

### Pre-wired Type

|                          |                         |   |                     |           |             |                 |             |                     |             |            |          |
|--------------------------|-------------------------|---|---------------------|-----------|-------------|-----------------|-------------|---------------------|-------------|------------|----------|
| Appearance               |                         |   |                     |           |             |                 |             |                     |             |            |          |
| Mounting                 | Shielded                |   | Shielded            |           |             | Unshielded      |             | Unshielded          |             |            |          |
| Housing size             | φ 6.5                   | M8  | M12                 | M18       | M30         | φ 6.5           | M8          | M12                 | M18         | M30        |          |
| Sensing distance         | 2mm ± 10%               | 2mm ± 10%   | 4mm ± 10%           | 8mm ± 10% | 16mm ± 10%  | 4mm ± 10%       | 4mm ± 10%   | 8mm ± 10%           | 16mm ± 10%  | 25mm ± 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                  |   |                     |           |             |                 |             |                     |             |            |          |
| Leakage current          | < 0.01mA                |   |                     |           |             |                 |             |                     |             |            |          |
| Switch frequency         | 2KHz                    | 1KHz  | 800Hz               | 500Hz     | 150Hz       | 1KHz            | 800Hz       | 300Hz               | 150Hz       | 100Hz      |          |
| Repeat accuracy          | < 1.0% (Sr)             |   | < 5.0% (Sr)         |           | < 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       | TLF6.5-02   | TLF08-02            | TLF12-04  | TLF18-08    | TLF30-16        | TLN6.5-04   | TLN08-04            | TLN12-08    | TLN18-16   | TLN30-25 |
|                          | Others                  | <span style="color: green;">NO</span> :NPN Normally open <span style="color: green;">NC</span> :NPN Normally closed <span style="color: green;">PO</span> :PNP Normally open <span style="color: green;">PC</span> :PNP Normally closed |                     |           |             |                 |             |                     |             |            |          |

### Connector Type

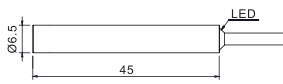
|                          |                         |   |           |            |                 |                     |            |            |          |
|--------------------------|-------------------------|---|-----------|------------|-----------------|---------------------|------------|------------|----------|
| Appearance               |                         |   |           |            |                 |                     |            |            |          |
| Mounting                 | Shielded                |   |           |            | Unshielded      |                     |            |            |          |
| Housing size             | M8                      | M12   | M18       | M30        | M8              | M12                 | M18        | M30        |          |
| Sensing distance         | 2mm ± 10%               | 4mm ± 10%   | 8mm ± 10% | 16mm ± 10% | 4mm ± 10%       | 8mm ± 10%           | 16mm ± 10% | 25mm ± 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  | 500Hz     | 150Hz      | 1KHz            | 500Hz               | 150Hz      | 100Hz      |          |
| 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       | TLF08-02  | TLF12-04  | TLF18-08   | TLF30-16        | TLN08-04            | TLN12-08   | TLN18-16   | TLN30-25 |
|                          | Others                  | <span style="color: green;">NO</span> :NPN Normally open <span style="color: green;">NC</span> :NPN Normally closed <span style="color: green;">PO</span> :PNP Normally open <span style="color: green;">PC</span> :PNP Normally closed |           |            |                 |                     |            |            |          |

# Extended Distance

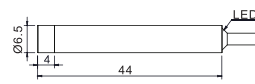
## Dimensions-Pre-wired Type (Unit:mm)

φ6.5

TLF6.5-02□□

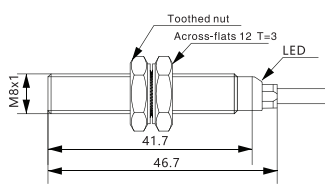


TLN6.5-04□□

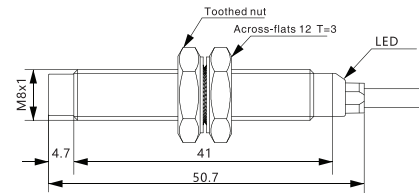


M8

TLF08-02□□

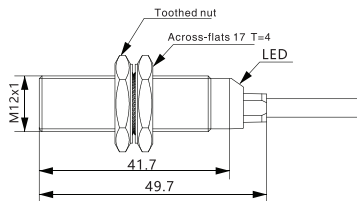


TLN08-04□□

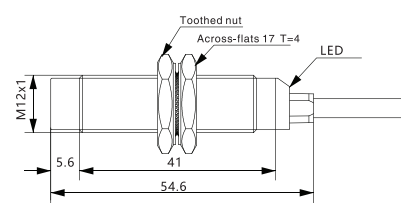


M12

TLF12-04□□

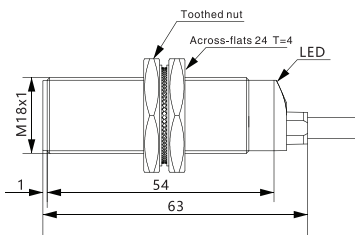


TLN12-08□□

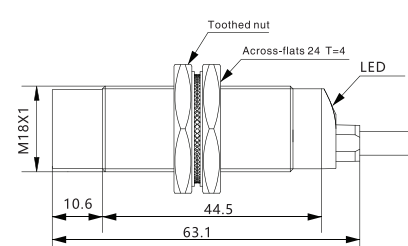


M18

TLF18-08□□

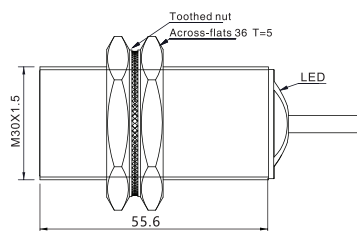


TLN18-16□□

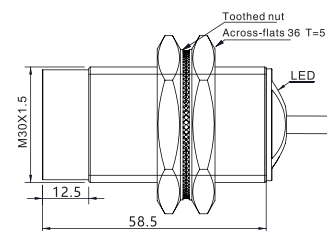


M30

TLF30-16□□



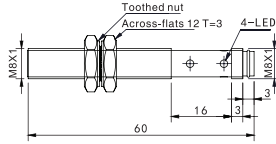
TLN30-25□□



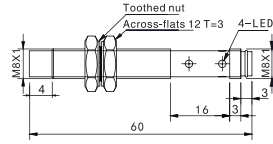
## Dimensions- Connector Type (Unit:mm)

M8

TLF08-02□□-E1



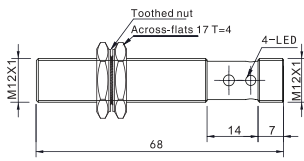
TLN08-04□□-E1



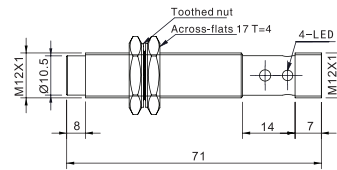
M8 3 Pin

M12

TLF12-04□□-E2



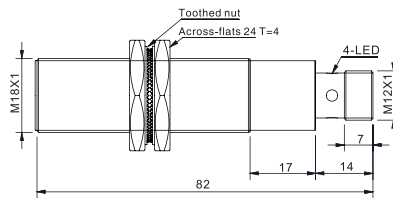
TLN12-08□□-E2



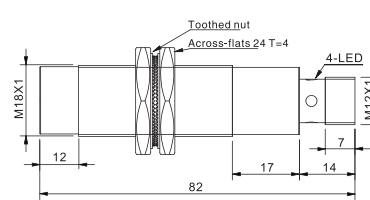
M12 4 Pin

M18

TLF18-08□□-E2



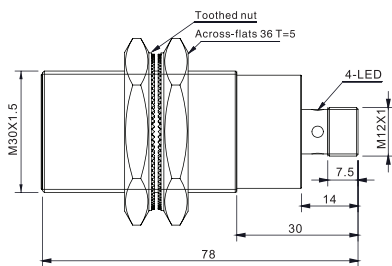
TLN18-16□□-E2



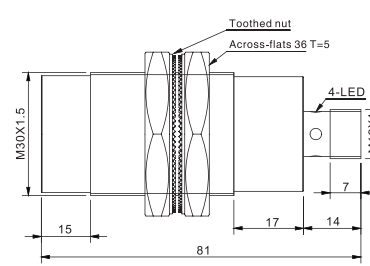
M12 4 Pin

M30

TLF30-16□□-E2



TLN30-25□□-E2



M12 4 Pin