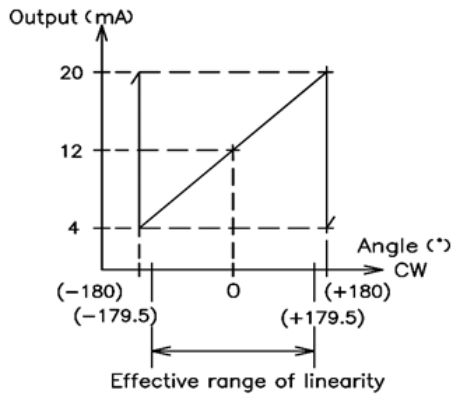
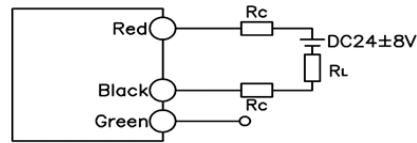


Output Characteristics

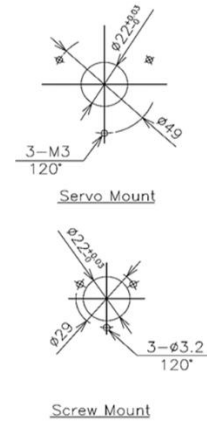


Schematic



- Red, Black and Green indicate harness colors.
- Green is shield drain wire. Be grounded if necessary.
- Rc: Transmitting wire resistance
- RL: Load resistance

Mounting (mm)



Specifications

Effective Electrical Travel	18° ~ 360°
Absolute Linearity	See the chart below
Output Range	Adjustable (@4mA±1mA, @20mA±1mA, Output Direction CW/CCW)
Input Voltage	24±8VDC
Load Resistance	600Ω MAX. (Vin=@DC24V)
Update Cycle	1KHz±10%
Output Resolution	See the chart below
Category Temp. Range	-40 ~ +85°C
Storage Temp. Range	-40 ~ +105°C
Temp. Drift (Category Temp. Range)	±1.0° (FS=360 ~ 91°) / ±0.5° (FS=90 ~ 18°)
IP Level	IP50/ IP67 (Except cable tips)
Torque	(IP50) 1mN · m MAX. / (IP67) 10mN · MAX.
Vibration	200m/s ² 5~500Hz/20min 3axis 2H each (JIS C60068-2)
Shock	1000m/s ² 6ms 3axis 6directions 3times each (JIS C60068-2-27)
EMS	100V/m: 10K ~ 1GHz (ISO11452-2, 3)
EMI	CISPR25 CLASS2
ESD	IEC61000-4-2 Contact ±4KV, Air ±8KV, Classification Criteria B

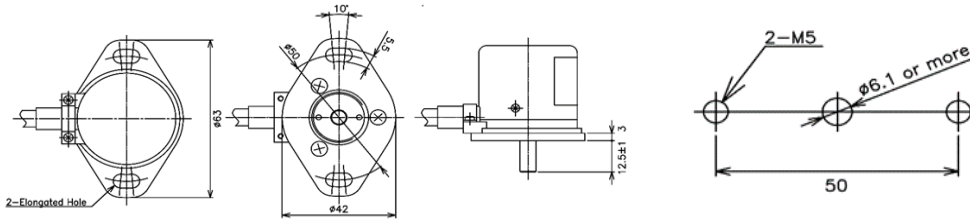
Linearity / Output Resolution

Electrical Travel	Linearity	Resolution
FS=360°	0.2%FS	Approx. 12Bit
FS >=180°	0.3%FS	Approx. 12Bit
FS >=90°	0.5%FS	Approx. 12Bit
FS >=45°	0.9%FS	Approx. 11Bit
FS >=30°	1.3%FS	Approx. 10Bit
FS >=18°	2.1%FS	Approx. 9Bit



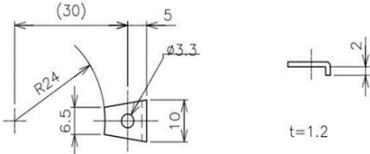
■ Options

- Mounting plate



■ Accessories

Mounting Cleats: 2 pcs



■ User-adjustable Functions

Programmable type of CP36U Series provides the following user-adjustable functions by using the setting panel.
[Setting Panel]

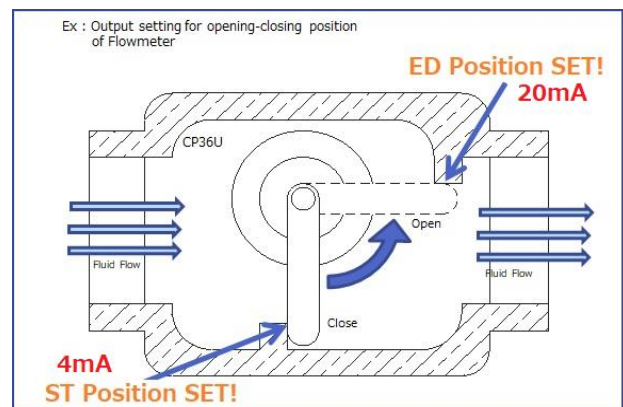


- 1) Electrical Angle Range Setting
- 2) Zero/ Span Adjustment
- 3) Output Increase Direction Setting
- 4) Reset Setting

1) Electrical Angle Range Setting

Enable to reset any angle to Start (ST: 4mA) and END (ED: 20mA) positions.

The actuary assurance range: FS= 18° ~ 360°
 FS adjustable angle range: 1° ~ 360°



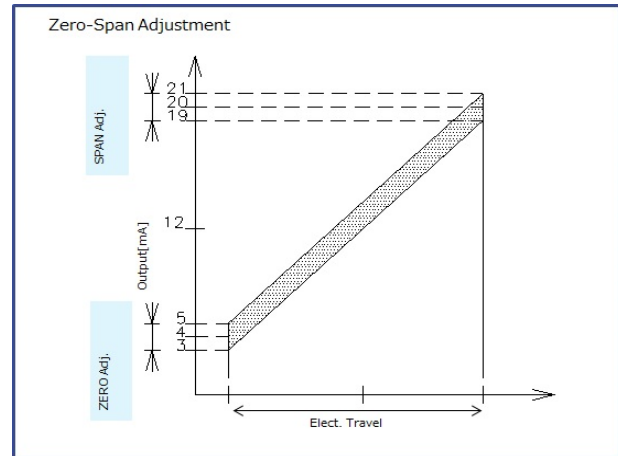
2) Zero/ Span Adjustment

Reset the output value at zero position (4mA) and span position (20mA) within the $\pm 1\text{mA}$ range.

Zero Position: $4\text{mA} \pm 1\text{mA}$

Span Position: $20\text{mA} \pm 1\text{mA}$

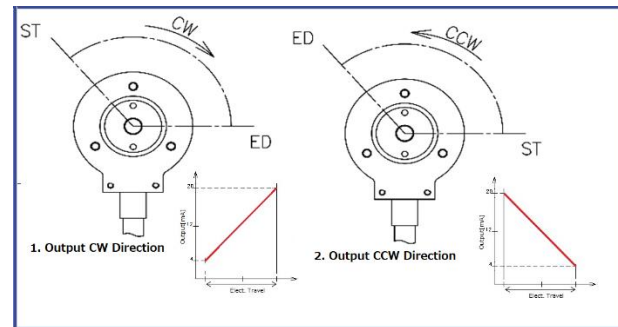
Adjustment Resolution: $4.55\mu\text{A}$ (Theoretical value)



3) Output Increase Direction Setting

Reset output increase direction CW or CCW.

1. Output CW Direction: Positive Linear Output
2. Output CCW Direction: Negative Linear Output



4) Reset Setting

1. Revert back to the last setting.
2. Return to factory setting

Setting Panel Operating Instructions

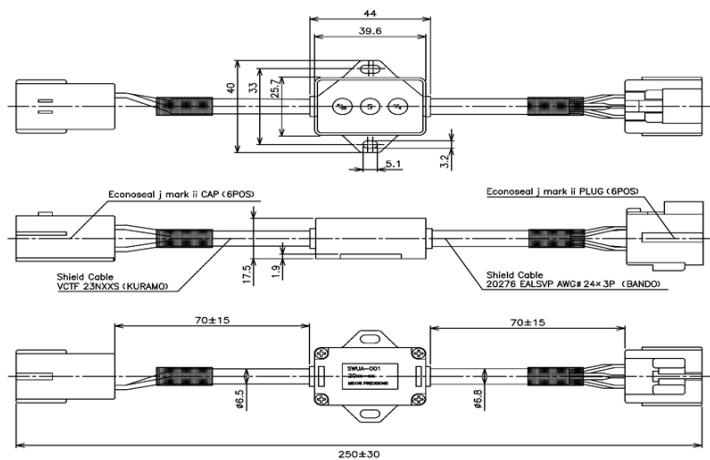
~ The First Step ~

1. Connect the setting panel to the CP36U cable.
2. Supply DC24V input to CP36U.
3. Have your own device ready to monitor sensor output if it is necessary.

~Setting Panel Layout~



1. 『+20』 Button
 2. 『S』 Button
 3. 『-4』 Button
- Press the buttons firmly.



~ Setting Procedures ~

1) Electrical Angle Range Setting

1. Press and hold both 『+20』 and 『-4』 buttons for 3 seconds or longer to start setting mode.



2. Rotate the shaft of CP36U until the angle to be set as the start (4mA) position.

Then press the 『-4』 button. CP36U creates 4mA output at this point.



3. Next, rotate the shaft of CP36U until the angle to be set as the end (20mA) position.

Then press the 『+20』 button. CP36U creates 20mA output at this point.



4. After setting Start and End positions, press 『S』 button for more than 3 seconds to complete the setting.



Pressing and hold 『+20』, 『S』, and 『-4』 buttons at the same time for more than 3 seconds to cancel the setting.

If none of the buttons were pressed for more than 5 minutes during the setting process, the setting mode is canceled.



2) Zero/ Span Adjustment

2)-1 Fine adjustment of 4mA output

1. Press and hold 『-4』 buttons for 3 seconds or longer to start setting mode.



2. **Decrease the 4mA output value.**

Press 『-4』 button ...4mA output value will decrease each time the button is pressed.

Press and hold the button and the value will decrease continuously.



3. **Increase the 4mA output value.**

Press 『+20』 button ... 4mA output value will increase each time the button is pressed.

Press and hold the button and the value will increase continuously.



4. Press 『S』 button for more than 3 seconds to complete the setting.



Pressing and hold 『+20』, 『S』, and 『-4』 buttons at the same time for more than 3 seconds to cancel the setting.
If none of the buttons were pressed for more than 5 minutes during the setting process, the setting mode is canceled.



2)-2 Fine adjustment of 20mA output

1. Press and hold 『+20』 buttons for 3 seconds or longer to start setting mode.



2. Decrease the 20mA output value.

Press 『-4』 button ...4mA output value will decrease each time the button is pressed.
Press and hold the button and the value will decrease continuously.



3. Increase the 20mA output value.

Press 『+20』 button ... 4mA output value will increase each time the button is pressed.
Press and hold the button and the value will increase continuously.



4. Press 『S』 button for more than 3 seconds to complete the setting.



Pressing and hold 『+20』, 『S』, and 『-4』 buttons at the same time for more than 3 seconds to cancel the setting.
If none of the buttons were pressed for more than 5 minutes during the setting process, the setting mode is canceled.



3) Output Increase Direction Setting

3)-1 Increase output direction to CW shaft rotation

1. Press and hold both 『+20』 and 『S』 buttons for 3 seconds or longer to start setting mode.



2. Press 『+20』 button ...Increase output direction to CW shaft rotation.



3. Press 『S』 button for more than 3 seconds to complete the setting.



Pressing and hold 『+20』, 『S』, and 『-4』 buttons at the same time for more than 3 seconds to cancel the setting.
If none of the buttons were pressed for more than 5 minutes during the setting process, the setting mode is canceled.



3)-2 Increase output direction to CCW shaft rotation

1. Press and hold both 『-/4』 and 『S』 buttons for 3 seconds or longer to start setting mode.



2. Press 『-/4』 button ...Increase output direction to CCW shaft rotation.



3. Press 『S』 button for more than 3 seconds to complete the setting.



Pressing and hold 『+/20』, 『S』, and 『-/4』 buttons at the same time for more than 3 seconds to cancel the setting.
If none of the buttons were pressed for more than 5 minutes during the setting process, the setting mode is canceled.



4) Reset Setting Function

4)-1 When reverting back to the last setting

1. Start Reset Mode

Stop power supply to CP36U and press and hold 『+/20』, 『S』, and 『-/4』 buttons altogether.
Continue to hold the buttons and supply the power to CP36U.
Wait for more than 3 seconds before releasing the buttons.



2. Press and hold 『-/4』 buttons for 3 seconds or longer to revert back to the last setting.



3. Press 『S』 button for more than 3 seconds to complete the setting.



Pressing and hold 『+/20』, 『S』, and 『-/4』 buttons at the same time for more than 3 seconds to cancel the setting.
If none of the buttons were pressed for more than 5 minutes during the setting process, the setting mode is canceled.



4)-2 Return to factory setting

1. Start Reset Mode

Stop power supply to CP36U and press and hold 『+/20』, 『S』, and 『-/4』 buttons altogether.
Continue to hold the buttons and supply the power to CP36U.
Wait for more than 3 seconds before releasing the buttons.



2. Press and hold 『 +/20 』 buttons for 3 seconds or longer to revert back to the last setting.



3. Press 『 S 』 button for more than 3 seconds to complete the setting.



Pressing and hold 『 +/20 』, 『 S 』, and 『 -/4 』 buttons at the same time for more than 3 seconds to cancel the setting.

If none of the buttons were pressed for more than 5 minutes during the setting process, the setting mode is canceled.



■ Note

1) Linearity and output resolution of the total electrical angle.

After adjusting the electrical angle range, the accuracy and the output resolution of CP36U at each set electrical angle are shown in the following chart.

Electrical Travel	Linearity	Resolution
FS=360°	0.2%FS	Approx. 12Bit
FS >=180°	0.3%FS	Approx. 12Bit
FS >=90°	0.5%FS	Approx. 12Bit
FS >=45°	0.9%FS	Approx. 11Bit
FS >=30°	1.3%FS	Approx. 10Bit
FS >=18°	2.1%FS	Approx. 9Bit

2) Output Display

CP36U and the setting panel are not equipped with output display device. Please have your own decide ready to monitor sensor output.

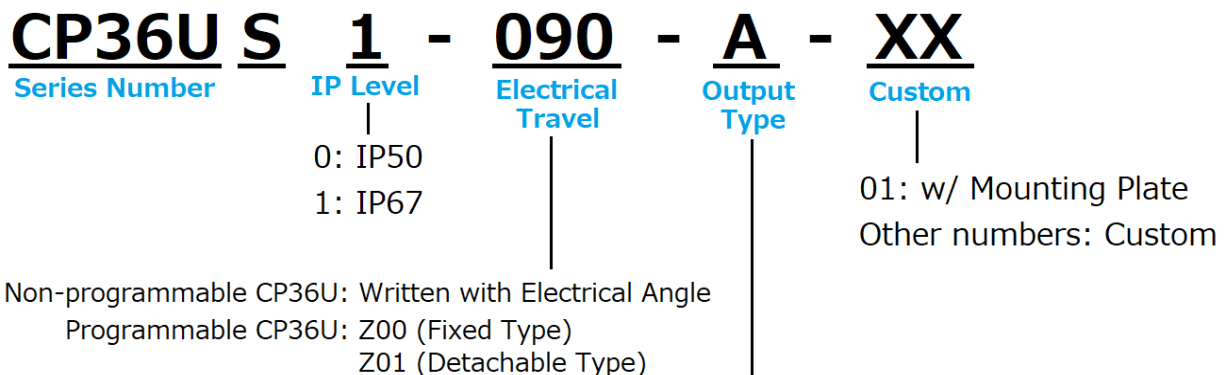
3)

Neither CP36U nor the setting panel has the function to notice that the setting is complete. Please read this manual and understand the necessary steps before initiating the setting procedure.

4) Product warranty after output adjustment

Although we fully recognize the performance and accuracy of CP36U may be influenced by adjusting the output using the control panel, please use this product once you have thoroughly read and understood the proper procedure.

■ Model Number Designation



A: Current 4 to 20mA