



# KCR/S Series

Capacitive Proximity Sensor

- Sensing of metal, plastic, liquid, wood etc.
- Easy to adjust sensing distance
- Various Sizes (M12, M18, M30)
- Long life cycle and high reliability



## Specifications

|                          |  |
|--------------------------|--|
| Detected Objects         | Metal, Plastic, Liquid, Granular Materials etc.                                      |
| Hysteresis               | Max. 4% ~ 20% of sensing distance  |
| Operation Indicator      | LED  |
| Protection Circuit       | Surge protection circuit, Reverse polarity protection circuit                        |
| Ambient Temperature      | -25°C to 70°C  |
| Ambient Humidity         | 35% ~ 95%  |
| Affection by Temperature | Max. ±10% for sensing distance at ambient temperature 23°C                           |
| Affection by Voltage     | Max. ±1% for sensing distance at rated voltage ±15%                                  |
| Insulation Resistance    | Over 50MΩ (at 500VDC megger)   |
| Vibration                | 1.5mm amplitude at frequency of 10Hz ~ 55Hz in each of X, Y, Z direction for 2 hours |
| Shock                    | 500m/S <sup>2</sup> (approx. 50G) in each of X, Y, Z direction for 10 times          |
| Material                 | KCR: Nickel copper plate<br>KCS: Plastic   |
| IP rate                  | IP67   |

|                         | KCR DC 3-wire   | KCR AC 2-wire               | KCS DC 3-wire   |
|-------------------------|---|-----------------------------|---|
| Power Supply            | 10 ~ 30VDC  | 20 ~ 240VAC                 | 10 ~ 30VDC  |
| Current Consumption     | Max. 15mA   | -                           | Max. 10mA   |
| Leakage Current         | -   | Max. 2.2mA                  | -   |
| Voltage Drop            | Residual Voltage: Max. 2V<br>Load Current: Max. 200mA | Load Current : 5 ~ 300mA    | Residual Voltage: Max. 1.5V Load Current : Max. 200mA |
| Dielectric Strength     | 1,000VAC, 50/60Hz for 1 min                           | 4,000VAC, 50/60Hz for 1 min | 1,000VAC, 50/60Hz for 1 min                           |
| Max. Response Frequency | 50Hz  | 15Hz                        | 30Hz  |

## Ordering Information

KCR    **K5**    **21**    **3**  
           ①        ②        ③

| ①<br>Size/<br>Detecting<br>Face | Size      |     | Sensing Distance | Detecting Face |
|---------------------------------|-----------|-----|------------------|----------------|
|                                 | <b>E4</b> | M12 | 2mm              | Flush          |
|                                 | <b>G4</b> |     | 4mm              | Non-Flush      |
|                                 | <b>H5</b> | M18 | 5mm              | Flush          |
|                                 | <b>K5</b> |     | 8mm              | Non-Flush      |
|                                 | <b>L6</b> | M30 | 10mm             | Flush          |
|                                 | <b>P6</b> |     | 15mm             | Non-Flush      |

| ②<br>Output/<br>Power<br>Supply | Type       |              | Output | Power Supply |
|---------------------------------|------------|--------------|--------|--------------|
|                                 | <b>11</b>  | DC<br>3-wire | NPN NO | 10 ~ 30VDC   |
|                                 | <b>21</b>  |              | NPN NC |              |
|                                 | <b>31</b>  |              | PNP NO |              |
|                                 | <b>41</b>  |              | PNP NC |              |
|                                 | <b>55*</b> | AC<br>2-wire | NO     | 20 ~ 240VAC  |
| <b>65*</b>                      | NC         |              |        |              |

| ③<br>Cable Type | no mark  | 2m cable      |
|-----------------|----------|---------------|
|                 | <b>3</b> | M12 Connector |

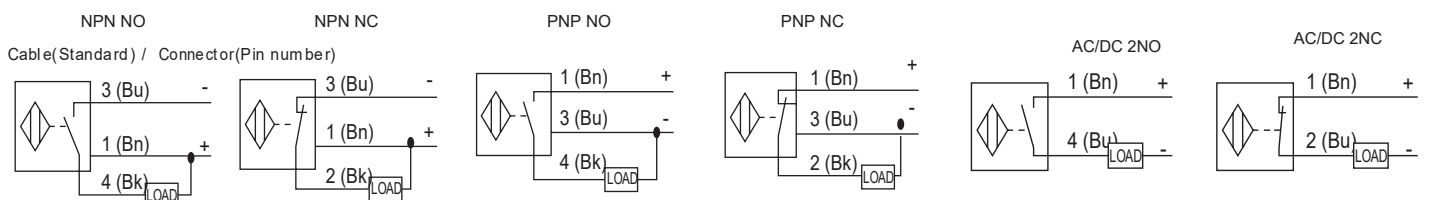
\* For M18(H5, K5) only

## KCS Series

| Model    | Output | Wiring   | Type/<br>Power                | Sensing<br>Distance | Body                                     |
|----------|--------|----------|-------------------------------|---------------------|--|
| KCS LG11 | NPN NO | 2m cable | DC<br>3-wire,<br>10~30<br>VDC | 10mm                | Rectangular<br>Plastic body<br>Non-flush |
| KCS LG21 | NPN NC |          |                               |                     |  |
| KCS LG31 | PNP NO |          |                               |                     |  |
| KCS LG41 | PNP NC |          |                               |                     |  |

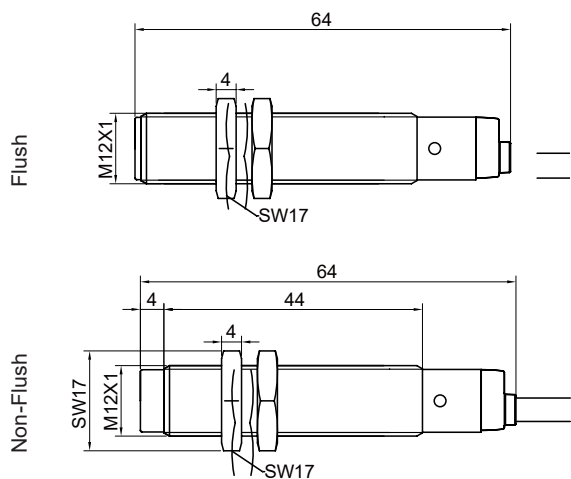
## Wiring Diagram

Bu = Blue Bn = brown Bk = Black

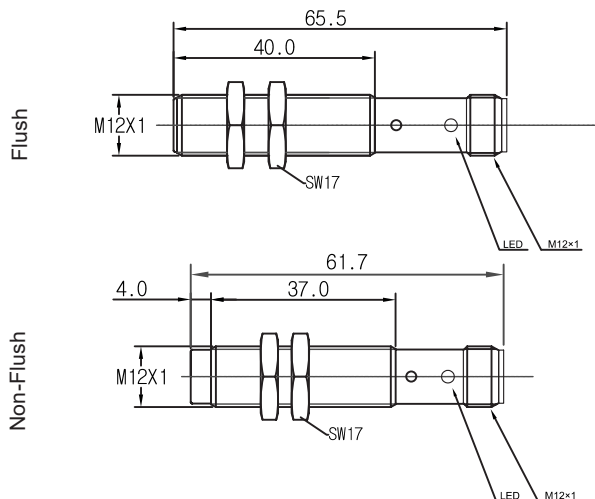


**Dimensions** (Unit: mm)

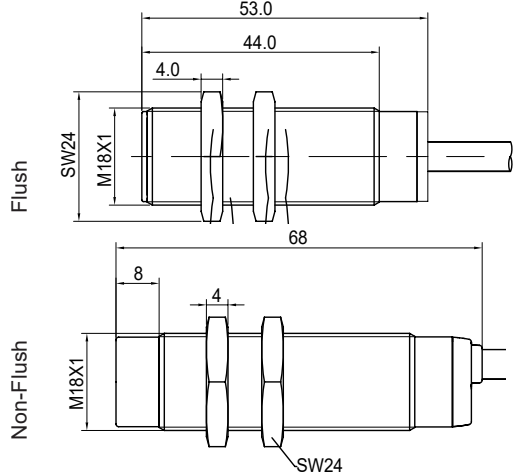
**KCR M12**



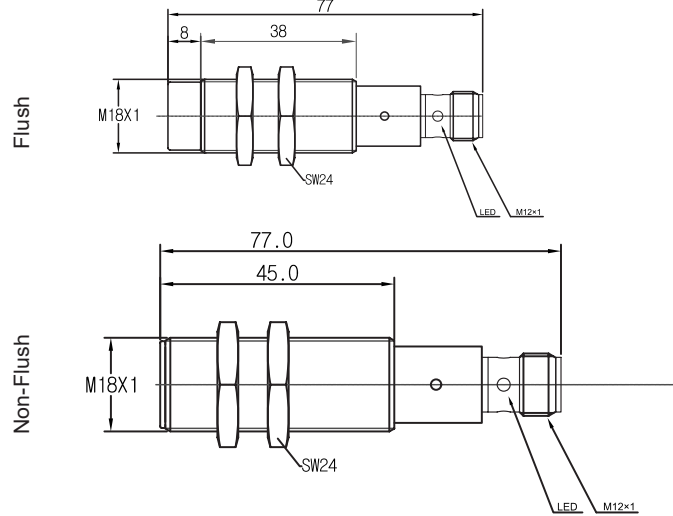
**KCR M12 with M12 Connector**



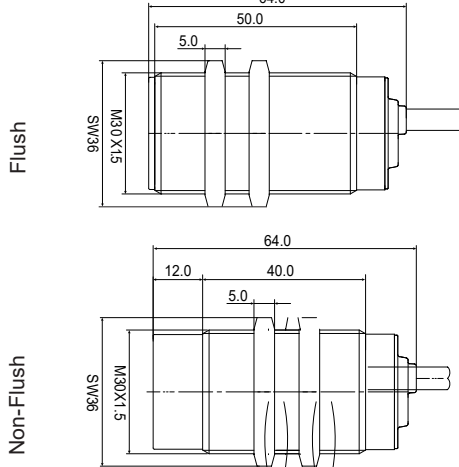
**KCR M18**



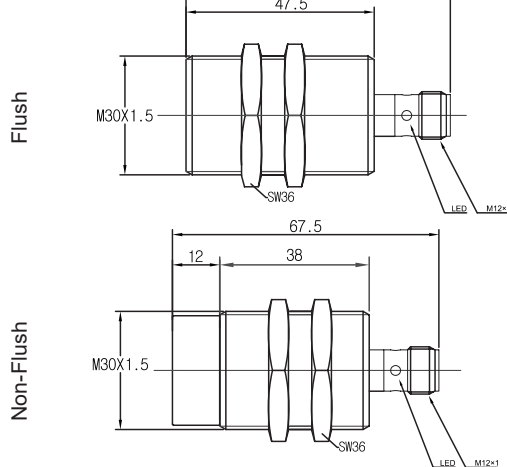
**KCR M18 with M12 Connector**



**KCR M30**



**KCR M30 with M12 Connector**



**KCS-LG**

