



## Wide View Waterproof Rearview IR Camera



### Models

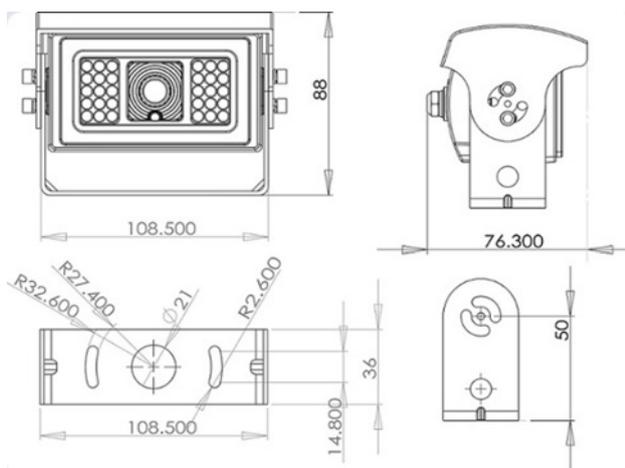
RVC - 30

### Features

30 Infrared LEDs - Night Vision  
140° Camera View Area  
10G Shockproof Protection  
IP-69K Waterproof Camera  
IP-69K Waterproof Connectors  
Sharp® Camera Chip Technology

IP69K Rating 100% Waterproof Protection

Model	
Sensor	1/3" 420TVL SHARP CCD
Total Pixels	PAL:510(H)x492(V)/NTSC:500(H)x582(V)
Illumination	0Lux (LEDs ON)
Viewing Angle	140°
Video Output	1.0Vp-p 75 ohm
Camera Cover	Alloy
Shockproof	10g
NORMAL/MIRROR Screw	NO
Backlight Compensation	On/Off
Operation Temperature	-20°C~+70°C RH95% Max.
Day & Night	Auto / Day / Night
Storage Temperature	-40°C~+80°C RH95% Max.
White Balance	Auto / Manual
Operating Voltage	DC12V
IR LEDs	30PCS
Night Vision Distance	30M
Dimensions(mm)	108.5(W) x 88(H) x 76.3(D)
Weight	500g



\* Design and specifications are subject to change without notice.



## New ratings are... MAKING A SPLASH

Kocchi new range of backup cameras and enclosures are now approved for the IP69K rating! This **high-pressure spray down** protection rating is different from the NEMA 4X rating, and is applicable to many markets.

### IP69K Protection:



With new IP ratings, TTI's rearview camera devices are even more advantageous in environments requiring a high degree of protection from dust, submersion, and high-pressure, high-temperature spray-down. This level of protection is essential in many food & beverage, pharmaceutical, and petrochemical markets.

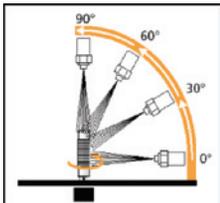
### What is IP69K?

The IP69K rating is designed to address high pressure, high temperature wash down applications. The "6" applies to external protection from dust. The "9" signifies protection from close-range high-pressure spray downs, and the "K" applies to the high temperature of the water used.

The IP69K rating was established in 1993 as an extension to the IEC 60529 standard. It was originally intended to be a standard for road vehicles that would provide protection against foreign objects such as dust, dirt, high-pressure water, heat, and inadvertent touch.

The IP69K standard requires the water pressure to be between 1160-1450 psi, at a rate of about 4 gallons/minute, and at a temperature of 176°F.

The nozzle from which the water is sprayed is between 4 and 6 inches from the product. The spray is applied at the angles of 0°, 30°, 60°, and 90°, for duration of 30 seconds at each angle, while the product is rotated at 5 rpm.



### IP69K is different from NEMA Type 4

The IP69K and NEMA Type 4 standards both require the product to protect against the entry of water during a wash/spray down, but this is where the similarities end. The Type 4 test is mainly concerned with hose conditions involving lower pressure water at greater water volume (65 gallons/minute), and longer distances (10-12ft). The Type 4 rating can be compared with spray from a firehose. In contrast, the IP69K test is at a very close range (5.9" max), low volume, and very high pressure/high temperature. Because in reality many operators are sprayed down at distances much closer than the approved 10-12 feet, NEMA 4X rated product can allow ingress in instances where IP69K rated product can withstand it.



*Protection from dust,  
submersion, and high-pressure,  
high-temperature spray-down.*

**Some application requesting  
the IP69K rating camera:**

- Food processing
- Dump trucks
- Cement mixers
- Waste Treatment
- Mining Vehicles
- Agricultural equipments

**How we make the IP69K camera differently?**

Making of TTI's IP69K camera is different from competitors. We test all finished cameras via a High Pressure Air Machine use high pressure air to test the sealing, cameras pass the test can guarantee 100% no water/dust invasion during usage.

Most makers recently only test their cameras in 1M water in 1 hour or less at QC stage. According to our 5-years after sales service records, water immersing tested cameras will contribute 3-5% damage rate during daily use within the warranty.



High Pressure Air (Test Sealing)



High Pressure Water: 10000KPa

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