

# Standard Distance

## Pre-wired

|                          |                         |                       |                     |                         |             |                      |              |                        |             |             |             |
|--------------------------|-------------------------|-----------------------|---------------------|-------------------------|-------------|----------------------|--------------|------------------------|-------------|-------------|-------------|
| Appearance               |                         |                       |                     |                         |             |                      |              |                        |             |             |             |
| Mounting                 | Shielded                |                       | Shielded            |                         |             | Unshielded           |              | Unshielded             |             |             |             |
| Housing size             | φ6.5                    | M8                    | M12                 | M18                     | M30         | φ6.5                 | M8           | M12                    | M18         | M30         |             |
| Sensing distance         | 1.5mm ± 10%             | 1.5mm ± 10%           | 2mm ± 10%           | 5mm ± 10%               | 10mm ± 10%  | 2mm ± 10%            | 2mm ± 10%    | 4mm ± 10%              | 8mm ± 10%   | 15mm ± 10%  |             |
| Housing material         | Stainless steel         |                       | Nickel copper alloy |                         |             | Stainless steel      |              | Nickel copper alloy    |             |             |             |
| Operating voltage        | 10~30V DC(Ripple < 10%) |                       |                     |                         |             |                      |              |                        |             |             |             |
| Voltage drop             | < 1.5V                  | < 2.0V                |                     |                         | < 1.5V      |                      | < 2.0V       |                        |             |             |             |
| Load Current, Max        | 150mA                   |                       |                     |                         |             |                      |              |                        |             |             |             |
| Current consumption      | < 10mA                  |                       |                     |                         |             | < 20mA               |              |                        |             |             |             |
| Leakage current          | < 0.01mA                |                       |                     |                         |             |                      |              |                        |             |             |             |
| Switch frequency         | 2KHz                    |                       | 1KHz                |                         | 300Hz       | 2KHz                 | 1KHz         | 800Hz                  | 500Hz       | 150Hz       |             |
| Repeat accuracy          | < 1.0% (Sr)             |                       |                     |                         |             | < 5.0% (Sr)          |              |                        | < 1.0% (Sr) |             |             |
| Hysteresis               | < 15% (Sr)              |                       |                     |                         |             |                      |              |                        |             |             |             |
| Sensing surface material | PBT                     |                       |                     |                         |             |                      |              |                        |             |             |             |
| Operating temperature    | -25°C~+75°C             |                       |                     |                         |             |                      |              |                        |             |             |             |
| Protective circuit       | Short circuit           |                       |                     |                         |             |                      |              |                        |             |             |             |
| Degree of protection     | IP67                    |                       |                     |                         |             |                      |              |                        |             |             |             |
| Model No.                | NPN Normally open       | TRF6.5-1.5NNO         | TRF08-1.5NNO        | TRF12-02NNO             | TRF18-05NNO | TRF30-10NNO          | TRN6.5-02NNO | TRN08-02NNO            | TRN12-04NNO | TRN18-08NNO | TRN30-15NNO |
|                          | Others                  | NNO:NPN Normally open |                     | NCO:NPN Normally closed |             | PO:PNP Normally open |              | PC:PNP Normally closed |             |             |             |

## Connector Type

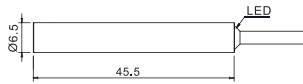
|                          |                         |                       |                |                         |                 |                      |                |                        |                |
|--------------------------|-------------------------|-----------------------|----------------|-------------------------|-----------------|----------------------|----------------|------------------------|----------------|
| Appearance               |                         |                       |                |                         |                 |                      |                |                        |                |
| Mounting                 | Shielded                |                       |                |                         | Unshielded      |                      |                |                        |                |
| Housing size             | M8                      | M12                   | M18            | M30                     | M8              | M12                  | M18            | M30                    |                |
| Sensing distance         | 1.5mm ± 10%             | 2mm ± 10%             | 5mm ± 10%      | 10mm ± 10%              | 2mm ± 10%       | 4mm ± 10%            | 8mm ± 10%      | 15mm ± 10%             |                |
| Housing material         | Stainless steel         | Nickel copper alloy   |                |                         | Stainless steel | Nickel copper alloy  |                |                        |                |
| Operating voltage        | 10~30V DC(Ripple < 10%) |                       |                |                         |                 |                      |                |                        |                |
| Voltage drop             | < 1.5V                  |                       |                |                         |                 |                      |                |                        |                |
| Load Current Max         | 150mA                   |                       |                |                         |                 |                      |                |                        |                |
| Current consumption      | < 10mA                  |                       |                |                         |                 |                      |                |                        |                |
| Leakage current          | < 0.01mA                |                       |                |                         |                 |                      |                |                        |                |
| Switch frequency         | 2KHz                    |                       | 1KHz           |                         | 300Hz           | 2KHz                 | 1KHz           | 500Hz                  | 150Hz          |
| Repeat accuracy          | < 1.0% (Sr)             |                       |                |                         |                 |                      |                |                        |                |
| Hysteresis               | < 15% (Sr)              |                       |                |                         |                 |                      |                |                        |                |
| Sensing surface material | PBT                     |                       |                |                         |                 |                      |                |                        |                |
| Operating temperature    | -25°C~+75°C             |                       |                |                         |                 |                      |                |                        |                |
| Protective circuit       | Short circuit           |                       |                |                         |                 |                      |                |                        |                |
| Degree of protection     | IP67                    |                       |                |                         |                 |                      |                |                        |                |
| Model No.                | NPN Normally open       | TRF08-1.5NNO-E1       | TRF12-02NNO-E2 | TRF18-05NNO-E2          | TRF30-10NNO-E2  | TRN08-02NNO-E1       | TRN12-04NNO-E2 | TRN18-08NNO-E2         | TRN30-15NNO-E2 |
|                          | Others                  | NNO:NPN Normally open |                | NCO:NPN Normally closed |                 | PO:PNP Normally open |                | PC:PNP Normally closed |                |

# Standard Distance

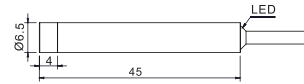
## Dimensions- Pre-wired Type (Unit:mm)

φ 6.5

TRF6.5-1.5□□

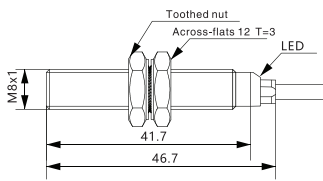


TRN6.5-02□□

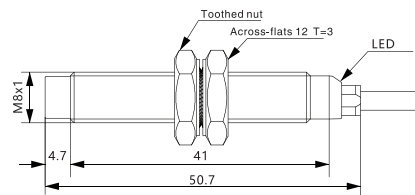


M8

TRF08-1.5□□

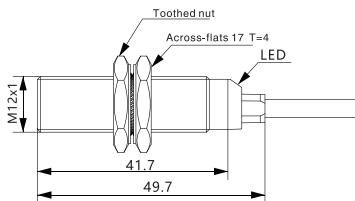


TRN08-02□□

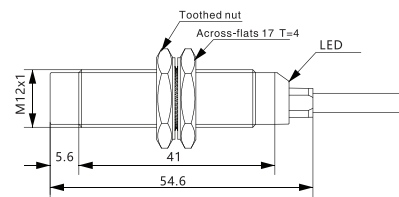


M12

TRF12-02□□

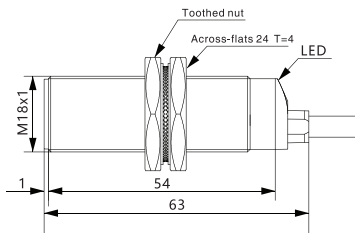


TRN12-04□□

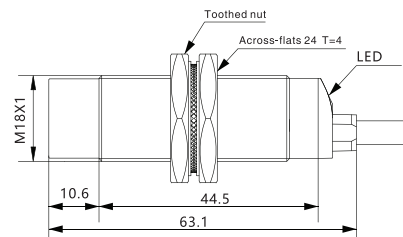


M18

TRF18-05□□

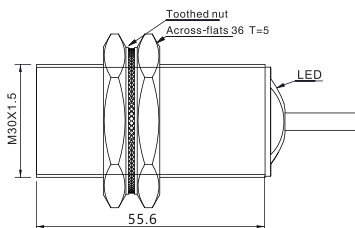


TRN18-08□□

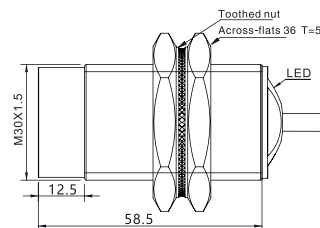


M30

TRF30-10□□



TRN30-15□□

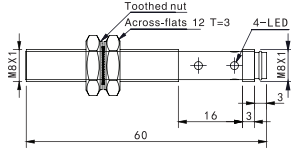


# Standard Distance

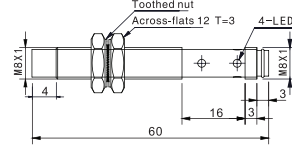
## Dimensions- Connector Type (Unit:mm)

### M8

TRF08-1.5□□-E1



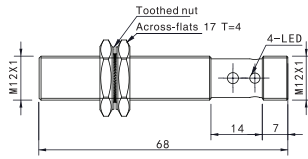
TRN08-02□□-E1



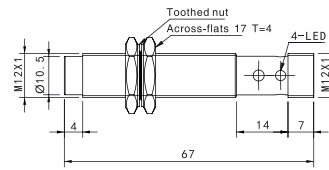
M8 3 Pin

### M12

TRF12-02□□-E2



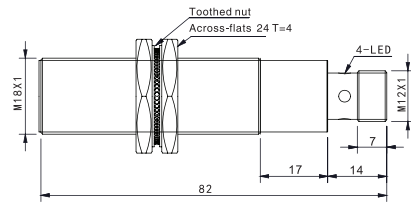
TRN12-04□□-E2



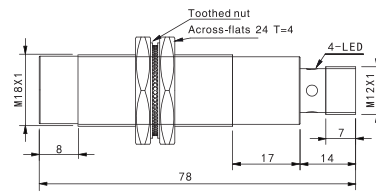
M12 4 Pin

### M18

TRF18-05□□-E2



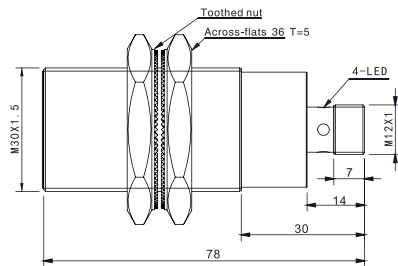
TRN18-08□□-E2



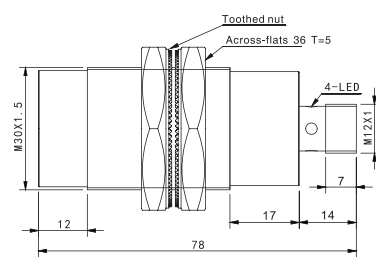
M12 4 Pin

### M30

TRF30-10□□-E2



TRN30-15□□-E2



M12 4 Pin