

SMARTSCAN INFORMATION



N SERIES NON-SAFETY LIGHT CURTAINS HANDBOOK

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INTRODUCTION

N SERIES light curtains provide a cost-effective solution for a variety of Industrial and Commercial sensing and control applications

- Suitable for a variety of process control and (non-safety) machine protection applications
 - Simple installation and alignment
 - Large selection of models
 - 1 year manufacturer's warranty

Industrial and Commercial applications include:

Parts Detection
Picking Systems
Profile Checking
Machine Protection
Presence Sensing
Garment Counting (laundries)
Product Counting
Airport Baggage Counting
Lifts and Automatic Shutter Doors
Loading Bays
People Monitoring
Security Systems
Loop Detection

FEATURES

- Slim-line Enclosure
- Up to 7 metres scanning range (model dependent)
- No range settings required
- Diagnostic and status indicators
- Two part system
- Dual electronic outputs
- 24V DC operation
- M12 connectors
- PNP / NPN output
- 1 year warranty
- IP 65 protection rating

SPECIFICATION

N SERIES Light Curtains

Number of Beams	4 - 64
Object Detection	30 mm
Detection Zone	75 mm - 1575 mm
Range	0.5 m– 1.5m, (1m – 3m) and 1m - 7.0 metres
Light Type	IR 880 nm
Response Time	20 ms
Operating Temperature	-10°C to 50°C
Light Curtain Enclosure	IP65 (H x W x D) H x 33 x 29
Status Indicators	Tx - Yellow = 'Power On' Rx - Yellow = 'Power On' Rx - Red = 'Blocked' Rx - Green = 'Clear'
Power Supply Requirements	22 - 28V DC ripple <10% (Diode Protected)
Current Consumption	50mA per 8 beams
Light Curtain Connectors	M12 4 core
Finish	Silver Anodised aluminium extrusion
Classification	CE Mark
Warranty	1 Year
Outputs	2 x Electronic (1 x PNP) and (1 x NPN) 200mA

Note: The N Series is not a safety light curtain and is not for use as a safety product as defined by the Machinery Directive.

LIGHT CURTAIN MODEL LIST

N Series – Long Range 1 – 7m

NB-4LP	N Series (non-safety) Light Curtain, DZ 75mm, 4 beams, 30mm object detection capability, 1m - 7m range
NB-8LP	N Series (non-safety) Light Curtain, DZ 175mm, 8 beams, 30mm object detection capability, 1m - 7m range
NB-12LP	N Series (non-safety) Light Curtain, DZ 275mm, 12 beams, 30mm object detection capability, 1m - 7m range
NB-16LP	N Series (non-safety) Light Curtain, DZ 375mm, 16 beams, 30mm object detection capability, 1m - 7m range
NB-20LP	N Series (non-safety) Light Curtain, DZ 475mm, 20 beams, 30mm object detection capability, 1m - 7m range
NB-24LP	N Series (non-safety) Light Curtain, DZ 575mm, 24 beams, 30mm object detection capability, 1m - 7m range
NB-32LP	N Series (non-safety) Light Curtain, DZ 775mm, 32 beams, 30mm object detection capability, 1m - 7m range
NB-40LP	N Series (non-safety) Light Curtain, DZ 975mm, 40 beams, 30mm object detection capability, 1m - 7m range
NB-48LP	N Series (non-safety) Light Curtain, DZ 1175mm, 48 beams, 30mm object detection capability, 1m - 7m range
NB-56LP	N Series (non-safety) Light Curtain, DZ 1375mm, 56 beams, 30mm object detection capability, 1m - 7m range
NB-64LP	N Series (non-safety) Light Curtain, DZ 1575mm, 64 beams, 30mm object detection capability, 1m - 7m range

N series – Short range 0.5m to 1.5m and 1m to 3m

NB-4P	N Series (non-safety) Light Curtain, DZ 75mm, 4 beams, 30mm object detection capability, 0.5 - 1.5m and 1m - 3m range
NB-8P	N Series (non-safety) Light Curtain, DZ 175mm, 8 beams, 30mm object detection capability, 0.5 - 1.5m and 1m - 3m range
NB-12P	N Series (non-safety) Light Curtain, DZ 275mm, 12 beams, 30mm object detection capability, 0.5 - 1.5m and 1m - 3m range
NB-16P	N Series (non-safety) Light Curtain, DZ 375mm, 16 beams, 30mm object detection capability, 0.5 - 1.5m and 1m - 3m range
NB-20P	N Series (non-safety) Light Curtain, DZ 475mm, 20 beams, 30mm object detection capability, 0.5 - 1.5m and 1m - 3m range
NB-24P	N Series (non-safety) Light Curtain, DZ 575mm, 24 beams, 30mm object detection capability, 0.5 - 1.5m and 1m - 3m range
NB-32P	N Series (non-safety) Light Curtain, DZ 775mm, 32 beams, 30mm object detection capability, 0.5 - 1.5m and 1m - 3m range
NB-40P	N Series (non-safety) Light Curtain, DZ 975mm, 40 beams, 30mm object detection capability, 0.5 - 1.5m and 1m - 3m range
NB-48P	N Series (non-safety) Light Curtain, DZ 1175mm, 48 beams, 30mm object detection capability, 0.5 - 1.5m and 1m - 3m range
NB-56P	N Series (non-safety) Light Curtain, DZ 1375mm, 56 beams, 30mm object detection capability, 0.5 - 1.5m and 1m - 3m range
NB-64P	N Series (non-safety) Light Curtain, DZ 1575mm, 64 beams, 30mm object detection capability, 0.5 - 1.5m and 1m - 3m range

Brackets and Cables

NB-001	Mounting bracket kit
NB-002	Side Mount Mounting Bracket Kit
090-002	3m cable with straight plug
090-005	3m cable with angle plug
090-003	10m cable with straight plug
090-004	10m cable with angle plug

System requires transmitter and receiver head, bracket kit and 2 cables.

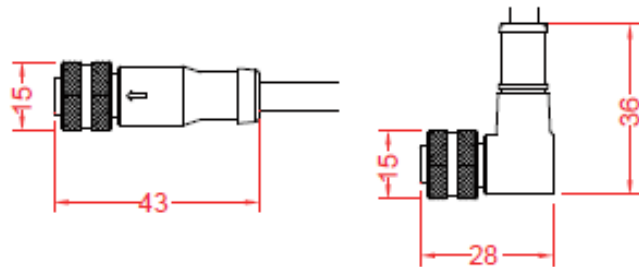
Connector

M12 metal connector



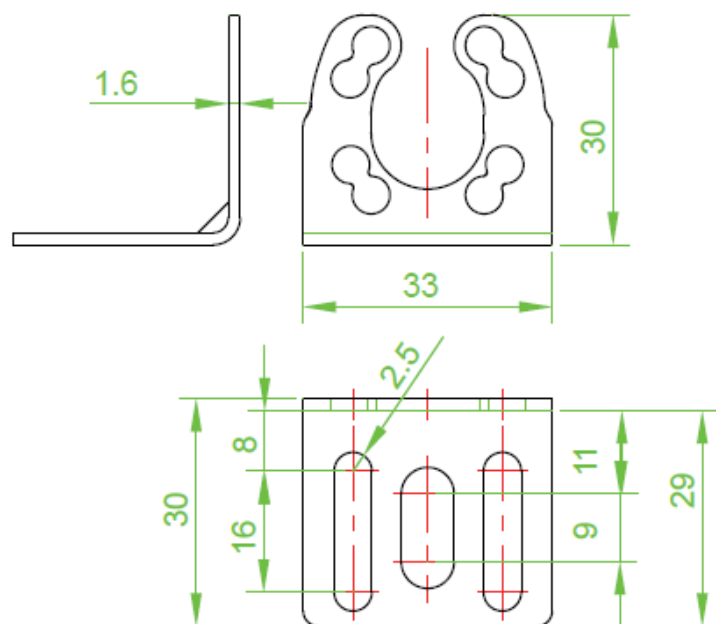
Cables

N series collocate M12 cable connector connectors(2) : 180°(Standard) connectors(1) : 90°(Optional)

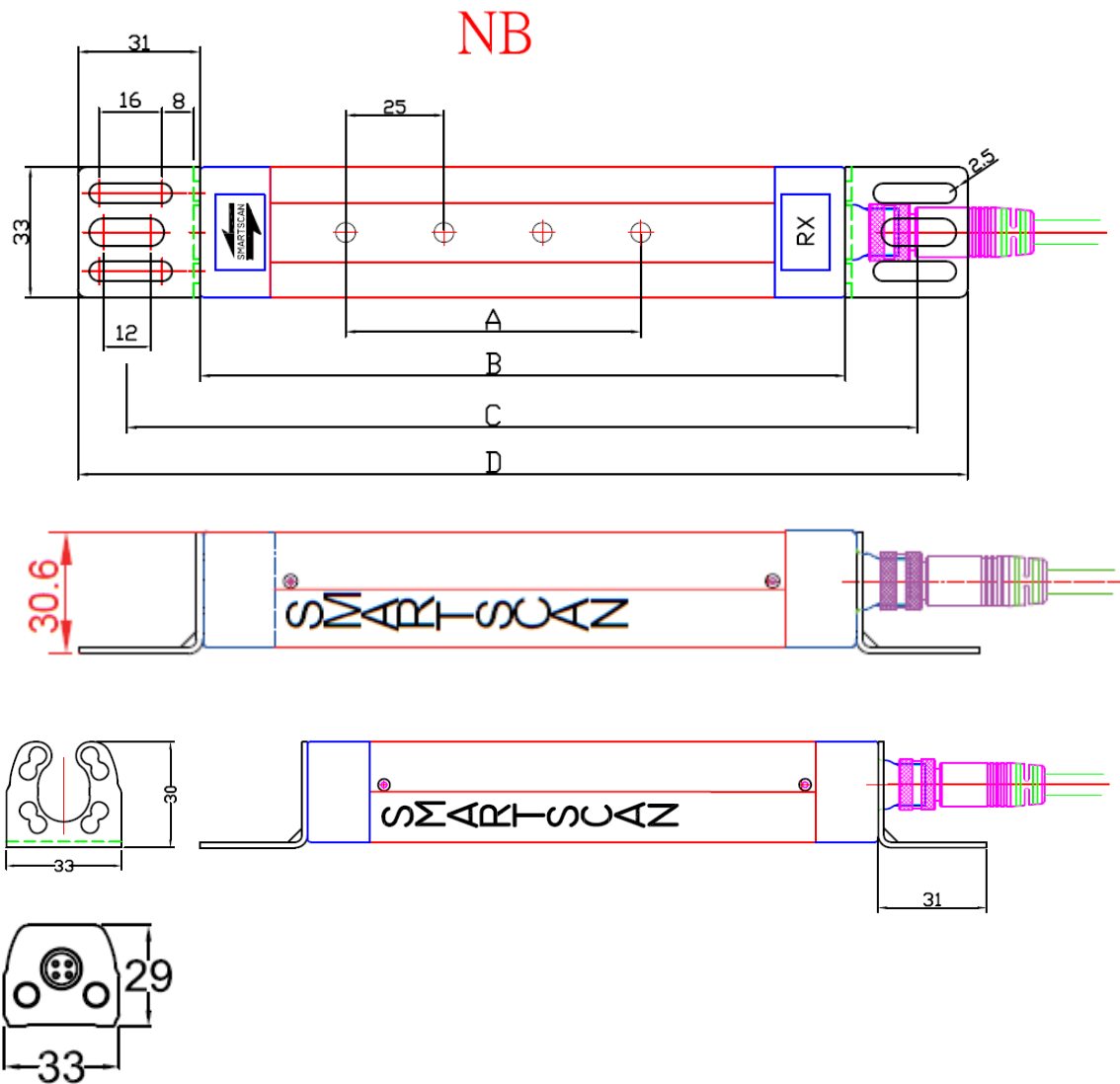


Mounting bracket Kit

NB-001 – Multifunction bracket



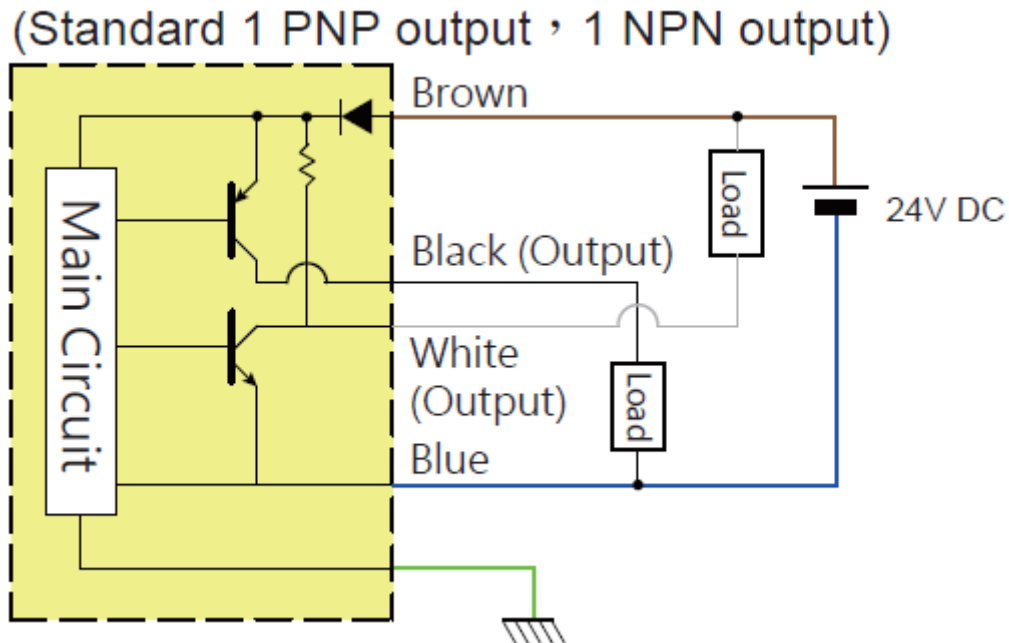
DIMENSIONAL INFORMATION



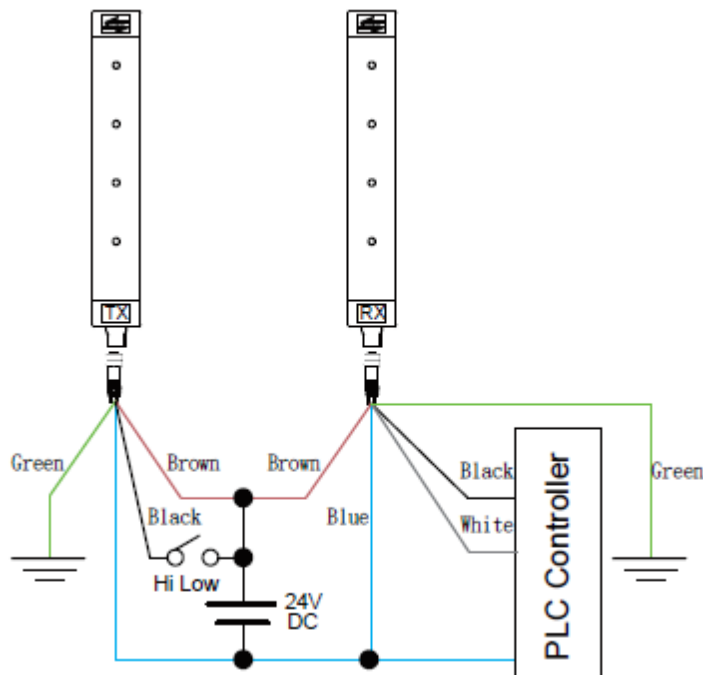
Detection Capability:30mm Beam Pitch:25mm			Standard Range:0.5M-3M LONG Range:1M-7M		
MODEL	Beam	Detection zone(A) (mm)	Overall Lenght(B) (mm)	Install Lenght(C) (mm)	Assembly Lenght(D) (mm)
*NB-4	4	75	164	201	226
*NB-8	8	175	264	301	326
*NB-12	12	275	364	401	426
*NB-16	16	375	464	501	526
*NB-20	20	475	564	601	626
*NB-24	24	575	664	701	726
*NB-32	32	775	864	901	926
*NB-40	40	975	1064	1101	1126
*NB-48	48	1175	1264	1301	1326
*NB-56	56	1375	1464	1501	1526
*NB-64	64	1575	1664	1701	1726

ELECTRICAL CONNECTION

The N series non-safety light curtain has two outputs for connections to the machine circuit, NPN and PNP. The following electrical circuit is an example to show the difference between the two outputs and correct connection information.



The term 'Load' shown in the above circuit example can be assumed as a 'Relay' and the outputs from the Relay can be used to connect the appropriate signals as required for the machine interface. However, the outputs from the N series light curtain (NPN and PNP) can be directly connected to a PLC or other devices. Note operating voltage is at 24v dc and 200mA per Output.

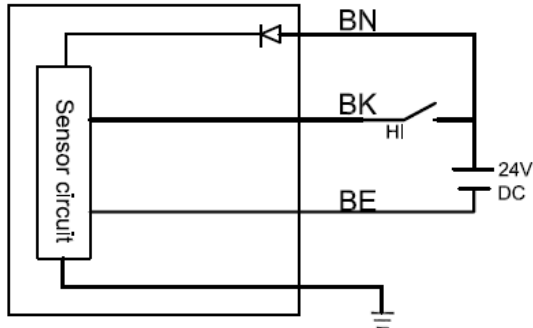


RANGE SETTING FOR SHORT RANGE VERSION

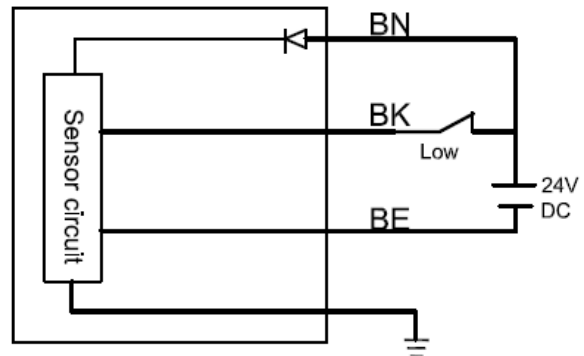
TX wiring diagram

(TX selectable emitting strength)

(1)TX high power emitting



(2)TX Low power emitting



The operating infrared range of the light curtain can be configured for Low Range (0.5 to 1.5m) or High Range (1.0 – 3.0m). The Low Range setting can be achieved by simply connecting 'the Black' wire of the Transmitter head to 24v dc, and for High Range leave the Black wire NOT connected (terminated safe).

STATUS INDICATION



Normal Status



Blocked Status

Indicator	Status	Meaning
Transmitter (TX)	Yellow LED	Power connected
Receiver (RX)	Green LED	Transmitter and Receiver is aligned correctly, infrared beams are unobstructed.
Receiver (RX)	Red LED	Transmitter and Receiver infrared beams are obstructed or not aligned.