

TECHMECH ELECTRICALS
1540 - A , BHAGIRATH PALACE
DELHI - 110 006 .
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@PROX

Electronic Sensors



BHARTIA INDUSTRIES LIMITED



@PROX[®] Electronic Sensors

- Wide range of high performance Inductive, Capacitive & Photo Sensors.
- Applicable Standards :
 - IS-13947
 - EN-61000-3-3 & EN-61000-3-4
 - CSA-22.2 NO. 14-95
- Utilisation Category :
 - DC 13 As per IEC 60947-5-2
- @PROX Sensors for all manufacturing sectors.
- @PROX Sensors for every process industry requirement.
- @PROX Sensors for plant automation.
- @PROX Sensors for best quality, efficiency & safety.

Inductive Proximity

Standard Version

- Sizes/Diameters : M8, M12, M18 & M30
- Switching Distance : 1.5mm to 15mm
- Models with Standard 2 meter cable or connector
- Wide range of outputs (PNP/NPN/DC 2 WIRE / AC 2 WIRE)
- Available in Flush/Non Flush version
- Standard 65mm length
- Short length (45mm) also available in M8, M12, M18 DC models
- M18 Linear Output Sensors (0-10V / 4-20 mA DC)

Special Version (On request)

- Sizes/Diameters : M4, M6, M10, M14, M16, M20, M22, M24, M36, M42, M50, M55, M60 & M80
- Namur Sensors
- Non Ferrous Inductive Proximity switches
- Inductive Proximity (Square/Slot/Rectangular shape)
- Sensing Distance : upto 40mm
- High Temperature Models operating upto 125°C



Capacitive Proximity

Standard Version

- Sizes/Diameters : M18 & M30
- Available in 3 wire DC version (with 1 NO contact configuration) upto 15mm Sensing Distance
- Available in AC (2 wire version)
- Sensitivity adjustment through multi turn trimmer

Special Version

- Sizes/Diameters : M12, M24, M30, M50 & M60
- Connector Version available in M30, M50
- High Temperature Models with operating Temperature upto 125°C
- Available in Square shape in sizes 112x40x40; 118x40x40; 120x50x50

Photo Electric



- Sensing range : 20cm to 5m
- M18 Cylindrical Photoelectric Sensors
- Diffuse Reflective
- Retro Reflective
- Thru Beam Emitter-Receiver
- Models with cable or connector output

... also available

- Photo Sensors in Rectangular Housing



Inductive Proximity

M8

M12

| | SHIELDED | NON-SHIELDED | SHIELDED | NON-SHIELDED |
|---|----------------------|--------------|-----------------------------|--------------|
| Nominal Sensing Distance (S_n) | 1.5 mm | 2 mm | 2 mm | 4 mm |
| S _n Tolerance | ± 10% | | ± / -10% | |
| Operating Frequency | 1500 Hz | | 1000 Hz (DC); 15 Hz (AC) | |
| Supply Voltage | 12-30V DC | | 12-30V DC; 240V AC/110 V AC | |
| Hysteresis | ≤ 10% | | ≤ 10% | |
| Repeatability | ≤ 2% | | ≤ 2% | |
| Max. Output Current | 100 mA | | 200 mA | |
| Output Indication | LED | | LED | |
| Leakage Current (Load) | Max. 10µA (DC) | | Max. 10µA (DC) | |
| Operating Temperature | 0 to +70°C | | 0 to +70°C | |
| Protection Degree | IP 67 | | IP 67 | |
| Protections | Reverse Polarity | | Provided | |
| | Short Circuit | | Provided | |
| | False Pulse | | Provided | |
| | Transient Noise | | Provided | |
| Housing | SS 304 | | Nickle Plated Brass | |
| Marks | CE | | CE | |
| Output (NO/NC) | 3 Wire DC; 2 Wire AC | | 3 Wire DC; 2 Wire AC | |



Inductive Proximity

M18

M30

| | SHIELDED | NON-SHIELDED | SHIELDED | NON-SHIELDED |
|---|-----------------------------|--------------|-----------------------------|--------------|
| Nominal Sensing Distance (S_n) | 5 mm | 8 mm | 10 mm | 15 mm |
| S _n Tolerance | ± / -10% | | ± / -10% | |
| Operating Frequency | 500 Hz (DC); 15 Hz (AC) | | 200 Hz (DC); 15 Hz (AC) | |
| Supply Voltage | 12-30V DC; 240V AC/110 V AC | | 12-30V DC; 240V AC/110 V AC | |
| Hysteresis | ≤ 10% | | ≤ 10% | |
| Repeatability | ≤ 2% | | ≤ 2% | |
| Max. Output Current | 400 mA | | 400 mA | |
| Output Indication | LED | | LED | |
| Leakage Current (Load) | Max. 10µA (DC) | | Max. 10µA (DC) | |
| Operating Temperature | 0 to +70°C | | 0 to +70°C | |
| Protection Degree | IP 67 | | IP 67 | |
| Protections | Reverse Polarity | | Provided | |
| | Short Circuit | | Provided | |
| | False Pulse | | Provided | |
| | Transient Noise | | Provided | |
| Housing | Nickle Plated Brass | | Nickle Plated Brass | |
| Marks | CE | | CE | |
| Output (NO/NC) | 3 Wire DC; 2 Wire AC | | 3 Wire DC; 2 Wire AC | |

* **Special Versions** : 1 NO + 1 NC output (4 Wire) Sensors are available on request



Capacitive Proximity

M18

M30

| | SHIELDED | NON-SHIELDED | SHIELDED | NON-SHIELDED |
|---|-----------------------------|--------------|------------------------------------|------------------------------------|
| Nominal Sensing Distance (S_n) | 2 to 5 mm | 2 to 10 mm | 2 to 10 mm (DC) 3 to 10 mm (AC) | 2 to 15 mm (DC) 3 to 15 mm (AC) |
| S _n Tolerance | ± 10% | | ± 10% | |
| Operating Frequency | 25 Hz (DC); 15 Hz (AC) | | 25 Hz (DC); 15 Hz (AC) | |
| Supply Voltage | 12-30V DC; 240V AC/110 V AC | | 12-30V DC; 240V AC/110 V AC | |
| Hysteresis | ≤ 15% | | ≤ 15% | |
| Repeatability | ≤ 2% | | ≤ 2% | |
| Max. Output Current | 400 mA | | 400 mA | |
| Output Indication | LED | | LED | |
| Leakage Current (Load) | Max. 10μ A (DC) | | Max. 10μ A (DC) | |
| Operating Temperature | 0 to +70°C | | 0 to +70°C | |
| Protection Degree | IP 67 | | IP 67 | |
| Reverse Polarity | Provided | | Provided | |
| Short Circuit | Provided | | Provided | |
| False Pulse | Provided | | Provided | |
| Transient Noise | Provided | | Provided | |
| Housing | Nickle Plated Brass | | Nickle Plated Brass | |
| Marks | CE | | CE | |
| Output (NO/NC) | 3 Wire DC; 2 Wire AC | | 3 Wire DC; 2 Wire AC | |

Protections

* Special Versions : DC-4 Wire version on request

DC 2 Wire Inductive Proximity Sensors

| | M8 | | M12 | | M18 | | M30 | |
|---|----------------------|--------------|----------------------|--------------|---------------------|--------------|---------------------|--------------|
| | Shielded | Non Shielded | Shielded | Non Shielded | Shielded | Non Shielded | Shielded | Non Shielded |
| Nominal Sensing Distance (S_n) | 1.5 mm | 2 mm | 2 mm | 4 mm | 5 mm | 8 mm | 10 mm | 15 mm |
| S _n Tolerance | ± 10% | | ± 10% | | ± 10% | | ± 10% | |
| Operating Frequency | 1500 Hz | | 1000 Hz | | 500 Hz | | 200 Hz | |
| Supply Voltage | 12-30V DC | | 12-30V DC | | 12-30V DC | | 12-30V DC | |
| Hysteresis | ≤ 10% | | ≤ 10% | | ≤ 10% | | ≤ 10% | |
| Repeatability | ≤ 2% | | ≤ 2% | | ≤ 2% | | ≤ 2% | |
| Max. Output Current | 100 mA | | 200 mA | | 400 mA | | 400 mA | |
| Voltage Drop Across switch* | ≤ 4.5V | | ≤ 4.5V | | ≤ 4.0V | | ≤ 4.0V | |
| Output Indication | LED | | LED | | LED | | LED | |
| Operating Temperature | 0 to +70°C | | 0 to +70°C | | 0 to +70°C | | 0 to +70°C | |
| Protection Degree | IP 67 | | IP 67 | | IP 67 | | IP 67 | |
| Reverse Polarity | Provided (PTC Based) | | Provided (PTC Based) | | Provided | | Provided | |
| Short Circuit | Provided | | Provided | | Provided | | Provided | |
| False Pulse | Provided | | Provided | | Provided | | Provided | |
| Transient Noise | Provided | | Provided | | Provided | | Provided | |
| Housing | SS 304 | | Nickle Plated Brass | | Nickle Plated Brass | | Nickle Plated Brass | |
| Marks | CE | | CE | | CE | | CE | |
| Output (NO/NC) | 2 Wire DC | | 2 Wire DC | | 2 Wire DC | | 2 Wire DC | |

Protections

* Under test condition



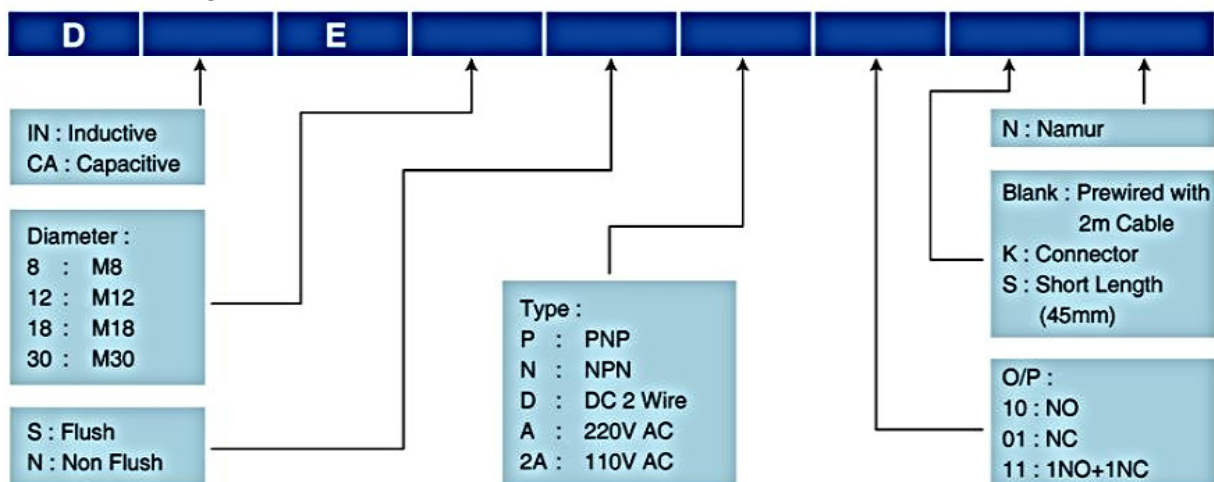
Photoelectric Sensors

| | THRU BEAM | RETRO REFLECTIVE | DIFFUSE |
|---------------------------------------|-----------------------|------------------|---------|
| Sensing Range S_n | 5 m | 1 m | 20 cm |
| Size | | M18 | |
| Sensing Tolerance | | $\pm 10\%$ | |
| Operating Frequency | | 25 Hz | |
| Supply Voltage | | 12 - 30V DC | |
| Hysteresis | | $\leq 15\%$ | |
| Repeatability | | $\leq 2\%$ | |
| Max. Output Current | | 200 mA | |
| Output Indication | | LED | |
| Leakage Current (Load) | | Max. 10 μ A | |
| Operating Temperature | | 0 to +70°C | |
| Protection Degree | | IP 67 | |
| Protections | Reverse Polarity | Provided | |
| | Short Circuit | Provided | |
| | False Pulse | Provided | |
| | Transient Noise | Provided | |
| Housing | Nickle Plated Brass | | |
| Marks | CE | | |
| Output | 4 Wire DC (1NO + 1NC) | | |

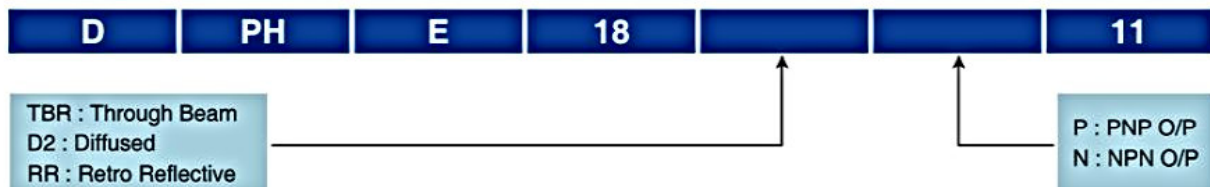
* Also available : AC-2 W version on request

Ordering Information

Inductive/Capacitive Sensors

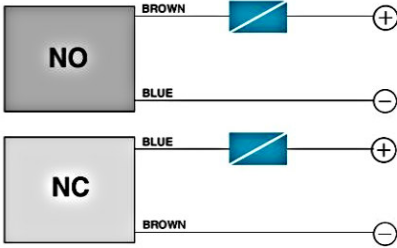


Photoelectric Sensors

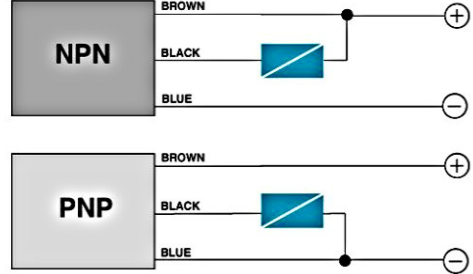


Wiring Diagram

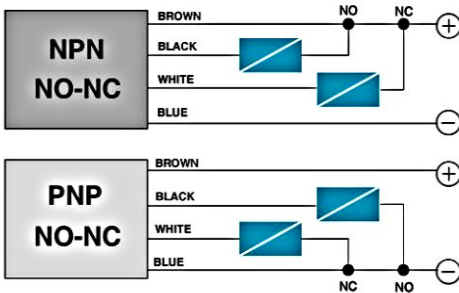
DC-2W



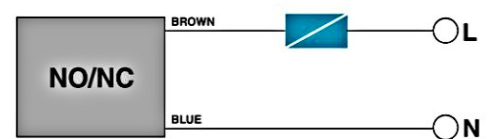
DC-3W



DC-4W



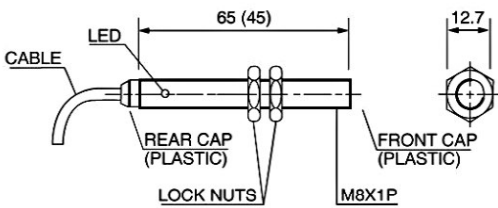
AC-2W



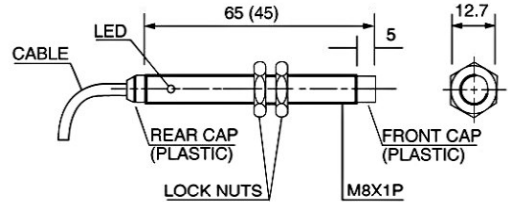
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Dimensions

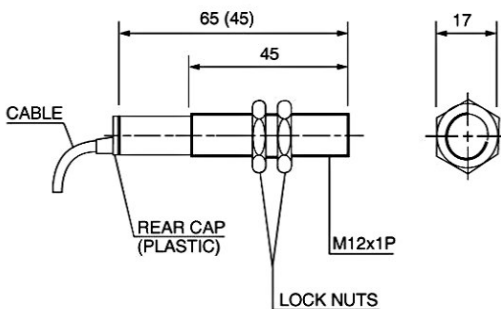
DINE8SNXX / DINE8SPXX



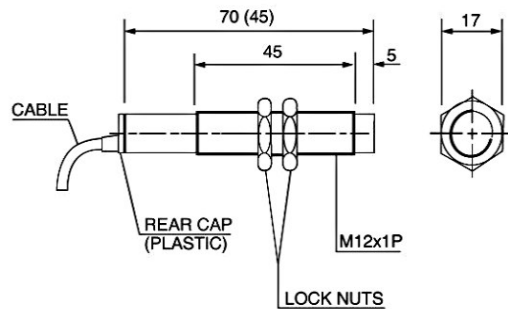
DINE8NNXX / DINE8N



DINE12SNXX / DINE12SPXX



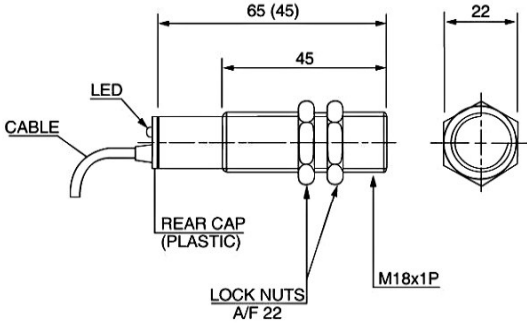
DINE12NNXX / DINE12NPX



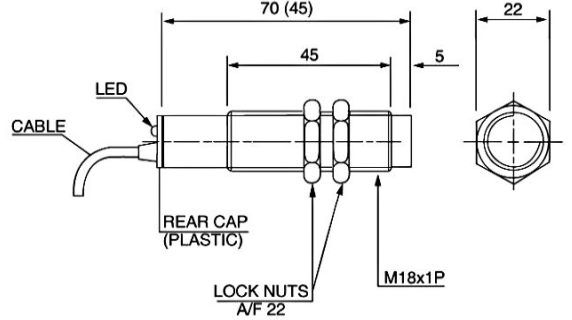
Dimensions

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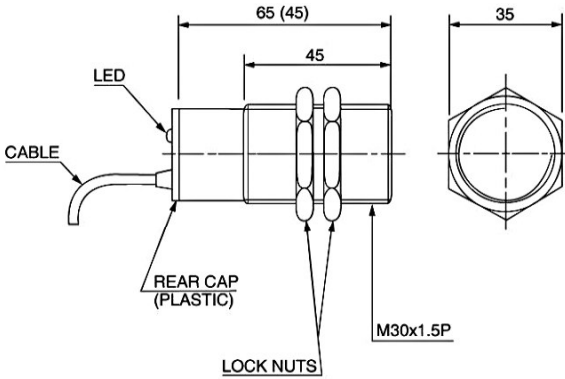
DINE18SNXX / DINE18SPXX



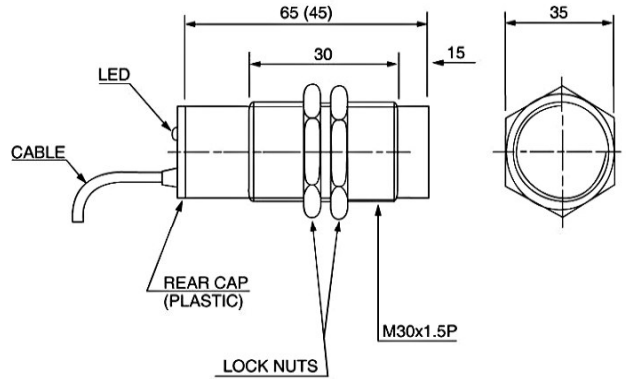
DINE18NNXX / DINE18NPX



DINE30SNXX / DINE30SPXX



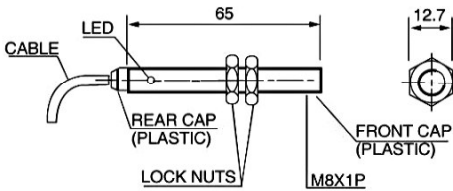
DINE30NNXX / DINE30NPX



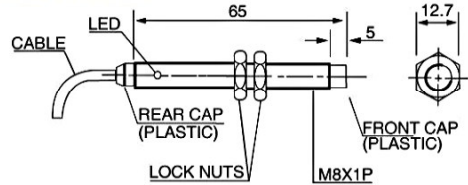
(45) : Indicates overall length of "Short Length" sensors

2 WIRE DC / AC

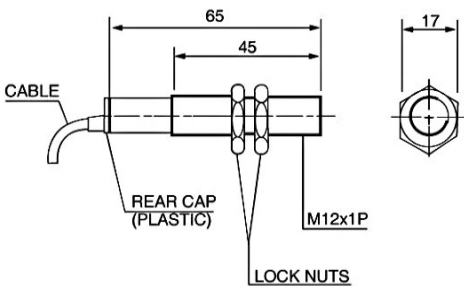
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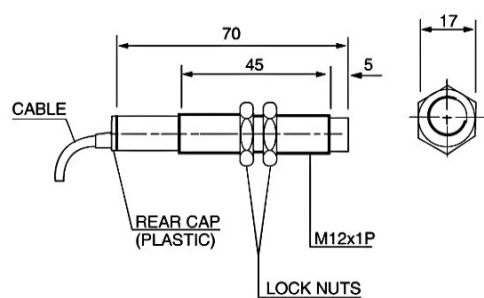
DINE8NDXX



DINE12SXXX



DINE12NXXX



All dimensions are in mm

Not to scale