

# 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       | TRF6.5-1.5 <sup>NO</sup>         | TRF08-1.5 <sup>NO</sup> | TRF12-02 <sup>NO</sup>             | TRF18-05 <sup>NO</sup> | TRF30-10 <sup>NO</sup>           | TRN6.5-02 <sup>NO</sup> | TRN08-02 <sup>NO</sup>             | TRN12-04 <sup>NO</sup> | TRN18-08 <sup>NO</sup> | TRN30-15 <sup>NO</sup> |
|                          | Others                  | <sup>NO</sup> :NPN Normally open |                         | <sup>NC</sup> :NPN Normally closed |                        | <sup>PO</sup> :PNP Normally open |                         | <sup>PC</sup> :PNP Normally closed |                        |                        |                        |

## Connector Type

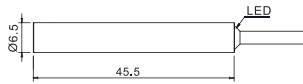
|                          |                         |                                  |                            |                                    |                            |                                  |                            |                                    |                            |
|--------------------------|-------------------------|----------------------------------|----------------------------|------------------------------------|----------------------------|----------------------------------|----------------------------|------------------------------------|----------------------------|
| 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       | TRF08-1.5 <sup>NO</sup> -E1      | TRF12-02 <sup>NO</sup> -E2 | TRF18-05 <sup>NO</sup> -E2         | TRF30-10 <sup>NO</sup> -E2 | TRN08-02 <sup>NO</sup> -E1       | TRN12-04 <sup>NO</sup> -E2 | TRN18-08 <sup>NO</sup> -E2         | TRN30-15 <sup>NO</sup> -E2 |
|                          | Others                  | <sup>NO</sup> :NPN Normally open |                            | <sup>NC</sup> :NPN Normally closed |                            | <sup>PO</sup> :PNP Normally open |                            | <sup>PC</sup> :PNP Normally closed |                            |

# Standard Distance

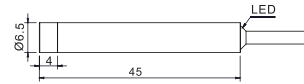
## Dimensions- Pre-wired Type (Unit:mm)

φ 6.5

TRF6.5-1.5□□

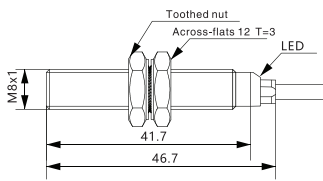


TRN6.5-02□□

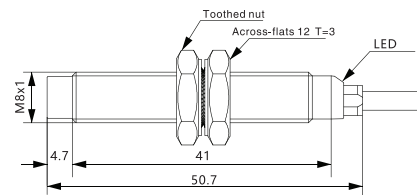


M8

TRF08-1.5□□

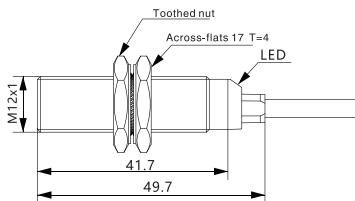


TRN08-02□□

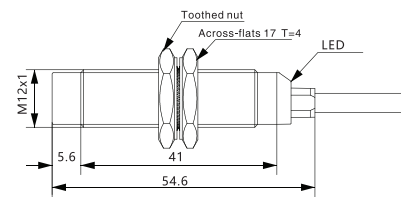


M12

TRF12-02□□

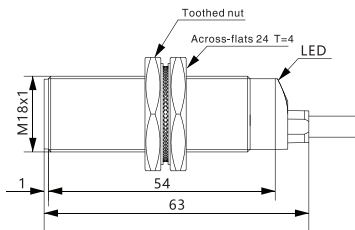


TRN12-04□□

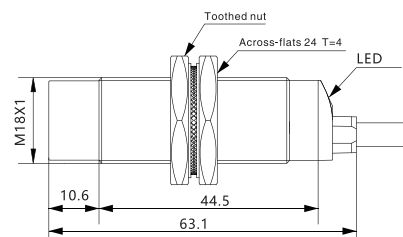


M18

TRF18-05□□

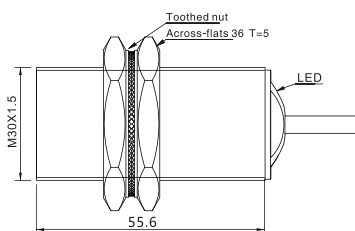


TRN18-08□□

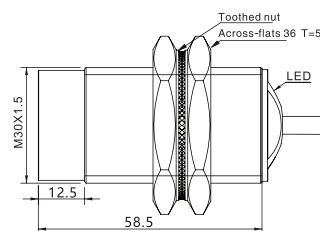


M30

TRF30-10□□



TRN30-15□□

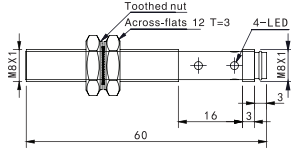


# Standard Distance

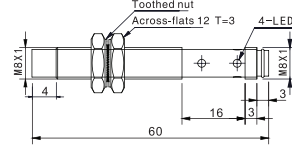
## Dimensions- Connector Type (Unit:mm)

### M8

TRF08-1.5□□-E1

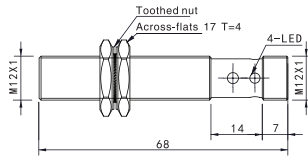


TRN08-02□□-E1

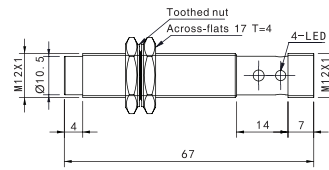


### M12

TRF12-02□□-E2

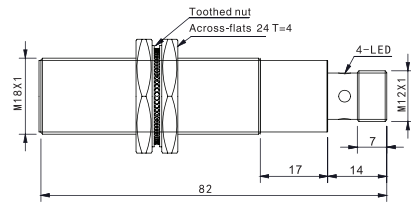


TRN12-04□□-E2

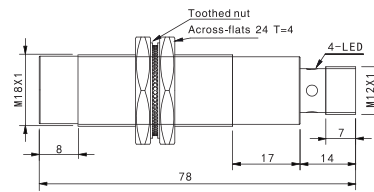


### M18

TRF18-05□□-E2

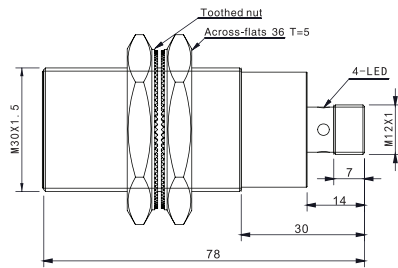


TRN18-08□□-E2



### M30

TRF30-10□□-E2



TRN30-15□□-E2

