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SPECIFICATIONS

Product Name:Signal Tower with Ethernet

Model:LR5-02□EN□、LR5-□02□E□□-□

(Socket, HTTP, Modbus TCP Communication Specifications)

Model:LR5-02□IN□、LR5-□02□I□□-□

(EtherNet/IP Communication Specifications)

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1. General Specifications

Rated Voltage	24V DC	
Operating Voltage Range	Rated Voltage $\pm$ 10%	
Rated Current Consumption	Main Unit	Typ.15 mA Max. 20 mA
	LED Unit	Typ.40 mA Max. 45 mA (per tier)
	Buzzer Unit	Typ.50 mA Max. 55 mA
Inrush Current (Typ.)	Current	-
	Time	-
	Environmental Condition	25°C Cold Start
Operating Ambient Temperature	-20°C ~ +50°C	
Operating Ambient Humidity	90% RH or less, no freezing, no condensation	
Storage Ambient Temperature	-30°C ~ +60°C	
Storage Ambient Humidity	90% RH or less, no freezing, no condensation	
Mounting Location / Direction	Indoors / Upright	
Protection Rating	Mounting : W	IP 65 (IEC 60529)
	Mounting : L, S	IP 54 (IEC 60529)
Environmental Condition	Upright	
Insulation Resistance	More than 5M Ω at 500 VDC between the live part and non-current carrying metallic part	
Withstand Voltage	500 VAC applied for 1 min between live part and non-current carrying metallic part without breaking insulation	
Mass (Tolerance: $\pm$ 10%)	(LED Unit) + [Buzzer Unit]	
	Mounting : W	0.1kg + (0.04kg) $\times$ Tiers + [0.05kg]
	Mounting : L	0.39kg + (0.04kg) $\times$ Tiers + [0.05kg]
	Mounting : S	0.3kg + (0.04kg) $\times$ Tiers + [0.05kg]
Outer Dimensions	Refer to the Outer Dimension Drawing	
Buzzer Sound /Typical Frequency	No.1	Rapid intermittent beep / 3,378Hz
	No.2	Continuous beep sound / 3,378Hz
	No.3	Rapid Hi-Lo / 2,016Hz&3,012Hz
	No.4	Sweep sound / 1,000Hz-4,032Hz
Setting	Depending on DIP Switch Settings Refer to the 7.Buzzer Pattern Set-up	
Sound Pressure Level	Typ.85dB *Sound Reduction Approx. -10dB	
	Depending on DIP Switch Settings Refer to the 7.Buzzer Pattern Set-up	
Environmental Condition	Buzzer sound No.4 was measured from the total circumference of the Buzzer Unit at 1m	
Network Communication Format	Ethernet (IEEE802.3 Conformity) 10BASE-T/100BASE-TX (Auto-MDI/MDIX)	
Protocol	Ethernet Communication : E	Socket, HTTP(S), Modbus/TCP
	Ethernet Communication : I	EtherNet/IP (The EDS file can be downloaded from our website.)
Conformity Standards	UL 508 ,CAN/CSA C22.2 No.14-18 FCC Part15 SubpartB(Class A), ICES-003 Issue 7(Class A) EN 61000-6-4, EN 61000-6-2, EN IEC 63000 KS C 9610-6-4, KS C 9610-6-2 *Except Mounting:S	
Remarks	• Due to the characteristics of the LED elements, a variation in difference of the color tone and brightness of every product may occur • Conforms to the CE/UKCA requirements • UL Recognized Component(File No.E215660) • Modbus is a registered trademark of Modicon Inc. (Schneider Automation International). • Microsoft Edge is registered trademark of Microsoft Corporation in the United States and other countries. • Google Chrome is a trademark or registered trademark of Google LLC. • EtherNet/IP is a trademark of ODVA, Inc.	

2.Model Number Configuration

Unit Model(Body Unit)

L R 5 - 0 2 W E N W

Size

5	Φ50
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Rated Voltage

02	24V DC
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Body Color

W	Off-white
K	Black
U	Silver

Ethernet Communication

E	Socket,HTTP,Modbus/TCP
I	EtherNet/IP

Mounting

W	Direct mounting
L	Mounting with pole/L-bracket
S	Mounting with short pole/L-bracket

Assembly Model

L R 5 - 3 0 2 W E B W - R Y G

Size

5	Φ50
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Rated Voltage

02	24V DC
----	--------

Tiers

1	1Tier
2	2Tiers
3	3Tiers
4	4Tiers
5	5Tiers

Body Color

W	Off-white
K	Black
U	Silver

Buzzer Unit

B	With buzzer
N	No buzzer

Ethernet Communication

E	Socket,HTTP,Modbus/TCP
I	EtherNet/IP

LED Unit Color

R	Red
Y	Amber
G	Green
B	Blue
C	White

From top to bottom

Mounting

W	Direct mounting
L	Mounting with pole/L-bracket
S	Mounting with short pole/L-bracket

3.Action Specifications

LED unit operation control	7 patterns + off can be controlled for each LED unit color		
	Flashing Pattern	1	Continuous ON
		2	Flashing(Slow) 【0.5sec ON / 0.5sec OFF】
		3	Flashing(Medium) 【0.25sec ON / 0.25sec OFF】
		4	Flashing(Fast) 【0.125sec ON / 0.125sec OFF】
		5	Single Flash
		6	Double Flash
		7	Triple Flash
Buzzer unit operation control	ON/OFF control		

※ The intermittent buzzer and the LED pattern do not synchronize.

4.Function Specifications

4.1 LED unit, Buzzer unit control function

The LED unit and buzzer unit are controlled via Ethernet communication.

Ethernet Communication	Protocol			
	Socket (PNS Command)	HTTP/HTTPS	Modbus/TCP	EtherNet/IP
Type E	○	○	○	×
Type I	×	×	×	○

4.2 Status Acquisition Function

The operating status of the LED unit and buzzer unit is obtained via Ethernet communication.

Ethernet Communication	Protocol			
	Socket (PNS Command)	HTTP/HTTPS	Modbus/TCP	EtherNet/IP
Type E	○	○*	○	×
Type I	×	×	×	○

*Can retrieve firmware version information.

4.3 External Monitoring Function

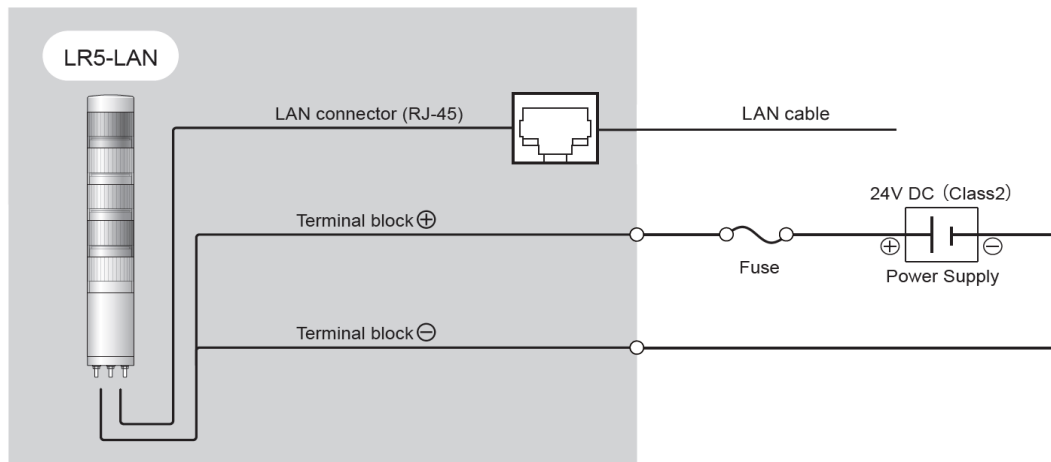
Ping Monitoring	Network abnormality detection by sending Ping network devices		
Number of Monitoring	1		
Monitoring Cycle	1~600 seconds		
Sending Count	The number of times to detect can be set from 1 to 30.		
Number of Sending	The number of sending Ping by one monitoring can be set from 1 to 3.		
Modbus/TCP Monitoring*	Monitor the connection status with the Modbus/TCP master		
Number of Monitoring	1		

*Only Ethernet Communication Specification : Type E

4.4 Setting Function

Automatic Network Setting	Network setting in this product can communicate with a DHCP server to be set automatically.
Configuration Setting	Various configurations of the Main Unit can be read and written as setting files
Main Unit Setting	Various settings of the main body can be done with a web browser. Supported browsers : Microsoft Edge, Google Chrome
Firmware Update	Firmware of the main unit can be updated using WEB browser.
Languages supported on the setting screen	Japanese, English, Traditional Chinese, Simplified Chinese, Korean, Thai German, French, Italian, Spanish

5.Wiring



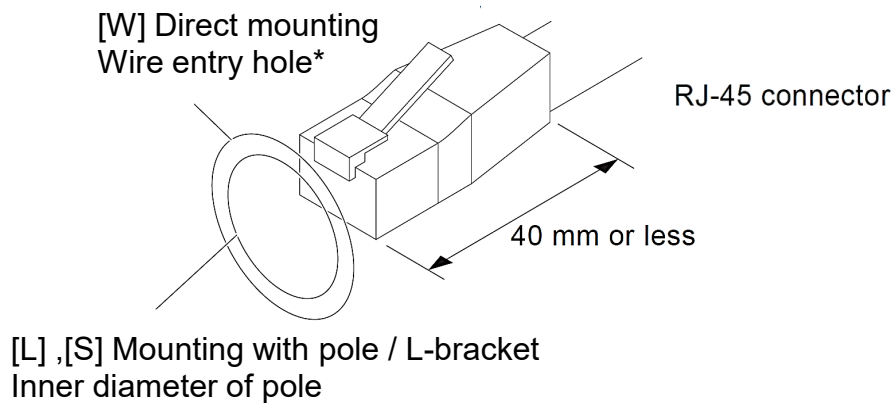
• Fuse

Fuse Rating	250V / 1A
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※Recommended Fuse : 250V/1A (5 × 20mm Fast-Acting Glass Body Cartridge Fuse)

• LAN cable

Since the RJ-45 connector at the end of the LAN cable is connected to the body, it should meet the dimensional requirements shown below.



*When using the wall-mount bracket SZK-002W and SZK-001U, you have to use LAN cable with a diameter of 15 mm or less.

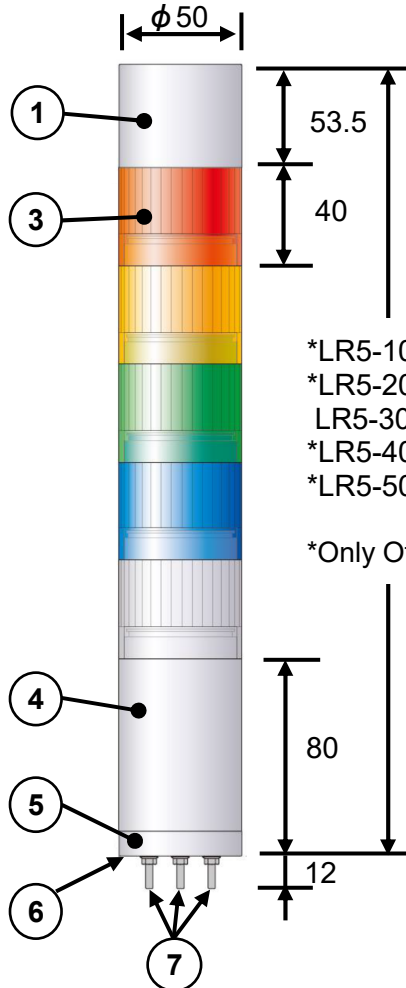
6.Outer Dimensions

6.1 [W] Direct mounting

LR5-□02WEB□ / LR5-□02WIB□

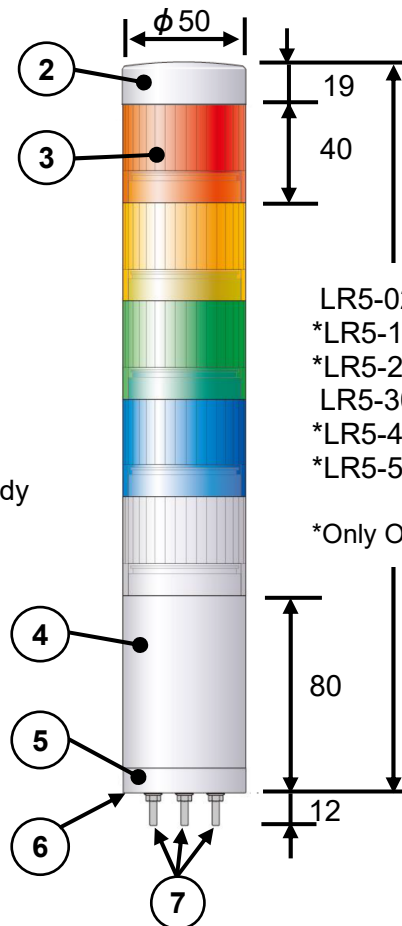
LR5-□02WEN□ / LR5-□02WIN□

Unit: mm



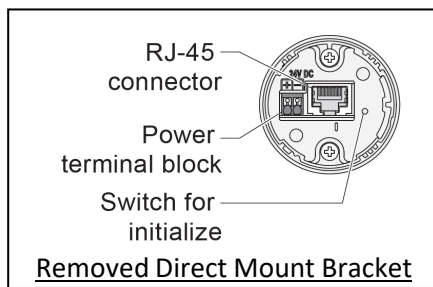
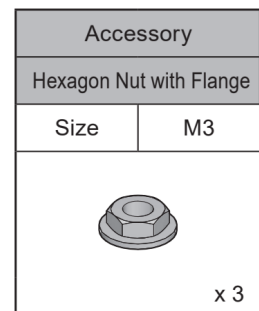
*LR5-102 : 173.5
*LR5-202 : 213.5
LR5-302 : 253.5
*LR5-402 : 293.5
*LR5-502 : 333.5

*Only Off-white Body



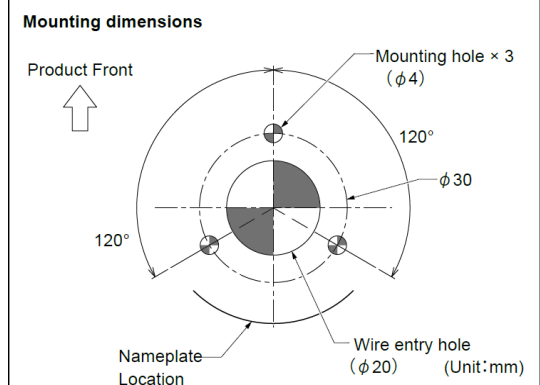
LR5-02 : 99
*LR5-102 : 139
*LR5-202 : 179
LR5-302 : 219
*LR5-402 : 259
*LR5-502 : 299

*Only Off-white Body Color



No.	Name	Material
1	Buzzer Unit	PC(Color based on Body Color)
2	Head Cover	PC(Color based on Body Color)
3	Globe	PC(Color based on LED unit)
4	Body	PC(Color based on Body Color)
5	Direct Mount Bracket	PC(Color based on Body Color)
6	Waterproof Packing	Silicone Rubber
7	Mounting Bolt(M3)	Steel

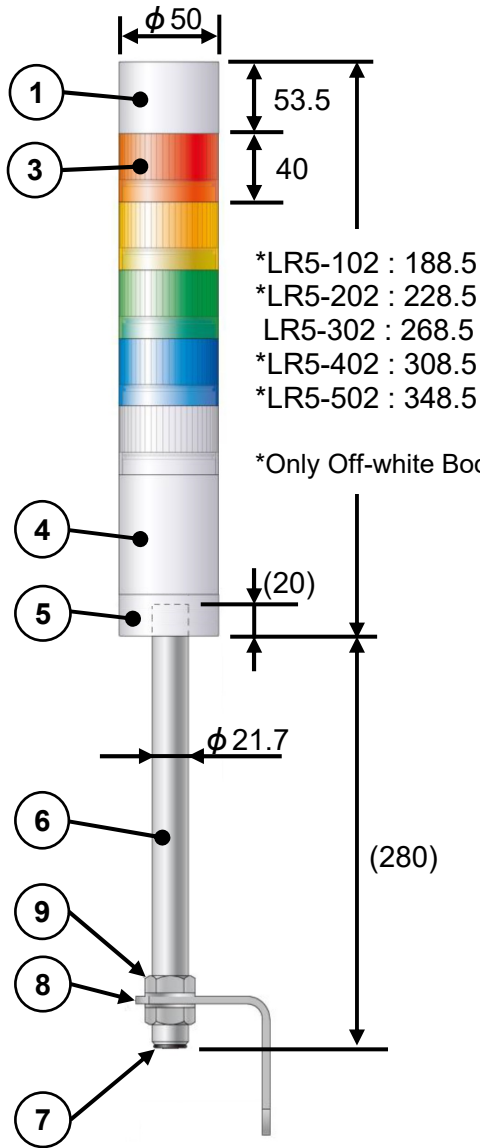
※Maximum Board Thickness : 7



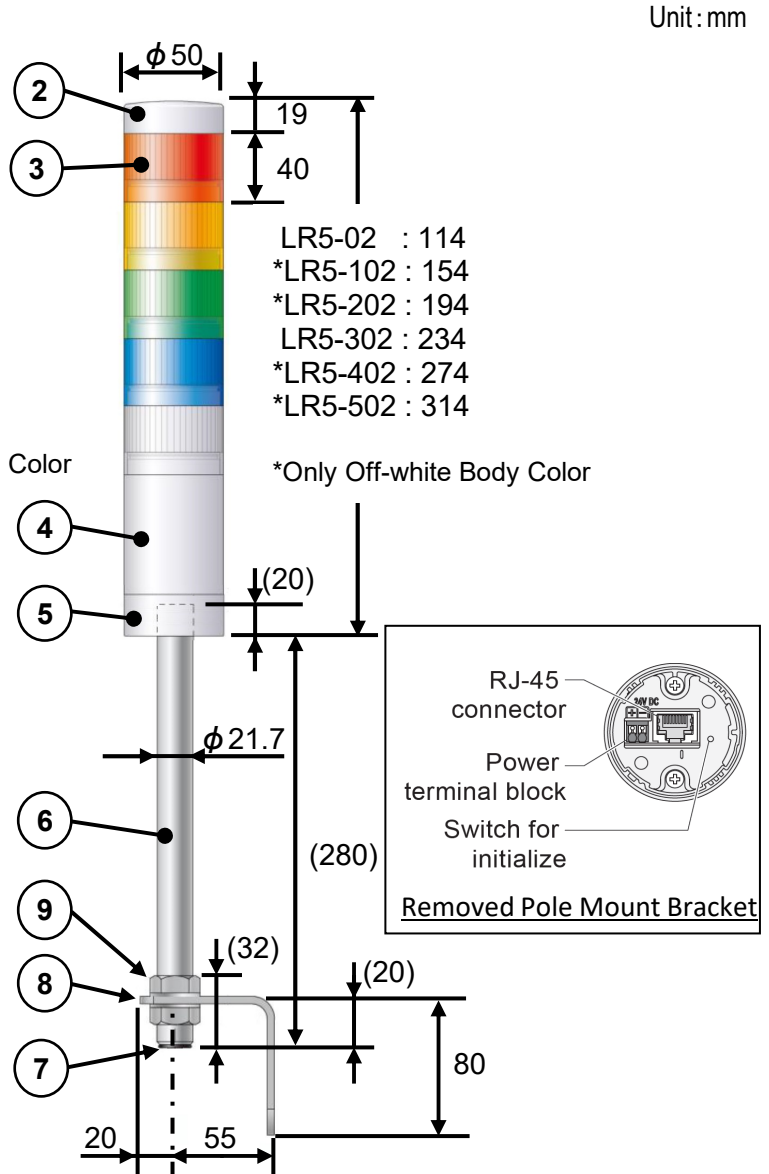
Recommended Torque

0.6 N · m
(approximate)

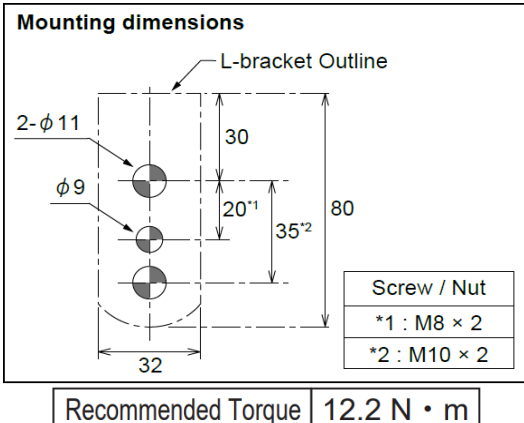
6.2 [L] Mounting with pole/L-bracket
LR5-□02LEB□ / LR5-□02LIB□



LR5-□02LEN□ / LR5-□02LIN□



No.	Name	Material
1	Buzzer Unit	PC(Color based on Body Color)
2	Head Cover	PC(Color based on Body Color)
3	Globe	PC(Color based on LED unit)
4	Body	PC(Color based on Body Color)
5	Pole Bracket	PC(Color based on Body Color)
6	Pole	AL
7	Rubber Bushing	EPR
8	L-bracket	Steel (t=3) ※Accessory
9	Hexagon Nut M22	SUM

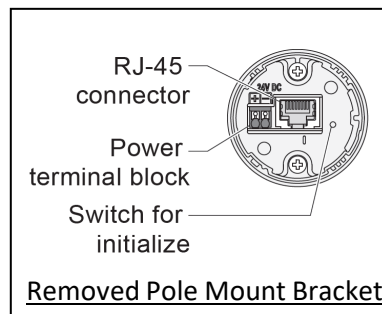
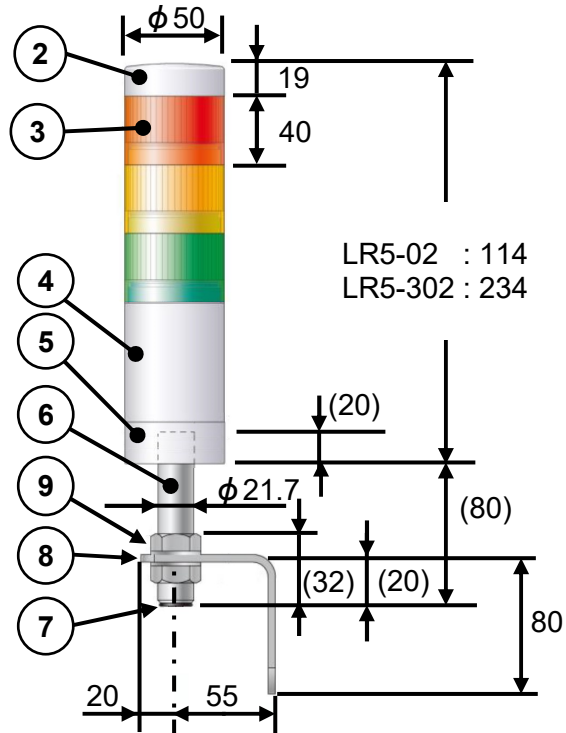
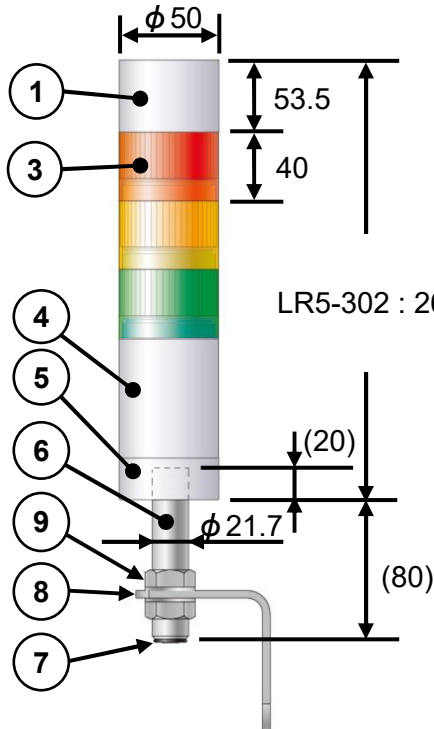


6.3 [S] Mounting with short pole/L-bracket

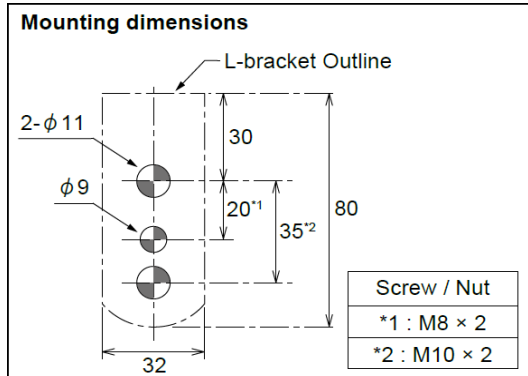
LR5-□02SEB□ / LR5-□02SIB□

LR5-□02SEN□ / LR5-□02SIN□

Unit: mm



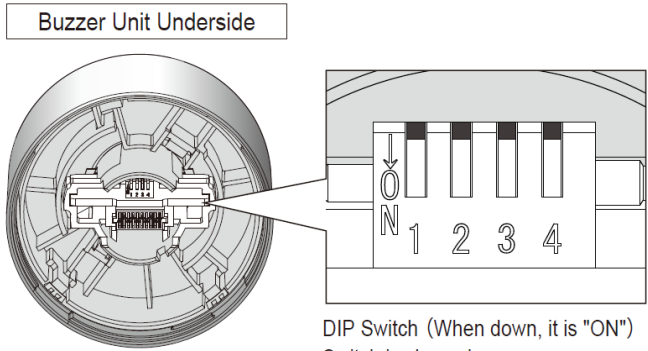
No.	Name	Material
1	Buzzer Unit	PC(Color based on Body Color)
2	Head Cover	PC(Color based on Body Color)
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4	Body	PC(Color based on Body Color)
5	Pole Bracket	PC(Color based on Body Color)
6	Pole	AL
7	Rubber Bushing	EPR
8	L-bracket	Steel (t=3) ※Accessory
9	Hexagon Nut M22	SUM



Recommended Torque 12.2 N · m

7. Buzzer Pattern Set-up

If your product is a model with a buzzer unit (**B**), you can set a buzzer sound and volume. To set them, you have to remove the buzzer unit and configure the DIP switches on its bottom.



■ Setup Table

Buzzer Sound	DIP Switch		Sound Pattern
	1	2	
No.1	OFF	OFF	Rapid Intermittent Beep
No.2	ON	OFF	Continuous Beep Sound
No.3	OFF	ON	Rapid Hi-Lo
No.4	ON	ON	Sweep Sound

DIP Switch	Volume
3	
OFF	Normal
ON	Sound Reduction

〈Note〉 Do not use DIP Switch 4.
It is set to "OFF" at all times after factory shipments.