

Think Automation and beyond...



IDEC ø22mm Flush Mount CW Series Switches & Pilot Devices

# Safety, Style and Flexibility



Safety

Third-generation Safety Construction

## **Two-action removal of contact blocks**

IDEC's original, two-action, push-turn, locking lever provides a higher level of safety by preventing unexpected release of the locking lever. In addition, the position of the locking lever can be used to verify if the contact block was installed securely by checking from the back of the panel.

## Locking lever integrated with guard

Prevents locking lever from unexpected release or damage by trapped wires.





IP20 Finger-safe Terminals

Finger-safe, IP20 terminals prevent electrical shock.



Bezel Black or metallic



Illuminated Pushbuttons - Page 6

- Round flush and extended
- Illumination colors: amber, blue, green, white, red, yellow



Non-illuminated Pushbuttons - Page 8

Round flush and extended
Button colors: black, blue, green, red, yellow, white



## Pilot Lights - Page 9

Round flush and extended
Illumination colors: amber, blue, green, white, red, yellow

The IDEC commitment to assuring safety in all operating environments has resulted in stylish, compact and space-saving switches and pilot devices. The innovative two-step locking lever integrated with a guard provides a higher level of safety, and the low projection from the panel surface reduces the possibility of unexpected activation or operator damage. The CW series adds a sleek and updated image to the panel with black or metallic bezels. The shortest depth behind the panel in its class, these switches help reduce machine size.

# **Design & Style**

## Sleek and stylish switches with a 2.5mm-thick bezel

The CW series gives a sleek, stylish image to your machine or control panel. Because of the slim profile, there is less chance of unexpected operation or accident by hitting the switch. The design also means that the switch is cleaner as it prevents dust build-up.

### **Space-saving design**

A short depth behind the panel allows the switches to fit in smaller machines and panels. Up to 3 contact blocks (non-illuminated models) or 2 contact blocks (illuminated models) can be installed. Use with IDEC FB series enclosures or other control boxes.

- 300V AC, 10A contact rating
- No transformer needed—the same depth behind the panel—for any illumination voltage.
- Up to 6 total contacts per switch are possible

## Short depth behind the panel

The depth behind the panel of the CW series is shorter than conventional switches, reducing the amount of space needed in the control panel.



<image>

59.9mm Depth behind the panel



Selector Switches - Page 10 • Knob Operator 2- and 3-position



- Selector Switches Page 10
- Lever Operator 2- and 3-position
- Lever operator with an easy grip



- Key Selector Switches Page 13
- 7 different wave-keys available
  Hard-to-duplicate, wave-key ensures a high level of safety



# ø22mm Flush Mount CW Switches & Pilot Devices

# Flush bezel projects only 2.5mm from front of panel and as little as 39.9mm behind the panel!

- ø22.3mm mounting hole compliant with IEC 60947-5-1
- 3.5mm operator travel for pushbuttons ensures comfortable and reliable operation
- Up to 6 contacts per switch are possible with use of dual contact blocks
- Black and metallic bezels available
- Illuminated pushbuttons, pushbuttons, pilot lights, selector switches and key selector switches are available
- Direct opening NC contact
- Seven different keys can be chosen for key selector switches
- 10A contact rating; up to three contact blocks for non-illuminated and two contact blocks for illuminated models can be connected
- Contact blocks can be removed by using the locking lever
- IP20 finger-safe screw terminals
- UL Type 4X rating

Applicable Standards	Mark	File No. or Organization
UL508 CSA C22.2 No.14		UL/c-UL File No. E68961
EN60947-5-1		TÜV SÜD
	()	EC Low Voltage Directive

## **Contact Ratings**

Rated Insulation Voltage (Ui)		300V				
Rated Therr	mal Current (I	th)			10A	
Rated Operation	ating Voltage	e (Ue)		24V	120V	240V
	AC	Resistive Load (AC-12)	10A	10A	6A	
	Electrical Life	50/60Hz	Inductive Load (AC-15)	10A	6A	3A
50,000 operations Rated Operating	DC	Resistive Load (DC-12)	8A	2.2A	1.1A	
		Inductive Load (DC-13)	4A	1.1A	0.55A	
Current (Ie)		AC	Resistive Load (AC-12)	5A	5A	3A
Electrical Life	50/60Hz	Inductive Load (AC-15)	5A	3A	1.5A	
	100,000 operations	DC	Resistive Load (DC-12)	4A	1.1A	0.55A
			Inductive Load (DC-13)	2A	0.55A	0.27A
Contact Ma	iterial				Silver	

1. Minimum applicable load (reference value): 3V AC/DC, 5mA (Applicable range is subject to the operating conditions and load.)

The operational current represents the classification by making and breaking currents (IEC 60947-5-1).

3. UL, c-UL rating: A300

## Weights

•	
Illuminated Pushbutton	46g (CW1L-M1E02ΩH, 2 contacts) 62g (CW1L-M1E22ΩH, 4 contacts)
Pushbutton	45g (CW1B-M1E03, 3 contacts) 52g (CW1B-M1E22, 4 contacts)
Pilot Light	27g (CW1P-1EQH)
Selector Switch	48g (CW1S-2E03, 3 contacts) 55g (CW1S-2E22, 4 contacts)
Key Selector Switch	61g (CW1K-2AE03, 3 contacts) 68g (CW1K-2AE22, 4 contacts)



## **Specifications**

•	
Operating Temperature	Non-illuminated: –25 to +60°C (no freezing) LED illuminated: –25 to +55°C (no freezing)
Operating Humidity	45 to 85% RH (no condensation)
Storage Temperature	-40 to +80°C
Contact Resistance	50m $\Omega$ maximum (initial value)
Insulation Resistance	100MΩ minimum (500V DC megger)
Overvoltage Category	II (IEC 60664-1)
Impulse Withstand Voltage	2.5kV (IEC60664-1/60947-5-1)
Pollution Degree	3 (IEC60947-5-1)
Vibration Resistance	Operating extremes: 5 to 55Hz, amplitude 0.5mm
Shock Resistance	Operating extremes: 100m/s <sup>2</sup> Damage limits: 1000m/s <sup>2</sup>
Mechanical Life (minimum operations)	Pushbutton, illuminated pushbutton: 2,000,000 Selector switch: 250,000 Key selector switch: 250,000
Electrical Life (minimum operations)	50,000 (see Contact Ratings) 100,000 (see Contact Ratings) (switching frequency 1800 operations/h)
Degree of Protection (IEC60529)	Panel front: IP65, IP66, IP67 (see chart on page 5) Terminals: IP20 Type 4X
Short-circuit Protection	250V/10A fuse, (Type aM IEC60269-1, IEC602069-2)
Electrical Shock Protection	Class II (IEC61140)
Terminal Style	Screw terminal (M3.5 slotted Phillips screw)
Bezel Material	Polyamide
Applicable Wire Size	Up to 2 wires of 2mm <sup>2</sup> (solid wire ø1.6) maximum (AWG14 to 16) (Ring terminal cannot be used)
Recommended Tightening Torque	Terminal: 1.0 to 1.3N·m Locking ring: 1.2N·m

## **Direct Opening of Key Selector Switch**

	2-position (3NC)	3-position (2NC)
Operator Angle for Direct Opening Action	90°	45°
Minimum Operator Torque for Direct Opening Action	0.2N⋅m	0.3N·m
Maximum Operator Angle	90°	45°

## LED Module

Rated Insulation Voltage (Ui)			25	50V	
Rated Operating Voltage (Ue)	6V AC/DC	12V AC/DC	24V AC/DC	100/120V AC	230/240V AC
Operating Voltage Range	6V AC/DC±10%	12V AC/DC±10%	24V AC/DC±10%	100/120V AC±10%	230/240V AC +/-10%
Illumination Color Code @		A	(amber), G (green), PV	V (white), R (red), S (blue)	
LED Module Part Number	CW-EAQ2@	CW-EAQ3@	CW-EAQ4@	CW-EAQH@	CW-EAQM4@
Current Draw	15mA	15mA	16.5mA	18mA	18mA
Life (reference value)			Approx. 30	),000 hours	
Internal Circuit	X1 - R X2 - X2				-#     LED Chip       -₩     Rectifying Diode       R     -₩       -E     Resistor       -I     Capacitor

1. Specify an illumination color code in place of  $\ensuremath{\mathfrak{O}}$  in the part number.

2. Use the white (PW) LED module for yellow illumination.

## **Contact Blocks**

Contact Block	Single Cor	ntact Block		Double Contact Block	
Contact	1N0	1NC	2N0	2NC	1NO-1NC
Part No.	YW-E10R	YW-E01	YW-EW2R0	YW-EW02	YW-EW1R1
Shape		10 PC		· 20 · 20 · 20 · 20 · 20 · 20 · 20 · 20	
Housing Color	Blue/Black	Reddish Purple	Blue/Black	Reddish Purple	Reddish Purple/Blue
Push Rod Color	Black	Red	Black	Red	Gray
Terminal No.	3-4	1-2	1st tier: 13-14 2nd tier: 23-24	1st tier: 11-12 2nd tier: 21-22	1st tier: (NO) 13-14 2nd tier: (NC) 21-22
Weight (approx.)	1	1g		19g	

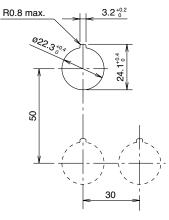
## **Degree of Protection**

Rating	IP65	IP66	IP67	UL Type 4X
Illuminated Pushbutton	Yes	Yes *	Yes *	Yes *
Pilot Light	Yes	Yes	No	Yes
Pushbutton	Yes	Yes *	Yes *	Yes *
Selector Switch	Yes	Yes	Yes	Yes
Key Selector Switch	Yes	Yes	No	Yes

\*When used with rubber boot (CW9Z-D11, -D12)

## **Mounting Hole Layout**

## IEC 60947-5-1 compliant



Note: Determine mounting centers to ensure proper spacing.



#### Operating Contact Illumination Color Shape Black Bezel Metallic Bezel Voltage Configuration Code @ CW1L-31E10022 CW4L-31E1002@ 1N0 CW1L-31E01022 CW4L-31E01022 1NC CW1L-31E1102@ CW4L-31E11022 1NO-1NC 6V AC/DC Round Flush 2N0 CW1L-31E2002@ CW4L-31E20022 CW□L-□1 2NC CW1L-31E0202@ CW4L-31E02022 CW1L-31E2202@ 2NO-2NC CW4L-31E22022 CW1L-31E1003@ 1N0 CW4L-31E10032 1NC CW1L-31E0103@ CW4L-31E01Q32 1NO-1NC CW1L-31E1103@ CW4L-31E1103@ 12V AC/DC 2N0 CW1L-31E2003@ CW4L-31E20032 2NC CW1L-31E0203@ CW4L-31E02032 2NO-2NC CW1L-31E2203@ CW4L-31E22032 CW1L-31E10042 CW4L-31E10042 1N0 amber A CW4L-31E01042 1NC CW1L-31E0104@ G green (black bezel) 1NO-1NC CW1L-31E1104@ CW4L-31E1104@ PW: white 24V AC/DC 2N0 CW1L-31E2004@ CW4L-31E20042 R٠ red CW1L-31E02Q4@ 2NC CW4L-31E02042 S: blue 2NO-2NC CW1L-31E22042 CW4L-31E2204@ Y: yellow 1N0 CW1L-31E100H2 CW4L-31E10QH2 CW4L-31E010H2 CW11-31F010H2 1NC 1NO-1NC CW1L-31E11QH2 CW4L-31E11QH2 100/120V AC 2N0 CW1L-31E20QH2 CW4L-31E20QH2 CW1L-31E020H2 CW4L-31E020H2 2NC 2NO-2NC CW1L-31E220H2 CW4L-31E220H2 1N0 CW1L-31E100M4@ CW4L-31E100M4@ 1NC CW1L-31E01QM4@ CW4L-31E010M4@ (metallic bezel) 1NO-1NC CW1L-31E11QM42 CW4L-31E11QM4@ 230/240V AC 2N0 CW1L-31E20QM42 CW4L-31E200M4@ 2NC CW1L-31E02QM4@ CW4L-31E02QM4@ 2NO-2NC CW1L-31E220M42 CW4L-31E220M42 CW1L-32E1002@ CW4L-32E10022 1N0 1NC CW1L-32E0102@ CW4L-32E01022 CW1L-32E1102@ 1NO-1NC CW4L-32E11022 6V AC/DC Round Extended 2N0 CW1L-32E20022 CW4L-32E20022 CWDL-D2 2NC CW1L-32E0202@ CW4L-32E02022 2NO-2NC CW1L-32E22022 CW4L-32E22022 1N0 CW1L-32E1003@ CW4L-32E10032 1NC CW1L-32E0103@ CW4L-32E01032 1NO-1NC CW1L-32E1103@ CW4L-32E11032 12V AC/DC 2N0 CW11-32F20032 CW4I-32F20032 2NC CW1L-32E0203@ CW4L-32E02032 2NO-2NC CW1L-32E22032 CW4L-32E22032 CW1L-32E1004@ CW4L-32E10042 1N0 A: amber 1NC CW1L-32E01042 CW4L-32E01042 G green 1NO-1NC CW1L-32E1104@ CW4L-32E11042 PW. white (black bezel) 24V AC/DC CW1L-32E2004@ CW4L-32E20042 2N0 R: red 2NC CW1L-32E0204@ CW4L-32E02Q42 S: blue CW1L-32E22042 CW4L-32E22042 2NO-2NC Y: yellow 1N0 CW1L-32E100H2 CW4L-32E10QH2 CW4L-32E010H2 1NC CW1L-32E01QH2 1NO-1NC CW1L-32E110H2 CW4L-32E11QH2 100/120V AC 2N0 CW1L-32E200H2 CW4L-32E200H2 CW1L-32E020H2 CW4L-32E020H2 2NC 2NO-2NC CW1L-32E220H2 CW4L-32E220H2 1N0 CW1L-32E10QM42 CW4L-32E100M4@ 1NC CW1L-32E010M4@ CW4L-32E010M4@ (metallic bezel) 1NO-1NC CW1L-32E110M4@ CW4L-32E11QM42 230/240V AC 2N0 CW1L-32E200M4@ CW4L-32E200M4@ CW1L-32E020M4@ CW4L-32E020M4@ 2NC 2NO-2NC CW1L-32E22QM42 CW4L-32E220M42

## **Illuminated Pushbuttons (Assembled)**

1. Specify an illumination color code in place of @ in the part number.

2. Specify function code in place of ③ in the part number. M: momentary, A: maintained

3. See page 16 for dimensions.

4. See next page for replacement LED modules.

5. A dummy block is installed when one contact block is used.

6. Additional contact configurations available, contact IDEC for more details.

## Contact Block LED Module Mounting Adaptor Operator Lens **Completed Unit**

## **Illuminated Pushbuttons (Sub-assembled)**

## **Contact Block**

Style	Contacts	Contact Block	Contact Configuration	Part Number	
		0.1		1N0	YW-E10R
	E. (	Single	1NC	YW-E01	
	Finger-safe screw terminal	Double	2N0	YW-EW2R0	
「	torrindi		Double	Double	2NC
			1N0-1NC	YW-EW1R1	
1	Dummy bloc	k		CW-DB	

## **LED Module**



CW-EAQ @ ①

1. In place of D, specify the Lens/LED Color Code from table.

2. In place of <sup>(2)</sup>, specify the Voltage Code from table.

## **Contact Block Mounting Adaptor**



## Operator

 Style		Black Bezel	Metallic Bezel
Momentary	Round flush	CW1L-M10	CW4L-M10
Momentary	Round extended	CW1L-M20	CW4L-M20
	Round flush	CW1L-A10	CW4L-A10
Maintained	Round extended	CW1L-A20	CW4L-A20

## Lens



In place of ①, specify the Lens/LED Color Code from table.

## ① Lens/LED Color Code

Color	Code
Amber	A
Green	G
Red	R
Blue	S
White*	PW or C
Vollow	V

Voltage	Code
6V AC/DC	2
12V AC/DC	3
24V AC/DC	4
100/120V AC	Н
230/240V AC	M4

Yellow Y

\*Use PW for LED module, use C for lens.

800.262.4332 www.IDEC.com/switches

## **Non-illuminated Pushbuttons**

## Non-illuminated Pushbuttons (Assembled)

Shape	Contact Configuration	Black Bezel	Metallic Bezel	Button Color Code ①
Round Flush CWB1	1N0 1NC 2N0 2NC 2NO-1NC* 1NO-2NC* 3NO* 3NC* 2NO-2NC	CW1B-③1E10① CW1B-③1E01① CW1B-③1E11① CW1B-③1E20① CW1B-③1E02① CW1B-M1E21① CW1B-M1E21① CW1B-M1E30① CW1B-M1E03① CW1B-③1E22①	CW4B-31E10 CW4B-31E01 CW4B-31E11 CW4B-31E20 CW4B-31E20 CW4B-31E02 CW4B-M1E21 CW4B-M1E30 CW4B-M1E30 CW4B-M1E03 CW4B-31E22	B: black G: green R: red
Round Extended CWB-C2	1N0 1NC-1NC 2N0 2NC 2NO-1NC* 1N0-2NC* 3NO* 3NC* 2NO-2NC	CW1B-③2E10① CW1B-③2E01① CW1B-③2E11① CW1B-③2E20① CW1B-③2E02① CW1B-M2E21① CW1B-M2E21① CW1B-M2E20① CW1B-M2E30① CW1B-M2E03① CW1B-③2E22①	CW4B-32E10 CW4B-32E01 CW4B-32E11 CW4B-32E20 CW4B-32E20 CW4B-32E02 CW4B-M2E21 CW4B-M2E12 CW4B-M2E30 CW4B-M2E03 CW4B-M2E03 CW4B-32E22	S: blue W: white Y: yellow

1. Specify a button color code in place of ① in the part number.

2. Specify function code in place of ③ in the part number. M: momentary, A: maintained

3. See page 17 for dimensions.

4. Two dummy blocks are installed when one contact is used and one dummy block in installed when two contact blocks are used.

5. \*These contact configurations are not available in maintained action.

6. Additional contact configurations available; contact IDEC for more details.

## Non-illuminated Pushbuttons (Sub-assembled)

Contact Block	Mounting Adaptor		Operator*	Completed Unit
-	1	+		-



## **Contact Block**

Style	Contacts	Contact Block	Contact Configuration	Part Number	
				1N0	YW-E10R
		Single	1NC	YW-E01	
	Finger-safe screw terminal Dou	Double	2N0	YW-EW2R0	
Note:			Double	2NC	YW-EW02
			1N0-1NC	YW-EW1R1	
1	Dummy bloc	CW-DB			

## Contact Block Mounting Adaptor



## ① Button Color Code

Color	Code
Black	В
Green	G
Red	R
Blue	S
White	W
Yellow	Y

## **Operator\***

Style			Black Bezel	Metallic Bezel
		Round flush	CW1B-M1®	CW4B-M1®
	Momentary	Round extended	CW1B-M2®	CW4B-M2®
	ained	Round flush	CW1B-A1①	CW4B-A11
	Maintained	Round extended	CW1B-A2①	CW4B-A2①

1. Specify a button color code in place of  ${\rm I}\!\!\!\! {\rm O}.$  2. \*Operator button is not removable from operator.

## **Pilot Lights (Assembled)**

Shape	Operating Voltage	Black Bezel	Metallic Bezel	Illumination Color Code @
Round Flush Lens CW□P-1	6V AC/DC	CW1P-1EQ2@	CW4P-1EQ2@	
	12V AC/DC	CW1P-1EQ3@	CW4P-1EQ3@	
	24V AC/DC	CW1P-1EQ4@	CW4P-1EQ4@	
	100/120V AC	CW1P-1EQH@	CW4P-1EQH@	- A: amber
(black bezel)	230/240V AC	CW1P-1EQM4@	CW4P-1EQM4@	G: green R: red
Round Dome Lens CW□P-2	6V AC/DC	CW1P-2EQ2@	CW4P-2EQ2@	S: blue PW: white
	12V AC/DC	CW1P-2EQ3@	CW4P-2EQ3@	Y: yellow
	24V AC/DC	CW1P-2EQ4@	CW4P-2EQ4@	
	100/120V AC	CW1P-2EQH@	CW4P-2EQH@	
(metallic bezel)	230/240V AC	CW1P-2EQM4@	CW4P-2EQM4@	

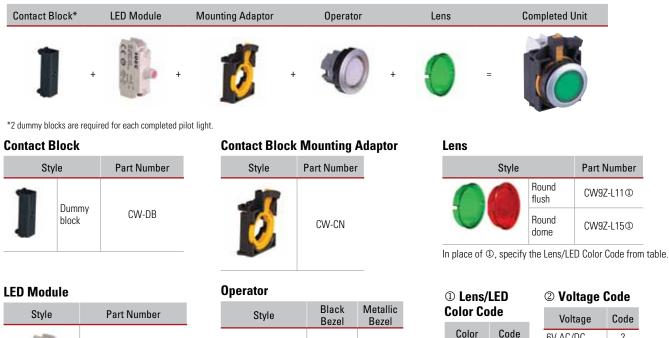
1. Specify an illumination color code in place of <sup>(2)</sup> in the part number.

2. See page 17 for dimensions.

3. See page 21 for replacement LED modules.

4. Two dummy blocks are installed.

## **Pilot Lights (Sub-assembled)**



	CW-EAQ @ O	ł
ŗ	pecify the Lens/LED Color Code	- 4

1. In place of  ${\rm \textcircled{O}}$  , specify the Lens/LED Color Code from table.

2. In place of O , specify the Voltage Code from table.

CW4P-00

CW1P-00

	-, -
G	24V AC/DC
R	100/120V AC
S	230/240V AC

А

PW or C

Voltage	Code
6V AC/DC	2
12V AC/DC	3
24V AC/DC	4
100/120V AC	Н

M4

Yellow Y \* Use PW for LED module, use C for lens.

Amber

Green Red

Blue

White\*

## **Selector Switches**

## **Selector Switches (Assembled)**

Shape	CW⊡S (Knob Operator)			(black l	bezel)		(metallic bez
	Contact	Contac	t Block	Operato	or Position	L, R	
No. of Positions	Configuration (Code)	Mounting Position	Contac	t L	R	Maintained	Spring return from right
	1110	1	NO		•		
	1NO (10)	2	_	Du	mmy	CW□S-2E10	CW S-21E10
	(10)	3	_	Du	mmy		
		1	_	Du	mmy		
	1NC (01)	2	_	Du	mmy	CW S-2E01	CW S-21E01
	(01)	3	NC	•			
		1	NO		•		
	1NO-1NC	2	_	Du	mmy	CW S-2E11	CW□S-21E11
(11)	(11)	3	NC	•			
		1	NO				
	2N0	2	_	Du	mmy	CW□S-2E20	CW□S-21E20
(20)	(20)	3	NO		· •		
		1	NC	•			
	2NC	2		Du	mmy	CW S-2E02	CWDS-21E02
	(02)	3	NC	•	/		
		1	NO		•		
	2NO-1NC	2	NO		•	CWDS-2E21	CW S-21E21
	(21)	3			01120 2221	0112021221	
10° 2-position		1	NO		•		
o z poortion	1NO-2NC	2	NC	•	-	CWDS-2E12	CWDS-21E12
	(12)	3	NC	•		01120 2212	
		1	NO	-	•		
	3N0	2	NO			CWDS-2E30	CW□S-21E30
	(30)	3	NO				0001021200
		1	NC		•		
	3NC	2	NC			CW S-2E03	CW S-21E03
	(03)	3	NC	•		UVVLIJ-ZLUJ	00000-21200
		J	NO/ N		•		
2NO-2NC (22)	1						
		2	NC NC  Dummy			CWDS-21E22	
	(22)	L	N0/ N			CW S-2E22	GVVLIS-ZIEZZ
		3	NC N				
4N0		NC N		•			
	1	2N0 N		•			
	4N0	2	N				
	(40)	Z			mmy	CW□S-21E40	CW□S-21E40
		3	2N0 N	U	•		

1. Specify a bezel color code in place of  $\Box$  in the part number: 1 (black bezel), 4 (metallic bezel).

2. Lever operator is also available. For dimensions, see page 18.

3. To order a lever operator selector switch, insert L before E in the knob operator part number.

Example: Knob Operator part number CW1S-2E10 becomes CW1S-2LE10 for Lever Operator.

## Lever Operator

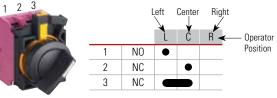


CW1S-□L (black bezel)



CW4S-□L (metallic bezel)

## **Contact Block Mounting Position**





No. of	Contact Configuration	Contac	t Block		Operat Positio	or In			L_C_R		
Positions	(Code)	Mounting Position	Туре	L	С	R	Maintained	Spring return from right	Spring return from left	Spring return two-way	
	1NO-1NC	1	NO	•			_				
	(11)	2			Dumm	у	CW <sup>S-3E11</sup>	CW S-31E11	CW□S-32E11	CW□S-33E11	
		3	NC								
	1NO-1NC	1	NC	_							
	(11N1)	2	— NO		Dumm	<u></u>	CWDS-3E11N1	CW <sup>S-31E11N1</sup>	CW S-32E11N1	CW S-33E11N1	
		3	NO	_		•					
	1NO-1NC	1	NO NC	•	•				CW S-32E11N2		
	(11N2)	2			Dumm		CWDS-3E11N2	CW S-31E11N2	GAAD 2-37611145	CW S-33E11N2	
		1		-	Dumm	,					
	1NO-1NC	2	NC		Dunnin	y 	CWDS-3E11N3	CW S-31E11N3	CW S-32E11N3	CW S-33E11N3	
	(11N3)	3	NO	_		•	GVVII-3-3LTINS	GWU3-STETINS	GVVLIJ-JZLI INJ	GWL3-33ETIN3	
		1	- NO	_	Dumm	-					
	1NO-1NC	2	NO	•		y •	CW S-3E11N4	CW S-31E11N4	CW S-32E11N4	CW S-33E11N4	
	(11N4)	3	NC				0WE0 SETTING		000 EU SZETINA	0WE0 SSETTIN	
		1	NO								
	2N0	2		-	Dumm	v	CW□S-3E20	CW S-31E20	CW S-32E20	CW□S-33E20	
	(20)	3	NO		Danini	, •		01120 01220			
		1			Dumm	-					
	2N0	2	NO	•		, •	CW S-3E20N1	CW S-31E20N1	CW S-32E20N1	CW S-33E20N1	
	(20N1)	3	NO	-			011200220111				
		1	NC								
	2NC	2			Dumm	v	CW□S-3E02	CW S-31E02	CW S-32E02	CW S-33E02	
	(02)	3	NC								
		1	_		Dumm	y					
	2NC	2	NC			1	CW S-3E02N1	CWDS-31E02N1	CW S-32E02N1	CW S-33E02N1	
	(02N1)	3	NC								
	2010 1010	1	NO	•							
	2NO-1NC (21)	2	NO	•		•	CW□S-3E21	CW S-31E21	CW S-32E21	CW S-33E21	
45°	(21)	3	NC								
3-position	2010 1010	1	NO	٠							
	2NO-1NC (21N1)	2	NC				CWDS-3E21N1	CW S-31E21N1	CW S-32E21N1	CW S-33E21N1	
	(21111)	3	NO			•					
	1NO-2NC	1	NO	•							
	(12)	2	NC		•		CW□S-3E12	CW S-31E12	CW S-32E12	CW□S-33E12	
	(/	3	NC								
	1NO-2NC	1	NC								
	(12N1)	2	NO	•		•	CWDS-3E12N1	CWDS-31E12N1	CW S-32E12N1	CW S-33E12N1	
	, , 	3	NC								
	3N0	1	NO	•		-					
	(30)	2	NO	•		•	CW S-3E30	CW S-31E30	CW□S-32E30	CW□S-33E30	
		3	NO								
	3NC	1	NC								
	(03)	2	NC	_			CW S-3E03	CW S-31E03	CW□S-32E03	CW S-33E03	
		3	NC								
		1	NO/ NO NC NO		_						
	2NO-2NC	2	NC NO	,	Dumm		CW□S-3E22	CW S-31E22	CW S-32E22	CW S-33E22	
	(22)	L	N0/ N0	)	Dumm	y   •	UNN LO-DEZZ	GVVLIS-STEZZ	6VVL3-32E22	600L3-33EZZ	
		3	NC NO				-				
		1	2N0 N0	_							
	4N0 (40)	2			Dumm	у	CW S-3E40	CW S-31E40	CW□S-32E40	CW□S-33E40	
	(40)	3	2N0 N0	_		•					
		1	2NC N	;							
	2NO-2NC	2	2110 N	;	Dumm	v	CW S-3E22N2	CWDS-31E22N2	CW S-32E22N2	CW S-33E22N2	
	(22N2)		NO NO	;		y •	5	0	5	5.1.10 00EZZINZ	
		3	2N0 N0			•					

- Specify a bezel color code in place of □ in the part number, 1 (black bezel), 4 (metallic bezel)
- 2. For the contact block mounting position, see page 10.
- Lever operator is also available. For dimensions, see page 18.
- To order a lever operator selector switch, insert L before E in the knob operator part number. Example: Knob Operator part number CW1S-3E11 becomes CW1S-3LE11 for Lever Operator.

## **Selector Switches**

## Selector Switches (Sub-assembled)



## **Contact Block**

Style	Contacts	Contact Block	Contact Configuration	Part Number			
		Single	1N0	YW-E10R			
		Single	1NC	YW-E01			
	Finger-safe screw terminal		2N0	YW-EW2R0			
「「「	terminar	Double	2NC	YW-EW02			
			1N0-1NC	YW-EW1R1			
1	Dummy bloc	Dummy block					



## **Contact Block Mounting Adaptor**



CW-CN

## Operator

Style	Position	Handle	Description	Black Bezel	Metallic Bezel
		Knob	Maintained	CW1S-2	CW4S-2
		UIUD	Spring return from right	CW1S-21	CW4S-21
	2-position	Lavar	Maintained	CW1S-2L	CW4S-2L
		Lever	Spring return from right	CW1S-21L	CW4S-21L
ARA		Knob	Maintained	CW1S-3	CW4S-3
1000			Spring return from right	CW1S-31	CW4S-31
500			Spring return from left	CW1S-32	CW4S-32
400	2 position		Spring return two-way	CW1S-33	CW4S-33
	3-position		Maintained	CW1S-3L	CW4S-3L
(knob operator shown)		Lovor	Spring return from right	CW1S-31L	CW4S-31L
		Lever	Spring return from left	CW1S-32L	CW4S-32L
			Spring return two-way	CW1S-33L	CW4S-33L

Lever or knob is supplied with operator.

## **Key Selector Switches (Assembled)**

Shape	CW□K		ľ	-	(blac	k bezel)		metallic bezel)	
	Contact	Conta	act Block		Operator F	Position	L	L R	
No. of Positions	Configuration	Mounting Position	Ту	pe	L	R	Maintained	Spring return from right	
	1N0	1	N	0		•			
	(10)	2	-	_	Dumn		CWDK-2AE10	CWDK-21BE10	
	(10)	3		_	Dumn				
	1NC	1		_	Dumn				
	(01)	2			Dumn	ny	CWDK-2AE01	CWDK-21BE01	
	(0.1)	3	N		•				
	1N0-1NC	1	N	0		•			
	(11)	2			Dumn	ny	CWDK-2AE11	CW  K-21BE11	
	(11)	3	N		•				
	2N0 (20)	1	N	0		•		CWDK-21BE20	
		2			Dumn	ny	CWDK-2AE20		
		3	N			•			
	2NC (02) 2NO-1NC (21)	1	N					CW□K-21BE02	
		2			Dumn	ny	CW K-2AE02		
		3	N		•				
		1	N			•		CW□K-21BE21	
		2	N			•	CWDK-2AE21		
	(	3	N		•				
90° 2-position	1N0-2NC	1	N			•		CWDK-21BE12	
	(12)	2	N	-	•		CWDK-2AE12		
		3	N		•				
	3N0	1	N			•			
	(30)	2	N	-		•	CWDK-2AE30	CWDK-21BE30	
		3	N			•			
	3NC	1	N		•				
	(03)	2	N		•		CWDK-2AE03	CWDK-21BE03	
		3	N		•				
		1	NO/NC	NO		•			
	2N0-2NC			NC	•				
	(22)	2		-	Dumn	,	CWDK-2AE22	CW K-21BE22	
		3	NO/NC	NO NC	•	•			
		1	2N0	NO NO		•			
	4N0	2	_		Dumn	nv	CW K-2AE40	CW□K-21BE40	
	(40)	3	2N0	NO NO		•			

1. Specify a bezel color code in place of  $\Box$  in the part number: 1 (black bezel), 4 (metallic bezel).

2. On the spring-returned models, the key can be released only from the maintained 6. For the contact block mounting position, see page 14. position. On the maintained models, the key can be released from any position. 7. For dimensions, see page 19. Key retained positions are also available. See below.

3. Two keys are supplied.

4. Key cylinder material: metal.

5. Besides the standard key (key number OH), six other keys are also available. See below.

1H to 2H: Reversible key

blank:

8. When ordering an optional key or optional key-retained positions, specify designation codes as shown below:

Key removal position code -2-position

- A: Removable in all positions
- B: Removable in left only C: Removable in right only
- B: Removable in left and center
  - Removable in right and center C:

3-position

A:

D: Removable in center only

Removable in all positions

Example: CW1K-2AE10-1H

- Removable in right and left E:
- G: Removable in left only
- Removable in right only H:

3H to 6H: Non-reversible keyy Note:

Standard key (OH, reversible)

Key number is indicated on the key cylinder. Standard keys do not have a key number indication.

## **Key Selector Switches**

No. of Positions	Contact Configuration	Contac	t Block	Oper Posi	rator tion			L C R	
		Mounting Position	Туре	L	CR	Maintained	Spring return from right	Spring return from left	Spring return two-way
	1110 1110	1	NO	•					
	1NO-1NC (11)	2	_	Dun	nmy	CWDK-3AE11	CWDK-31BE11	CWDK-32CE11	CWDK-33DE11
	(11)	3	NC						
		1	NC						
	1NO-1NC	2		Dun	nmv	CWDK-3AE11N1	CWDK-31BE11N1	CWDK-32CE11N1	CWDK-33DE11N1
	(11N1)	3	NO	Dun	•				
		1	NO	•					
	1NO-1NC	2	NC	-		CWDK-3AE11N2	CWDK-31BE11N2	CWDK-32CE11N2	CWDK-33DE11N2
	(11N2)	3		Dun		GWER-JALTINZ	GVVLIK-JIDLIIIVZ	GWUR-JZGETTNZ	GVVLR-JJDLIIIVZ
		1		Dun					
	1NO-1NC			Dun	D				
	(11N3)	2	NC	•	-	CWDK-3AE11N3	CWDK-31BE11N3	CWDK-32CE11N3	CWDK-33DE11N3
		3	NO		•				
	1NO-1NC	1			nmy				
	(11N4)	2	NO	•	•	CWDK-3AE11N4	CWDK-31BE11N4	CWDK-32CE11N4	CWDK-33DE11N4
		3	NC						
	2N0	1	NO	•					
	(20)	2		Dun	nmy	CWDK-3AE20	CWDK-31BE20	CWDK-32CE20	CWDK-33DE20
	(20)	3	NO						
	2N0	1		Dun	nmy				
45° 2NC 3-position (02) 2NC (02N1)		2	NO			CWDK-3AE20N1	CWDK-31BE20N1	CWDK-32CE20N1	
	(2011)	3	NO						
		1	NC						
		2	_	Dun	nmy	CW K-3AE02	CWDK-31BE02	CWDK-32CE02	
	(02)	3	NC		DÍ				
		1	_	Dun	nmv				
		2	NC		-	CWDK-3AE02N1	CWDK-31BE02N1	CWDK-32CE02N1	
	(02N1) -	3	NC						
		1	NO	•					
	2NO-1NC	2	NO	•	•	 CW□K-3AE21	CW K-31BE21	CWDK-32CE21	
	(21)					GVV LIK-SAEZ I	GVVUR-SIDEZI	GWUN-32GEZT	
		3	NC						
	2NO-1NC	1	NO	•	_				
	(21N1)	2	NC			CWDK-3AE21N1	CWDK-31BE21N1	CWDK-32CE21N1	
		3	NO		•				
	1NO-2NC	1	NO	•	_				
	(12)	2	NC			CWDK-3AE12	CWDK-31BE12	CWDK-32CE12	
		3	NC						
	1NO-2NC	1	NC				CWDK-31BE12N1	CWDK-32CE12N1	CWDK-33DE12N1
	(12N1)	2	NO	•	•	CWDK-3AE12N1			
	()	3	NC						
	3N0	1	NO	•					
	(30)	2	NO	•	•	CWDK-3AE30	CWDK-31BE30	CWDK-32CE30	CWDK-33DE30
	(50)	3	NO		•				
	2010	1	NC						
	3NC (03)	2	NC			CWDK-3AE03	CWDK-31BE03	CWDK-32CE03	CWDK-33DE03
	(03)	3	NC						
		1	NO/ NO	•					
		1	NC NC						
	2NO-2NC	2		Dun	nmy	CWDK-3AE22	CWDK-31BE22	CWDK-32CE22	CWDK-33DE22
	(22)		NO/ NO		Í •				
		3	NC NC						
			NO	•					
		1	2N0 N0						
	4N0	2	NO	Dun	nmv				
	(40)	۷				CWDK-3AE40	CW K-31BE40	CW K-32CE40	CW <sup>CK-33DE40</sup>
		3	2N0 N0		•				
			NO NO		•				
		1	2NC NC			_			
	2NO-2NC		NC						
	(22N2)	2	<u> </u>	Dun		CWDK-3AE22N2	CWUK-31BE22N2	CWDK-32CE22N2	CWUK-33DE22N2
		3	2NC NC		•				
		0	NC NC						

Contact Block Mounting Position



	L	eft	Center	Righ	įt
		¥	¥	¥	
Operator Position		L	С	R	
1	NO	٠			
2	NC		•		
3	NC				

- Specify a bezel color code in place of □ in the part number: 1 (black bezel), 4 (metallic bezel)
- 2. On the spring-returned models, the key can be released only from the maintained position. On the maintained models, the key can be released from every position. Key retained positions are also available. See page 13.
- Two keys are supplied.
   Key cylinder material: metal.
- Besides the standard key (key number OH), six other keys are also available. See page 13.
- For the contact block mounting position, see above.
- 7. For dimensions, see page 19.

## Key Selector Switches (Sub-assembled)



## **Contact Block**

Style	Contacts	Contact Block	Contact Configuration	Part Number			
		Single	1N0	YW-E10R			
	Finger-safe screw terminal	Single	1NC	YW-E01			
			2N0	YW-EW2R0			
「「「「」」		Double	2NC	YW-EW02			
			1N0-1NC	YW-EW1R1			
1	Dummy bloc	Dummy block					

## **Contact Block Mounting Adaptor**

Style	Part Number
Ø	CW-CN

## Operator

Style	Position	Description	Black Bezel	Metallic Bezel
		Maintained, key removable all positions	CW1K-2A	CW4K-2A
	2 position	Maintained, key removable left position only	CW1K-2B	CW4K-2B
	2-position	Maintained, key removable right position only	CW1K-2C	CW4K-2C
		Spring return from right	CW1K-21B	CW4K-21B
		Maintained, key removable all positions	CW1K-3A	CW1K-3A
		Maintained, key removable left and center positions only	CW1K-3B	CW4K-3B
21/2		Maintained, key removable right and center positions only	CW1K-3C	CW4K-3C
		Maintained, key removable center position only	CW1K-3D	CW4K-3D
1. A.		Maintained, key removable left and right positions only	CW1K-3E	CW4K-3E
		Maintained, key removable left position only	CW1K-3G	CW4K-3G
	2 position	Maintained, key removable right position only	CW1K-3H	CW4K-3H
	3-position	Spring return from right, key removable left and center positions only	CW1K-31B	CW4K-31B
		Spring return from right, key removable center position only	CW1K-31D	CW4K-31D
		Spring return from right, key removable left position only	CW1K-31G	CW4K-31G
		Spring return from left, key removable right and center positions only	CW1K-32C	CW4K-32C
		Spring return from left, key removable center position only	CW1K-32D	CW4K-32D
		Spring return from left, key removable right position only	CW1K-32H	CW4K-32H
		Spring return two-way, key removable center position only	CW1K-33D	CW4K-33D

Two keys supplied with operator.

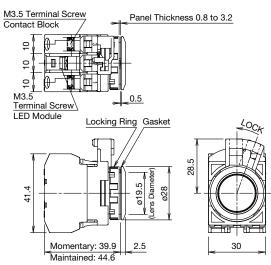


## **Dimensions (mm)**

## **Illuminated Pushbuttons**

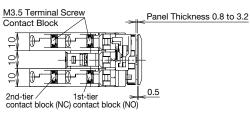
## 1 to 2 Contacts

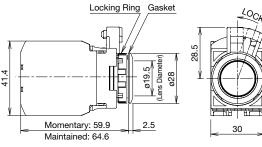
Round Flush



## **4 Contacts**

Round Flush





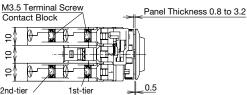
#### Round Extended M3.5 Terminal Screw Contact Block Panel Thickness 0.8 to 3.2 우 И <del>1</del>0 9 Ю Ν M3.5 0.5 Terminal Screw LED Module Locking Ring Gasket 28.5 þ ø19.5 ens Diame 41.4 ø28 F

SUS 2.5 Momentary: 39.9 5.2 Maintained: 44.6

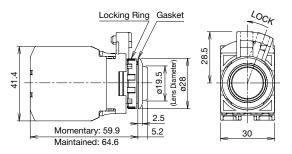
₹ĥ

30

Round Extended



2nd-tier 1st-tier > contact block (NC) contact block (NO)

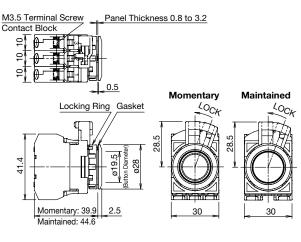




## Pushbuttons

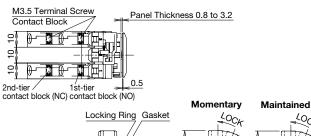
## 1 to 2 Contacts

Round Flush



## **4 Contacts**

Round Flush



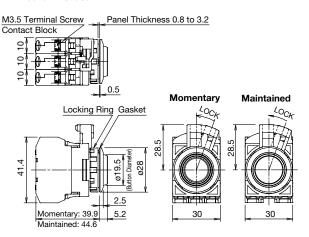
ø19.5

2.5

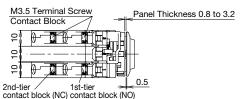
o28

to

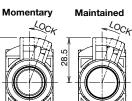
Round Extended



### Round Extended



LOCK Locking Ring Gasket 28. ĝ ø19.5 41.4 ø28 Diar ffor 2.5 Momentary: 59.9 30 30 5.2 Maintained: 64.6



77171717

30

## 7H Ĥ٩ 30

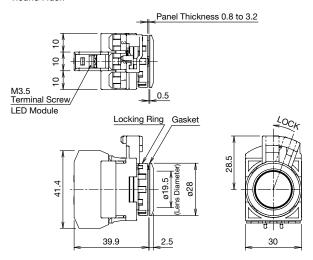
## **Pilot Lights**

Momentary: 59.9

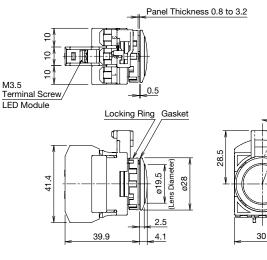
Maintained: 64.6

41.4

Round Flush



Round Dome

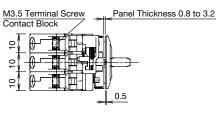


## **Dimensions (mm)**

## **Selector Switches**

## 1 to 3 Contacts

Knob Operator



ſſ

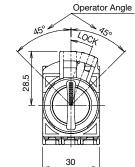
39.9

Locking Ring Gasket

2.5

13.1

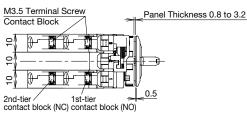
ø28

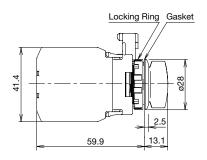


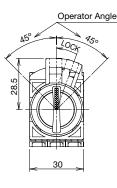
## **4 Contacts**

41.4

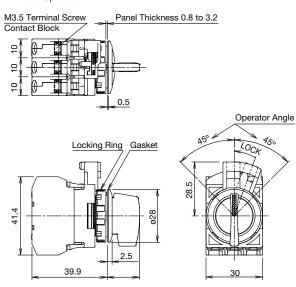
Knob Operator



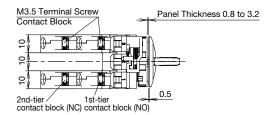




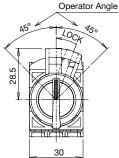
Lever Operator



Lever Operator

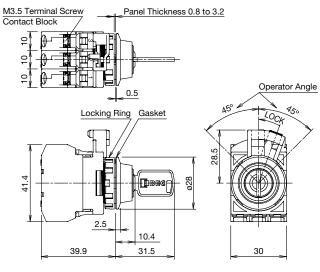


Locking Ring Gasket ſ 41.4 ø28 7 2.5 59.9 17.1

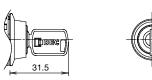


## **Key Selector Switches**

## 1 to 3 Contacts

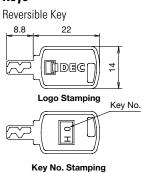


Key No: 0H to 2H (reversible key)

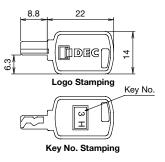


Key No: 3H to 6H (non-reversible key)

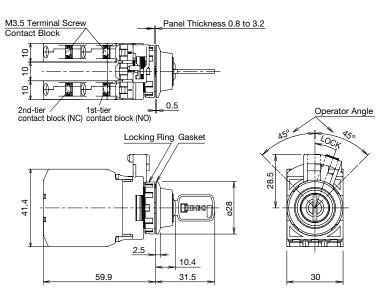
## Keys



Non-reversible Key



## 4 Contacts





## **Acccessories/Parts**

Accessories	

Shape	Material	Part Number	Package Quantity	Remarks
Locking Ring Wrench	Brass	MW9Z-T1	1	<ul> <li>Used to tighten the locking ring when installing the CW series control unit in a panel cut-out.</li> <li>Weight: Approx 150g</li> </ul>
Mounting Hole Plug	Polyamide (black)	LW9Z-BP1	1	<ul> <li>Used to plug an unnecessary ø22.3mm hole in the panel.</li> <li>Degree of protection: IP65</li> <li>Panel thickness: 0.8 to 6.0mm</li> </ul>

## **Replacement Parts**

Shape		Material	Part Number	Remarks
Lens 1 3	1 Round Flush	Polyalylate	CW9Z-L11@	Color code @: A (amber), C (clear), G (green), R (red), S (blue), Y (yellow)
	2 Round Extended	Polyalylate	CW9Z-L12@	Use a clear (C) lens for white (PW) illumination. 1: For illuminated pushbutton, pilot light 2: For illuminated pushbutton
	3 Round Dome	Polyalylate	CW9Z-L15@	3: For pilot light
Single Contact Block		1N0	YW-E10R	Push rod color: Black Housing color: Blue/black Terminal No.: 3-4
HUSHTOU	lousing	1NC	YW-E01	Push rod color: Red Housing color: Reddish purple Terminal No.: 1-2
Double Contact Block		2N0	YW-EW2R0	Push rod color: black Housing color: blue and black Terminal No. 1st tier: 13-14, 2nd tier: 23-24
Push rod	-Housing	2NC	YW-EW02	Push rod color: red Housing color: reddish purple Terminal No. 1st tier: 11-12, 2nd tier: 21-22
and the second		1NO, 1NC YW-EW1R1		Push rod color: gray Housing color: reddish purple/blue Terminal No. 1st tier: 13-14, 2nd tier: 21-22
Rubber Round Boot Flush			CW9Z-D11	
(clear)	Round Extended		CW9Z-D12	
Dummy Block		Polyamide (black)	CW-DB	
Locking Ring	)	Polyamide (black)	CW9Z-LN	
Gasket	$\mathbf{)}$	Nitrile rubber	CW9Z-WM	Waterproof gasket between CW control unit bezel and the mounting panel.
Nameplate	5	Plastic	CWAM-OB	
in Jan	reversible	Zinc (nickel-plated)	LA9Z-SK-D	Specify a key No. in place of □.OH:Standard key (reversible)1H to 2H:Reversible key3H to 6H:Non-reversible keyFor dimensions, see "Keys" on page 19.

Selector Switches

## **LED Modules**

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1	4		1	-
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Shape

	Operating Voltage Range	Current Draw	Part Number	Illumination Color Code @
	6V AC/DC±10%	15mA	CW-EAQ2@	Specify an illumination color code
	12V AC/DC±10%	15mA	CW-EAQ3@	in place of ② in the part number A: amber
	24V AC/DC±10%	16.5mA	CW-EAQ4@	G: green
	100/120V AC±10%	18mA	CW-EAQH@	PW: white B: red
	230/240V AC±10%	18mA	CW-EAQM4@	S: blue

Use a white (PW) LED module for yellow (Y) illumination.

## Nameplate

## **Standard Legend Codes**

Pushbuttons

CWAM–Black Plastic					
29 27 10 10 10		<u></u>			
Vameplate blank insert	CWAM-0B				

Nameplate (blank insert included)	CWAM-0B	
Nameplate (engraved)	CWAM-0	
Additional Insert (blank)	HWNP-0	HWNP Dimensions
Additional Insert (engraved)	HWNP-①	

Legend	Code	Legend	Code	Legend	Code	Legend	Code	Legend	Code
AUTO	101	OPEN	116	AUTO-MAN	201	REV-FOR	216	AUTO-MAN-OFF	301
CLOSE	102	OUT	117	CLOSE-OPEN	202	RUN-JOG	217	AUTO-OFF-MAN	302
DOWN	103	RAISE	118	DOWN-UP	203	RUN-SAFE	218	CLOSE-OFF-OPEN	303
EMERG.STOP	104	RESET	119	FAST-SLOW	204	SAFE-RUN	219	DOWN-OFF-SLOW	304
FAST	105	REVERSE	120	FOR-REV	205	SLOW-FAST	220	FAST-OFF-SLOW	305
FORWARD	106	RUN	121	HAND-AUTO	206	START-STOP	221	FOR-OFF-REV	306
HAND	107	SLOW	122	HIGH-LOW	207	STOP-START	222	LEFT-OFF-RIGHT	307
HIGH	108	START	123	JOG-RUN	208	UP-DOWN	223	LOWER-OFF-RAISE	308
IN	109	STOP	125	LEFT-RIGHT	209	OI (Int'I OFF ON)	250	OFF-MAN-AUTO	309
INCH	110	TEST	126	LOWER-RAISE	210			OFF-SLOW-FAST	310
JOG	111	UP	127	MAN-AUTO	211			0FF-1-2	311
LOW	112	l (Int'l On)	150	OFF-ON	212			OPEN-OFF-CLOSE	312
LOWER	113	0 (Int'l Off)	151	ON-OFF	213			SLOW-OFF-FAST	313
OFF	114	EMO	152	OPEN-CLOSE	214			SUMMER-OFF-WINTER	314
ON	115			RAISE-LOWER	215			UP-OFF-DOWN	315
								1-0FF-2	316
								HAND-OFF-AUTO	317

Pushbuttons/Selector Switches

1. In place of ①, insert either the standard legend code from table on right or custom engraving delimited by " ". 2. Standard engravings are available at no charge.

1. To order engraved nameplates, add legend code to nameplate part number.

2. Character height based on the number of characters and size of nameplate. Standard character size is 3/16".

3. Nameplates with standard legends are the same list price as blank nameplates.

Nameplates Order Form — CW Series

Copy this order form and use it to specify Letter Height, Custom Engravings, Location of Engraving on Nameplate, and Quantity Desired.

To ensure engraving accuracy, fax it to your IDEC representative or Distributor.

Your Company:	IDEC Rep/Distributor Contact:	
Name:	PO number (if known):	
- Telephone:	IDEC Rep/Distributor Phone:	
Fax & Email:	IDEC Rep/Distributor Fax & Email:	

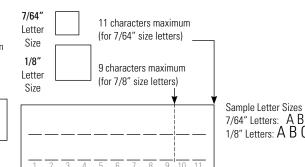
Qty

## **CWAM Nameplate**



Step 1. Choose Letter Size - 7/64" or 1/8". Check the box for the letter size you want. Then write your lettering in box below the check boxes. Note: 1/8" size letters cannot exceed 9 characters.

Step 2. Specify Quantity. Enter the number of nameplates desired in the box on the right.



7/64" Letters: A B C D 1/8" Letters: A B C D

## **Safety Precautions**

Turn off the power to CW series switches before installation, removal, wiring and maintenance. Failure to turn power off may cause electrical shocks or fire hazard.

When wiring, use wires of a proper size to meet the voltage and current requirements. Tighten the M3.5 terminal screws to a tightening torque of 1.0 to 1.3 N·m. Failure to tighten the terminal screws may cause overheating and fire.

## **Operating Instructions**

## **Operation Notes**

When using the CW series switches in a safety-related circuit of a control system, observe safety rules and regulations of each country concerning particular applications of the actual machines and facilities. Perform risk assessment before operation to ensure safety.

## **Operating Conditions**

In corrosive gas or high-temperature, highhumidity environments, contact failure due to corrosion, color change or breakage of the housing may occur.

Main parts of the CW series switches are made of plastic. Do not scratch the surface with a sharp object or apply excessive electric shock or load, otherwise the switches may be damaged. In particular, keep the button, lens and bezel from such damage, or appearance and function may be impaired.

Do not apply detergents, cutting oils, or chemicals which may impair the function and appearance of the CW series switches.

## **Panel Mounting**

First remove the contact block and then the locking ring from the operator. Insert the operator into the panel cut-out from the front, tighten the locking ring from the back, then install the contact block to the operator.

## Mounting Hole

- 1. Mounting hole dimensions are in compliance with IEC60947-5-1.
- 2. If the anti-rotation projection is removed from the bezel, CW series switches can be mounted in ø22.3mm mounting holes. To remove the anti-rotation projection, remove the gasket and use cutting pliers to break the projection.



- Removing and Installing the Contact Unit 1. To remove the contact block from the opera-
- tor, push the yellow locking lever and turn it to the left.

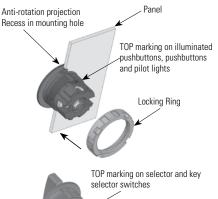




2. To install, align the TOP marking on the operator with the TOP marking on the contact block mounting adaptor, and turn the locking lever to the right.

### Installation in Panel Cut-out

Remove the locking ring from the operator. With the anti-rotation projection on the operator aligned with the recess in the mounting hole, insert the operator into the mounting hole. Tighten the locking ring from the rear of the panel.



## Note for Panel Mounting

When installing the operator in a panel cutout, use the optional locking ring wrench (MW9Z-T1) to tighten the locking ring to a recommended tightening torque of 1.2 N·m. Do not use pliers and do not tighten excessively, otherwise the operator may be damaged.

## Illuminated Pushbuttons and Pilot Lights

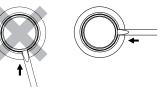
### Removing the Lens

To remove the lens from an illuminated pushbutton or pilot light, insert a flat screwdriver under the flange of the lens at 90° from the TOP marking and twist the screwdriver.

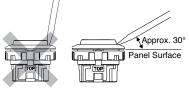
Do not insert the screwdriver too far and do not apply excessive force to the lens, otherwise the bezel surface may be damaged.

## Screwdriver Insertion Direction

TOP Marking TOP Marking

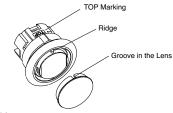


## Screwdriver Insertion Angle



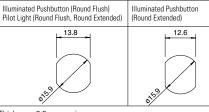
## Installing the Lens

Turn the groove in the lens to the TOP marking on the operator housing. With the groove aligned with the ridge, press the lens in.



Marking Marking film can be applied for inscriptions or identification.

## Applicable Marking Film Size



Thickness: 0.2mm maximum Film material: Polyester (recommended) Note: Film is not supplied and must be provided by the user

## **Operating Instructions con't**

## Pushbuttons

Pushbutton caps cannot be removed. Do not tamper with the cap using a screwdriver or pliers, otherwise it may be damaged.

## **Selector Switches**

Turn the selector operator or key to the detent positions.

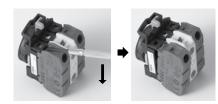
## **Key Selector Switches**

To prevent malfunction and damage, take the following precautions.

- Completely insert the key before turning.
- Do not remove the key while turning.
- Besides the standard key (0H), six other keys are available. Use only a key with a number that matches the number on the switches' key cylinder. (The standard key does not have a key number.)
- Keys are available in two shapes. -0H (standard), 1H, 2H: reversible keys -3H, 4H, 5H, 6H: non-reversible keys Make sure of correct insertion direction.

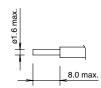
## **Contact Blocks and LED Modules**

To remove the contact block from the operator, insert a flat screwdriver under the latch and push the screwdriver down as shown below. Before removing the LED module, first remove all contact blocks, and then remove the LED module in the same manner.



## Wiring

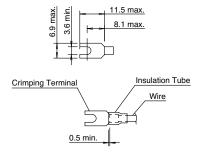
Applicable Wires Stranded wire: 2.0mm<sup>2</sup> maximum (14AWG) Solid wire: ø1.6mm maximum



One or two wires can be connected to the terminal.

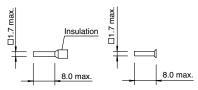
## Applicable Crimping Terminals

Spade terminal When using crimping terminals, be sure to use insulating tubes or insulated crimping terminals.



## Ferrule

When connecting two ferrules to one terminal, use ferrules without insulation.



When using spade terminals or ferrules, ensure that they are inserted completely. Ring terminals cannot be used.

## Screw Tightening Torque

Tighten the M3.5 terminal screws to a recommended torque of 1.0 to 1.3N·m.



## **16mm LB Series Miniature Switches**

With a choice of metallic or black plastic bezels, and flush or standard mounting, our newest miniature flush mount switches add style and safety to any application. All LB switches are UL recognized, TUV approved, CSA certified and CE marked, as well as provide an IP65 degree of protection. Available in illuminated pushbuttons, pushbuttons, pilot lights, selector switches, key selector switches, lever switches and buzzers, these switches are perfect for use with instrumentation, communication equipment, computer peripheral, telecom, medical equipment, food and beverage processing equipment, semi-conductor equipment, non-industrial applications (train cab, parking machines, audio/visual equipment), panels and more!





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