KD50 series

Water-cooled HMD

Inexpensive
Reliably detects low-temperature (450°C min.) steel material

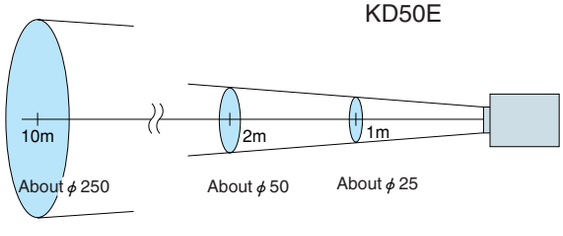
Narrow-view type
Model KD50 (relay output)
KD50E (voltage output)

Wide-view type
Model KD50W (relay output)
KD50EW (voltage output)

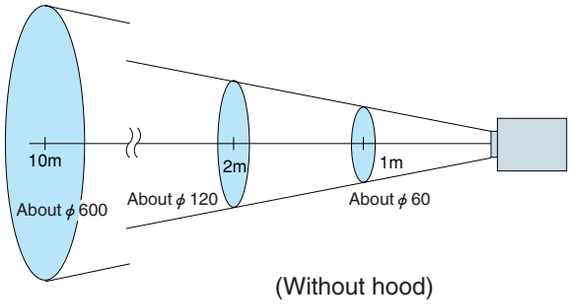
The KD50 Series HMDs are extremely compact and low-cost for an amplifier-integrated water-cooled sensors. The KD50 Series sensors directly detect infrared radiation and output ON-OFF signals, which is useful for applications such as detection of passage or position of red-hot steel materials including ingots, slabs, steel plates and mold steel.

- Detection field of view

Narrow-view type Model・KD50 KD50E



Wide-view type Model・KD50W KD50EW



(Without hood)

Features

- Water-cooled
  The KD50 Series sensors are the smallest of water-cooled sensors with built-in amplifiers and are enclosed in a robust case that withstands severe operating conditions.
- Narrow-view and wide-view types available
  Choice between narrow-view and wide-view types allows selection according to installation conditions, etc.
- Reasonable Cost
  High performance allows detection of low-temperature (450 °C min.) steel material. Streamlined design offers even more reasonable price.
- Performance comparable to full-size HMDs
  Long detecting distance, sensitivity adjustment feature and high sensitivity offer excellent stability
- Airless dust hood or air purge hood attachable
  Prevents dirt deposits on lens, dust hoods that do not require air (F38S, F38N) and air purge hoods (302NC-305NC) are available.

Contact Takex for detailed material data.

KD50

Rating/Performance/ Specification/ Environmental Specification

Model	KD50	KD50W	KD50E	KD50EW
Detection method	Radiation detection			
Power Supply	AC100～110V/200～220V ±10%% 50/60Hz			
Power consumption	4W max.			
Operation mode	Light-ON			
Output mode	Relay output		Voltage output	
Rating	1 transfer contact 200 VAC 0.5 A resistance load		10VDC 5mA	
Detection object temperature	450 °C min. (ordinary steel material)			
Response time	25ms max.		5ms max.	
Indicator	Light reception indicator (red LED)			
Sensitivity adjustment	Adjustable with volume			
Ambient temperature	-10 - +55 °C (150 °C max. with water-cooling)			
Ambient humidity	35-85%RH (non-freezing, non-condensing)			
Insulation resistance	500 VDC, 20 M_ or higher (between primary side of transformer/output terminal and case)			
Dielectric withstanding	1.5 kVAC for 1 minute (between primary side of transformer/output terminal and case)			
Vibration	10-55 Hz / 1.5 mm amplitude / 2 hours each in 3 direction			
Shock	500 m/s² / twice each in 3 directions			
Protective structure	IP66			
Case material	Aluminum die-cast (cord opening ground hub)			
Connection	Terminal block			
Mass	About 2kg			

Cooling water specification

Flow rate	2R/minute min.
Temperature	+10～+35℃
Withstand voltage	0.29MPa

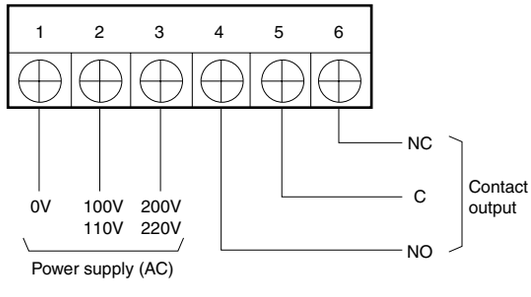
Air purge specification (with optional part)

Flow rate	200R/minute min.
Withstand voltage	0.98MPa

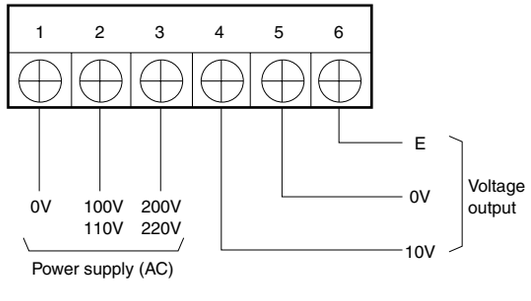
Air not required for use of airless dust hood.

Connection

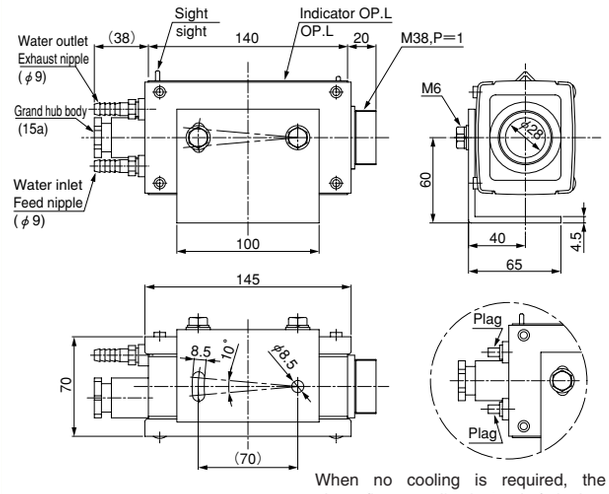
Relay output type



Voltage output type

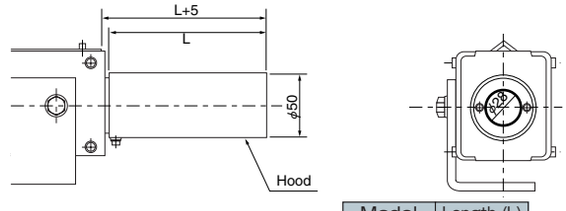


Dimensions (in mm)



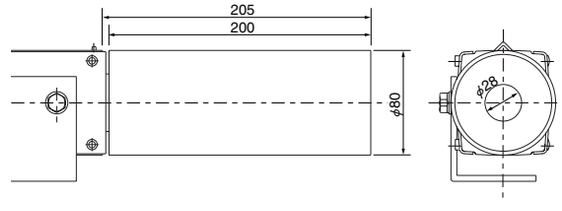
When no cooling is required, the above figure applies instead of nipples.

With Airless hood F38S Series attached

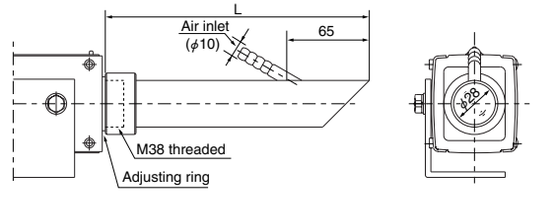


Model	Length (L)
F38S	120mm
F38S-03	300mm
F38S-04	400mm
F38S-05	500mm

With Airless hood F38N Series attached



With air purge hood attached



Model	Length (L)
302NC	215mm
303NC	315mm
304NC	415mm
305NC	515mm