chanhvinh.com

IDEC

ø22 CW Series
Flush Silhouette Touchless Switches
CW1H/CW4H



Touchless Switches

For indoor and outdoor use
Suitable for hygiene protection

IDEC CORPORATION

Touchless switches suitable for both indoor and outdoor use



Plastic



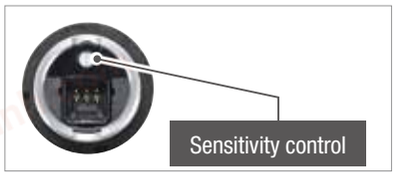
Degree of protection: **IP65/67** suitable for outdoor use
UL Type 4X (Outdoor) approved.
Features weather-resistant material.

Output and standby status feedback by LED illumination in **two colors** that can be externally controlled.





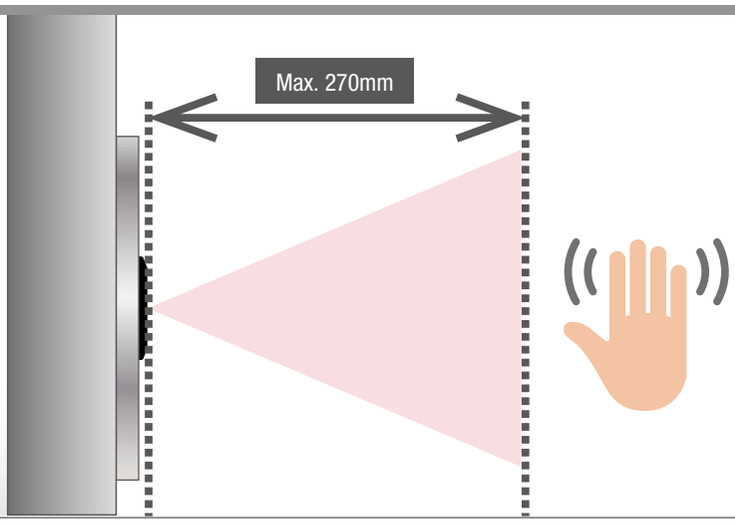
The need for touchless switches to minimize the spread of viruses is increasing. The risk is especially high when an unspecified number of people touch the same surface. Touchless switches can be used in a wide range of applications to reduce the risk of contamination.



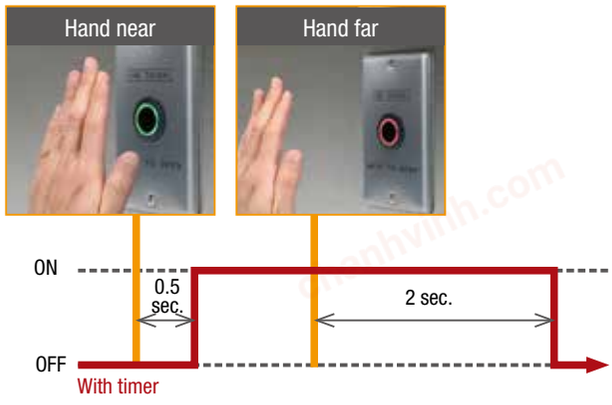
Near-infrared reflectance.

Hand detection distance adjustable up to 270mm. (*1)

*1) See page 6 for "Detection distance range by object" for objects other than hands.



Models with **time delay** available to prevent malfunction.



Application Examples

Public areas where unspecified number of people touch surfaces

Public Facilities



Elevators



Reduces the risk of viruses and bacteria spreading in applications with frequent access.

Locations requiring weather resistance and durability

Parking Garages



Parking Ticket Machines



For use in a variety of applications, both indoors and outdoors.

Locations requiring hygiene measures

Air Shower



Food Machinery



As direct contact is not required, touchless switches can be used in applications that minimize the spread of viruses.

chanhvinh.com

ø22 CW Series Flush Silhouette Touchless Switches
CW1H/CW4H

Touchless switches reduce risk in public and shared spaces.

- Suitable for indoor and outdoor use
- Adjustable detection distance
- Two-color LED illumination enables identification of output and standby

- See website for details on approvals and standards.



General Specifications

Operating temperature	When in use: -25 to +55°C When storing: -35 to +70°C (no freezing)
Operating humidity	When in use: 35 to 95%RH When storing: 35 to 95%RH (no condensation)
Detection method	Diffuse reflection method
Adjustable range of maximum detection distance	120 to 350mm (White drawing paper 200 x 200mm square) Approx. 70 to 270mm if the object is a hand (reference value)
Light source	Infrared LED
Rated voltage	12 to 24V DC Allowable ripple rate ±10%
Current draw	40mA maximum (main circuit) 20mA maximum (illumination part)

Control output		Non-contact (photoMOS relay) output Load power supply voltage: 24V DC± 10% max. (Load current: 100mA max.) Voltage drop: 1.0V max. (Load current: 100mA max.)
Protection circuit		Power supply reverse connection protection
Response time		Turn-on ≤ 2.5ms, turn-off ≤ 1ms
Delay time	On-delay	0.5 ± 0.1s (CW1H-DM1TGR-C, CW4H-DM1TGR-C)
	Off-delay	2.0 ± 0.1s (CW1H-DM1TGR-C, CW4H-DM1TGR-C)
Materials	Bezel / Main body	PA66 (CW1H-DM1NGR-C, CW1H-DM1TGR-C) Aluminum alloy (CW4H-DM1NGR-C, CW4H-DM1TGR-C)
	Lens	PMMA
Illumination color		Light 1: Green, Light 2: Red
Degree of protection		IP65/67, UL Type 4X (OUTDOOR USE) (*1)

*1) Front of the panel.

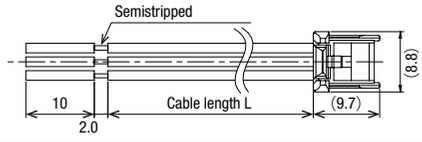
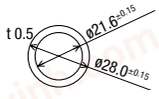
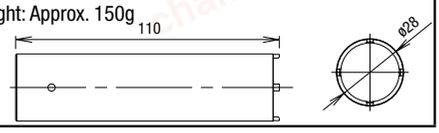
CW1H/CW4H

Package Quantity: 1

Name	Shape	Bezel specification	Part No.	Remarks
CW Series Touchless Switch		Black plastic	CW1H-DM1NGR-C	Without timer
			CW1H-DM1TGR-C	With timer
		Metal	CW4H-DM1NGR-C	Without timer
			CW4H-DM1TGR-C	With timer

- Dedicated cable for external connection is not supplied. (One each of locking ring and rubber washer is supplied)

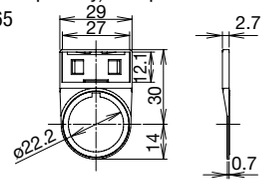
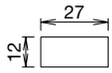
Accessories

Name / Shape	Description	Part No.	Ordering No.	Package Quantity	Remarks
Cable for external connection 	AWG22 Length 200mm (*2)	CW9Z-CN	CW9Z-CN*	1	
Locking ring 	Polyamide Resin (black)	CW9Z-LN	CW9Z-LNPN05	1 (5 pcs)	N/A
Rubber washer 	Nitrile rubber	CW9Z-WM	CW9Z-WMPN10	1 (10 pcs)	For waterproofing between the mounting panel and the main body. 
Locking ring wrench 	Metal (brass)	MW9Z-T1	MW9Z-T1	1	• Used to attach the unit to the panel. • Weight: Approx. 150g 

- Specify the cable length (mm) in place of * in the part number. (Example: CW9Z-CN200)

*2) Contact IDEC for lengths other than 200mm.

Nameplates

Name / Shape	Description	Part No.	Ordering No.	Package Quantity	Remarks
Nameplate CWAM  Legend: Without marking plate	Plastic (Black)	CWAM	CWAM	1	• Marking plate HWNP (sold separately) is required. • Degree of protection: IP65 • Attach the nameplate with the switch actuator rubber washer attached. 
Marking plate HWNP (*1) (*2)  Photo: HWNP-35	Aluminum (Black)	HWNP-☐	HWNP-☐	1	• White letters on black background • Engraving area: W25 H7. 
			HWNP-☐PN10	1 (10 pcs)	t=1.0mm

*1) Available in units of 1 piece, but standard prices vary.
*2) Specify the legend code below in place of ☐ in the part number.

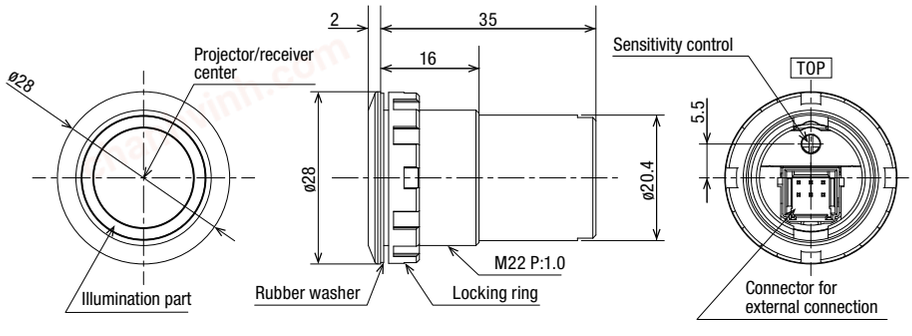
Legend for marking plate

Code	Legend	Code	Legend
0	Blank	4	STOP
1	ON	31	OFF-ON
2	OFF	35	HAND-AUTO
3	START	53	HAND-OFF-AUTO

Dimensions

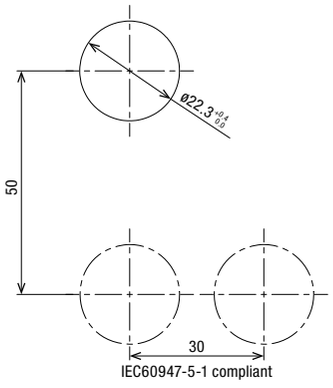
All dimensions in mm.

Main body



Mounting Hole Layout

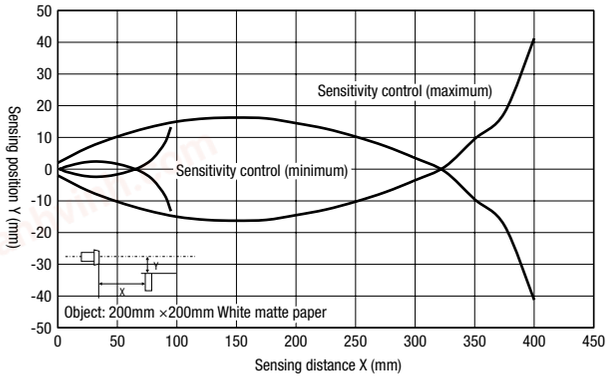
All dimensions in mm.



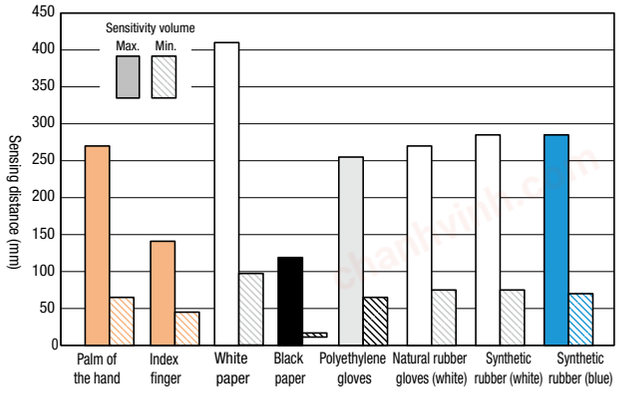
- Determine mounting centers to ensure easy operation.

Characteristics

Detection area



Detection distance range by object



- Detection distance measured using the actual object (using gloves).
- 200×200mm white and black paper used.

chanhvinh.com

Safety Precautions

- Turn off the power to the product before starting installation, removal, wiring, maintenance, or inspection. Failure to turn power off may cause electrical shock or fire.

Instructions

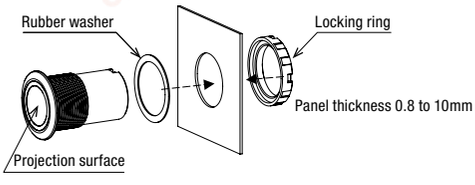
- Since the power reset time is 100ms, start use after 100ms when power is turned on.
- If the load and this product are connected to separate power supplies, be sure to turn on the power to this product first.
- Do not install or use the product in the following places as it may cause malfunction or damage.
  1) Near induction equipment or heat sources
  2) Locations subject to high vibration or shock
  3) Dusty places
  4) Locations subject to harmful gases
  5) Locations directly exposed to water, oil, chemicals, etc.
  6) Locations where icing may occur
- Install the sensor so that light from sunlight or fluorescent lamps does not directly reach the detection surface.
- Mirror surfaces with high reflectivity and reflectors may cause extremely long detection distances at unexpected detection ranges.
- Water droplets, dirt, etc., on the sensor surface may affect the detection performance, so wipe off with a soft cloth before use.
- Since PMMA is used as the material for the optical part, do not use organic solvents such as ammonia, sodium hydroxide, alcohol, or thinner.

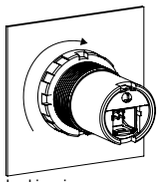
Caution

- Do not use a power supply outside the rated operating voltage range or AC power. Otherwise explosion or burning may occur.

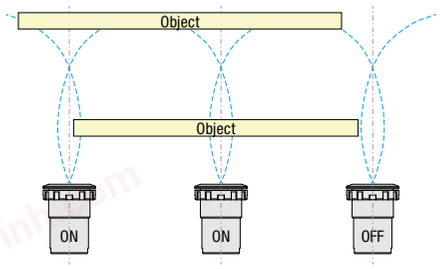
Installation

- Tighten the locking ring to the recommended tightening torque (1.2 N-m) with the optional locking ring wrench (MW9Z-T1). Install on a flat surface. Mounting on a non-flat surface may damage the product or impair its waterproof performance





- When multiple units are installed adjacent to each other, take into consideration the mounting centers of the switches and the location of objects to be detected.

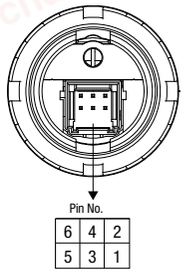


Wiring

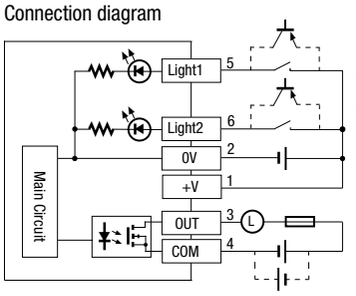
- Turn off the power to the product before starting wiring.
- Wiring errors may cause damage to the internal circuit. Be sure to refer to the connection diagram.
- Use within the range of the rated operating voltage.
- When using a switching power supply for power, be sure to ground the FG terminal.
- Avoid parallel wiring using piping or ducts with high-voltage lines or power lines (especially inverter power lines), as malfunction or damage may be caused due to inductive noise.
- When long wiring is used or when power sources or electromagnetic equipment may affect the product, use individual wiring.
- If voltage is applied to Light 1 and Light 2 terminals due to inductive noise, etc., the illumination unit may light dimly. In this case, take countermeasures by connecting the below shunt resistor between Light 1 and 0V and between Light 2 and 0V.

Shunt resistor R

Resistance value	Rated current
20kΩ	0.25W minimum



Connection diagram



Pin No.	Terminal Name
1	+V
2	0V
3	OUT
4	COM
5	Light1
6	Light2

Compatible connectors for external connection

Parts	Part No.	Manufacturer
Crimp socket	DF51K-6DS-2C (800)	Hirose Electric Co. Ltd.
Socket for crimping terminal	DF51K-22SCF (800) or DF51K-22SC (800)	

- Be sure to read the instructions carefully before performing installation, wiring, or maintenance work.

For details on mounting, wiring, and maintenance, see the instruction manual from the URL below.

URL: https://product.idec.com/?product=CW-H

chanhvinh.com

Ordering Terms and Conditions

Thank you for using IDEC Products.

By purchasing products listed in our catalogs, datasheets, and the like (hereinafter referred to as "Catalogs") you agree to be bound by these terms and conditions. Please read and agree to the terms and conditions before placing your order.

1. Notes on contents of Catalogs

(1) Rated values, performance values, and specification values of IDEC products listed in this Catalog are values acquired under respective conditions in independent testing, and do not guarantee values gained in combined conditions.
Also, durability varies depending on the usage environment and usage conditions.

(2) Reference data and reference values listed in Catalogs are for reference purposes only, and do not guarantee that the product will always operate appropriately in that range.

(3) The specifications / appearance and accessories of IDEC products listed in Catalogs are subject to change or termination of sales without notice, for improvement or other reasons.

(4) The content of Catalogs is subject to change without notice.

2. Note on applications

(1) If using IDEC products in combination with other products, confirm the applicable laws / regulations and standards.
Also, confirm that IDEC products are compatible with your systems, machines, devices, and the like by using under the actual conditions. IDEC shall bear no liability whatsoever regarding the compatibility with IDEC products.

(2) The usage examples and application examples listed in Catalogs are for reference purposes only. Therefore, when introducing a product, confirm the performance and safety of the instruments, devices, and the like before use. Furthermore, regarding these examples, IDEC does not grant license to use IDEC products to you, and IDEC offers no warranties regarding the ownership of intellectual property rights or non-infringement upon the intellectual property rights of third parties.

(3) When using IDEC products, be cautious when implementing the following.

i. Use of IDEC products with sufficient allowance for rating and performance

ii. Safety design, including redundant design and malfunction prevention design that prevents other danger and damage even in the event that an IDEC product fails

iii. Wiring and installation that ensures the IDEC product used in your system, machine, device, or the like can perform and function according to its specifications

(4) Continuing to use an IDEC product even after the performance has deteriorated can result in abnormal heat, smoke, fires, and the like due to insulation deterioration or the like. Perform periodic maintenance for IDEC products and the systems, machines, devices, and the like in which they are used.

(5) IDEC products are developed and manufactured as general-purpose products for general industrial products. They are not intended for use in the following applications, and in the event that you use an IDEC product for these applications, unless otherwise agreed upon between you and IDEC, IDEC shall provide no guarantees whatsoever regarding IDEC products.

i. Use in applications that require a high degree of safety, including nuclear power control equipment, transportation equipment (railroads / airplanes / ships / vehicles / vehicle instruments, etc.), equipment for use in outer space, elevating equipment, medical instruments, safety devices, or any other equipment, instruments, or the like that could endanger life or human health

ii. Use in applications that require a high degree of reliability, such as provision systems for gas / waterworks / electricity, etc., systems that operate continuously for 24 hours, and settlement systems

iii. Use in applications where the product may be handled or used deviating from the specifications or conditions / environment listed in the Catalogs, such as equipment used outdoors or applications in environments subject to chemical pollution or electromagnetic interference
If you would like to use IDEC products in the above applications, be sure to consult with an IDEC sales representative.

3. Inspections

We ask that you implement inspections for IDEC products you purchase without delay, as well as thoroughly keep in mind management/maintenance regarding handling of the product before and during the inspection.

4. Warranty

(1) Warranty period

The warranty period for IDEC products shall be one (1) year after purchase or delivery to the specified location. However, this shall not apply in cases where there is a different specification in the Catalogs or there is another agreement in place between you and IDEC.

(2) Warranty scope

Should a failure occur in an IDEC product during the above warranty period for reasons attributable to IDEC, then IDEC shall replace or repair that product, free of charge, at the purchase location / delivery location of the product, or an IDEC service base. However, failures caused by the following reasons shall be deemed outside the scope of this warranty.

i. The product was handled or used deviating from the conditions / environment listed in the Catalogs

ii. The failure was caused by reasons other than an IDEC product

iii. Modification or repair was performed by a party other than IDEC

iv. The failure was caused by a software program of a party other than IDEC

v. The product was used outside of its original purpose

vi. Replacement of maintenance parts, installation of accessories, or the like was not performed properly in accordance with the user's manual and Catalogs

vii. The failure could not have been predicted with the scientific and technical standards at the time when the product was shipped from IDEC

viii. The failure was due to other causes not attributable to IDEC (including cases of force majeure such as natural disasters and other disasters)

Furthermore, the warranty described here refers to a warranty on the IDEC product as a unit, and damages induced by the failure of an IDEC product are excluded from this warranty.

5. Limitation of liability

The warranty listed in this Agreement is the full and complete warranty for IDEC products, and IDEC shall bear no liability whatsoever regarding special damages, indirect damages, incidental damages, or passive damages that occurred due to an IDEC product.

6. Service scope

The prices of IDEC products do not include the cost of services, such as dispatching technicians. Therefore, separate fees are required in the following cases.

(1) Instructions for installation / adjustment and accompaniment at test operation (including creating application software and testing operation, etc.)

(2) Maintenance inspections, adjustments, and repairs

(3) Technical instructions and technical training

(4) Product tests or inspections specified by you

The above content assumes transactions and usage within your region. Please consult with an IDEC sales representative regarding transactions and usage outside of your region. Also, IDEC provides no guarantees whatsoever regarding IDEC products sold outside your region.

IDEC CORPORATION

Head Office 6-64, Nishi-Miyahara-2-Chome, Yodogawa-ku, Osaka 532-0004, Japan

www.idec.com

USA	IDEC Corporation	**Singapore**	IDEC Izumi Asia Pte. Ltd.	**China**	IDEC (Shanghai) Corporation	**Japan**	IDEC Corporation
EMEA	APEM SAS	**Thailand**	IDEC Asia (Thailand) Co., Ltd.		IDEC Izumi (H.K.) Co., Ltd.		
		India	IDEC Controls India Private Ltd.	**Taiwan**	IDEC Taiwan Corporation		

Specifications and other descriptions in this brochure are subject to change without notice.
Information in this brochure is current as of September, 2022.
2022 IDEC Corporation, All Rights Reserved.

EP1776-2