

# INSTRUCTION SHEET

## Touch less Switches Φ22 CW Series Flash Silhouette

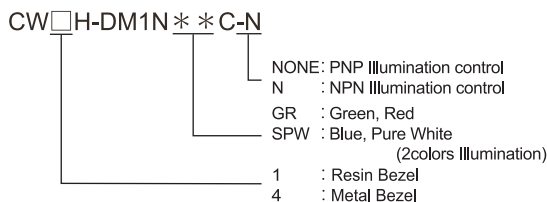
Confirm that the delivered product is what you have ordered. Read this instruction sheet to make sure of correct operation. Make sure that the instruction sheet is kept by the end user.

### SAFETY PRECAUTIONS

#### CAUTION

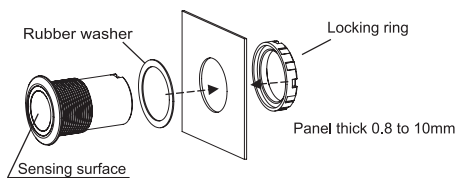
Caution notices are used where inattention might cause personal injury or damage to equipment.

### 1 Type

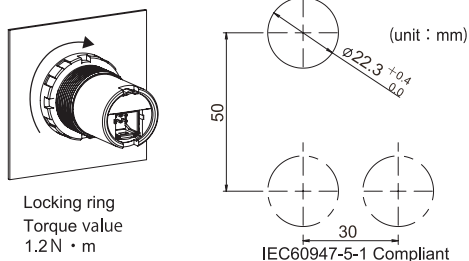


### 2 Installation

To mount the product onto a panel, tighten the locking ring to a tightening recommended torque using ring wrench MW9Z-T1. Mount the product on a flat surface. If installed on an uneven surface, the product may be damaged or the waterproof performance may be impaired.



Mounting hole layout



Locking ring  
Torque value  
1.2N · m

Please determine the mounting pitch consider operability and wiring.

### 3 Specifications

Type No.	PNP Illumination control	CW1H-GM1NGR-C	CW1H-GM1NSPW-C	CW4H-GM1NGR-C	CW4H-GM1NSPW-C
	NPN Illumination control	CW1H-GM1NGR-C-N	CW1H-GM1NSPW-C-N	CW4H-GM1NGR-C-N	CW4H-GM1NSPW-C-N
Ambient Temperature	Operating: -25 to +55°C, Storage: -35 to +70°C (no freezing)				
Ambient Humidity	Operating: 35 to 95%RH, Storage: 35 to 95%RH (no condensation)				
Detection System	Convergent reflective				
Sensing range	10 to 30mm [using white mat paper, 200×200mm] If detection object is hand, approximately 5 to 30mm (reference value)				
Light Source	Infrared LED				
Power Voltage	12 to 24V DC Ripple ±10% (main circuit) , illumination part				
Current Consumption	40mA maximum (main circuit), 20mA maximum (illumination part)				
Control Output	Solid State Relay (PhotoMOS) output		Voltage drop		: 1.0V maximum
	Load voltage: 26.4V DC maximum		Rated operational current (Load current)		: 100mA
Protection Circuit	Protection circuit on reverse connection of power supply				
Response Time	Turn on ≦ 2.5ms, Turn off ≦ 1ms				
Material	Bezel · Body	PA66	Aluminium alloy		
	Lens	PMMA			
Light color	LIGHT1	Green	Blue	Green	Blue
	LIGHT2	Red	Pure White	Red	Pure White
Degree of protection	IP65, IP67, ULType4X (OUTDOOR USE) ※Front panel				

### 4 Notes for Operation

- Do not use the product during the transient time of 100ms after turning on the power supply.
- If the product and the load are connected to different power supplies, the product must always be turned on first.
- Do not install the product nearby induction device, or heat source. Choose locations free from frequent vibrations, shocks, dust, toxic gases, water, oil, chemicals, icing and dew, so as to prevent malfunctions and damage.
- Do not expose the sensing surface to sunlight or other direct light projections.
- Please be caution that the detection distances should be extremely long with specular objects or retroreflectors, it may detect in an unexpected range.
- Do not use the product with water drops, dirt etc, remaining on the sensing surface, as unintended operation and detection performance may change.
- To remove dust and moisture build-up, use soft dry cloth.
- PMMA is used for optical elements. Do not use organic solvents such as ammonia, caustic soda, alcohol or thinner for cleaning.

#### CAUTION

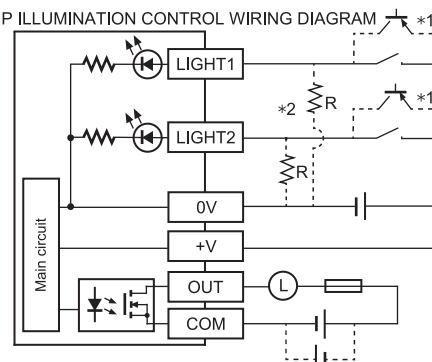
- Do not apply the voltage over the rated range or AC voltage, otherwise the switch may blow out or burn.

### 5 Wiring

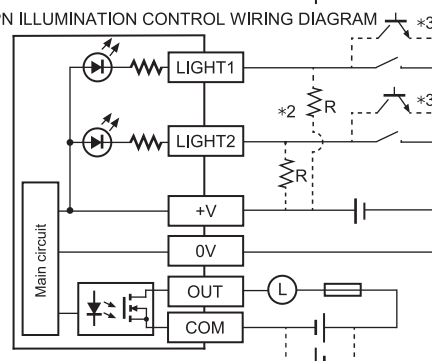
- Turn off the power supply before wiring.
  - The incorrect wiring may cause damage to the internal circuit please refer the wiring diagram.
  - The power voltage must use within the rated range.
  - When using a switching power supply, make sure to ground the FG (frame ground) terminal.
  - Do not install the product wiring in the same conduit with high-voltage lines and power lines.
  - If the wiring is long, or if there is a risk influence from power source and electromechanical devices etc, use it as an independent wiring.
  - The illumination part may light dimly due to the influence of Leak current, induction noise, etc.
- In that case, take countermeasures by connecting the following shunt resistors shown in the table below between each terminal of LIGHT1 and LIGHT2 and 0V for PNP Illumination control type or +V for NPN Illumination control type.  
(Refer to the following WIRING DIAGRAMS )

Shunt resistor R	
Resistance value	Power
20kΩ	0.25W minimum

#### • PNP ILLUMINATION CONTROL WIRING DIAGRAM



#### • NPN ILLUMINATION CONTROL WIRING DIAGRAM



R : Shunt resistor

L : Load

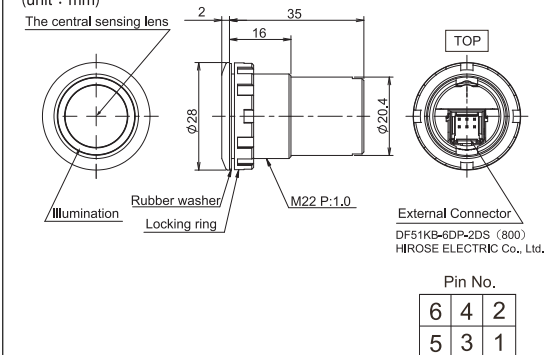
Overcurrent protective devices such as fuses. (100mA maximum)

- \*1 NPN connect unavailable
- \*2 Connect only during dim light countermeasures
- \*3 PNP connect is not recommended

Pin No.	Terminal name
1	+V
2	0V
3	OUT
4	COM
5	LIGHT1
6	LIGHT2

### 6 Dimensions

(unit : mm)



External Connector  
DF51KB-6DP-2DS (800)  
HIROSE ELECTRIC Co., Ltd.

Pin No.		
6	4	2
5	3	1

<Connector>

Parts	Model number	Manufactures	Qty.
Crimp socket	DF51K-6DS-2C(800)	HIROSE ELECTRIC Co., Ltd.	1
Socket contact	DF51K-22SCF(800) or DF51K-22SC(800)		6

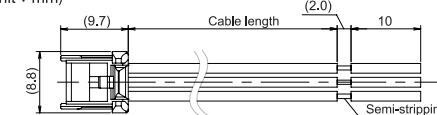
<Cable (Sold separately)>

CW9Z-CN-※ (※Cable length[mm])

• AWG #22

Regarding except 200mm length Please Contact Sales.

(unit : mm)



Pin No.	Colors	Notes
1	Brown	+V
2	Blue	0V
3	Black	OUT
4	Black	COM
5	Gray	LIGHT1
6	Pink	LIGHT2

### 7 Precaution for Disposal

- Dispose of the CW-H as an industrial waste.

EU Authorized Representative: APEM SAS

55, Avenue Edouard Herriot BP1, 82303 Caussade Cedex, France

UK Authorized Representative: APEM COMPONENTS LIMITED

Drakes Drive, Long Crendon, Buckinghamshire, HP18 9BA, UK

Manufacturer: IDEC CORPORATION

2-6-64, Nishimiyahara, Yodogawa-ku, Osaka, Japan

# IDEC CORPORATION

<https://www.idec.com>  
2023.03