

OPTICAL BARRIER OB-VT

The Logika Technologies through-beam optical barrier, Model OB-VT, is designed for automation of steel, aluminum and other mill production lines. It includes a rugged enclosure protecting state-of-the-art electronics and will withstand the harsh ambient conditions present in heavy industrial environments. The OB-VT is used to detect the presence of product throughout the steel making process and is mainly applied in the furnace areas.

The OB-VT is comprised of Emitter and Receiver. The Emitter contains a solid-state laser diode that penetrates dust, steam and high temperatures around reheat furnaces. The Receiver picks out the modulated light from the optical noise of the steel plant for reliable product detection. Both Emitter and Receiver have built-in cooling water and air purge capability.



<u>OB-VT</u>	–	<u>XXX</u>
Base		Power Input
Model		024 = 24 VDC
		110 = 110 VAC
		220 = 220 VAC

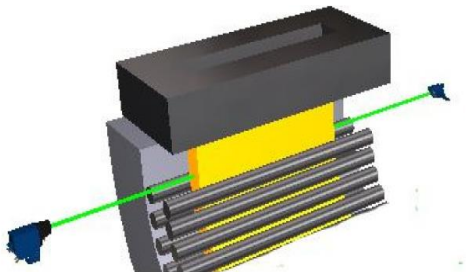
Operating Temp	-25°C to 45°C (-13°F to 115°F). With cooling water: +70°C (158°F)
Power Input	24 VDC, 110 VAC, 220 VAC @ 5 W
Output	Relay NO/NC @ 5 A, Choice of PNP or NPN "S" type output @ 100 mA
Response Time	Relay output: Make = 7 ms and Break = 4 ms PNP/NPN = 1 ms
Detect Range	Up to 50 m (164 ft.)
Target Object	Opaque object larger than $\phi 50$ mm (2")
Emitter Source	650 nm visible red semi-conductor laser, power <5 mW. Class IIIR laser
Cable	Insulation: 20 M Ω , 500 VDC, $\geq 500^\circ\text{C}$ (930°F)
Housing	Cast aluminum enclosure rated IP66, includes cooling water connection and air purge connection
Size	Emitter: 267 mm L x 178 mm H x 80 mm D (10.5" x 7" x 3.125"), 1 kg (2.2 lbs) Receiver: 254 mm L x 178 mm H x 80 mm D (10" x 7" x 3.125"), 1 kg (2.2 lbs)
Indicators	Emitter/Receiver Green = Power on: Receiver: Red = target detect

Key Features

- Design for harsh environment with IP66 enclosure
- Integrated air purging and cooling water connection
- Insensitivity to ambient light with anti-light jamming capability of 1000 lux
- Visible class IIIR laser to facilitate alignment
- Status indicator lights, signal strength indicator

Typical Applications

- Detecting billets, slabs, plates
- Detecting dummy bar at caster
- Furnace entry and exit



Additional Options

- Junction Box - Includes electrical support components
- Shroud - Sheet metal protective cover
- Support Stand - Steel Construction - adjustable for mounting sensors

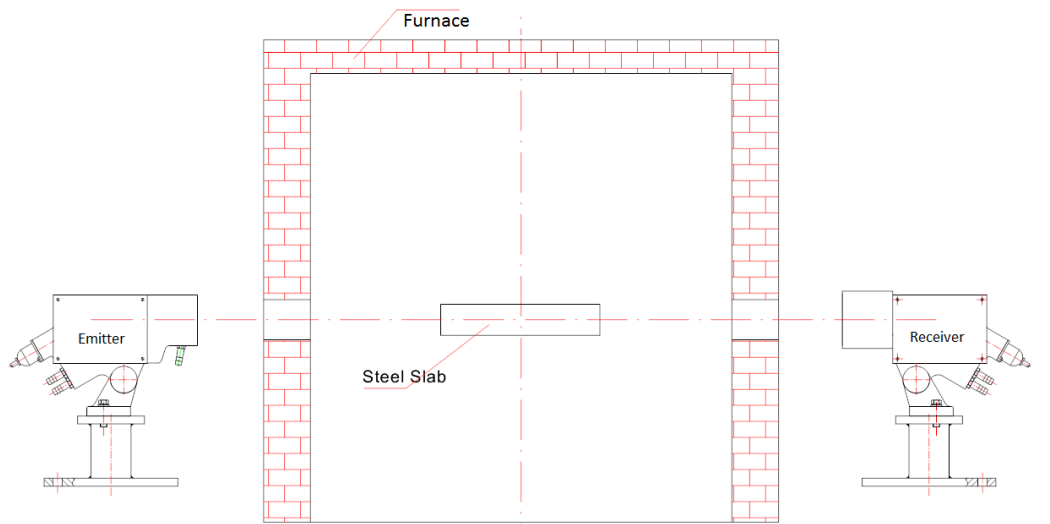
Emitter:

BRN (1) K	RED (2) M	ORG (3) A
+24VDC	0V	Earth
110VAC	Neutral	
220VAC	Neutral	

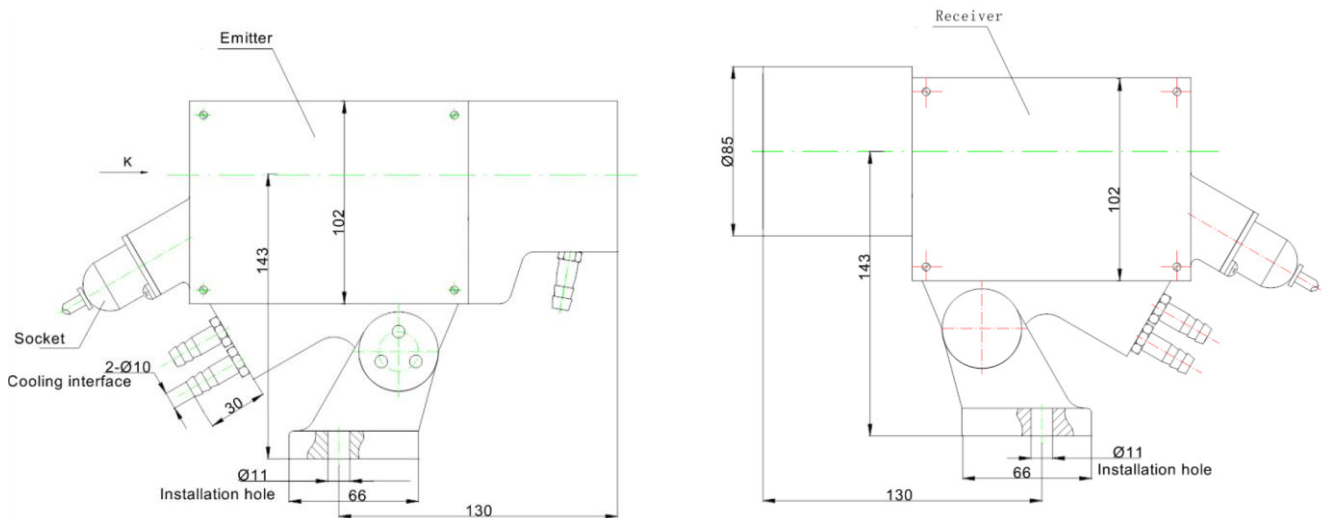
Receiver:

BRN (1) K	RED (2) M	ORG (3) A	YEL (4) B	GRN (5) G	BLU (6) J	VIO (7) C	GRY (8) D	WHT (9) E	PNK (10) F
Power Supply		DC Power Out			Push-Pull Output		Relay Output		
+24VDC	0V	+24VDC	0VDC	Earth	PNP Hi=Detect	NPN Lo=Detect	Relay NO	Relay Com	Relay NC
110VAC	Neutral	Out	Out						
220VAC	Neutral								

Cable Terminal Wiring Description.



Working Principle.



Enclosure Diagram.