

FD-A310C series

Fiber type / HMD

Focus on basic functions for low cost



FD-A310 C series photo switches are hot metal detectors (HMDs) that directly detect infrared radiation from heated glass or steel.

Glass fiber optic cables with good heat resistance and transmission factor are used for detecting heads, which transmit the detected infrared rays to amplifiers that amplifies the signals for output.

Two output types are available: mini power relay output and photo-MOS relay output for AC/DC control.

- Compact, lightweight amplifier
- Flexible heat-resistant fiber optic cables

Type/Price

Type	Model	Specification overview				
Amplifier	FD-A310C	Power supply : 100-220V AC	Output	Relay output		
	FD-A310CM			Photo-MOS relay output		
Fiber	GT205AD	Fiber length	Lowest detectable temperature (*)	0.5m	320°C	Heat resistance 200 °C, IP 67
	GT21AD			1m	330°C	
	GT22AD			2m	350°C	
	GT23AD			3m	370°C	
	GT25AD			5m	390°C	
	GT27AD			7m	410°C	
	GT210AD			10m	430°C	
Optical head	OHC	Heat resistance 200 °C, IP 67				

*)These temperatures are inherent performance applicable when heated material is larger than the detecting field of view. For actual usage, consider at least 50 °C above these temperatures as guidelines. Heated material smaller than the field increases the lowest detectable temperature.

Ordering Guide

The FD-A310C series does not have set model Nos. Order by specifying the individual model Nos. of components.

Component	Model	Quantity
Optical head	OHC	1
Fiber	GT205AD	1
Amplifier	FD-A310C	1

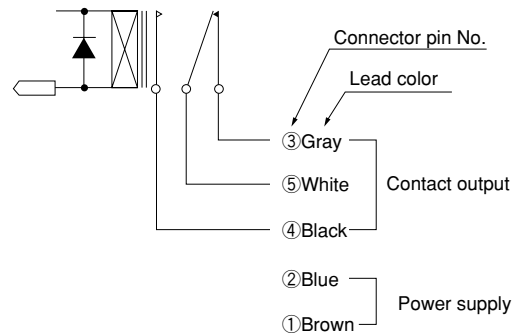
FD-A310C

Rating/Performance /Specification /Environmental Specification

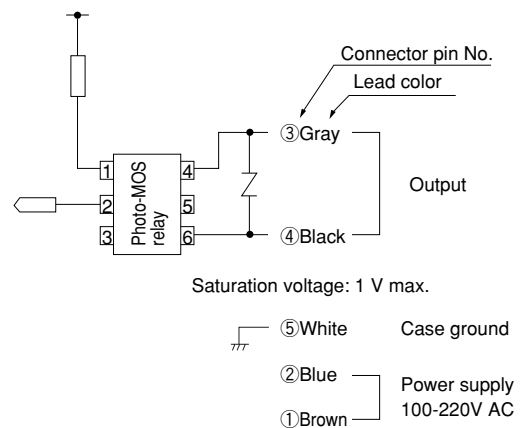
Model	FD-A310C	FD-A310CM
Output mode	Relay output	Photo-MOS relay output
Control output	Light-ON/Dark-ON selector switch provided (DIP switch)	
Rating	Transfer contact MAX 5A 250V AC (Resistance load)	1a MAX 80mA 250V AC/DC (Resistance load) Saturation voltage = 1 V max.
Response time	10ms max.	5ms max
Light-sensitive element	Ge photodiode	
Sensitivity wavelength	0.8~1.8 μ m	
Sensitivity adjustment	10-position digital switch without stopper	
Indication	Power indicator (P.L), operation indicator (O.P.L), received light intensity indicator: 3-point	
Power Supply	AC100~220V +10% -15% 50/60Hz	
Power consumption	5W Max.	
Connection	Connector type: cord length 2 m Cord: 0.75 x 5 mm ² cores, (Outer dimension: dia. 4.5)	
Ambient temperature	Optical head, Fiber: -40 to +200°C Amplifier: -25 +50°C (Non-freezing)	
Storage temperature range	-40 to +70°C (Non-condensing)	
Ambient humidity	35 - 85%RH Max. (Non-condensing)	
Insulation resistance	500VDC 20M Ω or higher	
Dielectric withstanding	1500 VAC for 1 minute	
Vibration	10-55 Hz / 1.5 mm amplitude / 2 hours each in 3 direction	
Shock	500 m/s ² / 3 times each in 3 directions	
Protective structure	IP54	
Mass	About 950 g (including cord with connector)	

Input/Output Circuit and Connection

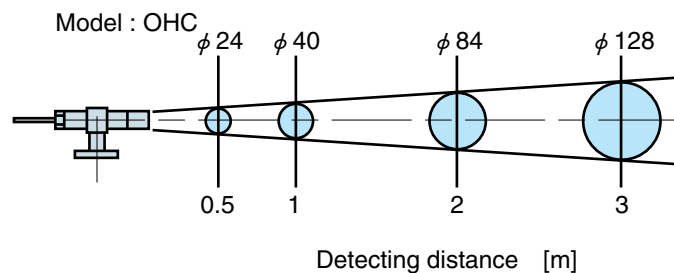
Model FD-A310C (Relay output type)



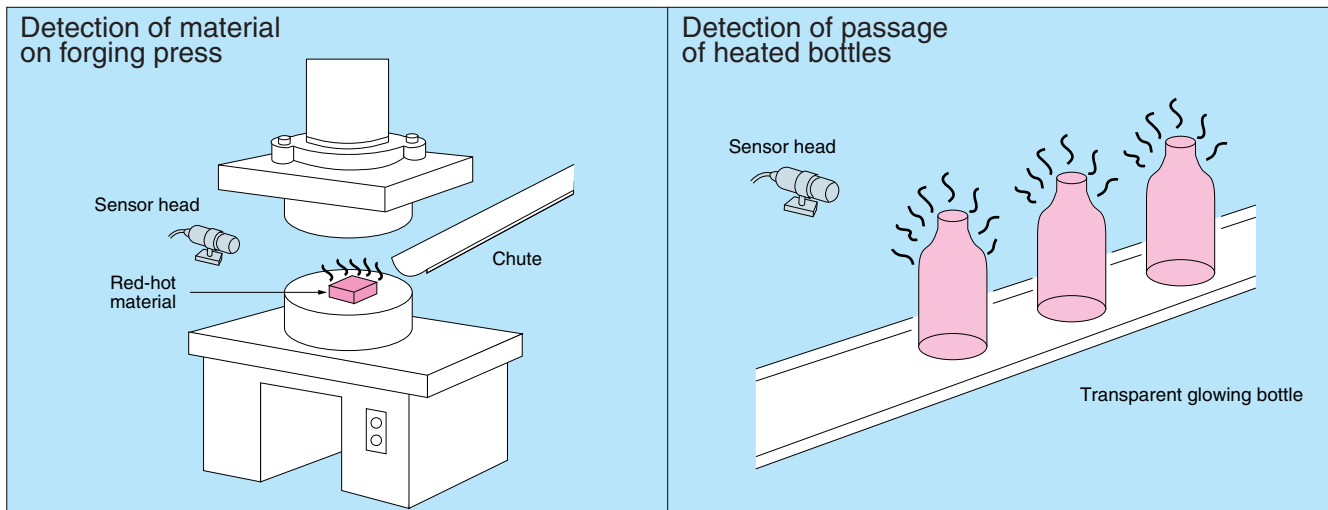
Model FD-A310C (Photo-MOS relay output type)



Detection field of view (mm)



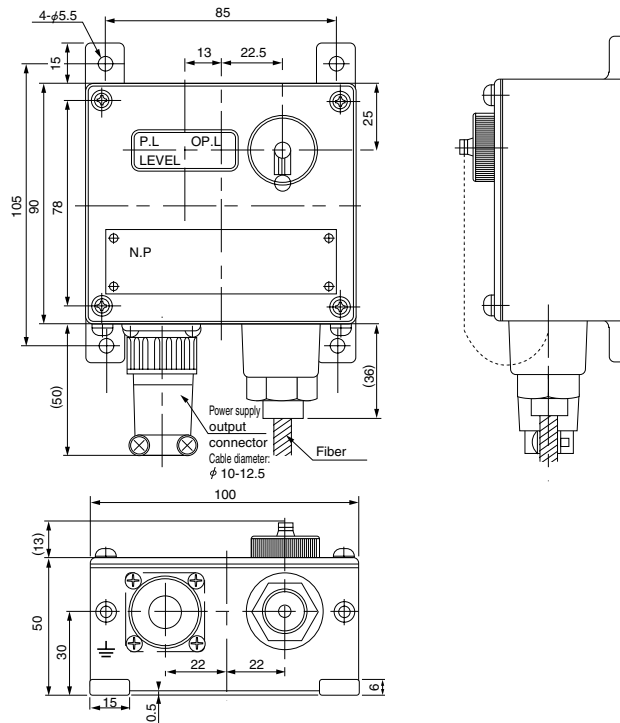
Sample Applications



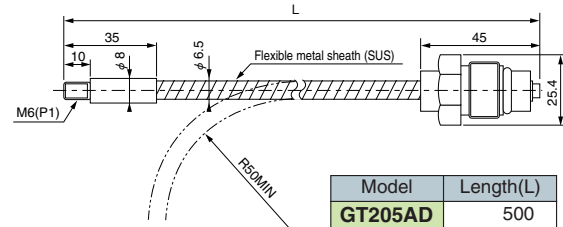
FD-A310C

Dimensions (in mm)

Amplifier



Fiber



Model	Length(L)
GT205AD	500
GT21AD	1000
GT22AD	2000
GT23AD	3000
GT25AD	5000
GT27AD	7000
GT210AD	10000

(mm)

Optical head

