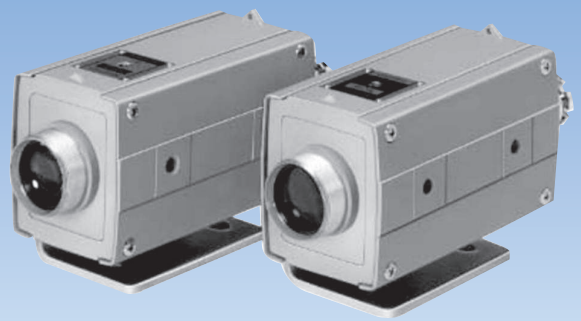
KL(R)50 series

Water cooled CMD

Long distance (50 m) detection with high sensitivity
Compact, robust and inexpensive

Operating temperature: –10 - +150 °C



The KL(R)50 Series sensors are through beam type CMDs that output ON-OFF signals by detecting blocking of light by the detected object that passes between the transmitter and receiver.
For receivers, relay output and voltage output types are available depending on the output mode.

Features

- Compact, low cost
  Streamlined design provides the smallest size and lowest cost of all water cooled, amplifier built in type sensors
- Robust and light weight case
  Robust case capable of withstanding severe operating conditions such as heat, water and shock also offering light weight is employed.
- Fully prepared for external light disruption
  Unique circuitry ensures stable operation and high reliability under red-hot steel material of over 1,000 °C
- Excellent stability
  Received optical output about ten fold of operation level at detecting distance of 50 m ensures detection even with minor soiling of lens or in adverse environment.
- Optical sight convenient for alignment
  Both transmitter and receiver are provided with optical sight that facilitates optical axis alignment
- Attachable airless dust hood or air purge hood
  Different types of airless dust hoods and air purge hoods are available for prevention of soiling of lens, etc.

Type

Type	Model
Amplifier	**KLR50**
	KLR50E
Airless hood	**F38S**
	F38S-03
	F38S-04
	F38S-05
	F38N
Air purge hood	**302NC**
	303NC
	304NC
	305NC

Rating/Performance/ Specification/ Environmental Specification

Model	KLR50	KLR50E
Transmitter	KL50	KL50
Receiver	KR50	KR50E
Detection method	Through beam	
Detecting distance	50m	
Light source	Infrared LED	
Power Supply	100-110VAC/200-220VAC ±10% 50/60Hz	
Power consumption	4W or less	
Operation mode	Light ON	
Output type	Relay output	Voltage output
Rating	1c 200 VAC 0.5 A or less (resistive load)	10VDC 5mA or less
Smallest detection object	ϕ28mm	
Operating angle	5° or more	
Response time	25ms or less	5ms or less
Resistance to external light	50,000 lx or lower(incandescent lamp) 100,000 lx or lower(sun light)	
Indicator	Transmitter: power indicator (red LED); receiver: light reception indicator (red LED)	
Ambient temperature	-10°C to 55 °C (below 150 °C with water-cooling)	
Ambient humidity	35 - 85%RH or less (Non-freezing, non-condensing)	
Insulation resistance	500 VDC, 20 MΩ or higher (between primary side of transformer/output terminal and case)	
Dielectric withstanding	1500 VAC for 1 minute (between primary side of transformer/output terminal and case)	
Vibration	10-55 Hz / 1.5 mm double amplitude / 2 hours each in 3 direction	
Shock	500 m/s² / 3 times each in 3 directions	
Protective structure	IP66	
Case material	Case: Aluminum die cast	
Connection	Terminal block (Cable opening : Ground hub)	
Weight	Transmitter: Approx.2kg Receiver: Approx.2kg	
Accessories	Operation manual, Mounting bracket	

● Cooling water specification

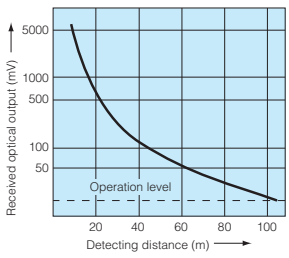
Flow rate	2L/minute or more
Temperature	+10 - +35°C
Withstand voltage	0.3MPa

● Air purge specification (with optional part)

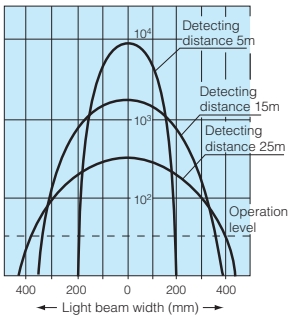
Flow rate	200L/minute or more
Withstand voltage	1MPa

Air not required for use of airless dust hood.

Excess Gain Curve (Typical)



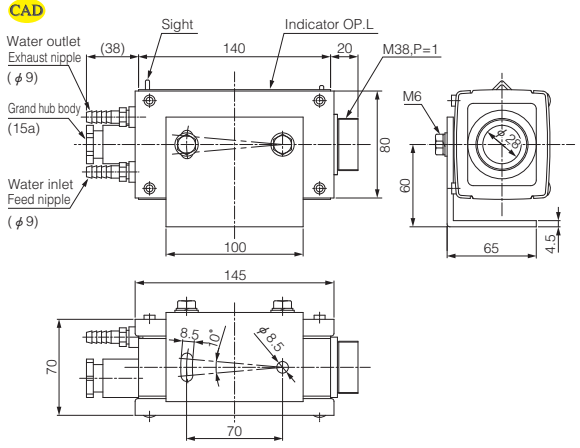
Response Curves: Beam Pattern (Typical)



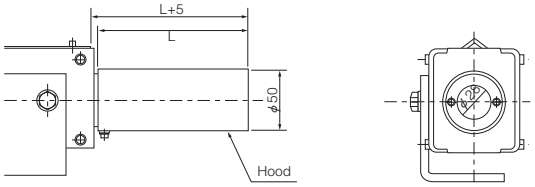
Dimensions (in mm)

Transmitter/receiver

CAD

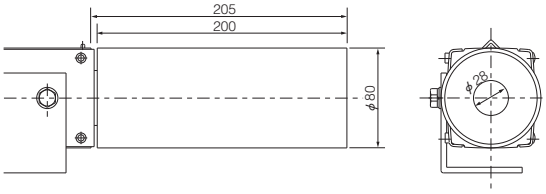


● With Airless hood F38S Series attached

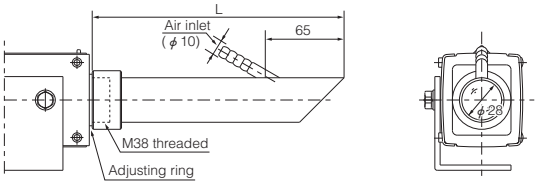


Model	Length (L)
F38S	120mm
F38S-03	300mm
F38S-04	400mm
F38S-05	500mm

● With Airless hood F38N attached



● With air purge hood attached



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

CAD To download CAD data including dimensions, please visit www.takex-elec.co.jp/index_e.html.