MIERUZZO

DK-5000 series

Count Values Saved with Timestamp Data Viewing & Saving via PC

Sensor Input & Wireless Communication as Options

Support up to 30 Inputs

Remote Monitoring of On-Site Data

A Type | 5-30 combined tally counters with timestamp

B Type | Timestamp Recorder with 5-30 input keys

C Type | 5-30 combined tally counters with automatic recording function

D Type | Status Recorder with 5-30 input keys

E Type | 5-30 combined tally counters with timestamp (Keypad Tone + Preset Alarm)

Option 1 | Sensor Input

Option 2 | Wireless Communication

LINE SEIKI CO., LTD.

Tally Counter

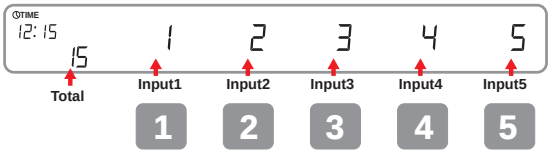
Type A — Tally counter with timestamp

DK-5000A Series

This is a Bank Tally Counter equipped with memory function.
Count values are saved with timestamp. This counter can substitute for mechanical tally counter to make it easier to tally and save count data.

Product Applications

- Warehouses
- Various events
- Inspection Process



- Example -
Pushed "Input Key + Memory Key"
[1 - 5] [#]
at 1-minute intervals

Count Values with Date & Time

DK-5005A
5 combined tally counter with timestamp

Auto-Acquire | Record

Record Data

	Timestamp	Total	Input1	Input2	Input3	Input4	Input5
1	2017 - 03 - 01 12:01:00	1	1	0	0	0	0
2	2017 - 03 - 01 12:02:00	2	1	1	0	0	0
3	2017 - 03 - 01 12:03:00	3	1	1	1	0	0
⋮							
15	2017 - 03 - 01 12:15:00	15	1	2	3	4	5

DATA LOGGER

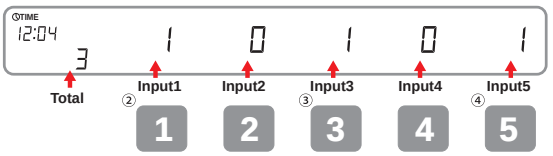
Type B — Timestamp Recorder with input keys

DK-5000B Series

Date & Time is recorded whenever the keys are pressed.
The number of times the keys are pressed is displayed. Start time and End time are recorded. You can analyze the saved data on the computer.

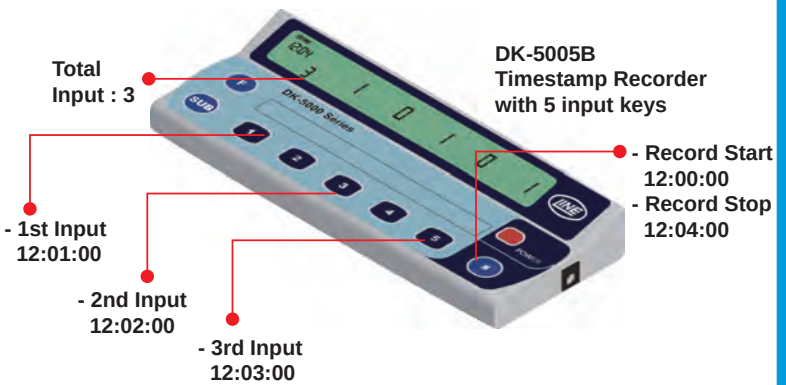
Product Applications

- Inspection Process at production sites
- At various events, shops, facilities and etc.



- Example -
Input Keys and Memory Key were pressed in the following sequence at 1-minute intervals:
→ 1 → 3 → 5 →

Digitalization of Manually Input Data



Auto-Acquire | 2015 - 04 - 01 12:00:00

Record Data

	Timestamp	Total	Input1	Input2	Input3	Input4	Input5
1	2017 - 03 - 01 12:00:00	0	0	0	0	0	0
2	2017 - 03 - 01 12:01:00	1	1	0	0	0	0
3	2017 - 03 - 01 12:02:00	2	0	0	1	0	0
4	2017 - 03 - 01 12:03:00	3	1	0	1	0	1
5	2017 - 03 - 01 12:04:00	0	1	0	1	0	1

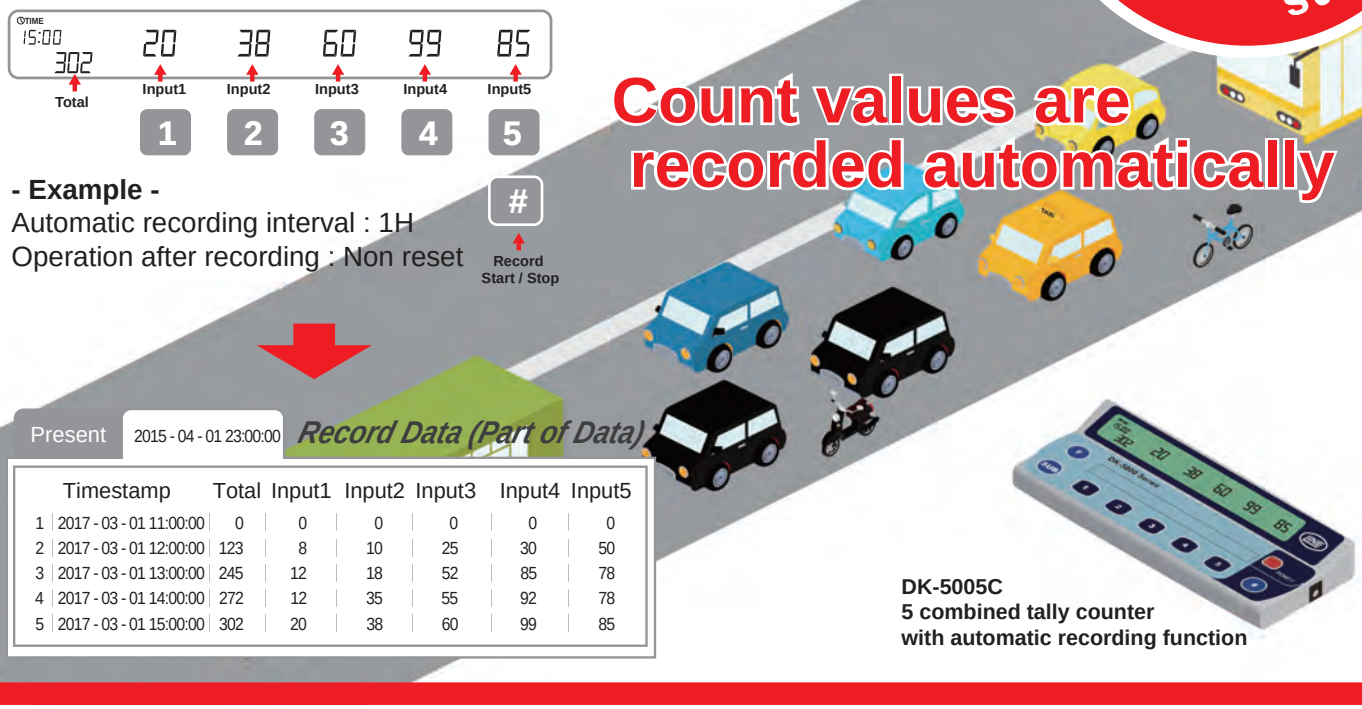
Type C — Tally counter with automatic recording function

DK-5000C Series

The individual count values and the total count are recorded automatically at preset intervals with a corresponding timestamp.
You can select whether or not to reset the count values after a data log is saved.

Product Applications

- Traffic Survey
- At various events, shops, facilities and etc.



Count values are recorded automatically

- Example -
Automatic recording interval : 1H
Operation after recording : Non reset

Present 2015 - 04 - 01 23:00:00 *Record Data (Part of Data)*

	Timestamp	Total	Input1	Input2	Input3	Input4	Input5
1	2017 - 03 - 01 11:00:00	0	0	0	0	0	0
2	2017 - 03 - 01 12:00:00	123	8	10	25	30	50
3	2017 - 03 - 01 13:00:00	245	12	18	52	85	78
4	2017 - 03 - 01 14:00:00	272	12	35	55	92	78
5	2017 - 03 - 01 15:00:00	302	20	38	60	99	85

DK-5005C
5 combined tally counter with automatic recording function

Type D — Status Recorder with input keys

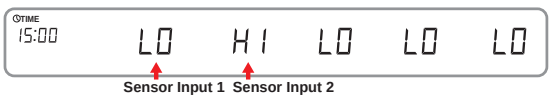
DK-5000D Series

Sensor Input — *Sensor Input Device M16-600*
Light Sensor — *Andon Sensor M13-215*

The input status is toggled between HI and LO and recorded with timestamp whenever pressing input keys.HI and LO time of each input key can be summed up.

Product Applications

- Time Study
- Production Monitoring



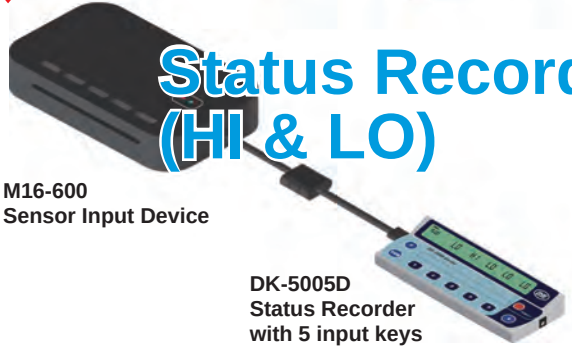
- Example -
Sensor Input 1 & 2 are used for sensor inputs. Alternating status of machinery and equipment is recorded.
Total time of HI/LO is tallied as well.

Auto-Acquire 2015 - 04 - 01 12:00:00 *Record Data*

	Timestamp	Input1	Input2	Input3	Input4	Input5
1	2017 - 03 - 01 12:00:00	-	-	-	-	-
2	2017 - 03 - 01 12:25:00	H	-	-	-	-
3	2017 - 03 - 01 12:50:00	H	H	-	-	-
4	2017 - 03 - 01 14:20:00	-	H	-	-	-
5	2017 - 03 - 01 15:00:00	-	H	-	-	-
	HI Time	01:55:00	02:10:00	00:00:00	00:00:00	00:00:00
	LOTime	01:05:00	00:50:00	03:00:00	03:00:00	03:00:00

Sensor input (Lighting/Flash) from M13-215 wired up to M16-600

Status Recorder (HI & LO)



M16-600
Sensor Input Device

DK-5005D
Status Recorder with 5 input keys

Type E

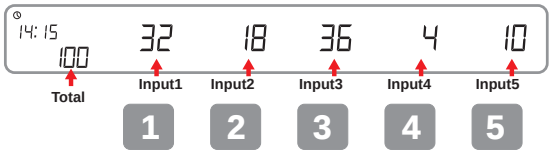
Tally counter with timestamp and buzzer function

DK-5000E Series

When the total value reaches a preset value, the device makes an electronic alarm sound. You can input while looking into the microscope since an electronic sound is generated when inputting.

Product Applications

- Laboratories
- White Blood Cell Counting



- Example -
Every time total value reaches 100, input is disabled and alarm (electronic beep sound) is made.

Count up with key sound Beep at goal you set

DK-5005E
5 combined tally counters with timestamp and buzzer function

Auto-Acquire | Record

Record Data(Preset:100)

	Timestamp	Total	Input1	Input2	Input3	Input4	Input5
1	2017 - 03 - 01 12:00:00	100	33	32	7	20	8
2	2015 - 04 - 01 12:36:00	100	40	18	5	17	20
3	2015 - 04 - 01 13:03:00	100	38	22	21	9	10
4	2015 - 04 - 01 13:39:00	100	29	26	7	18	20
5	2015 - 04 - 01 14:15:00	100	32	18	36	4	10

Specifications

DK - 50□□□

Input
05 : 5 inputs
10 : 10 inputs
30 : 30 inputs

Features
A : 5 to 30 combined tally counters + timestamp function
B : Timestamp Recorder with 5 to 30 input keys
C : 5 to 30 combined tally counters + automatic recording function
D : Status Recorder with 5 to 30 input keys
E : A Type + Input Key Operation Sound + Preset Alarm (Total Count)

Models	DK-50□□A / DK-50□□E*	DK-50□□B	DK-50□□C	DK-50□□D
Features	- Bank Tally Counter - Save each & total count values with timestamp	- Event Time Recorder - Every time input keys are pushed, each & total count values are saved with timestamp.	- Bank Tally Counter - Automatic recording at preset intervals - Save each & total count values with timestamp saved with timestamp.	- Status Recording Device - Every time input keys are pushed, status (HI / LO) is saved with timestamp

Models	DK-50□□A / DK-50□□E*	DK-50□□B	DK-50□□C	DK-50□□D
Recording Operation	When # key is pushed	Whenever input keys are pushed after recording is started.	At preset intervals after recording is started.	Whenever input keys are pushed after recording is started.
Recording Setting	Alarm Setting (E Type only)	Nothing	Recording interval Setting	Nothing
Record viewing	Unit or Windows PC	Windows PC	Windows PC	Windows PC
Memory capacity	250 records max.	Max. key input times DK-5005B : 48,000 DK-5010B : 27,750 DK-5030B : 10,000	Max. number of logs DK-5005C : 48,000 DK-5010C : 27,750 DK-5030C : 10,000	Max. key input times DK-5005D : 48,000 DK-5010D : 27,750 DK-5030D : 10,000
Input Type	Rubber Key			
Display Type	7-Segment LCD	Counter / Status (x 5) : 7 mm (H), Total Count : 5 mm (H) Record Number / Time Display : 3.5 mm (H)		
Input Display	0 - 99999 (Internal : 0 to 99999)			HI or LO
Total Count Display	0 - 999999			-
Clock Function	Year / Month / Day / Hour (24 hour) / Minute / Second			
Memory	Built-in flash memory			
Data Communication	USB micro-B (USB 2.0)			
Power Source	AAA Battery x 4 pcs. / USB Cable / AC/DC Adapter			
Battery Life	Approx. 200 hour min. (Under normal operating temperature using Alkaline type battery)			
Ambient Temp. Humid. : Operating	0°C - 50°C (-10°C - +60°C) / 35 - 85%RH (Should not be frozen, Non-condensing)			
Weight (excl. Battery)	DK-5005 : Approx. 130g / DK-5010 : Approx. 185g / DK-5030 : Approx. 340g			
Dimensions	DK-5005 : 70 x 170 x 25mm / DK-5010 : 96 x 170 x 25mm / DK-5030 : 186 x 170 x 25mm			

* DK-50□□E = DK-50□□A + (Key Operation Sound [on/off] and Preset Alarm)

Accessories
Instruction Manual
(Battery & USB Cable Not included)

Software Specifications
CPU : Pentium2 266 MHz
OS : Windows7,8,8.1,10
Disk Space | Application: 50MB
Java Runtime Environment: 160MB
Memory : 1GB
Downloadable from
http://www.lineseiki.com

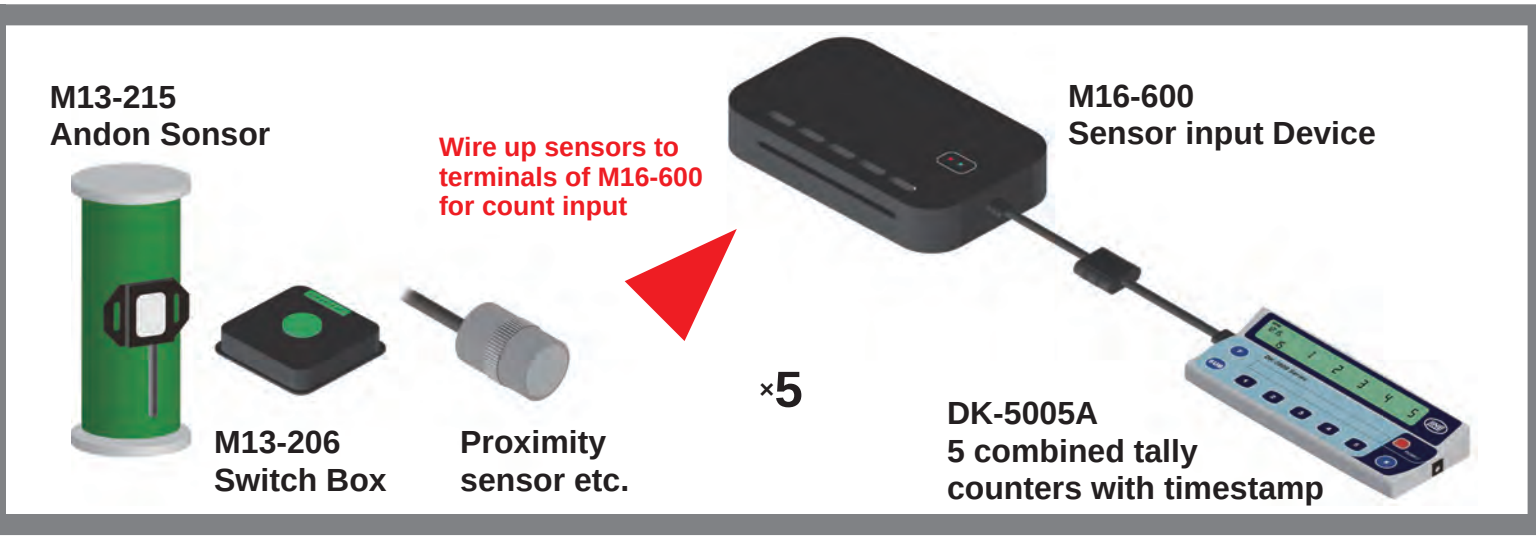
Option
USB-02 (USB Cable)
* A general-purpose micro B-to-A USB cable can be used.
AC/DC Adapter (DK-5)
* Please use Line Seiki AC/DC Power Adapter

Option Accessories (All models of the DK-5000 series)

- Exclusive accessories add the following functions to DK-5000 Series:
(1) External Input — enables DK-5000 Series to gain signals from external equipment/devices
(2) Wireless Communication — enables you to gain recorded data through software on remote PC

Sensor Input — Sensor Input Device M16-600 Configuration example

M16-600 can transfer inputs from exteral sensors to DK-5005A, instead of pushinginput keys

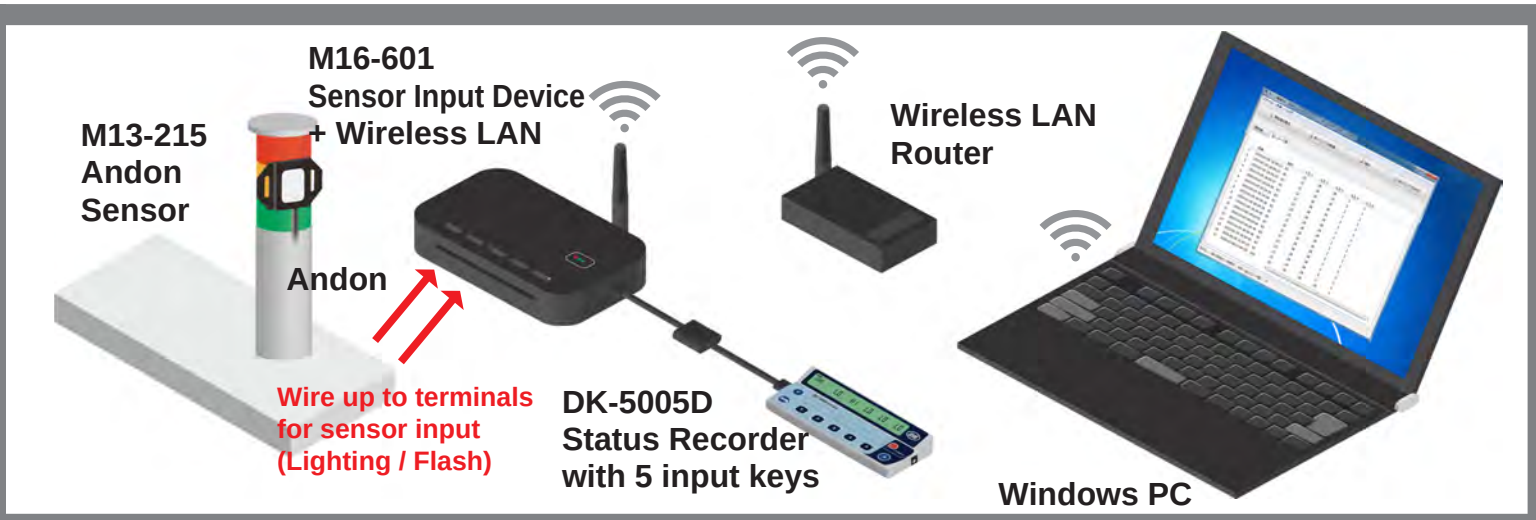


Wireless communication — Wireless End Device (802.15.4) M16-302 / Wireless Coordinator (802.15.4) M16-303 Configuration example

Count values on DK-5005A can be monitored on remote PC through wireless communication, by attaching M16-302 to DK-5005A and M16-303 to PC.

Sensor Input + Wireless communication — Sensor Input Device + Wireless LAN M16-601 Configuration example

The change of status is displayed on remote PC by getting the signal from equipment directly.



Specifications

Model		M16-600	M16-601 *	M16-301 *	M16-602 **	M16-302 **	M16-303 ***
Features		Sensor Input Device	Sensor Input Device + Wireless LAN	Wireless LAN Adapter	Sensor Input Device + Wireless (802.15.4)	Wireless End Device (802.15.4)	Wireless Coordinator (802.15.4)
Function	Transmission of External Input	○	○	-	○	-	This device establishes
	Wireless access from PC to DK-5000	-	○	○	○	○	wireless network (802.15.4)
Wireless Network		-	Wireless LAN		Wireless (802.15.4)		

* Windows PC + Wireless LAN Router ** Windows PC + M16-303 *** Windows PC + M16-302 / M16-602

Model	M16-601 / M16-301	M16-602 / M16-302 / M16-303
Wireless Communication	IEEE802.11b/g/n	IEEE802.15.4
Wireless Range	Up to 30 m Line-of-Sight (LOS)	
Operating Frequency	2.4GHz	
Operating Channel	13 (Automatic)	16
Modulation Method	DS-SS (IEEE802.11b) OFDM (IEEE802.11g/n)	DS-SS

Model ****	M16-600 / M16-601 / M16-602
Input Mode	Open Collector / Contact Input
Input	Non-contact Input : Open Collector Sink Current approx. 1.5 mA L : < 1.4 V Contact Input : Relay, Microswitch, Others Sink Current approx. 1.5 mA
Input Speed	Count Input : 10 Hz (Duty 1:1) Status Input : pulse width of 1 second min. ****
Sensor Power Supply	12 VDC (100 mA)
Sensor Input Terminal	Terminal Screw

Power Source	AC/DC Power Adapter (except M16-303) / USB 5 V (Consumption Current Approx. 55 mA)
Power Supply	USB Power Supply : Vbus 5 V (100 mA) except M16-303
DK-5000 Connection	USB 2.0 (USB Micro-B) except M16-303
Ambient Temp. : Operating	0 to 50 °C (Should not be frozen)
Ambient Humid. : Operating	35 to 85 %RH (Non-condensing)
Ambient Temp. : Storage	-10 to +60 °C (Should not be frozen)
Dimensions	M16-600 M16-601 M16-602 : 150 x 100 x 32 mm (excluding antenna) / M16-301 M16-302 : 75 x 50 x 32 mm (excluding antenna) / M16-303 : 97 x 48 x 16 mm
Weight	M16-600 : Approx. 240 g / M16-601 M16-602 : Approx. 250 g / M16-301 M16-302 : Approx. 60 g / M16-303 : Approx. 35 g
Accessories	Instruction Manual x 1, USB On-the-Go (OTG) Host Cable x 1, Micro B-to-A USB Cable x 1, AC/DC Power Adapter x 1 (except M16-303)

**** DK-5005D / DK-5010D / DK-5030D only ***** These wireless devices are compliant with radio law in Japan, the United States, Canada and EU.

Sensor & Switch Sensors for M16-6XX

Sensors and switches that can work with M16-6XX
General-purpose proximity sensors can also be connected to M16-6XX

Switch Box M13-206

M13-206 is a push-button switch.
Four operation modes can be switched by DIP switch.

Light Sensor Andon Sensor M13-215

Attached to a tower light, this sensor detects the status (Lighting/Flash) of the tower light and outputs signals.

Specifications

Input Type	Contact / Open Collector
Reset	Open Collector Output
Power Supply	DC12 - 24V (-15% / +10%)
Power Consumption	approx. 500mW
Ambient Temp. : Operating	0 - 50°C (non-freezing)
Ambient Humid. : Operating	45 - 85%RH (non-condensing)
Weight	approx. 50g
Accessories	Instruction Manual x 1

Specifications

Power Supply	12-24VDC
Power Consumption	230mW Max.
Output Mode	Out, Blink
Output Voltage	NPN Open-collector (25VDC, 100mA)
Blinking Rate (tower light)	0.5Hz - 4Hz
Minimum Detection	100ms
Connection	4-core wire(1500mm, AWG24)
Sensor Sensitivity(Angle)	14° Max.
Sensor Sensitivity(Wavelength)	350nm - 970nm
Ambient Temp. : Operating	35 - 85%RH (Non-condensing)
Ambient Humid. : Operating	0 - 50°C (Non-freezing)
Ambient Temp. : Storage	-10 - +50°C (Non-freezing)
Weight	Approx. 50g
Accessories	Instruction Manual x 1, Cable-tie x 1

This manual was last revised July 20, 2017.

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