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large caliber zooming MWIR Camera

JIOPTICS® M1000K large caliber zooming MWIR Camera can realize 10x optical zoom, and can carry out long-range target observation and large-field search.
It can operate for long distance, the ranging on people can reach over 12Km, on targets can reach over 1000Km.

With high stability of the optical axis it can achieve stable switching of the field of view within 2 pixels ranging.
Long-distance detection, identification and tracking for small targets

JIOPTICS® large caliber zooming MWIR Camera Introduction

It consists of a large-caliber zooming lens and an high-sensitivity imaging detection component. The focal length is 60mm～600mm, maximum aperture and caliber is F2 and 314mm respectively, with 640×512@15um resolution. It can achieve 10x optical zoom, which can carry out long-distance target observation and large field of view search.

The detection component adopts self-adaptive multi-background and non-uniformity automatic correction technology, and intelligent image processing algorithm with image noise filtering, image enhancement, and automatic light adjustment to ensures high-sensitivity and high-sharpness video images. It also adopts technology of vibration resistance, high and low temperature resistance, and sealing package to ensure high reliability and good sealing performance. It can be applied to photoelectric theodolites, photoelectric turrets and other high frame rate (≥100Hz) that can be customized.

Features

—Transmission-type and large-caliber zooming MWIR Camera
—It can operate for long distance, the ranging on people can reach over 12Km, on targets can reach over 1000Km.
—With high stability of the optical axis it can achieve stable switching of the field of view within 2 pixels ranging.

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Application

Long-distance detection, identification and tracking for small targets Imaging

Parameter

Imaging performance	Resolution	640×512
	Pixel size	15 μm
	Aperture	2.0
	focal length	60 mm~600 mm continuous zoom
	Detector material	MCT
	Band range	3.7 μm~4.8 μm
	Detector NETD	≤20mK@F2.0,25℃
	Cooling method	Stirling Refrigeration
	Cooling time	<7min@25℃
	Zoom	electric
Function	Frame rate	1Hz~100Hz
	Integration time	Manually adjustable
	Electronic amplification	×2
	Brightness/contrast	Manual / Auto
	Synchronize	Internal /external synchronization
	Image algorithm	Non-uniform correction, image filtering, image enhancement, blind element correction, black heat/white heat, digital noise reduction
	Detection distance	Person ≥19km, vehicle ≥46km
	Recognition distance	People ≥6km, vehicles ≥15km
	Mirror	Horizontal, vertical, diagonal
	Power protection	It provides protection when it comes to over-voltage, over-current, under-voltage and reverse connection
Environmental adaptability	Operating temperature	-40℃~+60℃
	Storage temperature	-45℃~+70℃
	vibration	GJB 150.16A-2009A.2.3.10
Physical characteristics	Movement size	≤528mm×492mm×366mm (excluding connectors and cables)

	weight	≤47kg (including lens cover)
interface	Input voltage	DC 24V±1V
	Power consumption	Peak value: ≤45W@25℃ Stable: ≤20W@25℃
	Video output	PAL/CL/optical fiber optional
	Communication Interface	RS422

Properties	Remarks
Detector dimension	640×512,15um
Operating band	3.7um~4.8um
Cooling type	Stirling refrigeration
Aperture	2.0
Focal length	60mm（-5%）~600mm（+5%）@25℃
Zooming time	≤10s@25℃
Frame frequency	50Hz/100Hz（default as 100Hz）
Synchronization	Internal/ External synchronization (default as external synchronization）
Integral time	Manual adjustment（600us~4ms）
Integration	take 8 between 600us and 4ms
Interface to outside	RS422
Cooling time	≤6min@25℃
Electronic amplification	×2
Analog video interface	PAL
Digital video interface	Camera Link，14bits，base mode
Power supply	DC +24V±1V，2A
Power consumption at a stable state	≤30W@25℃
Seal grade	IP54
Installation	hanging on the side
Dimension（L×W×H）	≤610mm×490mm×365mm（excluding connectors and cables）
Weight	≤55kg

Dimension

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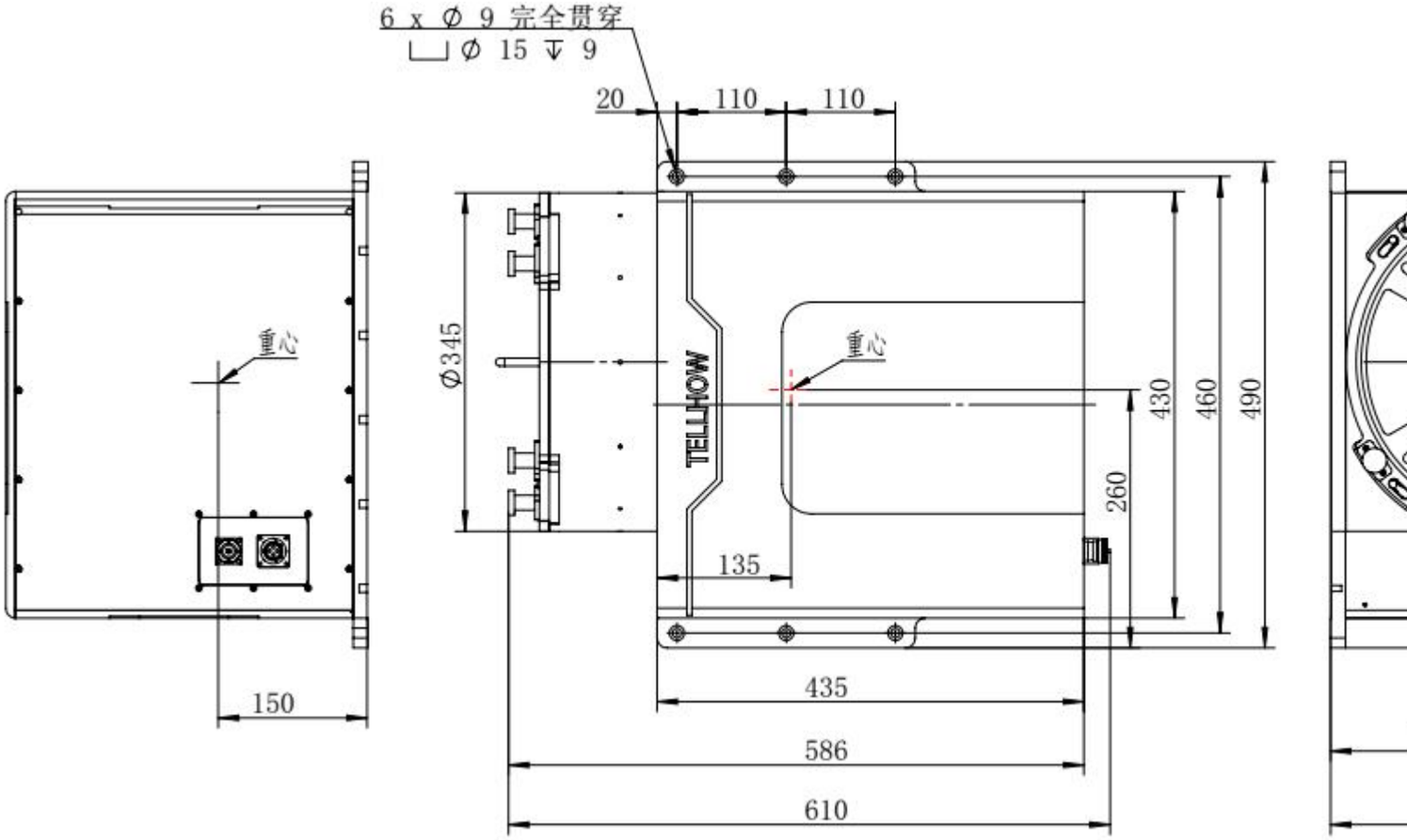

Features

1）Time adjustment and Integration can be modified manually
2）It can form mirror images vertically, horizontally and diagonally.
3) It can achieve image processing algorithm with non-uniform correction, image filtering, image enhancement, blind pixels correction, black/white heat, cross cursor（analog video）, and pseudo-color（analog video）.
4）With good sealing and stability performance for external connectors
5）It provides protection when it comes to over-voltage, over-current, under-voltage and reverse connection.
6）Power supply and GND are isolated
7）Interface RS422 connects to outside
8）it can achieve shutter calibration and switch controlling.
9）It is able to feedback focal length
10）With the function of electronic focusing.
11）With the function of zooming；
12）Under the 25℃ room temperature, It can form high-sharpness images between the shortest focal length and the longest focal range for targets in infinity.

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