

## Fiber optic sensor for steel and heavy industries: HMD FD-A320series

Wide coverage from 350°C to 1,300°C (\*),  
a new standard HMD in the industry.



(\*). Iron. The temperature differs depending on metal.

### Features

- Dual digital display for received infrared intensity and threshold level.
- Temperature mode selection (High/Low) achieves wide temperature coverage.
- Equipped with highly reliable hermetically sealed Bestact™ relay. (FD-A320H)
- Analog output proportional to receiving IR intensity enables better traceability or line monitoring. (4 to 20mA)
- Accepts AC100 to 240V allowing for universal use.
- Compatible with all FD300A/FD600A accessories.

Highly visible two-layered reflective display.



\* Bestact relay is a registered trademark of Yaskawa Controls Co., Ltd.

## Specifications

Model		FD-A320	FD-A320H
Detecting temperature range		Low mode: 350~800°C High mode: 490~1300°C when OHA and FG2 are used.	
Effective aperture		φ 28mm (OHA/OHAN/OHAN10)	
Power supply		100 to 240VAC +10%, -15%, 50/60Hz	
Power consumption		6W or less	
Control output		2 relay outputs and analog current output	
Rating	Control output	Relay output 1c Max 5A 250VAC resistive load	Bestact relay* 0.5A 220VAC 0.3A 110VDC inductive load
		Photo MOS output 1a 0.1A 250V AC/DC resistive load	
		Current output 4 to 20mA, Allowable load resistance: 0 to 500Ω	
Stability output		Relay output 1a 5A 250VAC resistive load, Photo MOS output 1a 0.1A 250VAC/DC resistive load	
Simulation input		Dry contact input (contact/non-contact), sink current 5mA or less	
Operation mode		Light ON (upon detecting a hot object)	
Response time		Relay output: 17ms or less, Photo MOS output: 4ms or less, Bestact relay: 6ms or less, Analog output: 4ms F.S. or less	
Display	Numeric	Received light intensity: 0.0 to 12.0 (interval: 0.1) Threshold: 1.0 to 9.0 (interval: 0.1)	
	Indicator	Operation (OP.L): red LED, Stability (STB): green LED, Simulation (SIMU): orange LED Detecting temperature mode: High: Ht, Low: Lt Orange LED	
Material		Aluminum die-cast	
Connection		Cable with connector, 2m (VCTF 0.75m <sup>2</sup> 16 cores) gray	
Weight		Amplifire: approx. 1,100g Cable: approx. 620g	
Ambient temperature		-25 to +50°C (no-condensation, no-freezing)	
Ambient humidity		35 to 85%RH (no-condensation)	
Protective structure		IP64	
Vibration		10 to 55Hz double amplitude, 1.5mm X, Y, Z 3 directions 2 hours each	
Impact		500m/s <sup>2</sup> X, Y, Z 3 directions 3 times each	

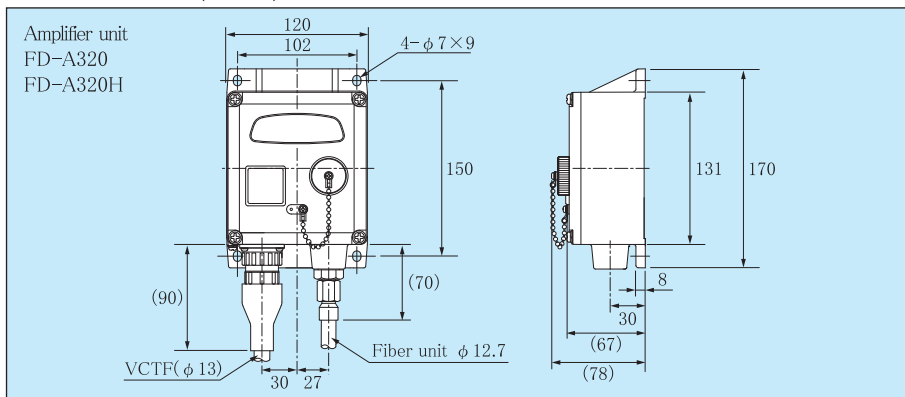
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## Minimum detecting temperature

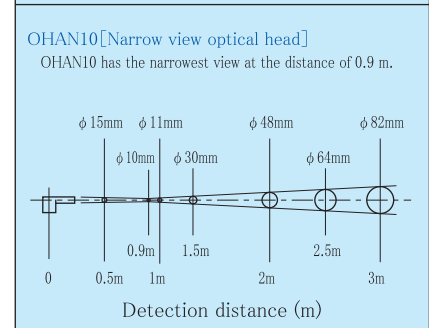
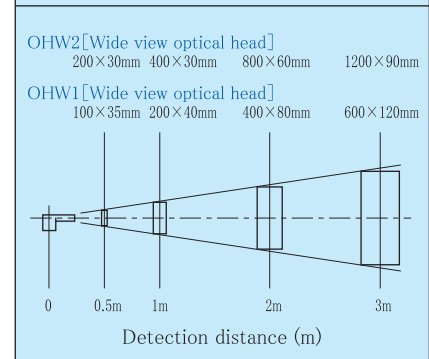
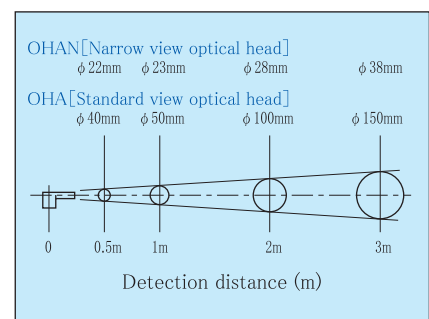
Guidelines for the minimum temperature of detection objects: Fe, emissivity 0.8.

Length of optical fiber cable	Low temperature mode			High temperature mode		
	Optical head			Optical head		
	Standard view OHA	Narrow view OHAN/OHAN10	Wide view OHW1/OHW2	Standard view OHA	Narrow view OHAN/OHAN10	Wide view OHW1/OHW2
2m	350°C	480°C	415°C	490°C	685°C	590°C
3m	365°C	500°C	430°C	510°C	705°C	610°C
4m	375°C	515°C	445°C	525°C	720°C	625°C
5m	385°C	530°C	450°C	540°C	735°C	635°C
7m	400°C	550°C	475°C	560°C	760°C	660°C
10m	445°C	600°C	520°C	610°C	850°C	725°C
15m	480°C	640°C	555°C	655°C	920°C	775°C
20m	500°C	665°C	580°C	680°C	960°C	800°C
30m	530°C	705°C	610°C	720°C	1030°C	850°C

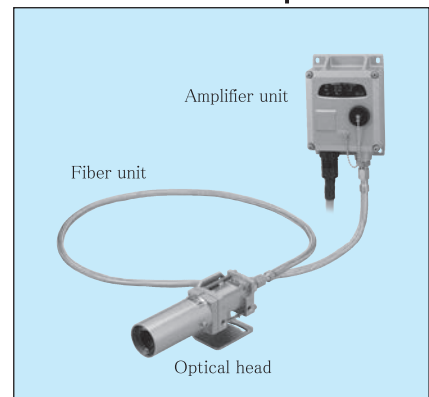
## Dimensions (in mm)



## Detection field of view



## The standard setup



- This product is designed for industrial applications to detect a various kinds of objects. It has no function to prevent disasters, accidents, death or injuries.
- TAKEX will not held responsible for any damage or loss incurred due to accidents, faulty installation, abuse, misuse, improper maintenance or acts of God including lightning surge.
- This product cannot be used as safety equipment.
- This product is designed and manufactured for industrial use. It cannot be used where there is a requirement for a high degree of reliability or considerable care or attention to safety.
- Read this instruction manual carefully and use the product properly according to it.
- This instruction manual including the specifications and dimensions may be subject to change without notice.



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