

# Proximity SWITCHES

## Inductive Sensors

N1DR\_B Series



N1DE\_S Series



N1DR\_B\_W Series



N1DR\_G Series



Food and Beverage



Automotive Industry



Machine & Equipment



Warehouse & Distribution

## Capacitive Sensors

N1KR\_N Series



N1K\_S Series



N1K\_E\_S Series



Printing Industry



Textile Industry

## Photo Electric Sensors

N1FR\_BC Series



N1FR\_LT Series



N1FS\_T Series



Packing Industry



Doors & Elevators

## 04 电感式传感器 Inductive sensors

- >> Available in several Materials such as Nickel-Copper Alloy, Stainless Steel, Aluminum and Plastic
- >> Extended temperature version (-40°C up to 120°C)
- >> Cable and Connector Types
- >> Protection degree : IP67 (IEC)
- >> CE and UL Certification

|    |                           |         |
|----|---------------------------|---------|
| 05 | Standard function         | 标准功能系列  |
| 12 | Frequency enhanced        | 频率增强系列  |
| 13 | Extended sensing distance | 增强远距离系列 |
| 15 | Analog output             | 模拟量输出系列 |
| 16 | Extended temperature      | 温度扩展系列  |
| 17 | High pressure resistant   | 耐高压系列   |
| 18 | Full metal housing        | 全金属封装系列 |
| 18 | Rotation speed monitor    | 转速监控系列  |
| 19 | Welding-immune            | 强磁免疫系列  |
| 19 | Self-diagnosed            | 自诊断系列   |
| 20 | Zero decrement            | 无衰减系列   |
| 21 | Wide voltage              | 宽电压系列   |

- >> Available in several Materials such as Nickel-Copper Alloy, Stainless Steel (only Capacitive Sensors), Aluminum and Plastic
- >> Cable and Connector Types
- >> Protection degree : IP67 (IEC)
- >> CE and UL Certification

## 23 电容式传感器 Capacitive sensors

|    |                                                     |         |
|----|-----------------------------------------------------|---------|
| 24 | Standard function                                   | 标准功能系列  |
| 26 | Extended sensing distance                           | 增强远距离系列 |
| 27 | Pipe liquid level detecting                         | 管道液位系列  |
| 27 | High temperature resistant material level detecting | 耐高温料位系列 |

## 28 光电式传感器 Photoelectric sensors

|    |                    |       |
|----|--------------------|-------|
| 29 | Diffuse reflection | 漫反射系列 |
| 30 | Through beam       | 对射系列  |

# Proximity Switches

## Inductive Sensors

### How to order:

N1 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

#### 1. 分类 Type code

D:电感式 Inductive

#### 2. 外形 Shape code

R:圆柱形 Cylindrical  
E:方形 Rectangular

#### 3. 尺寸 Size code

数字:外壳尺寸 Number: Housing diameter  
如: 08:M8 e.g: 08:M8

#### 4. 外壳形状 Shape code

Q:光滑圆柱形 Smooth cylindrical  
V:角柱形 Angle column  
Z:组合形 Combination  
H:环形 Ring-shaped  
U:槽型 U-shaped

#### 5. 外壳材料 Housing material

无:金属铜壳 N/A: Copper  
S:塑料 Plastic  
G:不锈钢 Stainless steel  
V:铝质 Aluminium

#### 6. 外形尺寸 Housing length

A:短型 Short  
B:标准型 Standard  
C:长型 Long

#### 7. 安装形式 Mounting

N:非埋 Non-flushed(nf)  
F:埋入 Flushed(f)

#### 8. 检测距离 Sensing distance

例: 02:2mm  
04:4mm  
10:10mm

#### 9. 工作电压 Supply voltage

A:20...250VAC  
B:90...250VAC  
C:380VAC  
D:10...30VDC  
E:10...60VDC  
F:8.2VDC  
G:5...60VDC  
L:15...30VDC  
H:20...30VDC  
I:10...40VDC  
J:5VDC  
S:20...250VAC/DC  
T:12...24VDC

#### 10. 输出方式 Output way

B:AC/DC二线 AC/DC 2 wires  
L:DC二线 DC 2 wires  
T:AC二线 AC 2 wires  
P:PNP  
N:NPN  
E:NPN/PNP  
F:NPN+PNP  
K:继电器 Relay

#### 11. 输出状态 Output status

A:常开/常闭可逆 NO/NC Reversible  
B:常开/常闭可选 NO/NC Optional  
分为电缆线可选、电位器可选  
Cable optional; Potentiometer optional  
O:常开 NO  
C:常闭 NC  
R:常开+常闭 NO+NC  
IU:电压型+电流型 Voltage+current  
(0...10V,0...20mA)  
U:电压型(0...10V) Voltage(0...10V)  
I:电流型(0...20mA) Current(0...20mA)  
I4:电流型(4...20mA) Current(4...20mA)

#### 12. 开关功能 By sensor function

无:标准功能型 N/A:Standard function  
M:模拟量 Analogue  
N:NAMUR  
W:耐高温(-25°C...120°C)  
High temperature resistant(-25°C...120°C)  
W1:耐低温(-40°C...70°C)  
Low temperature resistant(-40°C...70°C)  
W2:耐高温(-25°C...100°C)  
High temperature resistant(-25°C...100°C)  
B:耐高压 High pressure resistant  
T:速度型 Speed  
Z:自诊断 Self-diagnosis  
Y:增强远距离型 Extended sensing distance  
G:频率增强型 High frequency  
Q:全金属封装型 Metal sensing face  
A:强磁免疫型 Welding-immune  
K:抗电源干扰 EMI  
F:检测铁 Detect ferrum object  
NF:检测非铁 Detect non-ferrum object  
J:监速型 Rotation speed monitoring

#### 13. 引线长度 Cable length

例: 无:2m eg: N/A:2m  
3M:3m

#### 14. 连接形式 Connection

无:2M引线式 N/A:2M cable  
E1:M8三芯插件 M8 connector (3 pins)  
E2:M12四芯插件 M12 connector (4 pins)  
E3:M8四芯插件 M8 connector (4 pins)  
E4:M12四芯梯形插件  
M12 trapezoid connector (4 pins)  
E5:M12五芯插件 M12 connector (5 pins)  
D:内端子接线 Terminal

#### 15. 特殊要求 Special requirement

用四位数字表示 In 4 digits

# Proximity Switches

## Inductive Sensors / Standard function



| 外壳代号<br>Shell code                |                           | N1DR04Q                             | N1DR05                              | N1DR6.5Q                                        | N1DR08                                          | N1DR12                                                  |
|-----------------------------------|---------------------------|-------------------------------------|-------------------------------------|-------------------------------------------------|-------------------------------------------------|---------------------------------------------------------|
| 尺寸规格 ( mm )<br>Specifications(mm) |                           | Φ4*30                               | M5*0.5*30                           | Φ6.5*40                                         | M8*1*40                                         | M12*1*40, M12*1*50                                      |
| 安装方式<br>Mounting                  |                           | ● 埋入<br>● Flushed                   | ● 埋入<br>● Flushed                   | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed          | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed          | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed                  |
| 检测距离<br>Sensing distance          |                           | 0.8mm                               | 0.8mm                               | 1.5mm, 2mm                                      | 1.5mm, 2mm                                      | 2mm, 4mm                                                |
| 输出方式<br>Output                    | DC 3线<br>DC 3 Wires       | NPN NO; NPN NC<br>PNP NO; PNP NC    | NPN NO; NPN NC<br>PNP NO; PNP NC    | NPN NO; NPN NC<br>PNP NO; PNP NC                | NPN NO; NPN NC<br>PNP NO; PNP NC                | NPN NO; NPN NC<br>PNP NO; PNP NC                        |
|                                   | DC 4线<br>DC 4 Wires       | /                                   | /                                   | /                                               | /                                               | NPN NO+NC<br>PNP NO+NC                                  |
|                                   | DC 2线<br>DC 2 Wires       | /                                   | /                                   | NO<br>NC                                        | NO<br>NC                                        | NO<br>NC                                                |
|                                   | AC 2线<br>AC 2 Wires       | /                                   | /                                   | /                                               | /                                               | NO<br>NC                                                |
|                                   | AC/DC 2线<br>AC/DC 2 Wires | /                                   | /                                   | /                                               | /                                               | /                                                       |
| 电源电压<br>Supply voltage            |                           | 10...30 VDC                         | 10...30 VDC                         | 10...30 VDC                                     | 10...30 VDC                                     | 10...30 VDC<br>20...250 VAC                             |
| 开关频率<br>Frequency                 |                           | 2500Hz                              | 2500Hz                              | 1500Hz, 2000Hz                                  | 1500Hz, 2000Hz                                  | DC3/4: 1000Hz, 1500Hz<br>DC2: 500Hz, 800Hz<br>AC2: 20Hz |
| 环境温度<br>Ambient temperature       |                           | -25...+70°C                         | -25...+70°C                         | -25...+70°C                                     | -25...+70°C                                     | -25...+70°C                                             |
| 防护等级<br>Protection degree         |                           | IP67                                | IP67                                | IP67                                            | IP67                                            | IP67                                                    |
| 外壳材料<br>Housing material          |                           | 不锈钢<br>Stainless steel              | 不锈钢<br>Stainless steel              | 不锈钢<br>Stainless steel                          | 不锈钢<br>Stainless steel                          | 镍铜合金<br>Nickel-copper Alloy                             |
| 连接方式<br>Connection                |                           | 成型电缆, M8 连接器<br>Cable, M8 Connector | 成型电缆, M8 连接器<br>Cable, M8 Connector | 成型电缆<br>M8/M12 连接器<br>Cable<br>M8/M12 Connector | 成型电缆<br>M8/M12 连接器<br>Cable<br>M8/M12 Connector | 成型电缆<br>Cable                                           |
| 产品认证<br>Certification             |                           | CE UL                               | CE UL                               | CE UL                                           | CE UL                                           | CE UL CCC                                               |

# Proximity Switches

## Inductive Sensors / Standard function



| 外壳代号<br>Shell code                |                           | N1DR18                                                 | N1DR30                                         | N1DR12                                                  | N1DR18                                                 | N1DR30                                                |
|-----------------------------------|---------------------------|--------------------------------------------------------|------------------------------------------------|---------------------------------------------------------|--------------------------------------------------------|-------------------------------------------------------|
| 尺寸规格 ( mm )<br>Specifications(mm) |                           | M18*1*40, M18*1*50                                     | M30*1.5*40, M30*1.5*50                         | M12*1*40, M12*1*50                                      | M18*1*40, M18*1*50                                     | M30*1.5*40, M30*1.5*50                                |
| 安装方式<br>Mounting                  |                           | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed                 | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed         | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed                  | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed                 | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed                |
| 检测距离<br>Sensing distance          |                           | 5mm, 8mm                                               | 10mm, 15mm                                     | 2mm, 4mm                                                | 5mm, 8mm                                               | 10mm, 15mm                                            |
| 输出方式<br>Output                    | DC 3线<br>DC 3 Wires       | NPN NO; NPN NC<br>PNP NO; PNP NC                       | NPN NO; NPN NC<br>PNP NO; PNP NC               | NPN NO; NPN NC<br>PNP NO; PNP NC                        | NPN NO; NPN NC<br>PNP NO; PNP NC                       | NPN NO; NPN NC<br>PNP NO; PNP NC                      |
|                                   | DC 4线<br>DC 4 Wires       | NPN NO+NC<br>PNP NO+NC                                 | NPN NO+NC<br>PNP NO+NC                         | NPN NO+NC<br>PNP NO+NC                                  | NPN NO+NC<br>PNP NO+NC                                 | NPN NO+NC<br>PNP NO+NC                                |
|                                   | DC 2线<br>DC 2 Wires       | NO<br>NC                                               | NO<br>NC                                       | NO<br>NC                                                | NO<br>NC                                               | NO<br>NC                                              |
|                                   | AC 2线<br>AC 2 Wires       | NO<br>NC                                               | NO<br>NC                                       | NO<br>NC                                                | NO<br>NC                                               | NO<br>NC                                              |
|                                   | AC/DC 2线<br>AC/DC 2 Wires | NO<br>NC                                               | NO<br>NC                                       | /                                                       | NO<br>NC                                               | NO<br>NC                                              |
| 电源电压<br>Supply voltage            |                           | 10...30 VDC<br>20...250 VAC<br>20...250 VAC/DC         | 10...30 VDC<br>20...250 VAC<br>20...250 VAC/DC | 10...30 VDC<br>20...250 VAC                             | 10...30 VDC<br>20...250 VAC<br>20...250 VAC/DC         | 10...30 VDC VDC<br>20...250 VAC<br>20...250 VAC/DC    |
| 开关频率<br>Frequency                 |                           | DC3/4: 800Hz, 1000Hz<br>DC2: 300Hz, 500Hz<br>AC2: 20Hz | DC3/4: 300Hz, 500Hz<br>DC2: 200Hz<br>AC2: 20Hz | DC3/4: 1000Hz, 1500Hz<br>DC2: 500Hz, 800Hz<br>AC2: 20Hz | DC3/4: 800Hz, 1000Hz<br>DC2: 300Hz, 500Hz<br>AC2: 20Hz | DC3/4: 500Hz, 300Hz<br>DC2: 200Hz, 300Hz<br>AC2: 20Hz |
| 环境温度<br>Ambient temperature       |                           | -25...+70°C                                            | -25...+70°C                                    | -25...+70°C                                             | -25...+70°C                                            | -25...+70°C                                           |
| 防护等级<br>Protection degree         |                           | IP67                                                   | IP67                                           | IP67                                                    | IP67                                                   | IP67                                                  |
| 外壳材料<br>Housing material          |                           | 镍铜合金<br>Nickel-copper Alloy                            | 镍铜合金<br>Nickel-copper Alloy                    | 镍铜合金<br>Nickel-copper Alloy                             | 镍铜合金<br>Nickel-copper Alloy                            | 镍铜合金<br>Nickel-copper Alloy                           |
| 连接方式<br>Connection                |                           | 成型电缆<br>Cable                                          | 成型电缆<br>Cable                                  | M12 连接器<br>M12 Connector                                | M12 连接器<br>M12 Connector                               | M12 连接器<br>M12 Connector                              |
| 产品认证<br>Certification             |                           | CE UL CCC                                              | CE UL CCC                                      | CE UL CCC                                               | CE UL CCC                                              | CE UL CCC                                             |

# Proximity Switches

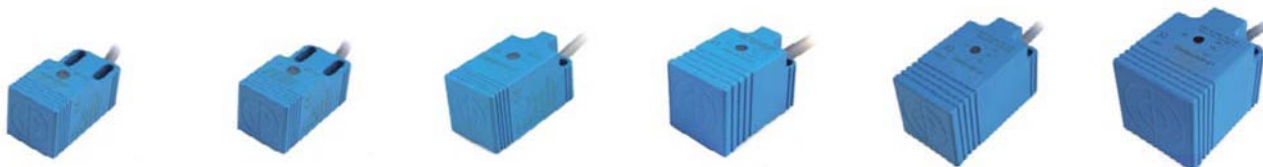
## Inductive Sensors / Standard function



| 外壳代号<br>Shell code                |                           | N1DE08                           | N1DE09                           | N1DE11                           | N1DE10                                 | N1DE17                                                |
|-----------------------------------|---------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------------|-------------------------------------------------------|
| 尺寸规格 ( mm )<br>Specifications(mm) |                           | 7.5*8*23                         | 7.5*8*23                         | 12*7*27                          | 18*10*30                               | 17*17*28                                              |
| 安装方式<br>Mounting                  |                           | ● 非埋<br>● Non-flushed            | ● 非埋<br>● Non-flushed            | ● 非埋<br>● Non-flushed            | ● 埋入, ● 非埋<br>● Flushed, ● Non-flushed | ● 埋入, ● 非埋<br>● Flushed, ● Non-flushed                |
| 检测距离<br>Sensing distance          |                           | 2.5mm                            | 2.5mm                            | 3mm                              | 5mm, 8mm                               | 5mm, 8mm                                              |
| 输出方式<br>Output                    | DC 3线<br>DC 3 Wires       | NPN NO; NPN NC<br>PNP NO; PNP NC | NPN NO; NPN NC<br>PNP NO; PNP NC | NPN NO; NPN NC<br>PNP NO; PNP NC | NPN NO; NPN NC<br>PNP NO; PNP NC       | NPN NO; NPN NC<br>PNP NO; PNP NC                      |
|                                   | DC 4线<br>DC 4 Wires       | /                                | /                                | /                                | /                                      | /                                                     |
|                                   | DC 2线<br>DC 2 Wires       | /                                | /                                | /                                | /                                      | NO<br>NC                                              |
|                                   | AC 2线<br>AC 2 Wires       | /                                | /                                | /                                | /                                      | NO<br>NC                                              |
|                                   | AC/DC 2线<br>AC/DC 2 Wires | /                                | /                                | /                                | /                                      | /                                                     |
| 电源电压<br>Supply voltage            |                           | 10...30 VDC                      | 10...30 VDC                      | 10...30 VDC                      | 10...30 VDC                            | 10...30 VDC<br>90...250 VAC                           |
| 开关频率<br>Frequency                 |                           | 1000Hz                           | 1000Hz                           | 1000Hz                           | 800Hz, 1000Hz                          | DC3/4: 500Hz, 700Hz<br>DC2: 500Hz, 700Hz<br>AC2: 20Hz |
| 环境温度<br>Ambient temperature       |                           | -25...+70°C                      | -25...+70°C                      | -25...+70°C                      | -25...+70°C                            | -25...+70°C                                           |
| 防护等级<br>Protection degree         |                           | IP67                             | IP67                             | IP67                             | IP67                                   | IP67                                                  |
| 外壳材料<br>Housing material          |                           | PC                               | PC                               | PC                               | PBT                                    | PBT                                                   |
| 连接方式<br>Connection                |                           | 成型电缆<br>Cable                    | 成型电缆<br>Cable                    | 成型电缆<br>Cable                    | 成型电缆<br>Cable                          | 成型电缆<br>Cable                                         |
| 产品认证<br>Certification             |                           | CE UL                            | CE UL                            | CE UL                            | CE UL                                  | CE UL CCC                                             |

# Proximity Switches

## Inductive Sensors / Standard function



| 外壳代号<br>Shell code                |                           | N1DE18                                                | N1DE20                                                | N1DE25                                                | N1DE30                                                | N1DE20                                                |
|-----------------------------------|---------------------------|-------------------------------------------------------|-------------------------------------------------------|-------------------------------------------------------|-------------------------------------------------------|-------------------------------------------------------|
| 尺寸规格 ( mm )<br>Specifications(mm) |                           | 18*18*35                                              | 20*20*38                                              | 25*25*39                                              | 30*30*53                                              | 40*40*53                                              |
| 安装方式<br>Mounting                  |                           | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed                | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed                | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed                | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed                | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed                |
| 检测距离<br>Sensing distance          |                           | 5mm, 8mm                                              | 5mm, 8mm                                              | 7mm, 10mm                                             | 10mm, 15mm                                            | 15mm, 20mm                                            |
| 输出方式<br>Output                    | DC 3线<br>DC 3 Wires       | NPN NO; NPN NC<br>PNP NO; PNP NC                      | NPN NO; NPN NC<br>PNP NO; PNP NC                      | NPN NO; NPN NC<br>PNP NO; PNP NC                      | NPN NO; NPN NC<br>PNP NO; PNP NC                      | NPN NO; NPN NC<br>PNP NO; PNP NC                      |
|                                   | DC 4线<br>DC 4 Wires       | /                                                     | /                                                     | /                                                     | NPN NO+NC<br>PNP NO+NC                                | NPN NO+NC<br>PNP NO+NC                                |
|                                   | DC 2线<br>DC 2 Wires       | NO<br>NC                                              | NO<br>NC                                              | NO<br>NC                                              | NO<br>NC                                              | NO<br>NC                                              |
|                                   | AC 2线<br>AC 2 Wires       | NO<br>NC                                              | NO<br>NC                                              | NO<br>NC                                              | NO<br>NC                                              | NO<br>NC                                              |
|                                   | AC/DC 2线<br>AC/DC 2 Wires | /                                                     | /                                                     | /                                                     | /                                                     | NO<br>NC                                              |
| 电源电压<br>Supply voltage            |                           | 10...30 VDC<br>90...250 VAC                           | 10...30 VDC<br>90...250 VAC                           | 10...30 VDC<br>90...250 VAC                           | 10...30 VDC<br>20...250 VAC                           | 10...30 VDC<br>20...250 VAC<br>20...250 VAC/DC        |
| 开关频率<br>Frequency                 |                           | DC3/4: 500Hz, 700Hz<br>DC2: 500Hz, 700Hz<br>AC2: 20Hz | DC3/4: 500Hz, 700Hz<br>DC2: 500Hz, 700Hz<br>AC2: 20Hz | DC3/4: 500Hz, 700Hz<br>DC2: 500Hz, 700Hz<br>AC2: 20Hz | DC3/4: 500Hz, 700Hz<br>DC2: 500Hz, 700Hz<br>AC2: 20Hz | DC3/4: 200Hz, 400Hz<br>DC2: 200Hz, 400Hz<br>AC2: 20Hz |
| 环境温度<br>Ambient temperature       |                           | -25...+70°C                                           | -25...+70°C                                           | -25...+70°C                                           | -25...+70°C                                           | -25...+70°C                                           |
| 防护等级<br>Protection degree         |                           | IP67                                                  | IP67                                                  | IP67                                                  | IP67                                                  | IP67                                                  |
| 外壳材料<br>Housing material          |                           | PBT                                                   | PBT                                                   | PBT                                                   | PBT                                                   | PBT                                                   |
| 连接方式<br>Connection                |                           | 成型电缆<br>Cable                                         | 成型电缆<br>Cable                                         | 成型电缆<br>Cable                                         | 成型电缆<br>Cable                                         | 成型电缆<br>Cable                                         |
| 产品认证<br>Certification             |                           | CE UL CCC                                             | CE UL CCC                                             | CE UL CCC                                             | CE UL CCC                                             | CE UL CCC                                             |



# Proximity Switches

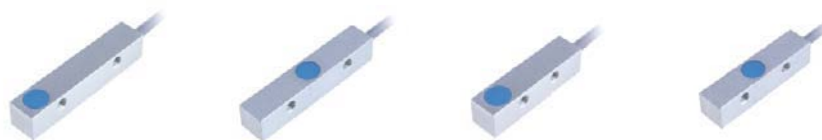
## Inductive Sensors / Standard function



| 外壳代号<br>Shell code                |                           | N1DE50                                 | N1DE68                                                | N1DE40SZ                                              | N1DE40ZX                                              | N1DE80ZX                                            |
|-----------------------------------|---------------------------|----------------------------------------|-------------------------------------------------------|-------------------------------------------------------|-------------------------------------------------------|-----------------------------------------------------|
| 尺寸规格 ( mm )<br>Specifications(mm) |                           | 25*10*50                               | 40*20*68                                              | 40*40*66                                              | 40*40*120                                             | 80*80*40                                            |
| 安装方式<br>Mounting                  |                           | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed                | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed                | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed                | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed              |
| 检测距离<br>Sensing distance          |                           | 5mm, 8mm                               | 15mm, 25mm                                            | 15mm,20mm                                             | 15mm,20mm                                             | 40mm, 50mm                                          |
| 输出方式<br>Output                    | DC 3线<br>DC 3 Wires       | NPN NO; NPN NC<br>PNP NO; PNP NC       | NPN NO; NPN NC<br>PNP NO; PNP NC                      | NPN NO; NPN NC<br>PNP NO; PNP NC                      | NPN NO; NPN NC<br>PNP NO; PNP NC                      | NPN NO; NPN NC<br>PNP NO; PNP NC                    |
|                                   | DC 4线<br>DC 4 Wires       | /                                      | NPN NO+NC<br>PNP NO+NC                                | NPN NO+NC<br>PNP NO+NC                                | NPN NO+NC<br>PNP NO+NC                                | NPN NO+NC<br>PNP NO+NC                              |
|                                   | DC 2线<br>DC 2 Wires       | /                                      | NO<br>NC                                              | NO<br>NC                                              | NO<br>NC                                              | NO<br>NC                                            |
|                                   | AC 2线<br>AC 2 Wires       | /                                      | NO<br>NC                                              | NO<br>NC                                              | NO<br>NC                                              | NO<br>NC                                            |
|                                   | AC/DC 2线<br>AC/DC 2 Wires | /                                      | NO<br>NC                                              | NO<br>NC                                              | NO<br>NC                                              | NO<br>NC                                            |
| 电源电压<br>Supply voltage            |                           | 10...30 VDC                            | 10...30 VDC<br>20...250 VAC<br>20...250 VAC/DC        | 10...30 VDC<br>20...250 VAC<br>20...250 VAC/DC        | 10...30 VDC<br>20...250 VAC<br>20...250 VAC/DC        | 10...30 VDC<br>20...250 VAC<br>20...250 VAC/DC      |
| 开关频率<br>Frequency                 |                           | 500Hz, 700Hz                           | DC3/4: 300Hz, 500Hz<br>DC2: 300Hz, 500Hz<br>AC2: 20Hz | DC3/4: 300Hz, 500Hz<br>DC2: 300Hz, 500Hz<br>AC2: 20Hz | DC3/4: 300Hz, 500Hz<br>DC2: 300Hz, 500Hz<br>AC2: 20Hz | DC3/4: 50Hz, 100Hz<br>DC2: 50Hz, 100Hz<br>AC2: 10Hz |
| 环境温度<br>Ambient temperature       |                           | -25...+70°C                            | -25...+70°C                                           | -25...+70°C                                           | -25...+70°C                                           | -25...+70°C                                         |
| 防护等级<br>Protection degree         |                           | IP67                                   | IP67                                                  | IP67                                                  | IP67                                                  | IP67                                                |
| 外壳材料<br>Housing material          |                           | PBT                                    | PBT                                                   | PBT                                                   | PBT                                                   | PBT                                                 |
| 连接方式<br>Connection                |                           | 成型电缆<br>Cable                          | 成型电缆, M12 连接器<br>Cable, M12 Connector                 | M12 连接器<br>M12 Connector                              | M12 连接器, 端子连接<br>M12 Connector<br>Terminal connect    | M12 连接器, 端子连接<br>M12 Connector<br>Terminal connect  |
| 产品认证<br>Certification             |                           | CE UL                                  | CE UL CCC                                             | CE UL CCC                                             | CE UL CCC                                             | CE UL CCC                                           |

# Proximity Switches

## Inductive Sensors / Standard function



| 外壳代号<br>Shell code                |                           | N1DE81                              | N1DE82                              | N1DE83                              | N1DE84                              |  |
|-----------------------------------|---------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|--|
| 尺寸规格 ( mm )<br>Specifications(mm) |                           | 8*8*40, 8*8*50                      | 8*8*40, 8*8*50                      | 8*8*25, 8*8*34                      | 8*8*25, 8*8*34                      |  |
| 安装方式<br>Mounting                  |                           | ● 埋入<br>● Flushed                   | ● 埋入<br>● Flushed                   | ● 埋入<br>● Flushed                   | ● 埋入<br>● Flushed                   |  |
| 检测距离<br>Sensing distance          |                           | 1.5mm                               | 1.5mm                               | 1.5mm                               | 1.5mm                               |  |
| 输出方式<br>Output                    | DC 3线<br>DC 3 Wires       | NPN NO; NPN NC<br>PNP NO; PNP NC    | NPN NO; NPN NC<br>PNP NO; PNP NC    | NPN NO; NPN NC<br>PNP NO; PNP NC    | NPN NO; NPN NC<br>PNP NO; PNP NC    |  |
|                                   | DC 4线<br>DC 4 Wires       | /                                   | /                                   | /                                   | /                                   |  |
|                                   | DC 2线<br>DC 2 Wires       | /                                   | /                                   | /                                   | /                                   |  |
|                                   | AC 2线<br>AC 2 Wires       | /                                   | /                                   | /                                   | /                                   |  |
|                                   | AC/DC 2线<br>AC/DC 2 Wires | /                                   | /                                   | /                                   | /                                   |  |
| 电源电压<br>Supply voltage            |                           | 10...30 VDC                         | 10...30 VDC                         | 10...30 VDC                         | 10...30 VDC                         |  |
| 开关频率<br>Frequency                 |                           | 2000Hz                              | 2000Hz                              | 2000Hz                              | 2000Hz                              |  |
| 环境温度<br>Ambient temperature       |                           | -25...+70℃                          | -25...+70℃                          | -25...+70℃                          | -25...+70℃                          |  |
| 防护等级<br>Protection degree         |                           | IP67                                | IP67                                | IP67                                | IP67                                |  |
| 外壳材料<br>Housing material          |                           | 铝合金<br>Aluminum alloy               | 铝合金<br>Aluminum alloy               | 铝合金<br>Aluminum alloy               | 铝合金<br>Aluminum alloy               |  |
| 连接方式<br>Connection                |                           | 成型电缆, M8 连接器<br>Cable, M8 Connector | 成型电缆, M8 连接器<br>Cable, M8 Connector | 成型电缆, M8 连接器<br>Cable, M8 Connector | 成型电缆, M8 连接器<br>Cable, M8 Connector |  |
| 产品认证<br>Certification             |                           | CE UL                               | CE UL                               | CE UL                               | CE UL                               |  |

# Proximity Switches

## Inductive Sensors / Standard function



| 外壳代号<br>Shell code                |                     | N1DR05                              | N1DR08                                          | N1DR12                                 | N1DR18                                 | N1DR30                                 |
|-----------------------------------|---------------------|-------------------------------------|-------------------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|
| 尺寸规格 ( mm )<br>Specifications(mm) |                     | M5*0.5*22, M5*0.5*30                | M8*1*22, M8*1*40                                | M12*1*30, M12*1*36                     | M18*1*30, M18*1*36                     | M30*1.5*30, M30*1.5*36                 |
| 安装方式<br>Mounting                  |                     | ● 埋入<br>● Flushed                   | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed          | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed |
| 检测距离<br>Sensing distance          |                     | 0.8mm                               | 1.5mm, 2mm                                      | 2mm, 4mm                               | 5mm, 8mm                               | 10mm, 15mm                             |
| 输出方式<br>Output                    | NAMUR               | NC                                  | NC                                              | NC                                     | NC                                     | NC                                     |
|                                   | DC 3线<br>DC 3 Wires | /                                   | /                                               | /                                      | /                                      | /                                      |
|                                   | DC 4线<br>DC 4 Wires | /                                   | /                                               | /                                      | /                                      | /                                      |
|                                   | DC 2线<br>DC 2 Wires | /                                   | /                                               | /                                      | /                                      | /                                      |
|                                   | AC 2线<br>AC 2 Wires | /                                   | /                                               | /                                      | /                                      | /                                      |
| 电源电压<br>Supply voltage            |                     | 7.7...9 VDC                         | 7.7...9 VDC                                     | 7.7...9 VDC                            | 7.7...9 VDC                            | 7.7...9 VDC                            |
| 开关频率<br>Frequency                 |                     | 3000Hz                              | 2000Hz, 2500Hz                                  | 1500Hz, 2000Hz                         | 1000Hz, 1500Hz                         | 800Hz, 1000Hz                          |
| 环境温度<br>Ambient temperature       |                     | -25...+70°C                         | -25...+70°C                                     | -25...+70°C                            | -25...+70°C                            | -25...+70°C                            |
| 防护等级<br>Protection degree         |                     | IP67                                | IP67                                            | IP67                                   | IP67                                   | IP67                                   |
| 外壳材料<br>Housing material          |                     | 不锈钢<br>Stainless steel              | 不锈钢<br>Stainless steel                          | 镍铜合金<br>Nickel-copper Alloy            | 镍铜合金<br>Nickel-copper Alloy            | 镍铜合金<br>Nickel-copper Alloy            |
| 连接方式<br>Connection                |                     | 成型电缆, M8 连接器<br>Cable, M8 Connector | 成型电缆<br>M8/M12 连接器<br>Cable<br>M8/M12 Connector | 成型电缆, M12 连接器<br>Cable, M12 Connector  | 成型电缆, M12 连接器<br>Cable, M12 Connector  | 成型电缆, M12 连接器<br>Cable, M12 Connector  |
| 产品认证<br>Certification             |                     | CE UL                               | CE UL                                           | CE UL                                  | CE UL                                  | CE UL                                  |

# Proximity Switches

## Inductive Sensors / Standard function (Namur)

## Frequency enhanced



| 外壳代号<br>Shell code                |                     | N1DE40ZX                               | N1DE40ZX                                           | N1DE40ZX                                           | N1DR12X                                | N1DR18X                                |
|-----------------------------------|---------------------|----------------------------------------|----------------------------------------------------|----------------------------------------------------|----------------------------------------|----------------------------------------|
| 尺寸规格 ( mm )<br>Specifications(mm) |                     | 40*40*66                               | 40*40*120                                          | 80*80*40                                           | M12*1*50, M12*1*53                     | M18*1*50, M18*1*53                     |
| 安装方式<br>Mounting                  |                     | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed             | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed             | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed |
| 检测距离<br>Sensing distance          |                     | 15mm, 20mm                             | 15mm, 20mm                                         | 40mm, 50mm                                         | 2mm, 4mm                               | 5mm, 8mm                               |
| 输出方式<br>Output                    | NAMUR               | NC                                     | NC                                                 | NC                                                 | /                                      | /                                      |
|                                   | DC 3线<br>DC 3 Wires | /                                      | /                                                  | /                                                  | NPN NO; NPN NC<br>PNP NO; PNP NC       | NPN NO; NPN NC<br>PNP NO; PNP NC       |
|                                   | DC 4线<br>DC 4 Wires | /                                      | /                                                  | /                                                  | /                                      | /                                      |
|                                   | DC 2线<br>DC 2 Wires | /                                      | /                                                  | /                                                  | /                                      | /                                      |
|                                   | AC 2线<br>AC 2 Wires | /                                      | /                                                  | /                                                  | /                                      | /                                      |
| 电源电压<br>Supply voltage            |                     | 7.7...9 VDC                            | 7.7...9 VDC                                        | 7.7...9 VDC                                        | 10...30 VDC                            | 10...30 VDC                            |
| 开关频率<br>Frequency                 |                     | 250Hz, 400Hz                           | 250Hz, 400Hz                                       | 100Hz                                              | 3000Hz, 4000Hz                         | 1500Hz, 2000Hz                         |
| 环境温度<br>Ambient temperature       |                     | -25...+70°C                            | -25...+70°C                                        | -25...+70°C                                        | -25...+70°C                            | -25...+70°C                            |
| 防护等级<br>Protection degree         |                     | IP67                                   | IP67                                               | IP67                                               | IP67                                   | IP67                                   |
| 外壳材料<br>Housing material          |                     | PBT                                    | PBT                                                | PBT                                                | 镍铜合金<br>Nickel-copper Alloy            | 镍铜合金<br>Nickel-copper Alloy            |
| 连接方式<br>Connection                |                     | M12 连接器<br>M12 Connector               | M12 连接器, 端子连接<br>M12 Connector<br>Terminal connect | M12 连接器, 端子连接<br>M12 Connector<br>Terminal connect | 成型电缆, M12 连接器<br>Cable, M12 Connector  | 成型电缆, M12 连接器<br>Cable, M12 Connector  |
| 产品认证<br>Certification             |                     | CE UL                                  | CE UL                                              | CE UL                                              | CE UL                                  | CE UL                                  |

# Proximity Switches

## Inductive Sensors / Extended sensing distance



| 外壳代号<br>Shell code                |                           | N1DR04Q                             | N1DR05                              | N1DR6.5Q                                        | N1DR08                                          | N1DR12X                                                         |
|-----------------------------------|---------------------------|-------------------------------------|-------------------------------------|-------------------------------------------------|-------------------------------------------------|-----------------------------------------------------------------|
| 尺寸规格 ( mm )<br>Specifications(mm) |                           | Φ4*30                               | M5*0.5*30                           | Φ6.5*40                                         | M8*1*40                                         | M12*1*43, M12*1*46<br>M12*1*53, M12*1*56                        |
| 安装方式<br>Mounting                  |                           | ● 埋入<br>● Flushed                   | ● 埋入<br>● Flushed                   | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed          | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed          | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed                          |
| 检测距离<br>Sensing distance          |                           | 1.5mm                               | 1.5mm                               | 2mm, 4mm                                        | 2mm, 4mm                                        | 4mm, 6mm, 8mm<br>10mm                                           |
| 输出方式<br>Output                    | DC 3线<br>DC 3 Wires       | NPN NO; NPN NC<br>PNP NO; PNP NC    | NPN NO; NPN NC<br>PNP NO; PNP NC    | NPN NO; NPN NC<br>PNP NO; PNP NC                | NPN NO; NPN NC<br>PNP NO; PNP NC                | NPN NO; NPN NC<br>PNP NO; PNP NC                                |
|                                   | DC 4线<br>DC 4 Wires       | /                                   | /                                   | /                                               | /                                               | NPN NO+NC<br>PNP NO+NC                                          |
|                                   | DC 2线<br>DC 2 Wires       | /                                   | /                                   | NO<br>NC                                        | NO<br>NC                                        | NO<br>NC                                                        |
|                                   | AC 2线<br>AC 2 Wires       | /                                   | /                                   | /                                               | /                                               | NO<br>NC                                                        |
|                                   | AC/DC 2线<br>AC/DC 2 Wires | /                                   | /                                   | /                                               | /                                               | NO<br>NC                                                        |
| 电源电压<br>Supply voltage            |                           | 10...30 VDC                         | 10...30 VDC                         | 10...30 VDC                                     | 10...30 VDC                                     | 10...30 VDC<br>20...250 VAC<br>20...250 VAC/DC                  |
| 开关频率<br>Frequency                 |                           | 2000Hz                              | 2000Hz                              | DC3/4: 1000Hz, 1500Hz<br>DC2: 1000Hz, 1500Hz    | DC3/4: 1000Hz, 1500Hz<br>DC2: 1000Hz, 1500Hz    | DC3/4: 300Hz, 500Hz,<br>800Hz<br>DC2: 300Hz, 500Hz<br>AC2: 20Hz |
| 环境温度<br>Ambient temperature       |                           | -25...+70°C                         | -25...+70°C                         | -25...+70°C                                     | -25...+70°C                                     | -25...+70°C                                                     |
| 防护等级<br>Protection degree         |                           | IP67                                | IP67                                | IP67                                            | IP67                                            | IP67                                                            |
| 外壳材料<br>Housing material          |                           | 不锈钢<br>Stainless steel              | 不锈钢<br>Stainless steel              | 不锈钢<br>Stainless steel                          | 不锈钢<br>Stainless steel                          | 镍铜合金<br>Nickel-copper Alloy                                     |
| 连接方式<br>Connection                |                           | 成型电缆, M8 连接器<br>Cable, M8 Connector | 成型电缆, M8 连接器<br>Cable, M8 Connector | 成型电缆<br>M8/M12 连接器<br>Cable<br>M8/M12 Connector | 成型电缆<br>M8/M12 连接器<br>Cable<br>M8/M12 Connector | 成型电缆, M12 连接器<br>Cable, M12 Connector                           |
| 产品认证<br>Certification             |                           | CE UL                               | CE UL                               | CE UL                                           | CE UL                                           | CE UL CCC                                                       |

# Proximity Switches

## Inductive Sensors / Extended sensing distance



| 外壳代号<br>Shell code                |                           | N1DR18X                                                                | N1DR30X                                                               | N1DE40SZ                                              | N1DE40XZ                                              | N1DE80XZ                                           |
|-----------------------------------|---------------------------|------------------------------------------------------------------------|-----------------------------------------------------------------------|-------------------------------------------------------|-------------------------------------------------------|----------------------------------------------------|
| 尺寸规格 ( mm )<br>Specifications(mm) |                           | M18*1*43, M18*1*46<br>M18*1*53, M18*1*56                               | M30*1.5*43, M30*1.5*46<br>M30*1.5*53, M30*1.5*56                      | 40*40*66                                              | 40*40*120                                             | 80*80*40                                           |
| 安装方式<br>Mounting                  |                           | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed                                 | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed                                | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed                | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed                | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed             |
| 检测距离<br>Sensing distance          |                           | 8mm, 12mm, 20mm                                                        | 15mm, 22mm, 40mm                                                      | 25mm, 40mm                                            | 25mm, 40mm                                            | 50mm, 70mm                                         |
| 输出方式<br>Output                    | DC 3线<br>DC 3 Wires       | NPN NO; NPN NC<br>PNP NO; PNP NC                                       | NPN NO; NPN NC<br>PNP NO; PNP NC                                      | NPN NO; NPN NC<br>PNP NO; PNP NC                      | NPN NO; NPN NC<br>PNP NO; PNP NC                      | NPN NO; NPN NC<br>PNP NO; PNP NC                   |
|                                   | DC 4线<br>DC 4 Wires       | NPN NO+NC<br>PNP NO+NC                                                 | NPN NO+NC<br>PNP NO+NC                                                | NPN NO+NC<br>PNP NO+NC                                | NPN NO+NC<br>PNP NO+NC                                | NPN NO+NC<br>PNP NO+NC                             |
|                                   | DC 2线<br>DC 2 Wires       | NO<br>NC                                                               | NO<br>NC                                                              | NO<br>NC                                              | NO<br>NC                                              | NO<br>NC                                           |
|                                   | AC 2线<br>AC 2 Wires       | NO<br>NC                                                               | NO<br>NC                                                              | NO<br>NC                                              | NO<br>NC                                              | NO<br>NC                                           |
|                                   | AC/DC 2线<br>AC/DC 2 Wires | NO<br>NC                                                               | NO<br>NC                                                              | NO<br>NC                                              | NO<br>NC                                              | NO<br>NC                                           |
| 电源电压<br>Supply voltage            |                           | 10...30 VDC<br>20...250 VAC<br>20...250 VAC/DC                         | 10...30 VDC<br>20...250 VAC<br>20...250 VAC/DC                        | 10...30 VDC<br>20...250 VAC<br>20...250 VAC/DC        | 10...30 VDC<br>20...250 VAC<br>20...250 VAC/DC        | 10...30 VDC<br>20...250 VAC<br>20...250 VAC/DC     |
| 开关频率<br>Frequency                 |                           | DC3/4: 150Hz, 200Hz,<br>300Hz, 400Hz<br>DC2: 200Hz, 400Hz<br>AC2: 20Hz | DC3/4: 50Hz, 100Hz,<br>150Hz, 300Hz<br>DC2: 150Hz, 300Hz<br>AC2: 20Hz | DC3/4: 100Hz, 200Hz<br>DC2: 100Hz, 200Hz<br>AC2: 20Hz | DC3/4: 100Hz, 200Hz<br>DC2: 100Hz, 200Hz<br>AC2: 20Hz | DC3/4: 30Hz, 50Hz<br>DC2: 30Hz, 50Hz<br>AC2: 20Hz  |
| 环境温度<br>Ambient temperature       |                           | -25...+70°C                                                            | -25...+70°C                                                           | -25...+70°C                                           | -25...+70°C                                           | -25...+70°C                                        |
| 防护等级<br>Protection degree         |                           | IP67                                                                   | IP67                                                                  | IP67                                                  | IP67                                                  | IP67                                               |
| 外壳材料<br>Housing material          |                           | 镍铜合金<br>Nickel-copper Alloy                                            | 镍铜合金<br>Nickel-copper Alloy                                           | PBT                                                   | PBT                                                   | PBT                                                |
| 连接方式<br>Connection                |                           | 成型电缆, M12 连接器<br>Cable, M12 Connector                                  | 成型电缆, M12 连接器<br>Cable, M12 Connector                                 | M12 连接器<br>M12 Connector                              | M12 连接器, 端子连接<br>M12 Connector<br>Terminal connect    | M12 连接器, 端子连接<br>M12 Connector<br>Terminal connect |
| 产品认证<br>Certification             |                           | CE UL CCC                                                              | CE UL CCC                                                             | CE UL CCC                                             | CE UL CCC                                             | CE UL CCC                                          |

# Proximity Switches

## Inductive Sensors / Analog output



| 外壳代号<br>Shell code                | N1DR12X                                | N1DR18X                                | N1DR30X                                | N1DE40SZ                               | N1DE40XZ                                           |
|-----------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------------------|
| 尺寸规格 ( mm )<br>Specifications(mm) | M12*1*43, M12*1*46                     | M18*1*43, M18*1*46                     | M30*1.5*43<br>M30*1.5*46               | 40*40*66                               | 40*40*120                                          |
| 安装方式<br>Mounting                  | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed             |
| 检测距离<br>Sensing distance          | 2mm, 4mm                               | 5mm, 8mm                               | 10mm, 15mm                             | 15mm, 20mm                             | 15mm, 20mm                                         |
| 输出方式<br>Output                    | 电压型输出<br>Voltage output                | 0...5V/0...10V                         | 0...5V/0...10V                         | 0...5V/0...10V                         | 0...5V/0...10V                                     |
|                                   | 电流型输出<br>Current output                | 0...20mA/4...20mA                      | 0...20mA/4...20mA                      | 0...20mA/4...20mA                      | 0...20mA/4...20mA                                  |
|                                   | 电压+电流输出<br>Voltage+Current output      | 0...10V+0...20mA                       | 0...10V+0...20mA                       | 0...10V+0...20mA                       | 0...10V+0...20mA                                   |
| 电源电压<br>Supply voltage            | 15...30 VDC                            | 15...30 VDC                            | 15...30 VDC                            | 15...30 VDC                            | 15...30 VDC                                        |
| 开关频率<br>Frequency                 | 100Hz, 200Hz                           | 100Hz, 200Hz                           | 100Hz, 200Hz                           | 50Hz, 100Hz                            | 50Hz, 100Hz                                        |
| 环境温度<br>Ambient temperature       | -25...+70°C                            | -25...+70°C                            | -25...+70°C                            | -25...+70°C                            | -25...+70°C                                        |
| 防护等级<br>Protection degree         | IP67                                   | IP67                                   | IP67                                   | IP67                                   | IP67                                               |
| 外壳材料<br>Housing material          | 镍铜合金<br>Nickel-copper Alloy            | 镍铜合金<br>Nickel-copper Alloy            | 镍铜合金<br>Nickel-copper Alloy            | PBT                                    | PBT                                                |
| 连接方式<br>Connection                | 成型电缆, M12 连接器<br>Cable, M12 Connector  | 成型电缆, M12 连接器<br>Cable, M12 Connector  | 成型电缆, M12 连接器<br>Cable, M12 Connector  | M12 连接器<br>M12 Connector               | M12 连接器, 端子连接<br>M12 Connector<br>Terminal connect |
| 产品认证<br>Certification             | CE UL                                  | CE UL                                  | CE UL                                  | CE UL                                  | CE UL                                              |

# Proximity Switches

## Inductive Sensors / Extended temperature



| 外壳代号<br>Shell code                |                           | N1DR12X                                   | N1DR18X                                   | N1DR30X                                   | N1DE40SZ                               | N1DE40XZ                                           |
|-----------------------------------|---------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|----------------------------------------|----------------------------------------------------|
| 尺寸规格 ( mm )<br>Specifications(mm) |                           | M12*1*43, M12*1*46                        | M18*1*43, M18*1*46                        | M30*1.5*43, M30*1.5*46                    | 40*40*66                               | 40*40*120                                          |
| 安装方式<br>Mounting                  |                           | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed    | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed    | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed    | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed             |
| 检测距离<br>Sensing distance          |                           | 2mm, 4mm                                  | 5mm, 8mm                                  | 10mm, 15mm                                | 15mm, 20mm                             | 15mm, 20mm                                         |
| 输出方式<br>Output                    | DC 3线<br>DC 3 Wires       | NPN NO; NPN NC<br>PNP NO; PNP NC          | NPN NO; NPN NC<br>PNP NO; PNP NC          | NPN NO; NPN NC<br>PNP NO; PNP NC          | NPN NO; NPN NC<br>PNP NO; PNP NC       | NPN NO; NPN NC<br>PNP NO; PNP NC                   |
|                                   | DC 4线<br>DC 4 Wires       | /                                         | /                                         | /                                         | /                                      | /                                                  |
|                                   | DC 2线<br>DC 2 Wires       | /                                         | /                                         | /                                         | /                                      | /                                                  |
|                                   | AC 2线<br>AC 2 Wires       | /                                         | /                                         | /                                         | /                                      | /                                                  |
|                                   | AC/DC 2线<br>AC/DC 2 Wires | /                                         | /                                         | /                                         | /                                      | /                                                  |
| 电源电压<br>Supply voltage            |                           | 10...30 VDC                               | 10...30 VDC                               | 10...30 VDC                               | 10...30 VDC                            | 10...30 VDC                                        |
| 开关频率<br>Frequency                 |                           | 1000Hz, 1500Hz                            | 800Hz, 1000Hz                             | 300Hz, 500Hz                              | 200Hz, 300Hz                           | 200Hz, 300Hz                                       |
| 环境温度<br>Ambient temperature       |                           | -40...+70°C, -25...+120°C                 | -40...+70°C, -25...+120°C                 | -40...+70°C, -25...+120°C                 | -40...+70°C, -25...+100°C              | -40...+70°C, -25...+100°C                          |
| 防护等级<br>Protection degree         |                           | IP67                                      | IP67                                      | IP67                                      | IP67                                   | IP67                                               |
| 外壳材料<br>Housing material          |                           | 镍铜合金<br>Nick-copper Alloy                 | 镍铜合金<br>Nick-copper Alloy                 | 镍铜合金<br>Nick-copper Alloy                 | PBT                                    | PBT                                                |
| 连接方式<br>Connection                |                           | 成型电缆<br>M12 连接器<br>Cable<br>M12 Connector | 成型电缆<br>M12 连接器<br>Cable<br>M12 Connector | 成型电缆<br>M12 连接器<br>Cable<br>M12 Connector | M12 连接器<br>M12 Connector               | M12 连接器, 端子连接<br>M12 Connector<br>Terminal connect |
| 产品认证<br>Certification             |                           | CE UL                                     | CE UL                                     | CE UL                                     | CE UL                                  | CE UL                                              |



# Proximity Switches

## Inductive Sensors / High pressure resistant



| 外壳代号<br>Shell code                |                           | N1DR12X                               | N1DR14X                               | N1DR16X                               | N1DR18X                               |  |
|-----------------------------------|---------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|--|
| 尺寸规格 ( mm )<br>Specifications(mm) |                           | M12*1*62, M12*1*77                    | M14*1*53.4, M14*1*63.4                | M16*1*63, M16*1*73                    | M18*1*58, M18*1*74                    |  |
| 安装方式<br>Mounting                  |                           | ● 埋入<br>● Flushed                     | ● 埋入<br>● Flushed                     | ● 埋入<br>● Flushed                     | ● 埋入<br>● Flushed                     |  |
| 检测距离<br>Sensing distance          |                           | 1.5mm                                 | 1.5mm                                 | 2mm                                   | 2mm                                   |  |
| 输出方式<br>Output                    | DC 3线<br>DC 3 Wires       | NPN NO; NPN NC<br>PNP NO; PNP NC      | NPN NO; NPN NC<br>PNP NO; PNP NC      | NPN NO; NPN NC<br>PNP NO; PNP NC      | NPN NO; NPN NC<br>PNP NO; PNP NC      |  |
|                                   | DC 4线<br>DC 4 Wires       | /                                     | /                                     | /                                     | /                                     |  |
|                                   | DC 2线<br>DC 2 Wires       | /                                     | /                                     | /                                     | /                                     |  |
|                                   | AC 2线<br>AC 2 Wires       | /                                     | /                                     | /                                     | /                                     |  |
|                                   | AC/DC 2线<br>AC/DC 2 Wires | /                                     | /                                     | /                                     | /                                     |  |
| 电源电压<br>Supply voltage            |                           | 10...30 VDC                           | 10...30 VDC                           | 10...30 VDC                           | 10...30 VDC                           |  |
| 开关频率<br>Frequency                 |                           | 600Hz                                 | 600Hz                                 | 600Hz                                 | 200Hz                                 |  |
| 环境温度<br>Ambient temperature       |                           | -25...+80°C                           | -25...+80°C                           | -25...+80°C                           | -25...+80°C                           |  |
| 防护等级<br>Protection degree         |                           | IP68                                  | IP68                                  | IP68                                  | IP68                                  |  |
| 外壳材料<br>Housing material          |                           | 不锈钢<br>Stainless steel                | 不锈钢<br>Stainless steel                | 不锈钢<br>Stainless steel                | 不锈钢<br>Stainless steel                |  |
| 连接方式<br>Connection                |                           | 成型电缆, M12 连接器<br>Cable, M12 Connector | 成型电缆, M12 连接器<br>Cable, M12 Connector | 成型电缆, M12 连接器<br>Cable, M12 Connector | 成型电缆, M12 连接器<br>Cable, M12 Connector |  |
| 产品认证<br>Certification             |                           | CE UL                                 | CE UL                                 | CE UL                                 | CE UL                                 |  |

# Proximity Switches

## Inductive Sensors / Full metal housing

## Rotation speed monitor



| 外壳代号<br>Shell code                |                           | N1DR12X                               | N1DR18X                               | N1DR30X                               | N1DR18X                                          | N1DR30X                                          |
|-----------------------------------|---------------------------|---------------------------------------|---------------------------------------|---------------------------------------|--------------------------------------------------|--------------------------------------------------|
| 尺寸规格 ( mm )<br>Specifications(mm) |                           | M12*1*50, M12*1*53                    | M18*1*50, M18*1*53                    | M30*1.5*50, M30*1.5*53                | M18*1*53                                         | M30*1.5*53                                       |
| 安装方式<br>Mounting                  |                           | ● 埋入<br>● Flushed                     | ● 埋入<br>● Flushed                     | ● 埋入<br>● Flushed                     | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed           | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed           |
| 检测距离<br>Sensing distance          |                           | 2mm                                   | 5mm                                   | 10mm                                  | 5mm, 8mm                                         | 10mm, 15mm                                       |
| 输出方式<br>Output                    | DC 3线<br>DC 3 Wires       | NPN NO; NPN NC<br>PNP NO; PNP NC      | NPN NO; NPN NC<br>PNP NO; PNP NC      | NPN NO; NPN NC<br>PNP NO; PNP NC      | NPN NC<br>PNP NC                                 | NPN NC<br>PNP NC                                 |
|                                   | DC 4线<br>DC 4 Wires       | /                                     | /                                     | /                                     | /                                                | /                                                |
|                                   | DC 2线<br>DC 2 Wires       | /                                     | /                                     | /                                     | /                                                | /                                                |
|                                   | AC 2线<br>AC 2 Wires       | /                                     | /                                     | /                                     | NC                                               | NC                                               |
|                                   | AC/DC 2线<br>AC/DC 2 Wires | /                                     | /                                     | /                                     | /                                                | /                                                |
| 电源电压<br>Supply voltage            |                           | 10...30 VDC                           | 10...30 VDC                           | 10...30 VDC                           | 10...30 VDC<br>20...250 VAC                      | 10...30 VDC<br>20...250 VAC                      |
| 开关频率<br>Frequency                 |                           | 300Hz                                 | 200Hz                                 | 100Hz                                 | DC: 3...3000 times/min<br>AC: 3...1200 times/min | DC: 3...3000 times/min<br>AC: 3...1200 times/min |
| 环境温度<br>Ambient temperature       |                           | -25...+70°C                           | -25...+70°C                           | -25...+70°C                           | -25...+70°C                                      | -25...+70°C                                      |
| 防护等级<br>Protection degree         |                           | IP67                                  | IP67                                  | IP67                                  | IP67                                             | IP67                                             |
| 外壳材料<br>Housing material          |                           | 不锈钢<br>Stainless steel                | 不锈钢<br>Stainless steel                | 不锈钢<br>Stainless steel                | 镍铜合金<br>Nickel-copper Alloy                      | 镍铜合金<br>Nickel-copper Alloy                      |
| 连接方式<br>Connection                |                           | 成型电缆, M12 连接器<br>Cable, M12 Connector | 成型电缆, M12 连接器<br>Cable, M12 Connector | 成型电缆, M12 连接器<br>Cable, M12 Connector | 成型电缆<br>Cable                                    | 成型电缆<br>Cable                                    |
| 产品认证<br>Certification             |                           | CE U                                  | CE U                                  | CE U                                  | CE U CC                                          | CE U CC                                          |

# Proximity Switches

Inductive Sensors / Welding immune

Self-diagnosed



| 外壳代号<br>Shell code                |                           | N1DR12X                                | N1DR18X                                | N1DR30X                                | N1DR12X                   | N1DR12X                   |
|-----------------------------------|---------------------------|----------------------------------------|----------------------------------------|----------------------------------------|---------------------------|---------------------------|
| 尺寸规格 ( mm )<br>Specifications(mm) |                           | M12*1*43, M12*1*46                     | M18*1*43, M18*1*46                     | M30*1.5*43, M30*1.5*46                 | M12*1*57                  | M12*1*40, M12*1*60        |
| 安装方式<br>Mounting                  |                           | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed | ○ 非埋<br>○ Non-flushed     | ○ 非埋<br>○ Non-flushed     |
| 检测距离<br>Sensing distance          |                           | 2mm, 4mm                               | 5mm, 8mm                               | 10mm, 15mm                             | 3.7mm                     | 3.7mm                     |
| 输出方式<br>Output                    | DC 3线<br>DC 3 Wires       | NPN NO; NPN NC<br>PNP NO; PNP NC       | NPN NO; NPN NC<br>PNP NO; PNP NC       | NPN NO; NPN NC<br>PNP NO; PNP NC       | PNP NO; PNP NC            | PNP NO; PNP NC            |
|                                   | DC 4线<br>DC 4 Wires       | /                                      | /                                      | /                                      | /                         | /                         |
|                                   | DC 2线<br>DC 2 Wires       | /                                      | /                                      | /                                      | /                         | /                         |
|                                   | AC 2线<br>AC 2 Wires       | /                                      | /                                      | /                                      | /                         | /                         |
|                                   | AC/DC 2线<br>AC/DC 2 Wires | /                                      | /                                      | /                                      | /                         | /                         |
| 电源电压<br>Supply voltage            |                           | 10...30 VDC                            | 10...30 VDC                            | 10...30 VDC                            | 20...30 VDC               | 20...30 VDC               |
| 开关频率<br>Frequency                 |                           | 2000Hz, 3000Hz                         | 1000Hz, 1500Hz                         | 500Hz, 800Hz                           | 300Hz                     | 300Hz                     |
| 环境温度<br>Ambient temperature       |                           | -25...+70°C                            | -25...+70°C                            | -25...+70°C                            | -25...+70°C               | -25...+70°C               |
| 防护等级<br>Protection degree         |                           | IP67                                   | IP67                                   | IP67                                   | IP67                      | IP67                      |
| 外壳材料<br>Housing material          |                           | 黄铜+PTFE 涂层, PTFE<br>Brass+PTFE, PTFE   | 黄铜+PTFE 涂层, PTFE<br>Brass+PTFE, PTFE   | 黄铜+PTFE 涂层, PTFE<br>Brass+PTFE, PTFE   | 镍铜合金<br>Nick-copper Alloy | 镍铜合金<br>Nick-copper Alloy |
| 连接方式<br>Connection                |                           | 成型电缆, M12 连接器<br>Cable, M12 Connector  | 成型电缆, M12 连接器<br>Cable, M12 Connector  | 成型电缆, M12 连接器<br>Cable, M12 Connector  | 成型电缆<br>Cable             | M12 连接器<br>M12 Connector  |
| 产品认证<br>Certification             |                           | CE UL                                  | CE UL                                  | CE UL                                  | CE UL                     | CE UL                     |

# Proximity Switches

## Inductive Sensors / Zero decrement



| 外壳代号<br>Shell code                |                           | N1DR12X                                | N1DR18X                                | N1DR30X                                        | N1DE40SZ                               | N1DE40XZ                                           |
|-----------------------------------|---------------------------|----------------------------------------|----------------------------------------|------------------------------------------------|----------------------------------------|----------------------------------------------------|
| 尺寸规格 ( mm )<br>Specifications(mm) |                           | M12*1*43,M12*1*46<br>M12*1*53,M12*1*56 | M18*1*43,M18*1*46<br>M18*1*53,M18*1*56 | M30*1.5*43,M30*1.5*46<br>M30*1.5*53,M30*1.5*56 | 40*40*66                               | 40*40*120                                          |
| 安装方式<br>Mounting                  |                           | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed         | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed             |
| 检测距离<br>Sensing distance          |                           | 2mm,4mm                                | 5mm,8mm                                | 10mm,15mm                                      | 15mm, 20mm                             | 15mm, 20mm                                         |
| 输出方式<br>Output                    | DC 3线<br>DC 3 Wires       | NPN NO; NPN NC<br>PNP NO; PNP NC       | NPN NO; NPN NC<br>PNP NO; PNP NC       | NPN NO; NPN NC<br>PNP NO; PNP NC               | NPN NO; NPN NC<br>PNP NO; PNP NC       | NPN NO; NPN NC<br>PNP NO; PNP NC                   |
|                                   | DC 4线<br>DC 4 Wires       | NPN NO+NC<br>PNP NO+NC                 | NPN NO+NC<br>PNP NO+NC                 | NPN NO+NC<br>PNP NO+NC                         | NPN NO+NC<br>PNP NO+NC                 | NPN NO+NC<br>PNP NO+NC                             |
|                                   | DC 2线<br>DC 2 Wires       | /                                      | /                                      | /                                              | /                                      | /                                                  |
|                                   | AC 2线<br>AC 2 Wires       | /                                      | /                                      | /                                              | /                                      | /                                                  |
|                                   | AC/DC 2线<br>AC/DC 2 Wires | /                                      | /                                      | /                                              | /                                      | /                                                  |
| 电源电压<br>Supply voltage            |                           | 10...30 VDC                            | 10...30 VDC                            | 10...30 VDC                                    | 10...30 VDC                            | 10...30 VDC                                        |
| 开关频率<br>Frequency                 |                           | 500Hz, 800Hz                           | 200Hz, 400Hz                           | 150Hz, 300Hz                                   | 100Hz, 200Hz                           | 100Hz, 200Hz                                       |
| 环境温度<br>Ambient temperature       |                           | -25...+70°C                            | -25...+70°C                            | -25...+70°C                                    | -25...+70°C                            | -25...+70°C                                        |
| 防护等级<br>Protection degree         |                           | IP67                                   | IP67                                   | IP67                                           | IP67                                   | IP67                                               |
| 外壳材料<br>Housing material          |                           | 镍铜合金<br>Nickel-copper Alloy            | 镍铜合金<br>Nickel-copper Alloy            | 镍铜合金<br>Nickel-copper Alloy                    | PBT                                    | PBT                                                |
| 连接方式<br>Connection                |                           | 成型电缆, M12 连接器<br>Cable, M12 Connector  | 成型电缆, M12 连接器<br>Cable, M12 Connector  | 成型电缆, M12 连接器<br>Cable, M12 Connector          | M12 连接器<br>M12 Connector               | M12 连接器, 端子连接<br>M12 Connector<br>Terminal connect |
| 产品认证<br>Certification             |                           | CE UL                                  | CE UL                                  | CE UL                                          | CE UL                                  | CE UL                                              |

# Proximity Switches

## Inductive Sensors / Wide voltage



| 外壳代号<br>Shell code                |                           | N1DR12X                                    | N1DR18X                                   | N1DR30X                                | N1DR12X                                    | N1DR18X                                   |
|-----------------------------------|---------------------------|--------------------------------------------|-------------------------------------------|----------------------------------------|--------------------------------------------|-------------------------------------------|
| 尺寸规格 ( mm )<br>Specifications(mm) |                           | M12*1*40, M12*1*50                         | M18*1*40, M18*1*50                        | M30*1.5*40, M30*1.5*50                 | M12*1*40, M12*1*50                         | M18*1*40, M18*1*50                        |
| 安装方式<br>Mounting                  |                           | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed     | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed    | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed     | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed    |
| 检测距离<br>Sensing distance          |                           | 2mm, 4mm                                   | 5mm, 8mm                                  | 10mm, 15mm                             | 2mm, 4mm                                   | 5mm, 8mm                                  |
| 输出方式<br>Output                    | DC 3线<br>DC 3 Wires       | NPN NO; NPN NC<br>PNP NO; PNP NC           | NPN NO; NPN NC<br>PNP NO; PNP NC          | NPN NO; NPN NC<br>PNP NO; PNP NC       | NPN NO; NPN NC<br>PNP NO; PNP NC           | NPN NO; NPN NC<br>PNP NO; PNP NC          |
|                                   | DC 4线<br>DC 4 Wires       | NPN NO+NC<br>PNP NO+NC                     | NPN NO+NC<br>PNP NO+NC                    | NPN NO+NC<br>PNP NO+NC                 | NPN NO+NC<br>PNP NO+NC                     | NPN NO+NC<br>PNP NO+NC                    |
|                                   | DC 2线<br>DC 2 Wires       | NO<br>NC                                   | NO<br>NC                                  | NO<br>NC                               | NO<br>NC                                   | NO<br>NC                                  |
|                                   | AC 2线<br>AC 2 Wires       | /                                          | /                                         | /                                      | /                                          | /                                         |
|                                   | AC/DC 2线<br>AC/DC 2 Wires | /                                          | /                                         | /                                      | /                                          | /                                         |
| 电源电压<br>Supply voltage            |                           | 10...60 VDC                                | 10...60 VDC                               | 10...60 VDC                            | 10...60 VDC                                | 10...60 VDC                               |
| 开关频率<br>Frequency                 |                           | DC3/4: 1000Hz, 1500Hz<br>DC2: 500Hz, 800Hz | DC3/4: 800Hz, 1000Hz<br>DC2: 300Hz, 500Hz | DC3/4: 300Hz, 500Hz<br>DC2: 200Hz      | DC3/4: 1000Hz, 1500Hz<br>DC2: 500Hz, 800Hz | DC3/4: 800Hz, 1000Hz<br>DC2: 300Hz, 500Hz |
| 环境温度<br>Ambient temperature       |                           | -25...+70°C                                | -25...+70°C                               | -25...+70°C                            | -25...+70°C                                | -25...+70°C                               |
| 防护等级<br>Protection degree         |                           | IP67                                       | IP67                                      | IP67                                   | IP67                                       | IP67                                      |
| 外壳材料<br>Housing material          |                           | 镍铜合金<br>Nickel-copper Alloy                | 镍铜合金<br>Nickel-copper Alloy               | 镍铜合金<br>Nickel-copper Alloy            | 镍铜合金<br>Nickel-copper Alloy                | 镍铜合金<br>Nickel-copper Alloy               |
| 连接方式<br>Connection                |                           | 成型电缆<br>Cable                              | 成型电缆<br>Cable                             | 成型电缆<br>Cable                          | M12 连接器<br>M12 Connector                   | M12 连接器<br>M12 Connector                  |
| 产品认证<br>Certification             |                           | CE UL CCC                                  | CE UL CCC                                 | CE UL CCC                              | CE UL CCC                                  | CE UL CCC                                 |

# Proximity Switches

## Inductive Sensors / Wide voltage



| 外壳代号<br>Shell code                |                           | N1DR30                                   | N1DE40SZ                                 | N1DE40ZX                                           | N1DE80ZX                                           |  |
|-----------------------------------|---------------------------|------------------------------------------|------------------------------------------|----------------------------------------------------|----------------------------------------------------|--|
| 尺寸规格 ( mm )<br>Specifications(mm) |                           | M30*1.5*40, M30*1.5*50                   | 40*40*66                                 | 40*40*120                                          | 80*80*40                                           |  |
| 安装方式<br>Mounting                  |                           | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed   | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed   | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed             | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed             |  |
| 检测距离<br>Sensing distance          |                           | 10mm, 15mm                               | 15mm, 20mm                               | 15mm, 20mm                                         | 40mm, 50mm                                         |  |
| 输出方式<br>Output                    | DC 3线<br>DC 3 Wires       | NPN NO; NPN NC<br>PNP NO; PNP NC         | NPN NO; NPN NC<br>PNP NO; PNP NC         | NPN NO; NPN NC<br>PNP NO; PNP NC                   | NPN NO; NPN NC<br>PNP NO; PNP NC                   |  |
|                                   | DC 4线<br>DC 4 Wires       | NPN NO+NC<br>PNP NO+NC                   | NPN NO+NC<br>PNP NO+NC                   | NPN NO+NC<br>PNP NO+NC                             | NPN NO+NC<br>PNP NO+NC                             |  |
|                                   | DC 2线<br>DC 2 Wires       | NO<br>NC                                 | NO<br>NC                                 | NO<br>NC                                           | NO<br>NC                                           |  |
|                                   | AC 2线<br>AC 2 Wires       | /                                        | /                                        | /                                                  | /                                                  |  |
|                                   | AC/DC 2线<br>AC/DC 2 Wires | /                                        | /                                        | /                                                  | /                                                  |  |
| 电源电压<br>Supply voltage            |                           | 10...60 VDC                              | 10...60 VDC                              | 10...60 VDC                                        | 10...60 VDC                                        |  |
| 开关频率<br>Frequency                 |                           | DC3/4: 500Hz, 300Hz<br>DC2: 200Hz, 300Hz | DC3/4: 300Hz, 500Hz<br>DC2: 300Hz, 500Hz | DC3/4: 300Hz, 500Hz<br>DC2: 300Hz, 500Hz           | DC3/4: 50Hz, 100Hz<br>DC2: 50Hz, 100Hz             |  |
| 环境温度<br>Ambient temperature       |                           | -25...+70°C                              | -25...+70°C                              | -25...+70°C                                        | -25...+70°C                                        |  |
| 防护等级<br>Protection degree         |                           | IP67                                     | IP67                                     | IP67                                               | IP67                                               |  |
| 外壳材料<br>Housing material          |                           | 镍铜合金<br>Nickel-copper Alloy              | PBT                                      | PBT                                                | PBT                                                |  |
| 连接方式<br>Connection                |                           | M12 连接器<br>M12 Connector                 | M12 连接器<br>M12 Connector                 | M12 连接器, 端子连接<br>M12 Connector<br>Terminal connect | M12 连接器, 端子连接<br>M12 Connector<br>Terminal connect |  |
| 产品认证<br>Certification             |                           | CE UL CCC                                | CE UL CCC                                | CE UL CCC                                          | CE UL CCC                                          |  |

# Proximity Switches

## Capacitive Sensors

### How to order:

N1 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

#### 1. 分类代号 Type code

K:电容式 Capacitive

#### 2. 外形代号 Shape code

R:螺纹圆柱形 Threaded cylindrical

Q:光滑圆柱形 Smooth cylindrical

E:方形 Rectangular

#### 3. 尺寸代号 Size code

数字:外壳尺寸

Number: Housing diameter

如: 08:M8 e.g: 08:M8

#### 4. 外壳材料 Housing material

无:金属铜壳 N/A: Copper

S:塑料 Plastic

G:不锈钢 Stainless steel

#### 5. 外形尺寸 Housing length

A:短型 Short

B:标准型 Standard

C:长型 Long

#### 6. 安装形式 Mounting

N:非埋 Non-flushed(nf)

F:埋入 Flushed(f)

#### 7. 检测距离 Sensing distance

例: 02:2mm

04:4mm

10:10mm

#### 8. 工作电压 Supply voltage

A:20...250VAC

D:10...30VDC

E:10...60VDC

M:18...36VDC

S:20...250VAC/DC

#### 9. 输出方式 Output way

B:AC/DC二线 AC/DC 2 wires

T:AC二线 AC 2 wires

P:PNP

N:NPN

E:NPN/PNP

F:NPN+PNP

K:继电器 Relay

#### 10. 输出状态 Output status

A:常开/常闭可逆

NO/NC reversible

B:常开/常闭可选

NO/NC optional

分为电缆线可选、电位器可选

Cable optional; Potentiometer optional

O:常开 NO

C:常闭 NC

R:常开+常闭 R:NO+NC

注:继电器输出可以不选

Note:Relay output is optional

#### 11. 开关功能 By sensor function

无:标准功能型

N/A:Standard function

Y:增强远距离型

Extended sensing distance

#### 12. 引线长度 Cable length

例: 无:2m

eg: N/A:2m

3M:3m

#### 13. 连接形式 Connection

无:2M引线式 N/A:2M cable

E1:M8三芯插件 M8 connector (3 pins)

E2:M12四芯插件 M12 connector (4 pins)

E3:M8四芯插件 M8 connector (4 pins)

E4:M12四芯梯形插件

M12 trapezoid connector (4 pins)

E5:M12五芯插件 M12 connector (5 pins)

D:内端子接线 Terminal

#### 14. 特殊要求 Special requirement

用四位数字表示 In 4 Digits

# Proximity Switches

## Capacitive Sensors / Standard function



| 外壳代号<br>Shell code                |                           | N1KR12                                  | N1KR18                                                        | N1KR30                                                        | N1KQ20                                 | N1KQ32                                         |
|-----------------------------------|---------------------------|-----------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------|----------------------------------------|------------------------------------------------|
| 尺寸规格 ( mm )<br>Specifications(mm) |                           | M12*1*50                                | M18*1*46.5                                                    | M30*1.5*50                                                    | Φ20*80                                 | Φ32*80                                         |
| 安装方式<br>Mounting                  |                           | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed  | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed                        | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed                        | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed         |
| 检测距离<br>Sensing distance          |                           | 2mm, 4mm                                | 5mm, 8mm                                                      | 10mm, 15mm                                                    | 10mm, 15mm                             | 15mm, 20mm                                     |
| 输出方式<br>Output                    | DC 3线<br>DC 3 Wires       | NPN NO; NPN NC<br>PNP NO; PNP NC        | NPN NO; NPN NC<br>PNP NO; PNP NC                              | NPN NO; NPN NC<br>PNP NO; PNP NC                              | NPN NO; NPN NC<br>PNP NO; PNP NC       | NPN NO; NPN NC<br>PNP NO; PNP NC               |
|                                   | DC 4线<br>DC 4 Wires       | /                                       | NPN NO+NC<br>PNP NO+NC                                        | NPN NO+NC<br>PNP NO+NC                                        | NPN NO+NC<br>PNP NO+NC                 | NPN NO+NC<br>PNP NO+NC                         |
|                                   | DC 2线<br>DC 2 Wires       | /                                       | /                                                             | /                                                             | /                                      | /                                              |
|                                   | AC 2线<br>AC 2 Wires       | /                                       | NO<br>NC                                                      | NO<br>NC                                                      | /                                      | NO<br>NC                                       |
|                                   | AC/DC 2线<br>AC/DC 2 Wires | /                                       | /                                                             | NO<br>NC                                                      | /                                      | NO<br>NC                                       |
| 电源电压<br>Supply voltage            |                           | 10...30 VDC                             | 10...30 VDC<br>20...250 VAC                                   | 10...30 VDC<br>20...250 VAC<br>20...250 VAC/DC                | 10...30 VDC<br>20...250 VAC            | 10...30 VDC<br>20...250 VAC<br>20...250 VAC/DC |
| 开关频率<br>Frequency                 |                           | 50Hz                                    | 15Hz, 50Hz                                                    | 15Hz, 50Hz                                                    | 15Hz, 50Hz                             | 15Hz, 50Hz                                     |
| 环境温度<br>Ambient temperature       |                           | -25...+70°C                             | -25...+70°C                                                   | -25...+70°C                                                   | -25...+70°C                            | -25...+70°C                                    |
| 防护等级<br>Protection degree         |                           | IP67                                    | IP67                                                          | IP67                                                          | IP67                                   | IP67                                           |
| 外壳材料<br>Housing material          |                           | 镍铜合金, PA66<br>Nickel-copper Alloy, PA66 | 镍铜合金, PBT, 不锈钢<br>Nickel-copper Alloy, PBT<br>Stainless steel | 镍铜合金, PBT, 不锈钢<br>Nickel-copper Alloy, PBT<br>Stainless steel | PBT, 不锈钢<br>PBT, Stainless steel       | 镍铜合金, PBT<br>Nickel-copper Alloy, PBT          |
| 连接方式<br>Connection                |                           | 成型电缆, M12 连接器<br>Cable, M12 Connector   | 成型电缆, M12 连接器<br>Cable, M12 Connector                         | 成型电缆, M12 连接器<br>Cable, M12 Connector                         | 成型电缆<br>Cable                          | 成型电缆<br>Cable                                  |
| 产品认证<br>Certification             |                           | CE UL                                   | CE UL CCC                                                     | CE UL CCC                                                     | CE UL CCC                              | CE UL CCC                                      |



# Proximity Switches

## Capacitive Sensors / Standard function



| 外壳代号<br>Shell code                |                           | N1KQ32                                         | N1E07                                  | N1E34                            | N1E35                                  |  |
|-----------------------------------|---------------------------|------------------------------------------------|----------------------------------------|----------------------------------|----------------------------------------|--|
| 尺寸规格 ( mm )<br>Specifications(mm) |                           | Φ34*80                                         | 30*7*50                                | 50*7*20                          | 35*15*50                               |  |
| 安装方式<br>Mounting                  |                           | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed         | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed | ○ 非埋<br>○ Non-flushed            | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed |  |
| 检测距离<br>Sensing distance          |                           | 15mm, 20mm                                     | 5mm, 8mm                               | 10mm                             | 10mm, 15mm                             |  |
| 输出方式<br>Output                    | DC 3线<br>DC 3 Wires       | NPN NO; NPN NC<br>PNP NO; PNP NC               | NPN NO; NPN NC<br>PNP NO; PNP NC       | NPN NO; NPN NC<br>PNP NO; PNP NC | NPN NO; NPN NC<br>PNP NO; PNP NC       |  |
|                                   | DC 4线<br>DC 4 Wires       | NPN NO+NC<br>PNP NO+NC                         | /                                      | /                                | NPN NO+NC<br>PNP NO+NC                 |  |
|                                   | DC 2线<br>DC 2 Wires       | /                                              | /                                      | /                                | /                                      |  |
|                                   | AC 2线<br>AC 2 Wires       | NO<br>NC                                       | /                                      | /                                | /                                      |  |
|                                   | AC/DC 2线<br>AC/DC 2 Wires | NO<br>NC                                       | /                                      | /                                | /                                      |  |
| 电源电压<br>Supply voltage            |                           | 10...30 VDC<br>20...250 VAC<br>20...250 VAC/DC | 10...30 VDC                            | 10...30 VDC                      | 10...30 VDC                            |  |
| 开关频率<br>Frequency                 |                           | 15Hz, 50Hz                                     | 30Hz                                   | 30Hz                             | 30Hz                                   |  |
| 环境温度<br>Ambient temperature       |                           | -25...+70°C                                    | -10...+55°C                            | -10...+55°C                      | -10...+55°C                            |  |
| 防护等级<br>Protection degree         |                           | IP67                                           | IP67                                   | IP67                             | IP67                                   |  |
| 外壳材料<br>Housing material          |                           | PBT                                            | PBT                                    | PBT                              | PBT                                    |  |
| 连接方式<br>Connection                |                           | 成型电缆<br>Cable                                  | 成型电缆<br>Cable                          | 成型电缆<br>Cable                    | 成型电缆<br>Cable                          |  |
| 产品认证<br>Certification             |                           | CE UL CCC                                      | CE                                     | CE                               | CE                                     |  |

# Proximity Switches

## Capacitive Sensors / Extended sensing distance



| 外壳代号<br>Shell code                |                          | N1KR12                                 | N1KR18                                 | N1KR30                                 |  |  |
|-----------------------------------|--------------------------|----------------------------------------|----------------------------------------|----------------------------------------|--|--|
| 尺寸规格 ( mm )<br>Specifications(mm) |                          | M12*1*50                               | M18*1*46.5                             | M30*1.5*50                             |  |  |
| 安装方式<br>Mounting                  |                          | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed | ● 埋入, ○ 非埋<br>● Flushed, ○ Non-flushed |  |  |
| 检测距离<br>Sensing distance          |                          | 4mm,8mm                                | 8mm, 12mm                              | 15mm, 22mm                             |  |  |
| 输出方式<br>Output                    | DC 3线<br>DC 3 Wires      | NPN NO; NPN NC<br>PNP NO; PNP NC       | NPN NO; NPN NC<br>PNP NO; PNP NC       | NPN NO; NPN NC<br>PNP NO; PNP NC       |  |  |
|                                   | DC 4线<br>DC 4 Wires      | /                                      | NPN NO+NC<br>PNP NO+NC                 | NPN NO+NC<br>PNP NO+NC                 |  |  |
|                                   | DC 2线<br>DC 2 Wires      | /                                      | /                                      | /                                      |  |  |
|                                   | AC 2线<br>AC 2 Wires      | /                                      | /                                      | /                                      |  |  |
|                                   | AC/DC 4线<br>AC/DC 4Wires | /                                      | /                                      | /                                      |  |  |
| 电源电压<br>Supply voltage            |                          | 10...30 VDC                            | 10...30 VDC                            | 10...30 VDC                            |  |  |
| 开关频率<br>Frequency                 |                          | 50Hz                                   | 50Hz                                   | 50Hz                                   |  |  |
| 环境温度<br>Ambient temperature       |                          | -25...+70°C                            | -25...+70°C                            | -25...+70°C                            |  |  |
| 防护等级<br>Protection degree         |                          | IP67                                   | IP67                                   | IP67                                   |  |  |
| 外壳材料<br>Housing material          |                          | PA66                                   | PBT                                    | PBT                                    |  |  |
| 连接方式<br>Connection                |                          | 成型电缆, M12 连接器<br>Cable, M12 Connector  | 成型电缆, M12 连接器<br>Cable, M12 Connector  | 成型电缆, M12 连接器<br>Cable, M12 Connector  |  |  |
| 产品认证<br>Certification             |                          | CE UL                                  | CE UL                                  | CE UL                                  |  |  |

# Proximity Switches

## Capacitive Sensors / Pipe liquid level detecting & High temperature res. Material level detecting



| 外壳代号<br>Shell code                |                           | N1KE10                           | N1KE15                           | N1KE53                                                                                  |  |  |
|-----------------------------------|---------------------------|----------------------------------|----------------------------------|-----------------------------------------------------------------------------------------|--|--|
| 尺寸规格 ( mm )<br>Specifications(mm) |                           | 43*24*20                         | 34*33*20                         | 55*22*96                                                                                |  |  |
| 安装方式<br>Mounting                  |                           | ① 非埋<br>① Non-flushed            | ① 非埋<br>① Non-flushed            | ① 非埋<br>① Non-flushed                                                                   |  |  |
| 检测距离<br>Sensing distance          |                           | 13mm                             | 26mm                             | 8mm                                                                                     |  |  |
| 输出方式<br>Output                    | DC 3线<br>DC 3 Wires       | NPN NO; NPN NC<br>PNP NO; PNP NC | NPN NO; NPN NC<br>PNP NO; PNP NC | NPN NO; NPN NC<br>PNP NO; PNP NC                                                        |  |  |
|                                   | DC 4线<br>DC 4 Wires       | /                                | /                                | /                                                                                       |  |  |
|                                   | DC 2线<br>DC 2 Wires       | /                                | /                                | /                                                                                       |  |  |
|                                   | AC 2线<br>AC 2 Wires       | /                                | /                                | /                                                                                       |  |  |
|                                   | AC/DC 2线<br>AC/DC 2 Wires | /                                | /                                | /                                                                                       |  |  |
| 电源电压<br>Supply voltage            |                           | 10...30 VDC                      | 10...30 VDC                      | 18...36 VDC                                                                             |  |  |
| 开关频率<br>Frequency                 |                           | 20Hz                             | 20Hz                             | 60Hz                                                                                    |  |  |
| 环境温度<br>Ambient temperature       |                           | -10...+55℃                       | -10...+55℃                       | 感应头：250℃<br>控制盒：0...+60℃<br>Sensor:250℃<br>Control box：0...+60℃                         |  |  |
| 防护等级<br>Protection degree         |                           | IP67                             | IP67                             | IP54                                                                                    |  |  |
| 外壳材料<br>Housing material          |                           | PBT                              | PBT                              | 主体材质：PA66<br>感应头材质：不锈钢+特氟龙<br>Control box:PA66, Sensing head:<br>Stainless steel+Teflon |  |  |
| 连接方式<br>Connection                |                           | 成型电缆<br>Cable                    | 成型电缆<br>Cable                    | 成型电缆<br>Cable                                                                           |  |  |
| 产品认证<br>Certification             |                           | CE                               | CE                               | CE UL                                                                                   |  |  |

# Proximity Switches

## Photoelectric Sensors

### How to order:

N1

1

2

3

4

5

6

7

8

9

10

11

12

13

14

1. 分类代号 Type code

F:光电式 Photoelectric

2. 外形代号 Shape code

R:螺纹圆柱形 Threaded cylindrical

U:槽形 U-Shaped

Q:光滑圆柱外壳  
Smooth cylindrical

2位字母:方形外壳  
2 letters:Rectangular housing code

3. 尺寸代号 Size Code

数字:外壳尺寸 Number:Housing diameter  
如: 08:M8 e.g: 08:M8

4. 外壳材料 Housing material

无:金属铜壳 N/A:Copper  
S:塑料 S:Plastic

5. 外形尺寸 Housing length

无:标准型 N/A:Standard  
短型:S Short:S  
长型:L Long:L

6. 安装形式 Mounting

B:漫反射式 Diffuse reflection  
D:回归反射式 Retro reflection  
P:偏振反射式 Polarized reflection  
S:限定反射式 Focus reflection  
T:对射式 Through beam reflection  
M:色标检测式 Color mark detect  
Y:背景抑制式 Background suppression

7. 检测距离 Sensing distance

例: C10:10cm  
C40:40cm  
M5:5m  
M10:10m

8. 工作电压 Supply voltage

A:20...250VAC  
A1:110VAC  
A2:220VAC  
B:90...250VAC  
C:380VAC  
D:10...30VDC  
E:10...60VDC  
I:10...40VDC  
J:5VDC  
S:12...240VDC/24...240VAC  
T:12...24VDC

9. 输出方式 Output way

T:AC二线 AC 2 wires  
P:PNP  
N:NPN  
E:NPN/PNP  
F:NPN + PNP  
K:继电器 Relay

10. 输出状态 Output status

O:常开 NO  
C:常闭 NC  
R:常开+常闭 NO+NC  
A:常开/常闭可逆  
NO/NC Reversible  
B:常开/常闭可选  
NO/NC Optional  
分为电缆线可选、电位器可选  
Cable optional; Potentiometer optional  
注:继电器输出可以不选  
Note:Relay output is optional

11. 延时状态 Time delay status

无:不带延时功能  
N/A:Without time delay function  
T1:带前延时功能  
With previous time delay function  
T2:带后延时功能  
With later time delay function  
T3:带前后延时功能  
With previous/later time delay function

12. 引线长度 Cable length

例: 无:2m eg: N/A:2m  
3M:3m

13. 连接形式 Connection

无:2M引线式 N/A:2M cable  
E1:M8三芯插件  
M8 connector (3 pins)  
E2:M12四芯插件  
M12 connector (4 pins)  
E3:M8四芯插件  
M8 connector (4 pins)  
E4:M12四芯梯形插件  
M12 trapezoid connector (4 pins)  
E5:M12五芯插件  
M12 connector (5 pins)  
D:内端子接线 Terminal

14. 特殊要求 Special requirement

用四位数字表示 In 4 Digits

# Proximity Switches

## Photoelectric Sensors / Diffuse reflection



| 外壳代号<br>Shell code          |                          | N1FR12                                    | N1FR18                                    | N1FR18G                                   | N1FR30                                    |  |
|-----------------------------|--------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|--|
| 检测距离<br>Sensing distance    |                          | 15cm                                      | 10cm, 40cm                                | 10cm, 40cm                                | 50cm, 100cm                               |  |
| 输出方式<br>Output              | DC 3线<br>DC 3 Wires      | NPN NO; NPN NC<br>PNP NO; PNP NC          | NPN NO; NPN NC<br>PNP NO; PNP NC          | NPN NO; NPN NC<br>PNP NO; PNP NC          | NPN NO; NPN NC<br>PNP NO; PNP NC          |  |
|                             | DC 4线<br>DC 4 Wires      | /                                         | NPN NO+NC<br>PNP NO+NC                    | NPN NO+NC<br>PNP NO+NC                    | NPN NO+NC<br>PNP NO+NC                    |  |
|                             | DC 2线<br>DC 2 Wires      | /                                         | /                                         | /                                         | /                                         |  |
|                             | AC 2线<br>AC 2 Wires      | /                                         | NO<br>NC                                  | NO<br>NC                                  | NO<br>NC                                  |  |
|                             | AC/DC 5线<br>AC/DC 5Wires | /                                         | /                                         | /                                         | /                                         |  |
| 电源电压<br>Supply voltage      |                          | 10...30 VDC                               | 10...30 VDC<br>20...250 VAC               | 10...30 VDC<br>20...250 VAC               | 10...30 VDC<br>20...250 VAC               |  |
| 响应时间<br>Response time       |                          | DC: <8.2ms                                | DC: <8.2ms<br>AC: <50 ms                  | DC: <8.2ms<br>AC: <50 ms                  | DC: <8.2ms<br>AC: <50 ms                  |  |
| 环境温度<br>Ambient temperature |                          | -15...+55°C                               | -15...+55°C                               | -15...+55°C                               | -15...+55°C                               |  |
| 防护等级<br>Protection degree   |                          | IP67                                      | IP67                                      | IP65                                      | IP67                                      |  |
| 外壳材料<br>Housing material    |                          | 镍铜合金, PBT<br>Nickel-copper Alloy, PBT     | 镍铜合金, PBT<br>Nickel-copper Alloy, PBT     | 镍铜合金, PBT<br>Nickel-copper Alloy, PBT     | 镍铜合金, PBT<br>Nickel-copper Alloy, PBT     |  |
| 连接方式<br>Connection          |                          | 成型电缆<br>M12 连接器<br>Cable<br>M12 Connector | 成型电缆<br>M12 连接器<br>Cable<br>M12 Connector | 成型电缆<br>M12 连接器<br>Cable<br>M12 Connector | 成型电缆<br>M12 连接器<br>Cable<br>M12 Connector |  |
| 产品认证<br>Certification       |                          | CE UL                                     | CE UL CCC                                 | CE UL CCC                                 | CE UL CCC                                 |  |

# Proximity Switches

## Photoelectric Sensors / Diffuse reflection



| 外壳代号<br>Shell code          |                           | N1FBA                            | N1FSL                            | N1FSF                                   | N1FTF                                        | N1FBA                                        |
|-----------------------------|---------------------------|----------------------------------|----------------------------------|-----------------------------------------|----------------------------------------------|----------------------------------------------|
| 检测距离<br>Sensing distance    |                           | 2m                               | 30cm                             | 30cm, 80cm                              | 50cm, 100cm                                  | 80cm, 2m                                     |
| 输出方式<br>Output              | DC 3线<br>DC 3 Wires       | NPN NO; NPN NC<br>PNP NO; PNP NC | NPN NO; NPN NC<br>PNP NO; PNP NC | NPN NO/NC<br>PNP NO/NC                  | NPN NO; NPN NC<br>PNP NO; PNP NC             | NPN NO; NPN NC<br>PNP NO; PNP NC             |
|                             | DC 4线<br>DC 4 Wires       | /                                | /                                | /                                       | NPN NO+NC<br>PNP NO+NC                       | NPN NO+NC<br>PNP NO+NC                       |
|                             | DC 2线<br>DC 2 Wires       | /                                | /                                | /                                       | /                                            | /                                            |
|                             | AC 2线<br>AC 2 Wires       | /                                | /                                | /                                       | /                                            | /                                            |
|                             | AC/DC 5线<br>AC/DC 5 Wires | /                                | /                                | /                                       | 继电器 NO+NC<br>Relay output NO+NC              | 继电器 NO+NC<br>Relay output NO+NC              |
| 电源电压<br>Supply voltage      |                           | 12...24 VDC                      | 12...24 VDC                      | 12...24 VDC                             | 10...30 VDC<br>24...240 VAC/<br>12...240 VDC | 10...30 VDC<br>24...240 VAC/<br>12...240 VDC |
| 响应时间<br>Response time       |                           | DC: <3ms                         | DC: <8.2ms                       | DC: <1ms                                | DC: < 8.2ms<br>AC: < 30 ms                   | DC: < 8.2ms<br>AC: < 30 ms                   |
| 环境温度<br>Ambient temperature |                           | -15...+55°C                      | -15...+55°C                      | -15...+55°C                             | -15...+55°C                                  | -15...+55°C                                  |
| 防护等级<br>Protection degree   |                           | IP54                             | IP67                             | IP67                                    | IP50                                         | IP67                                         |
| 外壳材料<br>Housing material    |                           | PC/ABS                           | ABS                              | PC/ABS                                  | PC/ABS                                       | PC/ABS                                       |
| 连接方式<br>Connection          |                           | 成型电缆<br>Cable                    | 成型电缆<br>Cable                    | 成型电缆<br>M8 连接器<br>Cable<br>M8 Connector | 成型电缆<br>M12 连接器<br>Cable<br>M12 Connector    | 端子连接<br>Terminal                             |
| 产品认证<br>Certification       |                           | CE                               | CE                               | CE                                      | CE UL CC                                     | CE UL CC                                     |

# Proximity Switches

## Photoelectric Sensors / Through beam



| 外壳代号<br>Shell code          |                           | N1FR12                                    | N1FR18                                    | N1FR1G                                    | N1FR30                                    | N1FR30L                               |
|-----------------------------|---------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|---------------------------------------|
| 检测距离<br>Sensing distance    |                           | 5m, 10m                                   | 10m, 20m                                  | 10m, 20m                                  | 20m, 40m                                  | 150m                                  |
| 输出方式<br>Output              | DC 3线<br>DC 3 Wires       | NPN NO; NPN NC<br>PNP NO; PNP NC          | NPN NO; NPN NC<br>PNP NO; PNP NC          | NPN NO; NPN NC<br>PNP NO; PNP NC          | NPN NO; NPN NC<br>PNP NO; PNP NC          | NPN NO; NPN NC<br>PNP NO; PNP NC      |
|                             | DC 4线<br>DC 4 Wires       | /                                         | NPN NO+NC<br>PNP NO+NC                    | NPN NO+NC<br>PNP NO+NC                    | NPN NO+NC<br>PNP NO+NC                    | NPN NO+NC<br>PNP NO+NC                |
|                             | DC 2线<br>DC 2 Wires       | /                                         | /                                         | /                                         | /                                         | /                                     |
|                             | AC 2线<br>AC 2 Wires       | /                                         | NO<br>NC                                  | NO<br>NC                                  | NO<br>NC                                  | /                                     |
|                             | AC/DC 5线<br>AC/DC 5 Wires | /                                         | /                                         | /                                         | /                                         | /                                     |
| 电源电压<br>Supply voltage      |                           | 10...30 VDC                               | 10...30 VDC<br>20...250 VAC               | 10...30 VDC<br>20...250 VAC               | 10...30 VDC<br>20...250 VAC               | 10...30 VDC                           |
| 响应时间<br>Response time       |                           | DC: <8.2ms                                | DC: <8.2ms<br>AC: <50 ms                  | DC: <8.2ms<br>AC: <50 ms                  | DC: <8.2ms<br>AC: <50 ms                  | DC: <8.2ms                            |
| 环境温度<br>Ambient temperature |                           | -15...+55°C                               | -15...+55°C                               | -15...+55°C                               | -15...+55°C                               | -15...+55°C                           |
| 防护等级<br>Protection degree   |                           | IP67                                      | IP67                                      | IP65                                      | IP67                                      | IP67                                  |
| 外壳材料<br>Housing material    |                           | 镍铜合金, PBT<br>Nickel-copper Alloy, PBT     | 镍铜合金, PBT<br>Nickel-copper Alloy, PBT     | 镍铜合金, PBT<br>Nickel-copper Alloy, PBT     | 镍铜合金, PBT<br>Nickel-copper Alloy, PBT     | 镍铜合金, PBT<br>Nickel-copper Alloy, PBT |
| 连接方式<br>Connection          |                           | 成型电缆<br>M12 连接器<br>Cable<br>M12 Connector | 成型电缆<br>M12 连接器<br>Cable<br>M12 Connector | 成型电缆<br>M12 连接器<br>Cable<br>M12 Connector | 成型电缆<br>M12 连接器<br>Cable<br>M12 Connector | 成型电缆<br>Cable                         |
| 产品认证<br>Certification       |                           | CE UL                                     | CE UL CCC                                 | CE UL CCC                                 | CE UL CCC                                 | CE UL                                 |

# Proximity Switches

## Photoelectric Sensors / Trough beam



| 外壳代号<br>Shell code          |                           | N1FSL                            | N1FSI                            | N1FSF                                   | N1FTF                                        | N1FBA                                        |
|-----------------------------|---------------------------|----------------------------------|----------------------------------|-----------------------------------------|----------------------------------------------|----------------------------------------------|
| 检测距离<br>Sensing distance    |                           | 5m, 10m                          | 5m, 10m                          | 5m, 10m                                 | 10m, 20m                                     | 20m, 30m, 40m                                |
| 输出方式<br>Output              | DC 3线<br>DC 3 Wires       | NPN NO; NPN NC<br>PNP NO; PNP NC | NPN NO; NPN NC<br>PNP NO; PNP NC | NPN NO/NC<br>PNP NO/NC                  | NPN NO; NPN NC<br>PNP NO; PNP NC             | /                                            |
|                             | DC 4线<br>DC 4 Wires       | /                                | NPN NO+NC<br>PNP NO+NC           | /                                       | NPN NO+NC<br>PNP NO+NC                       | NPN NO+NC<br>PNP NO+NC                       |
|                             | DC 2线<br>DC 2 Wires       | /                                | /                                | /                                       | /                                            | /                                            |
|                             | AC 2线<br>AC 2 Wires       | /                                | /                                | /                                       | /                                            | /                                            |
|                             | AC/DC 5线<br>AC/DC 5 Wires | /                                | /                                | /                                       | 继电器 NO+NC<br>Relay output NO+NC              | 继电器 NO+NC<br>Relay output NO+NC              |
| 电源电压<br>Supply voltage      |                           | 12...24 VDC                      | 10...30 VDC                      | 12...24 VDC                             | 10...30 VDC<br>24...240 VAC/<br>12...240 VDC | 10...30 VDC<br>24...240 VAC/<br>12...240 VDC |
| 响应时间<br>Response time       |                           | DC: < 1ms                        | DC: < 8.2ms                      | DC: < 1ms                               | DC: < 8.2ms<br>AC: < 30 ms                   | DC: < 8.2ms<br>AC: < 30 ms                   |
| 环境温度<br>Ambient temperature |                           | -15...+55°C                      | -15...+55°C                      | -15...+55°C                             | -15...+55°C                                  | -15...+55°C                                  |
| 防护等级<br>Protection degree   |                           | IP67                             | IP65                             | IP67                                    | IP64                                         | IP67                                         |
| 外壳材料<br>Housing material    |                           | PC/ABS                           | PC/ABS                           | PC/ABS                                  | PC/ABS                                       | PC/ABS                                       |
| 连接方式<br>Connection          |                           | 成型电缆<br>Cable                    | 成型电缆<br>Cable                    | 成型电缆<br>M8 连接器<br>Cable<br>M8 Connector | 成型电缆<br>M12 连接器<br>Cable<br>M12 Connector    | 端子连接<br>Terminal                             |
| 产品认证<br>Certification       |                           | CE                               | CE                               | CE                                      | CE UL CCC                                    | CE UL CCC                                    |



# Proximity Switches

## Photoelectric Sensors / Through beam



| 外壳代号<br>Shell code          |                           | N1FU07                           | N1FU15                           | N1FU30                                                                                 | N1FU100                                             |  |
|-----------------------------|---------------------------|----------------------------------|----------------------------------|----------------------------------------------------------------------------------------|-----------------------------------------------------|--|
| 检测距离<br>Sensing distance    |                           | 7mm                              | 15mm                             | 30mm                                                                                   | 100m                                                |  |
| 输出方式<br>Output              | DC 3线<br>DC 3 Wires       | NPN NO; NPN NC<br>PNP NO; PNP NC | NPN NO; NPN NC<br>PNP NO; PNP NC | NPN NO/NC<br>PNP NO/NC                                                                 | /                                                   |  |
|                             | DC 4线<br>DC 4 Wires       | /                                | /                                | /                                                                                      | NPN/PNP NO+NO                                       |  |
|                             | DC 2线<br>DC 2 Wires       | /                                | /                                | /                                                                                      | /                                                   |  |
|                             | AC 2线<br>AC 2 Wires       | /                                | /                                | /                                                                                      | /                                                   |  |
|                             | AC/DC 2线<br>AC/DC 2 Wires | /                                | /                                | /                                                                                      | /                                                   |  |
| 电源电压<br>Supply voltage      |                           | 10...30 VDC                      | 10...30 VDC                      | 10...30 VDC                                                                            | 24 VDC                                              |  |
| 响应时间<br>Response time       |                           | DC: <1ms                         | DC: <1ms                         | DC: <1ms                                                                               | DC: <30ms                                           |  |
| 环境温度<br>Ambient temperature |                           | -15...+55°C                      | -15...+55°C                      | -15...+55°C                                                                            | -10...+55°C                                         |  |
| 防护等级<br>Protection degree   |                           | IP64                             | IP64                             | IP60, IP67                                                                             | IP50                                                |  |
| 外壳材料<br>Housing material    |                           | PC/ABS                           | PC/ABS                           | 铝合金+PC<br>Aluminum alloy+PC                                                            | 外壳: 铝合金; 透光罩: 玻璃<br>Housing: al; light cover: glass |  |
| 连接方式<br>Connection          |                           | 成型电缆<br>Cable                    | 成型电缆<br>Cable                    | 成型电缆<br>Cable                                                                          | M12连接器, COM<br>M12 connector, COM                   |  |
| 产品认证<br>Certification       |                           | CE                               | CE                               | CE  | /                                                   |  |

# Proximity Switches

## Photoelectric Sensors / Retro reflection



| 外壳代号<br>Shell code          |                           | N1FR18                                    | N1FR1G                                    | N1FR30                                    | N1FSF                                   | N1FTF                                        |
|-----------------------------|---------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-----------------------------------------|----------------------------------------------|
| 检测距离<br>Sensing distance    |                           | 3m                                        | 3m                                        | 5m                                        | 2m                                      | 5m                                           |
| 输出方式<br>Output              | DC 3线<br>DC 3 Wires       | NPN NO; NPN NC<br>PNP NO; PNP NC          | NPN NO; NPN NC<br>PNP NO; PNP NC          | NPN NO; NPN NC<br>PNP NO; PNP NC          | NPN NO/NC<br>PNP NO/NC                  | NPN NO; NPN NC<br>PNP NO; PNP NC             |
|                             | DC 4线<br>DC 4 Wires       | NPN NO+NC<br>PNP NO+NC                    | NPN NO+NC<br>PNP NO+NC                    | NPN NO+NC<br>PNP NO+NC                    | /                                       | NPN NO+NC<br>PNP NO+NC                       |
|                             | DC 2线<br>DC 2 Wires       | /                                         | /                                         | /                                         | /                                       | /                                            |
|                             | AC 2线<br>AC 2 Wires       | NO<br>NC                                  | NO<br>NC                                  | NO<br>NC                                  | /                                       | /                                            |
|                             | AC/DC 5线<br>AC/DC 5 Wires | /                                         | /                                         | /                                         | /                                       | 继电器 NO+NC<br>Relay output NO+NC              |
| 电源电压<br>Supply voltage      |                           | 10...30 VDC<br>20...250 VAC               | 10...30 VDC<br>20...250 VAC               | 10...30 VDC<br>20...250 VAC               | 12...24 VDC                             | 10...30 VDC<br>24...240 VAC/<br>12...240 VDC |
| 响应时间<br>Response time       |                           | DC: < 8.2ms<br>AC: < 50 ms                | DC: < 8.2ms<br>AC: < 50 ms                | DC: < 8.2ms<br>AC: < 50 ms                | DC: < 1ms                               | DC: < 8.2ms<br>AC: < 30 ms                   |
| 环境温度<br>Ambient temperature |                           | -15...+55°C                               | -15...+55°C                               | -15...+55°C                               | -15...+55°C                             | -15...+55°C                                  |
| 防护等级<br>Protection degree   |                           | IP67                                      | IP65                                      | IP67                                      | IP67                                    | IP64                                         |
| 外壳材料<br>Housing material    |                           | 镍铜合金, PBT<br>Nickel-copper Alloy, PBT     | 镍铜合金, PBT<br>Nickel-copper Alloy, PBT     | 镍铜合金, PBT<br>Nickel-copper Alloy, PBT     | PC/ABS                                  | PC/ABS                                       |
| 连接方式<br>Connection          |                           | 成型电缆<br>M12 连接器<br>Cable<br>M12 Connector | 成型电缆<br>M12 连接器<br>Cable<br>M12 Connector | 成型电缆<br>M12 连接器<br>Cable<br>M12 Connector | 成型电缆<br>M8 连接器<br>Cable<br>M8 Connector | 成型电缆<br>M12 连接器<br>Cable<br>M12 Connector    |
| 产品认证<br>Certification       |                           | CE U CCC                                  | CE U CCC                                  | CE U CCC                                  | CE                                      | CE U CCC                                     |

# Proximity Switches

## Photoelectric Sensors / Retro reflection & Polarized reflection



| 外壳代号<br>Shell code          | N1FTL                                        | N1FSF                                   | N1FTF                                        | N1FTL                                        |  |
|-----------------------------|----------------------------------------------|-----------------------------------------|----------------------------------------------|----------------------------------------------|--|
| 检测距离<br>Sensing distance    | 5m                                           | 2m                                      | 5m                                           | 12m                                          |  |
| DC 3线<br>DC 3 Wires         | /                                            | NPN NO/NC<br>PNP NO/NC                  | NPN NO; NPN NC<br>PNP NO; PNP NC             | NPN NO; NPN NC<br>PNP NO; PNP NC             |  |
| DC 4线<br>DC 4 Wires         | NPN NO+NC<br>PNP NO+NC                       | /                                       | NPN NO+NC<br>PNP NO+NC                       | NPN NO+NC<br>PNP NO+NC                       |  |
| 输出方式<br>Output              | DC 2线<br>DC 2 Wires                          | /                                       | /                                            | /                                            |  |
| AC 2线<br>AC 2 Wires         | /                                            | /                                       | /                                            | /                                            |  |
| AC/DC 5线<br>AC/DC 5 Wires   | 继电器 NO+NC<br>Relay output NO+NC              | /                                       | 继电器 NO+NC<br>Relay output NO+NC              | 继电器 NO+NC<br>Relay output NO+NC              |  |
| 电源电压<br>Supply voltage      | 10...30 VDC<br>24...240 VAC/<br>12...240 VDC | 12...24 VDC                             | 10...30 VDC<br>24...240 VAC/<br>12...240 VDC | 10...30 VDC<br>24...240 VAC/<br>12...240 VDC |  |
| 响应时间<br>Response time       | DC: < 8.2ms<br>AC: < 30 ms                   | DC: < 1ms                               | DC: < 8.2ms<br>AC: < 30 ms                   | DC: < 8.2ms<br>AC: < 30 ms                   |  |
| 环境温度<br>Ambient temperature | -15...+55°C                                  | -15...+55°C                             | -15...+55°C                                  | -15...+55°C                                  |  |
| 防护等级<br>Protection degree   | IP67                                         | IP67                                    | IP64                                         | IP67                                         |  |
| 外壳材料<br>Housing material    | PC/ABS                                       | PC/ABS                                  | PC/ABS                                       | PC/ABS                                       |  |
| 连接方式<br>Connection          | 端子连接<br>Terminal                             | 成型电缆<br>M8 连接器<br>Cable<br>M8 Connector | 成型电缆<br>M12 连接器<br>Cable<br>M12 Connector    | 端子连接<br>Terminal                             |  |
| 产品认证<br>Certification       | CE UL CCC                                    | CE                                      | CE UL CCC                                    | CE UL CCC                                    |  |

# Proximity Switches

## Photoelectric Sensors / Focus reflection (N3FSL) & Background suppression (N3FR18 & N3FTB)



| 外壳代号<br>Shell code          |                           | N1FSL                            | N1FR18                      | N1FR18                      | N1FTB                  | N1FTB                    |
|-----------------------------|---------------------------|----------------------------------|-----------------------------|-----------------------------|------------------------|--------------------------|
| 检测距离<br>Sensing distance    |                           | 3cm, 5cm                         | 10cm                        | 10cm                        | 200cm                  | 200cm                    |
| 输出方式<br>Output              | DC 3线<br>DC 3 Wires       | NPN NO; NPN NC<br>PNP NO; PNP NC | /                           | /                           | /                      | /                        |
|                             | DC 4线<br>DC 4 Wires       | /                                | NPN NO+NC<br>PNP NO+NC      | NPN NO+NC<br>PNP NO+NC      | NPN NO/NC<br>PNP NO/NC | NPN NO/NC<br>PNP NO/NC   |
|                             | DC 2线<br>DC 2 Wires       | /                                | /                           | /                           | /                      | /                        |
|                             | AC 2线<br>AC 2 Wires       | /                                | /                           | /                           | /                      | /                        |
|                             | AC/DC 5线<br>AC/DC 5 Wires | /                                | /                           | /                           | /                      | /                        |
| 电源电压<br>Supply voltage      |                           | 12...24 VDC                      | 10...30 VDC                 | 10...30 VDC                 | 10...30 VDC            | 10...30 VDC              |
| 响应时间<br>Response time       |                           | DC: < 1ms                        | DC: < 8.2ms                 | DC: < 8.2ms                 | DC: < 2ms              | DC: < 2ms                |
| 环境温度<br>Ambient temperature |                           | -15...+55°C                      | -15...+55°C                 | -15...+55°C                 | -20...+55°C            | -20...+55°C              |
| 防护等级<br>Protection degree   |                           | IP67                             | IP67                        | IP67                        | IP67                   | IP67                     |
| 外壳材料<br>Housing material    |                           | PC/ABS                           | 镍铜合金<br>Nickel-copper Alloy | 镍铜合金<br>Nickel-copper Alloy | PC/ABS                 | PC/ABS                   |
| 连接方式<br>Connection          |                           | 成型电缆<br>Cable                    | M12 连接器<br>M12 Connector    | 成型电缆<br>Cable               | 成型电缆<br>Cable          | M12 连接器<br>M12 Connector |
| 产品认证<br>Certification       |                           | CE                               | CE                          | CE                          | CE                     | CE                       |