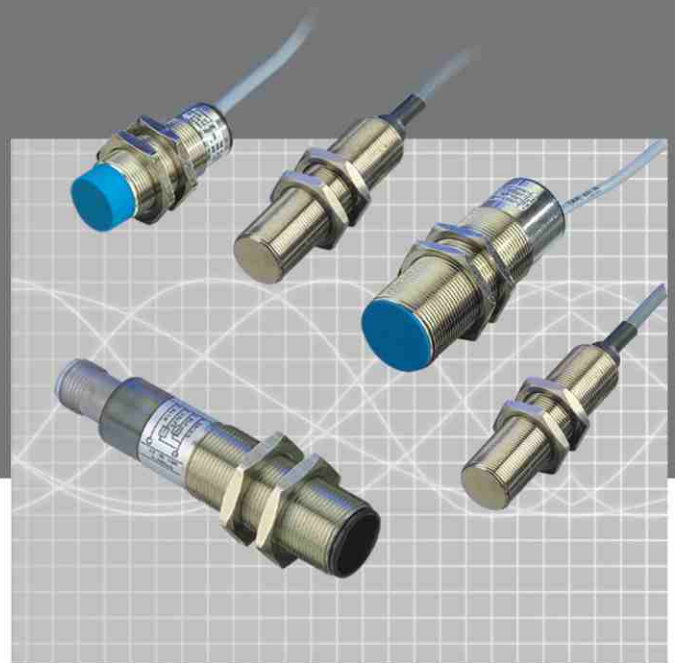
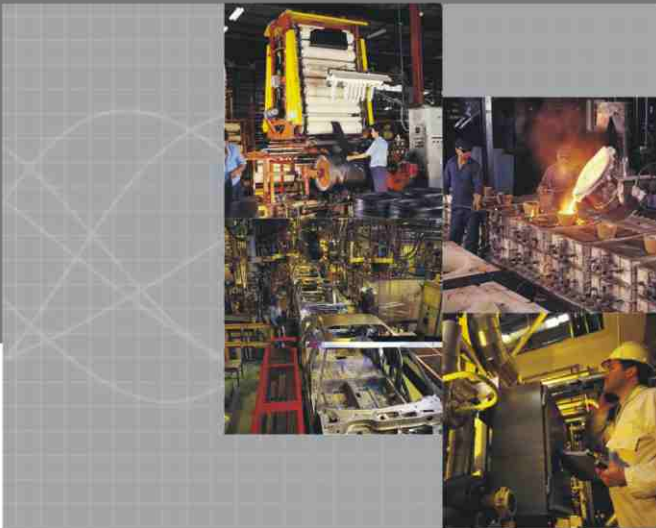




ELECTRONIC SENSORS



BCH ELECTRIC LIMITED
we care for you



@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 13As 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 & 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	
	Nominal Sensing Distance (S _n)	1.5 mm	2 mm	2 mm
Protections	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
	Reverse Polarity	Provided		Provided
	Short Circuit	Provided		Provided
	False Pulse	Provided		Provided
	Transient Noise	Provided		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	
	Nominal Sensing Distance (S _n)	5 mm	8 mm	10 mm
Protections	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
	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

* **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/110V AC		12-30V DC; 240V AC/110V AC	
Hysterisis	≤ 15%		≤ 15%	
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	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	

* 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		Nickel Plated Brass		Nickel Plated Brass		Nickel Plated Brass	
Marks	CE		CE		CE		CE	
Output (NO/NC)	2 Wire DC		2 Wire DC		2 Wire DC		2 Wire DC	

* Under test condition



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

Ordering Information

D **E**

IN : Inductive
CA : Capacitive

Diameter :
8 : M8
12 : M12
18 : M18
30 : M30

S : Flush
N : Non Flush

Type :
P : PNP
N : NPN
D : DC 2 Wire
A : 220V AC
2A : 110V AC

N : Namur

Blank : Prewired with 2m Cable
K : Connector
S : Short Length (45mm)

O/P :
10 : NO
01 : NC
11 : 1NO + 1NC

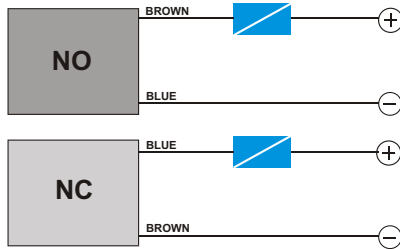
D	PH	E	18			11
TBR : Through Beam D2 : Diffused RR : Retro Reflective						P : PNP O/P N : NPN O/P

Note : 11 (NO+NC) output is not available in 2 wires DC/AC sensors

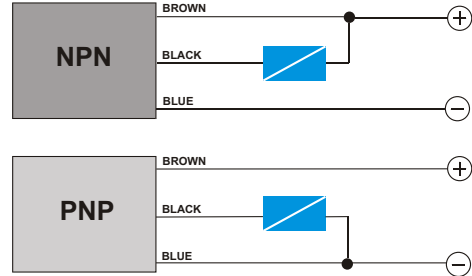


Wiring Diagram

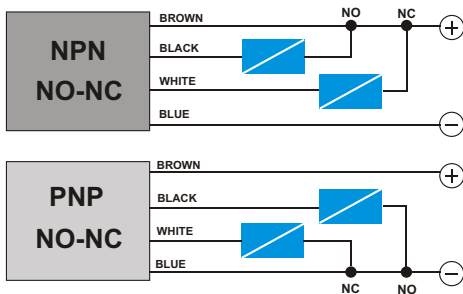
DC-2W



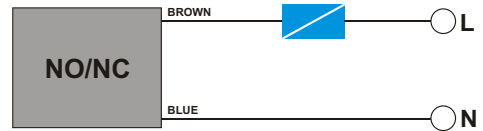
DC-3W



DC-4W

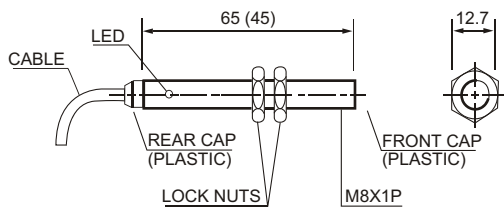


AC-2W

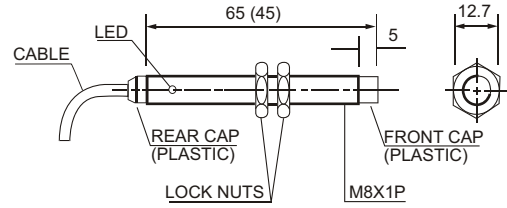


Dimensions

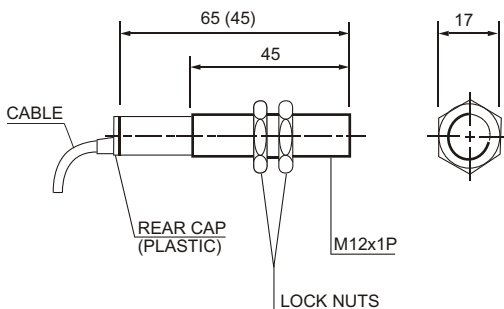
DINE8SNXX / DINE8SPXX



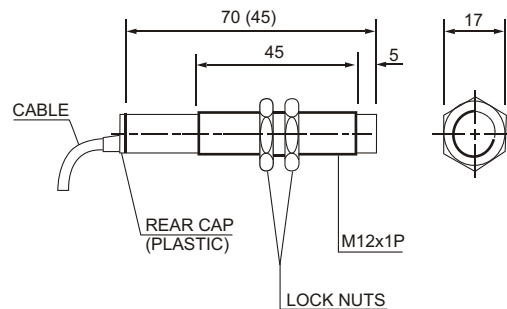
DINE8NNXX / DINE8N



DINE12SNXX / DINE12SPXX



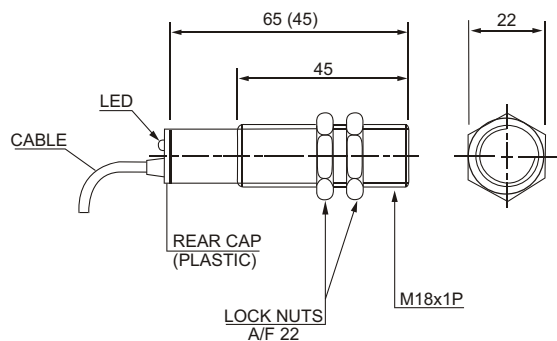
DINE12NNXX / DINE12NPX



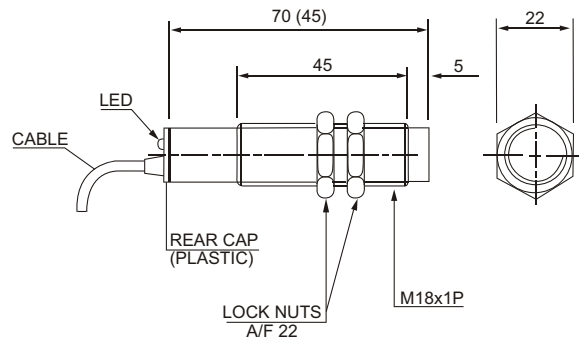


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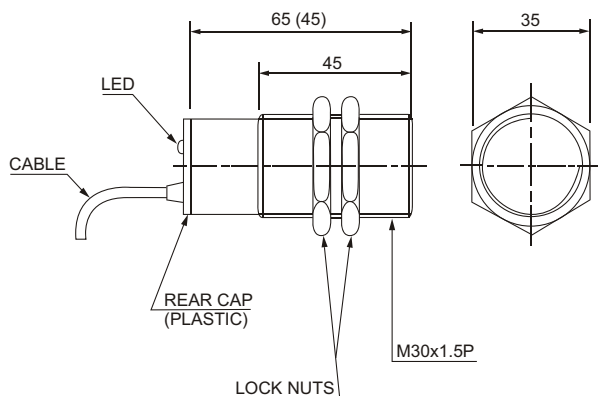
DINE18SNXX / DINE18SPXX



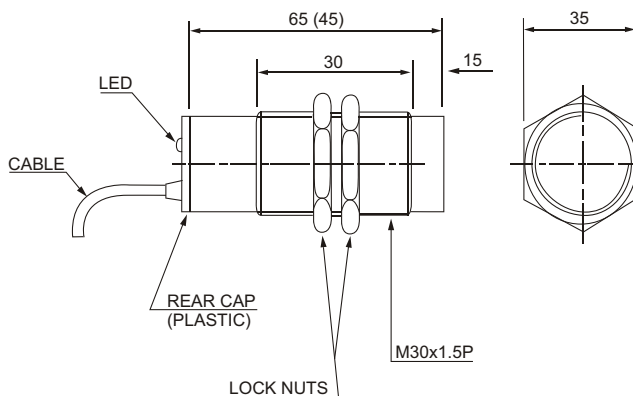
DINE18NNXX / DINE18NPX



DINE30SNXX / DINE30SPXX



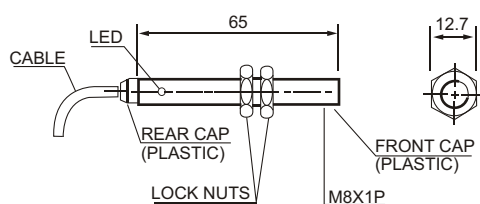
DINE30NNXX / DINE30NPX



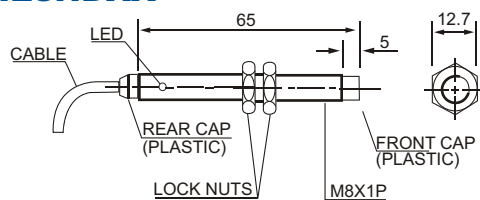
(45) : Indicates overall length of "Short Length" sensors

2 WIRE DC / AC

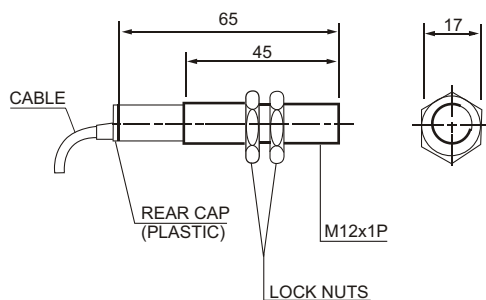
DINE8SDXX



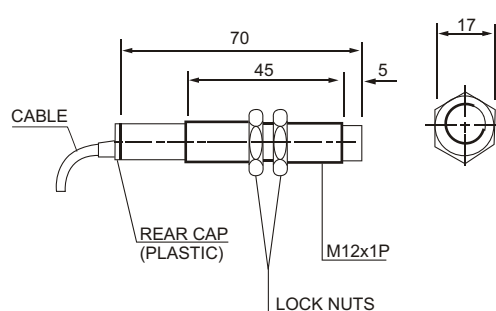
DINE8NDXX



DINE12SXXX



DINE12NXXX



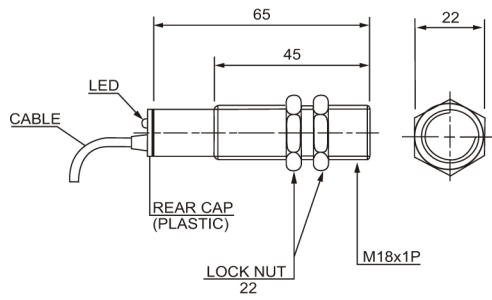
All dimensions are in mm

Not to scale

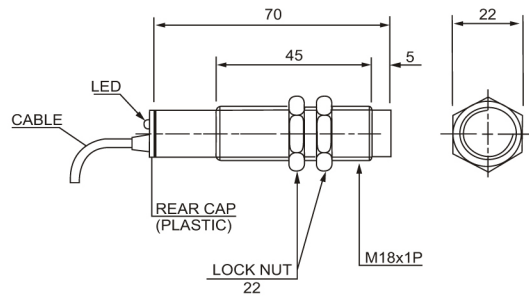


Dimensions

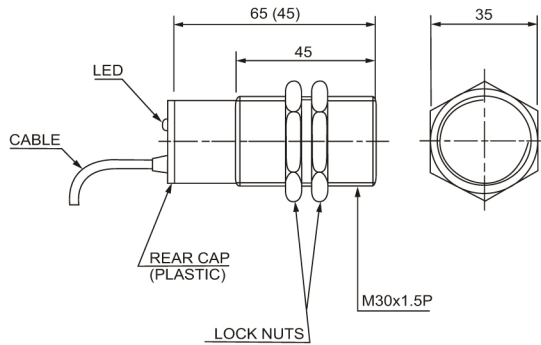
DINE18SXXX



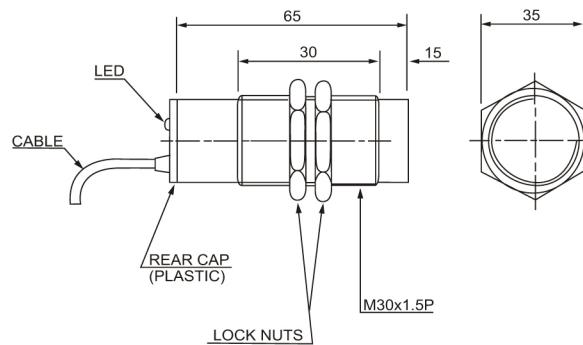
DINE18NXXX



DINE30SXXX



DINE30NXXX



All dimensions are in mm

Not to scale