0.5	粗 c	0.3	0.5	1	1.2	2

改訂 Rev.	年 月 日 Date	改 訂 履 歴 Revisions
H		

120

Nameplate

Status Lamp(4 Places)

POWER ERROR STATUS ACTIVE

WIRELESS SYSTEM
WD PRO RECEIVER

PATLITE

(1)
(3)

40

155

(3)

Φ38
Φ84
Φ60
9.5
4.5
8-Φ6
17

(2)

Main Unit Rear View

USB   LAN   DC IN/24V DC

DC Power Jack
Power Terminal
LAN Connector(RJ-45)
USB Connector(Type B)

(2)
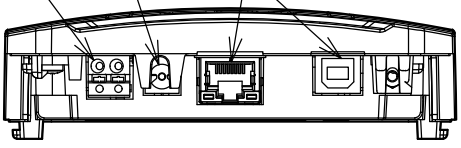
Main Unit Bottom View
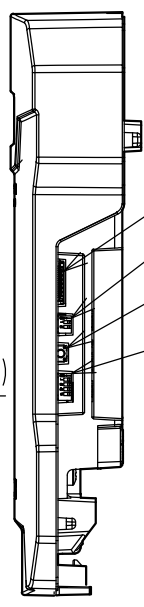
Maintenance Card Slot
DIP Switch for Maintenace
Reset Button
DIP Switch for Setting

Main Unit
Side View

74
(1530)
43.5
35.3

(4)
(6)
(5)
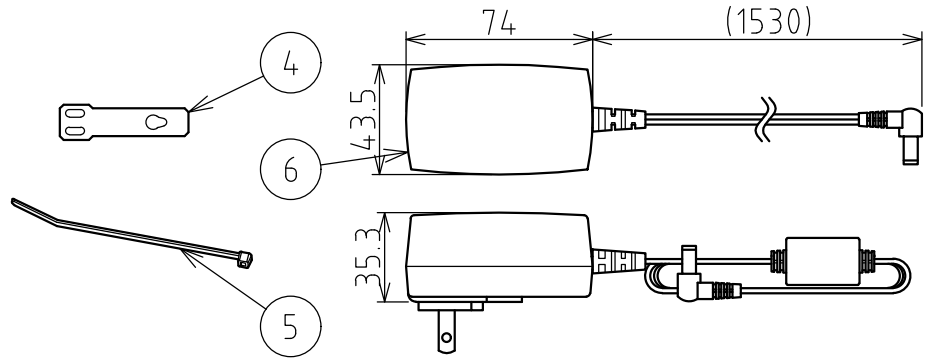
Accessories

6	AC Adaptor	1	IN:100-240V AC/OUT:24V DC
5	Cable Tie	1	Nylon
4	Cable Fixing Plate	1	PET
3	Main Unit Screws	1	SUS M3X20
2	Bracket	1	ABS Off-white
1	Main Unit	1	ABS Off-white
番号 No.	部品名 Part Name	数量 Qty.	記事 Remarks

機種 Model	WDR-L(E)-Z2-PRO(-L)	特注No. S.P.No.	–	図名 Name	Outer Dimensions Drawing
品目コード Part No.	–		尺度 Scale –	三角法 3rd Angle P.	単位 Unit mm

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8 Ver.2.2 A3