Company Profile:

LeadEx System Company Limited, professional manufacturer and designer of CCTV products. With main products series:Robot Speed Dome, Thermal PTZ Camera, Mega Pixel PTZ Camera, Standard Speed dome camera, Mini Speed Dome Camera, IP Speed Dome, Mobile Recording Black Box, Fiber Optics,Web Transmitter, Matrix and Switching power supply.

All products are CE/FCC compliance, some are with Explosion Proof Certificate and IP66 testing report. The system has been broadly applied into areas, such as airports, bank buildings, law enforcement, government offices, prisons, highways, nuclear power station, harbors, factories and schools etc.

To work with LeadEx is not only to work with the leading manufacturer and designer in this industry, but also to work with a long-term partner who can offer continuing technical support and keep you remaining truly competitive.

Why choose us?

Professional Manufacturer with high efficiency R&D Team, provide OEM&ODM service

- Fast delivery time, normally within two weeks
- Two years warranty, three months free backup replacement
- Competitive price with high performance products
- Skilled communication sales team

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CONTENT

JM612-TM Thermal Robot Camera

JM612-TM

LeadEx JM612-TM Robot Series are combined with Flir un-cooled Thermal camera module and Sony 36X Day/ Night camera.. This Robot Series are optically sensitive in both daytime and dark night conditions. It can detect the target, which the normal human eyes are totally indiscernible, even can see through the thick smoke, fog, and dust as well. LeadEx JM612-TM Robot Series provide the perfect dual spectra image and 24 hours surveillance solutions.

The thermal module is detectable within the IR wave length 7.5~14 μm and even can distinguish tiny temperature difference. The higher of the target temperature, the image of the thermal will be more sharp and clear.

The body of JM612-TM Robot Series are machined from 8~22mm 6063# Aluminum Alloy or 316# Stainless Steel. The JM612-TM robot series are also integrated with the special 5- proof features, dual spectra image solutions, multiple lens choice and geared PTZ controller.

Based on its unique features, the JM612-TM thermal robot are especially applicable to some high security occasions, that include: search and rescue, national defense, law enforcement, military, maritime affairs, aviation and traffic etc.

Unique Feature

Vandal Proof
Be resistant to the destructiveness of stones, bricks

Bullet Proof
Be resistant to the impact from the short gun bullets

Corrosion Proof
The stainless steel body lasting long even exposed to acrid rain and seawater
316#Stainless Steel optional

Water Proof
Sealed to IP66 and NEMA 4X

Feature

- Integration of Day/ Night camera, thermal camera, lens, receiver, variable high-speed pan/tilt motor and enclosure
- This series Robot Dome, are machined from 8~22mm thickness Aluminum alloy or 316#Stainless Steel, coupled with its unique sound and solid dome body design, efficiently prevent from many destructiveness and threaten in practical use.
- Flat designed optics window from filmed and toughened glass (5mm thick) offers distortion free image and maximum vandal resistant protection for IOP (Integrated Optical Package) camera module
- Unique DIP switch design, offers the operator an easy-to-use windows
- Motor calibration in manual or auto guarantee preset precise in continuing running
- Alarm box and water pump system for optional
- IP66/CE/FCC/RoHS compliance
- Support with LeadEx firmware online upgrade funcion
- Optional built-in IP module

Thermal Camera Feature

- Optional 320x240 Pixel or 640x480 Pixel Un-cooled Thermal Camera Module
- Multiplex thermal lens for optional(19mm, 35mm, 50mm, 60mm, 75mm, 100mm)
- Manual focus and motorized focus lens for optional

Sony Camera Feature

- Built-in Sony 36X integrated camera module
- BLC (Back Light Compensation) & WDR (Wide Dynamic Range) functions
- Privacy mask function, 8 privacy zone
  (PIs see the camera parameters)

Pan/Tilt Feature

- 128 programmable presets, presets frozen
- Programmable Pattern & auto scan
- OSD password protection
- RS-485/ RS-232/ RS-422 for optional
- Compatible to Pelco P/D protocol and customized protocol for optional
- Auto / Manual zero calibration
- User definable left and right limitation, proportional Pan speed
- OSD programming menu, inside temperature and pan/tilt/zoom position
- Dual Image output
- User definable power-up action and temperature control
- Surge & non-volatile protection

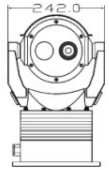
JM612-TM Parameter

Thermal Camera Module Parameter

- FPA (Focal Plane Array): 320*240 (640*480 pixel for optional)
- Detector Material: Vanadium Oxide (VOX)
- Detectable IR Wavelength: 7.5 ~ 14 μ m
- Sensitivity (NETD): 35mk @ f1.0 / 85mk @f 1.6
- Time to Image: Less than 2 seconds
- Minimum pixel size: 38 μ m(320*240Pixel) 25 μ m(640*480 Pixel)
- Useful Scene Temperature: -40℃ ~ +75℃
- Zoom: 2x digital zoom

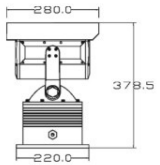
Sony Camera Module Parameter

- Built-in Sony FCB-EX1010, 530TVL. (Please see the camera parameters)



Mechanical Parameter

- Sony Camera window for filmed and toughened glasses: 5mm
- Germanium glasses window for the thermal camera module (Optional)
- Aluminum alloy body: 8mm ~ 22mm or (316L#) Stainless Steel Dome body for optional
- Continues working temperature: -40 ℃ ~ +60 ℃
- Net weight: 17.5KG (A-alloy), 48KG (Stainless Steel)
- Dimension: 378.5 x 280 mm (L*W)
- Packing Volume: 70 x 48x 34 cm



(unit: mm)

Electrical Parameter

- Input Voltage: AC24V±10%, 50Hz, DC24±10%, 50Hz
- Maximum Power: 50VA

Pan/Tilt specifications for lens with 19mm, 35mm, 50mm and 65mm

- Pan/tilt speed: Pan 0.1° ~100° /s Tilt: 0.1° ~50° /s
- Preset speed: Pan 100° /s Tilt : 50° /s
- Preset accuracy: +/-0.03°
  (manual or auto calibration available)
- Auto scan speed: 1° ~40° /s
- Pan rotation: 360° Tilt rotation: ±25°

Pan/Tilt specifications for lens with 75mm and 100mm

- Pan/tilt speed: Pan 0.23° ~80° /s Tilt: 0.01° ~8° /s
- Preset speed: Pan 80° /s Tilt : 8° /s
- Preset accuracy: +/-0.03°
  (manual or auto calibration available)
- Auto scan speed: 1° ~40° /s
- Pan rotation: 360° Tilt rotation: -12° ~+22.4°

JM612-TM Application

JM612-TM Robot Series are optically sensitive both in day time and dark night conditions. They can detect the target, which the normal human eyes are totally indiscernible, even can see through the thick smoke, fog and dust as well.

JM612-TM Robot series provide the perfect dual spectra image and 24 hours surveillance solutions. They create a virtual security fence in total darkness and in the most diverse weather conditions and could be applicable in many high security and surveillance occasions.

Protecting a country's border is vital to its national security. With the ability to detect intruders or smugglers in several kilometers away through darkness, smoke, fog and dust, JM612-TM Robot series cameras can help border control professionals to meet the demands that they face at night and in other low-light situations.

Also ports and airports, nuclear plants, petrochemical installations, warehouses...are vulnerable to theft, or even worse terrorist attacks. They can all be protected by using thermal imaging cameras.

Thermal Robot will not only protect borders and assets against intruders during the dark nights. The cameras are also perfectly suited to complement existing surveillance cameras during daytime. Thermal Robot will detect objects that remain invisible to the naked eye. For example people hiding in the shadows or in bushes will be seamlessly detected.

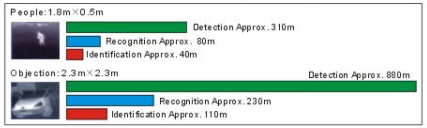
JM612-TM Real Video

- 2km Distance: Petrochemical factory

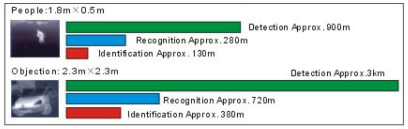
- 2km Distance: Boat at sea

JM612-TM Effective Distance and Capability Chart

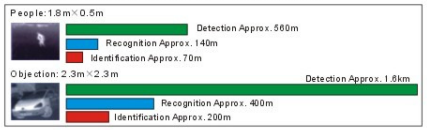
Thermal Robot Effective Distance (19mm Len)



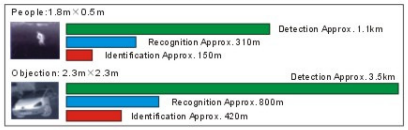
Thermal Robot Effective Distance (60mm Len)



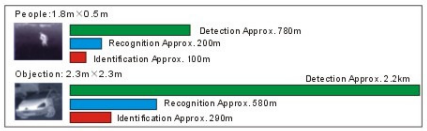
Thermal Robot Effective Distance (35mm Len)



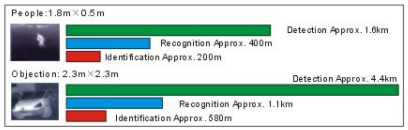
Thermal Robot Effective Distance (75mm Len)



Thermal Robot Effective Distance (50mm Len)



Thermal Robot Effective Distance (100mm Len)



Order Guide

Model Number / Material / Lens(mm)	Aluminum Alloy		Stainless steel	
	320*240	640*480	320*240	640*480
19	JM612A-TM-19	JM612A-TM-19H	JM612S-TM-19	JM612S-TM-19H
35	JM612A-TM-35	JM612A-TM-35H	JM612S-TM-35	JM612S-TM-35H
50	JM612A-TM-50	JM612A-TM-50H	JM612S-TM-50	JM612S-TM-50H
60	JM612A-TM-60	JM612A-TM-60H	JM612S-TM-60	JM612S-TM-60H
75	JM612A-TM-75	JM612A-TM-75H	JM612S-TM-75	JM612S-TM-75H
100	JM612A-TM-100	JM612A-TM-100H	JM612S-TM-100	JM612S-TM-100H

Lens Parameter

Focus (mm)	Iris	Viewing Angle Pan	Viewing Angle Tilt	Viewing Angle Full Field	Wavelength Band (μm)	Pixel Size (μm)	Focusing Range	Focus Mode	Modecoated Ransmission Rate	Flange Focus Distance (mm)	Connection Size	JM612-TM	PVP-TM
19	0.85	45.7°	35.1°	55.5°	8~12	50×50	∞~0.3m	Motorized focus	〉80%	14	M34×0.75	Y	N
25	1	35.5°	27°	43.6°	8~12	50×50	∞~0.3m	Fixed or manualfocus	〉80%	15	M34×0.75	Y	N
40	0.9	22.6°	17.1°	28.1°	8~12	50×50	∞~0.5m	Manual focus	〉80%	32.5	M45x1	Y	N
40	0.9	22.6°	17.1°	28.1°	8~12	50×50	∞~0.5m	Motorized focus	〉80%	29.3	Flange Connector	Y	N
40	0.7	22.6°	17.1°	28.1°	8~12	50×50	∞~0.5m	Manual focus	〉80%	20	M45×1	Y	N
40	0.7	22.6°	17.1°	28.1°	8~12	50×50	∞~0.5m	Motorized focus	〉80%	20	M45×1	Y	N
50	1	18.2°	13.7°	23.5°	8~12	50×50	∞~0.5m	Manual focus	〉80%	18.5	M34x0.75	Y	N
50	0.95	18.2°	13.7°	22.6°	8~12	45×45	∞~3m	Manual focus	〉80%	20	M45x1	Y	N
50	0.74	18.2°	13.7°	22.6°	8~12	50×50	∞~0.5m	Motorized focus and iris BS connetor	〉80%	19	2.325 "-12TPI	Y	N
50	0.7	18.2°	13.7°	22.6°	8~12	50×50	∞~0.5m	Manual focus	〉80%	20	M45x1	Y	N
60	1	11.6°	8.7°	14.4°	8~12	38×38	∞~1.5m	Motorized focus	〉80%	20	Flange Connector	Y	N
75	1	12.2°	9.2°	15.2°	8~12	50×50	∞~2.5m	Manual focus (water proof)	〉80%	22	2.325"-12TPI	Y	N
75	1	12.2°	9.2°	15.2°	8~12	50×50	∞~2.5m	Motorized focus	〉80%	25	2.325"-12TPI	Y	N
75	0.8	11°	8.2°	13.7°	8~12	45×45	∞~2.5m	Manual focus	〉80%	25	2.325"-12TPI	Y	N
75	0.8	11°	8.2°	13.7°	8~12	45×45	∞~2.5m	Manual focus (water proof)	〉80%	25	2.325"-12TPI	Y	N
100	0.98	9.1°	6.9°	11.4°	8~12	50×50	∞~5m	Manual focus	〉80%	25	2.325"-12TPI	Y	N
100	0.98	9.1°	6.9°	11.4°	8~12	50×50	∞~5m	Motorized focus	〉80%	25	2.325"-12TPI	Y	N
100	1.4	7°	5.2°	8.7°								Y	N
150	1.2	6.1°	4.6°	7.6°	8~12	50×50	∞~15m	Manual focus	〉80%	25	2.325"-12TPI	N	Y
150	1	6.1°	4.6°	7.6°	8~12	50×50	∞~15m	Motorized focus	〉80%	25	2.325"-12TPI	N	Y
200	customization											N	Y
300	customization											N	Y

Thermal PowerView Plus Camera

PVP-TM

LeadEx Thermal PowerView Plus (PVP-TM) series are combined with Sony 36X Day/ Night camera, Flir un-cooled Thermal camera module and long range thermal lens. This series thermal camera are optically sensitive in both day time and dark night conditions. It can detect the target, which the normal human eyes are totally indiscernible, even can see through the thick smoke, fog and dust as well. PVP-TM series provide the perfect dual spectra image and 24hours surveillance solutions.

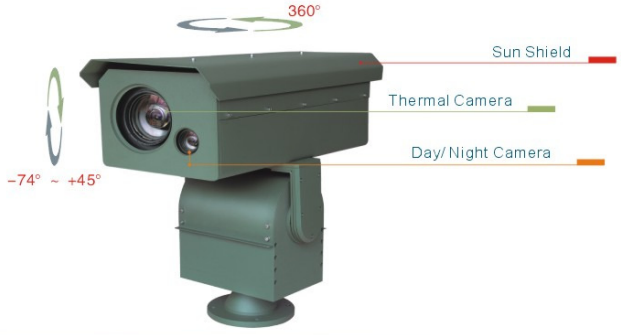
The thermal module is detectable within the IR wavelength 7.5~14 μm and even can distinguish tiny temperature difference. The higher of the target temperature, the image of the thermal will be more sharp and clear.

The firmness body of PVP-TM series are designed to be water proof, dust proof and vandal proof. And the whole camera system is integrated with geared PTZ controller, dual spectra image solutions, multiple lens choice. Based on its unique features, the PVP-TM series are especially applicable to long distance security defense occasions, which include search and rescue, national defense, law enforcement, military, maritime affairs, aviation and traffic etc.

Unique Feature

Vandal proof
Be resistant to the destructiveness of stones, bricks)

Water proof
Sealed to IP65



Parameter

- Integration of Day/Night Camera (optional), thermal camera, lens, receiver, variable high-speed pan/tilt motor and enclosure
- PVP-TM series are machined from the mixed A3 armour plate, coupled with its unique sound and solid dome body design, efficiently prevent from many destructiveness and threaten in practical use.
- Flat designed optics window from filmed and toughened glass (5mm thick)
- Germanium glasses window for the thermal camera module (Optional)
- Unique DIP switch design, offers the operator an easy-to-use windows
- Motor calibration in manual or auto guarantee preset precise in continuing running
- Alarm box and water pump system for optional
- IP65/CE/FCC/RoHS compliance
- Support with LeadEx firmware online remote upgrade module
- Optional built-in IP module

Thermal Camera Feature

- Optional 320x240 Pixel or 640x480 Pixel Un-cooled Thermal Camera Module
- Multiplex thermal lens for optional (100mm,150mm, 200mm, 250mm, 300mm)
- Manual focus and motorized focus lens for optional

Sony Camera Feature

- Built-in Sony 36X integrated camera module
- BLC (Back Light Compensation) function
- WDR(Wide Dynamic Range) function
- Privacy mask function, 8 privacy zone (Please see the camera parameters)

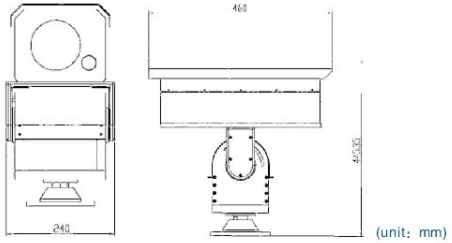
Pan/Tilt Feature

- 128 programmable presets, presets frozen
- Programmable Pattern & auto scan
- OSD password
- RS-485/ RS-232/ RS-422 for optional
- Compatible to Pelco P/D protocol and customized protocol for optional
- Auto / Manual zero calibration
- User definable left and right limitation, proportional Pan speed
- OSD programming menu, inside temperature and pan/tilt/zoom position
- Dual image output
- User definable power-up action and temperature control
- Surge & non-volatile protection

Parameter

Thermal Camera Module Parameter

- FPA (Focal Plane Array): 320*240 (640*480 pixel for optional)
- Detector Material: Vanadium Oxide (VOX)
- Detectable IR Wavelength: 7.5 ~ 14 μm
- Sensitivity (NETD): 35mk @ f1.0 / 85mk @f 1.6
- Time to Image: Less than 2 seconds
- Minimum pixel size: 38 μm (640*480 pixel 25 μm)
- Useful Scene Temperature: -40℃ ~ +75℃
- Zoom: 2x digital zoom



Sony Camera Module Parameter

- Built-in Sony FCB-EX1010, 530TVL.
  (Please see the camera parameters)

Electrical Parameter

- Output power: ≤72W
- Input voltage: AC24V±10%, 50Hz, DC24V±10%, 50Hz

Pan/Tilt Parameter

- Pan rotation: 360° Tilt rotation: -74° ~+45°
- Pan/tilt speed: Pan: 0.09° ~80° /s, Tilt: 0.091° ~25° /s
- Preset speed: Pan 80° /s Tilt : 8° /s
- Preset accuracy: +/-0.03° (manual or auto calibration available)
- Auto scan and manual scan, auto scan speed: 1° ~40° /s

Mechanical Parameter

- Rugged designed all metal (mixed A3 armour plate)
- Water proof level: IP65
- Sony Camera window: 5mm filmed and toughened glasses
- Thermal camera module window : Germanium glasses (Optional)
- Continue working temperature: -10℃ -- +60℃
- Storage temperature: -20℃ -- +85℃

Application

PVP-TM Thermal PTZ camera Series are optically sensitive in both day time and dark night conditions, they are designed to meet long distance intrusion detection demands. They can detect the target, which the normal human eyes are totally indiscernible, even can see through the thick smoke, fog and dust as well.

PVP-TM Thermal PTZ camera Series provide the perfect dual spectra image and 24hours surveillance solutions. They create a virtual security fence in total darkness and in the most diverse weather conditions and found their way into many high security and surveillance applications.

Protecting a country's border is vital to its national security. With the ability to detect intruders or smugglers in several kilometers away through darkness, smoke, fog and dust, PVP-TM Thermal PTZ camera Series can help border control professionals to meet the demands that they face at night and in other low-light situations.

Also ports and airports, nuclear plants, petrochemical installations, warehouses...are vulnerable to theft, or even worse terrorist attacks. They can all be protected by using thermal imaging cameras.

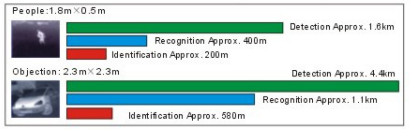
PVP-TM Thermal PTZ camera Series will not only protect borders and assets against intruders during the darkest of nights. The cameras are also perfectly suited to complement existing surveillance cameras during daytime. They will detect objects that remain invisible to the naked eye. For example people hiding in the shadows or in bushes will be seamlessly detected.



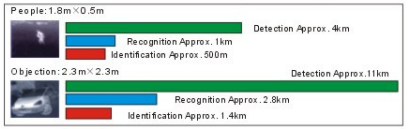

PVP-TM Real Video


PVP-TM Effective Distance and Capability Chart

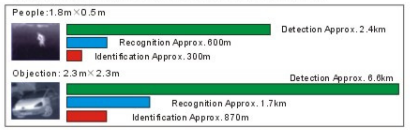
Thermal Robot Effective Distance (100mm Len)



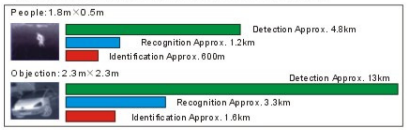
Thermal Robot Effective Distance (250mm Len)



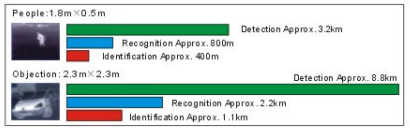
Thermal Robot Effective Distance (150mm Len)



Thermal Robot Effective Distance (300mm Len)



Thermal Robot Effective Distance (200mm Len)



Order Guide

Model Number / Type / Lens(mm)	Type A		Type B	
	320*240	640*480	320*240	640*480
100	PVP-TM-100-A	PVP-TM-100H-A	PVP-TM-100-B	PVP-TM-100H-B
150	PVP-TM-150-A	PVP-TM-150H-A	PVP-TM-150-B	PVP-TM-150H-B
200	PVP-TM-200-A	PVP-TM-200H-A	PVP-TM-200-B	PVP-TM-200H-B
250	PVP-TM-250-A	PVP-TM-250H-A	PVP-TM-250-B	PVP-TM-250H-B
300	PVP-TM-300-A	PVP-TM-300H-A	PVP-TM-300-B	PVP-TM-300H-B

Type A: Built-in SONY and Thermall camera module
Type B: Built-in Thermal camera module and Lens only

Explosion Proof Robot Speed Dome

JM612-V8

The body of JM612-V8 Robot Series are machined from 8~22mm thickness 6063# Aluminum Alloy or 316L# Stainless Steel and integrated with Sony 530TVL Day /Night Cameras and 360 degree continuous Pan/Tilt rotation.

The solid dome body are designed and proved to be explosion proof and to be resistant to impact from the destructiveness of stones, bricks, normal explosion and even short gun bullets. JM612-V8 Robot Series had been formally accredited by CNEx/CQST with Ex-proof standard Exd II CT6, and with their assigned related certificate.

The JM612-V8 Series dome body is integrated with the special 5-proofs design. That is Bullet proof, vandal proof, Water proof, Corrosion proof and Explosion proof. Because of its explosion proof design, it is very popular in "Hazardous Areas", "Explosive Atmosphere" and the likely and related areas where flammable liquids, vapours, gases or combustible dusts are likely to occur in quantities sufficient to cause a fire or explosion.

Its own unique omniseal waterproof and explosion design, coupled with its sound and solid dome body made it tailor made to be applied in the typical occasion, that include: marine transportation, military foundation, perimeter protection, ammunition depot, jails, ports, nuclear facility, oil refineries, rigs and offshore drilling platform, oil& gas station, chemical plants, embassies, airports, city surveillance, government, banks and vehicles (off-road vehicles, police cars, military vehicles) etc.

Unique Feature

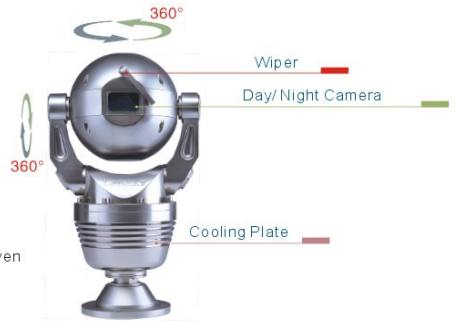
Explosion proof
Accredited by CNEx/CQST with EXD II CT6 certification

Bullet proof
Be resistant to the impact from the short gun bullets

Vandal proof
Be resistant to the destructiveness of stones, bricks)

Corrosion proof
The stainless steel body lasting long even exposed to acrid rain and seawater

Water proof
Sealed to IP66 and NEMA4X



Feature

- Integration of Day/Night camera, receiver, variable high-speed pan/tilt motor and enclosure
- JM612-V8 series are machined from 8~22mm thickness Aluminum alloy or 316#Stainless Steel, coupled with its unique sound and solid dome body design, efficiently prevent from many destructiveness and threaten in practical use.
- Flat designed optics window from filmed and toughened glass (5mm thick) offers distortion free image and maximum vandal resistant protection for IOP (Integrated Optical Package) camera module
- Unique DIP switch design, offers the operator an easy-to-use windows
- Motor calibration in manual or auto guarantee preset precise in continuing running
- Alarm box and water pump system for optional
- IP66/CE/FCC/RoHS compliance
- Support with LeadEx firmware online remote upgrade module
- Optional built-in IP module

Camera Feature

- Built-in Sony IOP camera module
- Back light compensation on/off selectable & Wide Dynamic Range functions
- Privacy mask function, 8 privacy zone
  (Please see the camera parameters for details)

Pan/Tilt Feature

- OSD password protection
- On-Screen-Display programming menu, inside temperature and pan/tilt/zoom position
- User definable 128 target presets, 8 preset tours, video frozen
- Programmable Pattern & auto scan
- User definable power-up action and temperature control User definable left and right limitation, proportional Pan speed
- RS-485 communication port, RS-232, RS-422 for optional
- Compatible to Pelco P/D protocol and customized protocol for optional
- Auto / Manual zero calibration
- OSD programming menu, inside temperature and pan/tilt/zoom position
- Surge & non-volatile protection

Feature

Mechanical Parameter

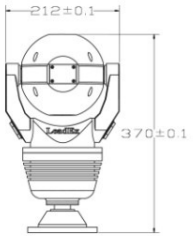
- Aluminum alloy or(# 316L)stainless steel body: 8mm ~ 22mm
- Filmed and toughened glass: 5mm
- Continuous working temperature：-20℃ -- +50℃
- Storage temperature: -40℃ -- +60℃
- Net weight: 10KG (Al-alloy), 24KG (Stainless Steel)
- Dimension: 370 x 212 mm (see chart)
- Packing Volume: 70 x 48 x 34 cm

Pan/Tilt Parameter

- Pan/tilt speed: Pan 0.1° ~100° /s Tilt: 0.1° ~ 80 ° /s
- Preset speed: Pan 100° /s Tilt：80° /s
- Preset accuracy: ±0.1° (auto /hand control.)
- Auto scan: 1° -40° /s
- Pan rotation: 360° Tilt rotation: 360°

Electrical Parameter

- Input voltage: 18VAC~30VAC/18VDC~30VDC
- Input power: 50VA



Application

The JM612-V8 Series dome body is integrated with the special 5-proofs design. That is Bullet proof, vandal proof, Water proof, Corrosion proof and Wind proof. Because of its explosion proof design, it is very popular in “Hazardous Areas”, “Explosive Atmosphere” and the likely and related areas where flammable liquids, vapours, gases or combustible dusts are likely to occur in quantities sufficient to cause a fire or explosion.

Its own unique omniseal waterproof and explosion design, coupled with its sound and solid dome body made it tailor made to be applied in the typical occasion, that include: marine transportation, military foundation, perimeter protection, ammunition depot, jails, ports, nuclear facility, Oil refineries, rigs and offshore drilling platform, oil& gas station, chemical plants, embassies, airports, city surveillance, government, banks and vehicles (off-road vehicles, police cars, military vehicles) etc.

As an option, Ni8trigeon gas (N2 : Maximum pressure up to 150xpa) could be filled into the dome body through a specially designed air vent valve. This could offer further protection to the inner parts, and adapt to industry and marine related installation, like seaports, ships and chemical plants.




Order Guide

Model Number / camera / Material	18X Day/Night (Sony FCB-EX490)	26X Day/Night (Sony FCB-EX990)	36X Day/Night (Sony FCB-EX1010)
Aluminum Alloy	JM612A-V8-18	JM612A-V8-26	JM612A-V8-36
316L# Stainless Steel	JM612S-V8-18	JM612S-V8-26	JM612S-V8-36

PHOTO COPIES OF JM612 CERTIFICATE OF CONFORMITY

For JM612 Robot Speed Dome

GENERAL INFORMATION:

LeadEx JM612 SERIES Robot Speed Dome Camera (also called Solid Speed Dome) is designed and proved to be explosion proof, accredited by CNEx/CQST (China National Quality Supervision and Test Center for explosion Protected Electrical Products), the legal professional testing and certification body in Explosion safety test, verification and approval.

CNEX/CQST is an IECEx (International Electrotechnical Commission Scheme for certification to standards for Explosive Atmospheres) testing laboratory in accordance with the IECEx scheme rules and procedures. And the lab is also authorized by Department of Energy of USA for NVLAP, and accredited by CNAL (China National Accreditation Board for Laboratories) and CCS (China Classification Society).

CQST signed the mutual acceptance and/or mutual understanding agreement with the laboratories such as UL(USA), PTB(Germany), NEMKO(Norway), FMRC(USA), TESTSAFE(Australia), LCIE(France), CCVE(Russia), CSA (Canada), BASEEFA(UK) and so on. (Agreement photocopies are available on request).

EXPLOSION TESTINGS WITH COMBUSTIBLE GAS:

The Robot Speed Dome Camera experienced explosion testing by combustible gas (METHAME & HYDROGEN) in different pressure conditions, with explosion from both inside and outside.


(Above photo: LeadEx Robot Dome is under explosion proof testing)

STANDARDS & EX MARKING:

Standards as below:

IEC60079-0:2004 - Electrical apparatus for explosive gas atmospheres -Part 0: General requirements
IEC60079-1:2003 - Electrical apparatus for explosive gas atmospheres -Part 1: Flameproof enclosure "d"
GB3836.1-2000 - Electrical apparatus for explosive gas atmospheres -Part 0: General requirements
GB3836.2-2000 - Electrical apparatus for explosive gas atmospheres -Part 1: Flameproof enclosure "d"
Q/LDX001-2007- Enterprise standards for electrical apparatus for explosive gas atmospheres
EN50014 ff - Electrical apparatus for explosive gas atmospheres (Europe Union)

Marking: Exd II CT6

(C15888, C15889, C15890) Exd II CT6.
Approved by CNEx/CQST (in China) Class I Division 1, Groups B, C, and D.
Certified by EC-TYPE EXAMINATION, KEMA 04ATEX2045X, II 2G EExd II CT6, II2D T180 degree centigrade.

CERTIFICATE OF ACCEPTANCE- IECEx Testing Laboratory :

International Electrotechnical Commission

IEC IECEx

International Electrotechnical Commission Scheme for certification to standards for Explosive Atmospheres

CERTIFICATE OF ACCEPTANCE

IECEx Testing Laboratory

This is to certify that

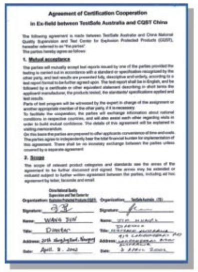
Nanyang Explosion Protected Electrical Apparatus Research Institute (CNEx) / China National Quality Supervision and Test Center for Explosion Protected Electrical Products (CQST)

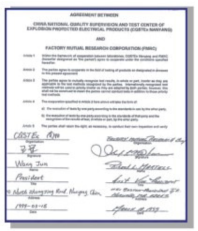
is an IECEx Testing Laboratory in accordance with the IECEx Scheme Rules and Procedures

Chris Agius
Secretary IECEx
6th October 2005

The scope and currency of this Certificate may be confirmed by visiting the IECEx Web Site at www.iecex.com

Some Photocopies of Mutual Acceptance Agreements





Photocopies of JM612 Certificate of Conformity

防爆电气设备 Electrical Apparatus for Explosive Atmospheres

防爆合格证 CERTIFICATE OF CONFORMITY

编号 Serial No.: CNEx07.1062X

制造单位 Manufacturer: Leadex System Company Limited (Address:08D Ganlan Pengyuan, 3030 Caitian RD, 518026 Shenzhen China)

样品名称 Name of Product: ROBOT SPEED DOME CAMERA

型号规格 Type of Product: JM612 24VAC

防爆标志 Marking: Exd II CT6

产品标准 Standard: Q/LDX001-2007

总装图号 Drawing No.: JM612-CGT-00

经对上述产品图样及技术文件的审查和样品的检验，确认符合下列标准：

The drawings, technical documents and the samples are verified and certified according to standard(s) for safety as below:

GB3836.1-2000 Electrical Apparatus for Explosive Gas atmospheres - Part 1: General Requirements

GB3836.2-2000 Electrical Apparatus for Explosive Gas atmospheres - Part 2: Flameproof enclosure "d"

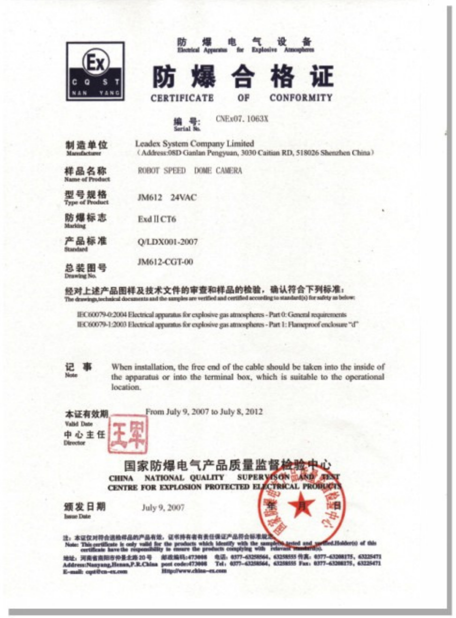
记事 Note: When installation, the free end of the cable should be taken into the inside of the apparatus or into the terminal box, which is suitable to the operational location.

本证有效期 Valid Date: From July 9, 2007 to July 8, 2012

中心主任 Director

国家防爆电气产品质量监督检验中心
CHINA NATIONAL QUALITY SUPERVISION AND TEST CENTRE FOR EXPLOSION PROTECTED ELECTRICAL PRODUCTS

颁发日期 Issue Date: July 9, 2007



防爆电气设备 Electrical Apparatus for Explosive Atmospheres

防爆合格证 CERTIFICATE OF CONFORMITY

编号 Serial No.: CNEx07.1063X

制造单位 Manufacturer: Leadex System Company Limited (Address:08D Ganlan Pengyuan, 3030 Caitian RD, 518026 Shenzhen China)

样品名称 Name of Product: ROBOT SPEED DOME CAMERA

型号规格 Type of Product: JM612 24VAC

防爆标志 Marking: Exd II CT6

产品标准 Standard: Q/LDX001-2007

总装图号 Drawing No.: JM612-CGT-00

经对上述产品图样及技术文件的审查和样品的检验，确认符合下列标准：

The drawings, technical documents and the samples are verified and certified according to standard(s) for safety as below:

IEC60079-0:2004 Electrical apparatus for explosive gas atmospheres - Part 0: General requirements

IEC60079-1:2003 Electrical apparatus for explosive gas atmospheres - Part 1: Flameproof enclosure "d"

记事 Note: When installation, the free end of the cable should be taken into the inside of the apparatus or into the terminal box, which is suitable to the operational location.

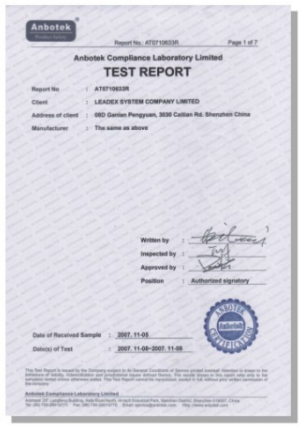
本证有效期 Valid Date: From July 9, 2007 to July 8, 2012

中心主任 Director

国家防爆电气产品质量监督检验中心
CHINA NATIONAL QUALITY SUPERVISION AND TEST CENTRE FOR EXPLOSION PROTECTED ELECTRICAL PRODUCTS

颁发日期 Issue Date: July 9, 2007

Other Certification:



IP66 Test Report

CE

Explosion Proof Robot Speed Dome

JM612-V6

JM612-V6 Robot Series are machined from 8~22mm 6063# Aluminum Alloy or 316#Stainless Steel. They are integrated with Sony 530TVL Day/Night Cameras and 360 degree continues Pan/Tilt rotation.

The solid dome body are designed and proved to be explosion proof and to be resistant to impact from the destructiveness of stones, bricks, normal explosion and even short gun bullets.

The stomach of the JM612-V6 Robot is more capacious and it is designed to be able to put other expected module. The height of JM612-V6 Robot dome body is lower than the JM612-V8 Robot, which is better for vehicle-carried systems.

The JM612-V6 Series are also integrated with the special 5 Proofs design. That is Bullet proof, vandal proof, Water proof, Corrosion proof and wind proof. Because of its explosion proof features it is very popular in "Hazardous Areas", "Explosive Atmosphere" and related areas where flammable liquids, vapours, gases or combustible dusts are likely to occur in quantities sufficient to cause a fire or explosion.

Unique Feature

Explosion proof
Accredited by CNEx/CQST with EXD II CT6 certification

Bullet proof
Be resistant to the impact from the short gun bullets

Vandal proof
Be resistant to the destructiveness of stones, bricks)

Corrosion proof
The stainless steel body lasting long even exposed to acrid rain and seawater

Water proof
Sealed to IP66 and NEMA 4X

Feature

- Integration of Day/ Night camera, receiver, variable high-speed pan/tilt motor and enclosure
- JM612-V6 series are machined from 8~22mm Aluminum alloy or 316#Stainless Steel, coupled with its unique sound and solid dome body design, efficiently prevent from many destructiveness and threaten in practical use.
- Flat designed optics window from filmed and toughened glass (5mm thick) offers distortion free image and maximum vandal resistant protection for IOP (Integrated Optical Package) camera module
- Unique DIP switch design, offers the operator an easy-to-use windows
- Motor calibration in manual or auto guarantee preset precise in continuing running
- Alarm box and water pump system for optional
- IP66/CE/FCC/RoHS compliance
- Support with LeadEx firmware online remote upgrade module
- Optional built-in IP module

Camera Feature

- Built-in Sony IOP camera module
- Back light compensation on/off selectable & WDR (Wide Dynamic Range) functions
- Privacy mask function, 8 privacy zone
- (Please see the camera parameters)

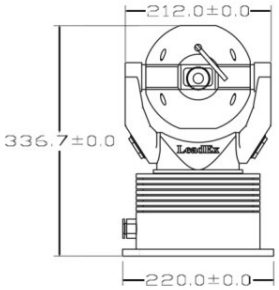
Pan/Tilt Feature

- OSD password protection
- On-Screen-Display programming menu, inside temperature and pan/tilt/zoom position
- User definable 128 target presets, 8 preset tours, video frozen
- Programmable Pattern & auto scan
- User definable power-up action and temperature control User definable left and right limitation, proportional Pan speed
- RS-485 communication port, RS-232, RS-422 for optional
- Compatible to Pelco P/D protocol and customized protocol for optional
- Auto / Manual zero calibration
- OSD programming menu, inside temperature and pan/tilt/zoom position
- Surge & non-volatile protection

Parameter

Mechanical Parameter

- Aluminum alloy or (316L#) stainless steel body: 8mm ~ 22mm
- Filmed and toughened glass: 5mm
- Continues working temperature：-20℃ -- +50℃
- Storage temperature: -40℃ -- +60℃
- Net weight: 10KG (Al alloy), 24KG (Stainless Steel)
- Dimension: 370 x 212 mm （see chart）
- Packing Volume: 70x 38 x 34cm



Electrical Parameter

- Input voltage: 18VAC~30VAC/18VDC~30VDC
- Input power: 50VA

Pan/Tilt Parameter

- Pan/tilt speed: Pan 0.1° ~100° /s Tilt: 0.1 ° ~ 80 ° /s
- Preset speed: Pan 100° /s Tilt： 80° /s
- Preset accuracy: +/-0.1° (auto /hand control.)
- Auto scan: 1° -40° /s
- Pan rotation: 360° Tilt rotation: 360°

Application

The JM612-V6 Series are also integrated with the special 5 Proofs design. That is Bullet proof, vandal proof, Water proof, Corrosion proof and Explosion proof. Because of its explosion proof features it is very popular in “Hazardous Areas”, “Explosive Atmosphere” and related areas where flammable liquids, vapours, gases or combustible dusts are likely to occur in quantities sufficient to cause a fire or explosion.

The stomach of the JM612-V6 Robot is more capacious and it is designed to be able to put other expected module. The height of JM612-V6 Robot dome body is lower than the JM612-V8 Robot, which is better for vehicle-carried systems.

It’s own unique omniseal waterproof and explosion design, coupled with it’s sound and solid dome body made it tailor made to be applied in the typical application occasion, that include: marine transportation, military foundation, perimeter protection, ammunition depot, jails, ports, nuclear facility, Oil refineries, rigs and offshore drilling platform, oil& gas station, chemical plants, embassies, airports, city surveillance, government and banks ,vehicles (off-road vehicles, police cars, military vehicles) etc.

As an option, Nitrigeon gas (N2 : Maximum pressure up to 150Kpa) could be filled into the dome body through a specially designed air vent valve. This could offer further protection to the inner parts, and adapt to industry and marine related installation, like seaports, ships and chemical plants.




Optional Built-in DMD

The JM612-V6 Robot Series could match perfectly with the newly released LeadEx Dual Microwave Detection Unit (DMD technology). One DMD unit includes 4 dual microwave detectors, each detector covers up to 35m for human detection and 70~100m for vehicle detection at 90 degree.

In case one alarm is detected by one detector, the JM612-V6 could automatically turn to this zone, and activate the auto-tracking function to track the moving objects. Total 360 degree area is under protection.

The traditional video based motion detection becomes very weak and has a bad performance in dark night, rainy/snowing or foggy days. While LeadEx DMD technology sort out all the troubles, and is also immune from leaves falling, small bird flying and tree sway. Its combination with JM612-V6 offers more professional and safer protections.

The most outstanding advantages of these dual microwave detector is that it is totally ineffective to the interfering of wind, rain, fog or any drift small objects. So the JM612-V6 Robot Series with motion detection device are designed to fit to working in most darkness environment with rare false alarm.



Order Guide

Model Number / camera / Material	18X Day/Night (Sony FCB-EX490)	26X Day/Night (Sony FCB-EX990)	36X Day/Night (Sony FCB-EX1010)
Aluminum Alloy	JM612A-V6-18	JM612A-V6-26	JM612A-V6-36
316L# Stainless Steel	JM612S-V6-18	JM612S-V6-26	JM612S-V6-36

IR-Laser Robot Speed Dome

JM612-IR

The great advantage of JM612-IR Laser Robot is that they are built in 4pcs 808nm long distance Laser-IR illuminator. The total light power of the 4pcs Laser illuminators is 8000nw. In the complete darkness, they even can identify human target within 200meters, and discover the target within 300meters.

The body of JM612-IR Laser Robot Series is machined from 8mm~22mm thick 6063# Aluminum Alloy or 316# Stainless Steel. They are designed to be resistant to impact from the destructiveness of stones, bricks, normal explosion and even short gun bullets.

The JM612-IR Series are also integrated with the special 5- Proof design of LeadEx's Robot series. Excepting for that, its own unique omniseal water proof design, coupled with its sound and solid dome body and night vision features, further made it tailor made to be applied in low-night and total darkness environment or hazardous area.

The typical application occasion include: marine transportation, military foundation, perimeter protection, ammunition depot, jails, ports, nuclear facility, oil refineries, rigs and offshore drilling platform, oil& gas station, chemical plants, embassies, airports, city surveillance, government and banks ,vehicles (off-road vehicles, bv police cars, military vehicles) etc.

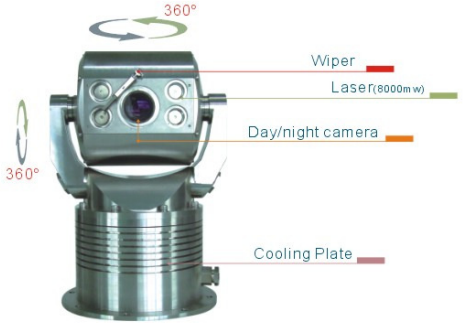
Unique Feature

Vandal Proof
Be resistant to the destructiveness of stones, bricks

Bullet Proof
Be resistant to the impact from the short gun bullets

Corrosion Proof
The stainless steel body lasting long even exposed to acrid rain and seawater
316#Stainless Steel optional

Water Proof
Sealed to IP66 and NEMA 4X



Feature

- Integration of Day/ Night camera, IR Laser, receiver, variable high-speed pan/tilt motor and enclosure
- The housing are machined from 8mm~22mm thickness Aluminum alloy or 316L#Stainless Steel
- Flat designed optics window from filmed and toughened glass (5mm thick) offers distortion free image and maximum vandal resistant protection for IOP (Integrated Optical Package) camera module
- Unique DIP switch design, offers the operator an easy-to-use windows
- Motor calibration in manual or auto guarantee preset precise in continuing running
- Alarm box and water pump system for optional
- IP66/CE/FCC/RoHS compliance
- Support with LeadEx firmware online remote upgrade function
- Optional built-in IP module

Laser Feature

- Built-in the 808nm long distance laser-IR with light power 8000mw
- Laser ON/OFF by manual or auto for optional.

Sony Camera Feature

- Built-in Sony 36X integrated camera module
- BLC(Back Light Compensation) & WDR (Wide Dynamic Range) functions
- Privacy mask function, 8 privacy zone
  (Pls see the camera parameters)

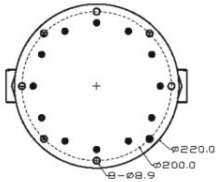
Pan/Tilt Feature

- 128 programmable presets, presets frozen
- Programmable Pattern & auto scan
- OSD password protection
- RS-485/ RS-232/ RS-422 for optional
- Compatible to Pelco P/D protocol and customized protocol for optional
- Auto / Manual zero calibration
- User definable left and right limitation, proportional Pan speed
- OSD programming menu, inside temperature and pan/tilt/zoom position
- User definable power-up action and temperature control
- Surge & non-volatile protection

Parameter

Mechanical Parameter

- Sony Camera window for filmed and toughened glasses: 5mm
- Continues working temperature: -20℃ ~ +50℃
- Net weight: 14KG (A-alloy), 34KG (Stainless Steel)
- Dimension: 354.5 x 242 mm (L*W)
- Packing Volume: 70 x 48x 34 cm

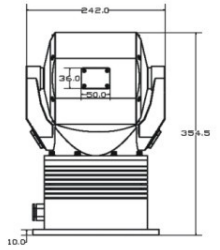


Electrical Parameter

- Input Voltage: AC24V±10%，50Hz, DC12±10%，50Hz
- Maximum Power: 72VA

Pan/Tilt specifications

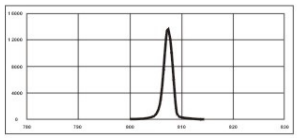
- Pan/tilt speed: Pan 0.1° ~ 100° /s Tilt: 0.1° ~80° /s
- Preset speed: Pan 100° /s Tilt : 80° /s
- Preset accuracy: +/-0.03°
  (manual or auto calibration available)
- Auto scan speed: 1° ~ 40° /s
- Pan rotation: 360° Tilt rotation: 360°

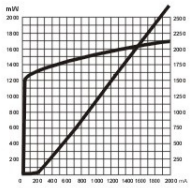


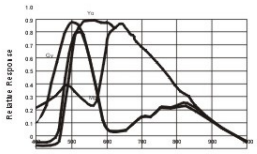
(unit：mm)

Laser Parameter

- Laser electric current: Average 245mA
- Laser working voltage: Average 2050 mV
- Slope efficiency: Average 1.20
- Laser wavelength: 808nm (The Laser spectrogram)
- Electric working electric current：2000mA
- Electric light efficiency: 2000mW
- JM612-IR can build in 4pcs laser, the maximum power is 8000mW
- Laser angle: 15.30.45
- Laser electric current- Power Consumption Specification chart







The typical charateristics of SONY FCB-EX1000P camera module

Order Guide

Model / Camera Module / Number / Material	18X Day/Night (Sony FCB-EX480) (Sony FCB-EX490)	26X Day/Night (Sony FCB-EX980) (Sony FCB-EX990)	36X Day/Night (Sony FCB-EX1000) (Sony FCB-EX1010)
Aluminum Alloy	JM612A-IR-18	JM612A-IR-26	JM612A-IR-36
316L# Stainless Steal	JM612S-IR-18	JM612S-IR-26	JM612S-IR-36

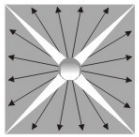
Optional Built-in DMD

The JM612-IR Laser Robot Series could match perfectly with the newly released LeadEx Dual Microwave Detection Unit (DMD technology). One DMD unit includes 4 dual microwave detectors, each detector covers up to 35m for human detection and 70~100m for vehicle detection at 90 degree.

In case one alarm is detected by one detector, the JM612-IR could automatically turn to this zone and activate the auto-tracking function to track the moving objects.Total 360 degree area is under protection.

The traditional video based motion detection becomes very weak and has a bad performance in dark night, rainy/snowing or foggy days. While LeadEx DMD technology sort out all the troubles, and is also immune from leaves falling, small bird flying and tree sway. Its combination with JM612-IR offers more proffesional and safer protections.

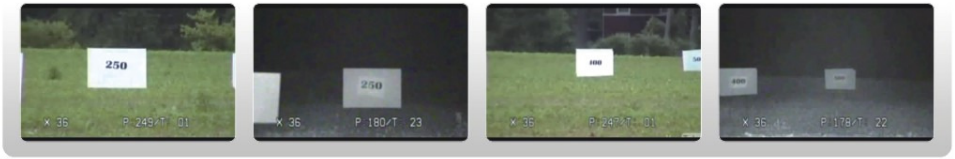
The most outstanding advantages of these dual microwave detector is that it is totally ineffective to the interfering of wind, rain, fog or any drift small objects. So the JM612-IR Laser Robot Series with motion detection device are designed to fit to working in most darkness environment with rare false alarm.



Application

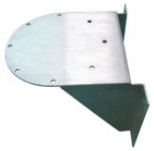
The typical application occasion include: marine transportation, military foundation, perimeter protection, ammunition depot, jails, ports, nuclear facility, oil refineries, rigs and offshore drilling platform, oil& gas station, chemical plants, embassies, airports, city surveillance, government and banks ,vehicles (off-road vehicles, police cars, military vehicles) etc.

JM612-IR Laser Real Video



Laser Off Laser On

The stainless steel bracket

Model Number	JM612-BM	JM612-WM	JM612-CM	JM612-PM
Picture				
Installation	Base Mount	Wall Mount	Corner Mount	Pole Mount

Explosion-proof connection pipe

Model Number	Picture	Inner diameter	Connecting thread（G"）	Length	Mini bend radius（mm）	Features description
JM612-EP		25	1	1000	145	1. Flame withstand, corrosion-proof, anti-aging, good flexibility, fastness structure, with high safety factor 2. Comply with GB3836 -2000, IEC60079 standard

Explosion-proof junction box

Model Number	Picture	Installation
JM612-JB-EX		1.Die-casted shell of ZL102 aluminum alloy with high-pressure electrostatic plastic-sprayed surface.。 2.Carried with GB3836.1-2000、GB3836.2-2000、GB3836.3-2000 standard, which are equivalent to IEC60079-0，IEC60079-1，IEC60079-7.

Rated voltage (V)	Nominal current (A)	Terminal number	Ex-mark	Protection grade	Corrosion-proof grade	Nominal diameter（mm）	Inlet thread (G")	Cable outer diameter (ϕmm)
380/220	10-200	6	ExdII BT6 ExdII Ct6 ExeII T6	Ip54 Ip55	WF1/WF2 /WF	30.3	1	ϕ12-18

Explosion proof MDVR Mobile Digital Video Recording

Model Number	Picture	Description
LDX-MDVR-EX		1. MDVR series is designed to match with JM612 series speed dome. 2. MPEG4 or H.264 video compression format 3. Optional wireless remote control and GPS function

IP68 multi-function waterproof alarm box

Model Number	Picture	Description
JM612-AB		RS485/ Pelco-P/D protocol Power supply：24 VAC/60VA Built-in water sprayer

Keyboard

Model Number	Picture	Description
LDX-KBD-D		1.20*2 LED display, which show the cameras and3-axis joystick status etc. 2.Alarm function. 3.Built-in buzzer and key warning tones 4.Convenient connection for the power supply. 5.UTP connection
LDX-KBD-E		1.5.6 inch monitor 2.20*2 LED display, which show the cameras and3-axis joystick status etc. 3.Alarm function. 4.Built-in buzzer and key warning tones 5.Convenient connection for the power supply. 6.UTP connection

Mega Pixel PowerView PTZ Camera

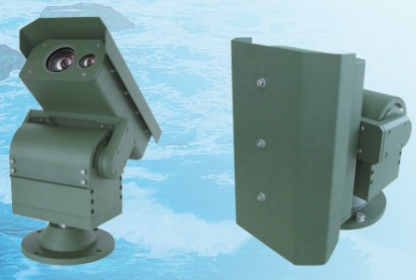
MPV

With the development of security surveillance technology, the top surveillance solutions demand prompt the applications of Mega pixel camera. According to the market request, LeadEx make series of Pan/Tilt Mega Pixel camera into application.

Mega Pixel Power View PTZ series are integrated with the CMOS sensor, Mega Pixel lens, Laser night vision technology, geared PTZ controller. It provides an economical hundred metres distance Mega Pixel night vision solution.

The Mega Pixel PTZ series cameras are with 1280*720 (1.3 million)Pixel resolution, 24 F/S frame rate, 16:9 aspect ratio and with SD card slot. Fitted with mega pixel lens, the Mega pixel CMOS camera could obtain more focussed and higher resolution image. The deployment of adjustable IR Laser illuminator could fill up the gap of night vision solution to Mega Pixel cameras.

With its night vision and remote control advantages, the Mega Pixel PTZ series cameras could catch any possible target in seconds, and provide perfect day/night mega pixel surveillance solution to perimeters, coasts, seaports, airports, schools, hospitals, banks, prisons, transportation and public safety.



Unique Feature

Vandal Proof
Be resistant to the destructiveness of stones, bricks

Water Proof
Sealed to IP65

Feature

- Integration of Mega Pixel camera, Mega Pixel Lens, adjustable IR Laser, receiver, variable pan/tilt motor and enclosure
- MPV series are machined from the mixed A3 armour plate, coupled with its unique sound and solid dome body design, efficiently prevent from many destructiveness and threaten in practical use.
- Flat designed optics window from filmed and toughened glass (5mm thickness)
- Unique DIP switch design, offers the operator an easy-to-use windows
- Motor calibration in manual or auto guarantee preset precise in continuing running
- Alarm box and water pump system for optional
- IP65/CE/FCC/RoHS compliance
- Support with LeadEx firmware online remote upgrade module

Laser Feature

- Built-in the 808nm long distance adjustable laser-IR with light power 2000mw
- Laser ON/OFF by Manual or Auto for optional.

Mega Pixel Camera

- Built-in Mega Pixel Camera
- Mega Pixel Lens: 5~50mm or 8~80mm for optional
- Manual focus and zoom

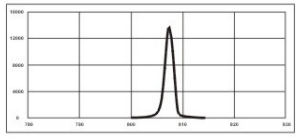
Pan/Tilt Feature

- 128 programmable presets, presets frozen
- Remote control with the special software
- Compatible to Pelco P/D protocol
- Auto / Manual zero calibration
- User definable left and right limitation, proportional Pan speed
- OSD programming menu, inside temperature and pan/tilt/zoom position
- User definable power-up action and temperature control
- Surge & non-volatile protection

Parameter

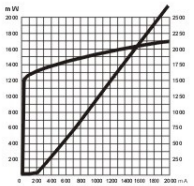
Mechanical Parameter

- Machined from the mixed A3 armor plate
- 5mm filmed and toughened glasses
- Continues working temperature: -10° C ~ +60° C



Electrical Parameter

- Input Voltage: AC24V±10%，50Hz, DC24±10%，50Hz
- Maximum Power: ≤72 (Laser on)

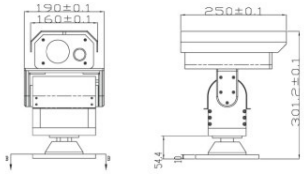


Pan/Tilt Parameter

- Pan/tilt speed: Pan 0.23° ~95° /s Tilt: 0.09° ~40° /s
- Preset speed: Pan 95° /s Tilt : 40° /s
- Preset accuracy: +/-0.03° (manual or auto calibration available)
- Auto scan speed: 1° ~40° /s
- Pan rotation: 360° Tilt rotation: -90° ~+45°

Laser Parameter

- Laser electric current: Average 245mA
- Laser working voltage: Average 2050 mV
- Slope efficiency: Average 1.20
- Laser wavelength: 808nm (The Laser spectrogram)
- Electric working electric current：2000mA
- Electric light efficiency: 2000mW
- Laser angle: 1° ~8°
- Laser electric current- Power Consumption Specification chart

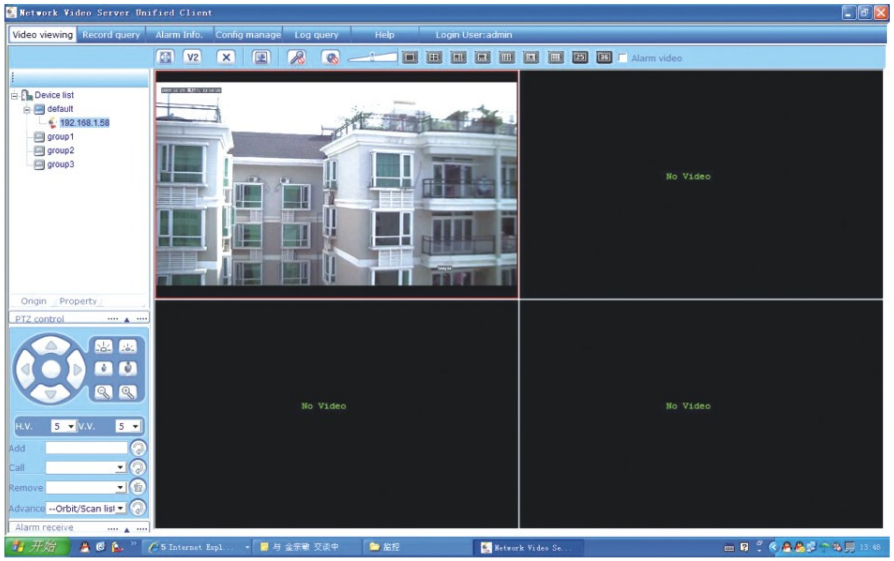


(unit：mm)

Order Guide

Built-in Lens	5~50mm	8~80mm
Model Number	MPV-50	MPV-80

Operation Interface



Application

With its night vision and remote control advantages, the Megapixel PTZ series cameras could catch any possible target in seconds, and provide perfect day/night mega pixel surveillance solution to perimeters, coasts, seaports, airports, schools, hospitals, banks, prisons, transportations and public safety.

Mega Pixel PowerView Plus PTZ Camera

MPVP

With the development of security surveillance technology, the top surveillance solutions demand prompt the applications of Mega pixel camera. According to the market request, LeadEx make series of Pan/Tilt Mega pixel camera into application.

Mega Pixel Power View Plus PTZ series are integrated with the CMOS sensor, Mega Pixel long range detection lens, Laser night vision technology, geared PTZ controller. It provides an economical thousand metres distance Mega Pixel night vision solution.

The Mega Pixel PTZ series cameras are with 1280*720 (1.3 million)Pixel resolution, 24 F/S frame rate, 16:9 aspect ratio and with SD card slot. Fitted with mega pixel lens, the Mega pixel CMOS camera could obtain more focussed and higher resolution image. The deployment of adjustable IR Laser illuminator could fill up the gap of night vision solution to Mega Pixel cameras.

With its night vision and remote control advantage, the Mega Pixel PTZ series cameras could catch any possible target in seconds, and provide perfect day/ night mega pixel surveillance solution to perimeters, coasts, seaports, airports, schools, hospitals, banks, prisons, transportation and public safety.

Unique Feature

Vandal Proof
Be resistant to the destructiveness of stones, bricks

Water Proof
Sealed to IP65

Feature

- Integration of Mega Pixel camera, Mega Pixel Long Range Lens, adjustable IR Laser, receiver, variable pan/tilt motor and enclosure
- MPVP series are machined from the mixed A3 armour plate, coupled with its unique sound and solid dome body design, efficiently prevent from many destructiveness and threaten in practical use.
- Flat designed optics window from filmed and toughened glass (5mm thick)
- Unique DIP switch design, offers the operator an easy-to-use windows
- Motor calibration in manual or auto guarantee preset precise in continuing running
- Alarm box and water pump system for optional
- IP65/CE/FCC/RoHS compliance
- Support with LeadEx firmware online upgrade function

Laser Feature

- Built-in the 808nm long distance adjustable laser-IR with light power 2000mw
- Laser ON/OFF by Manual or Auto Control

Mega Pixel Camera

- Built-in Mega Pixel Camera
- Lens 10~320mm or 15~750mm for optional
- Motorized focus and zoom

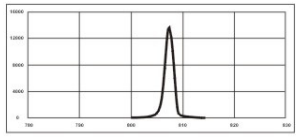
Pan/Tilt Feature

- 128 programmable presets, presets frozen
- Remote control with the special software
- Compatible to Pelco P/D protocol
- Auto / Manual zero calibration
- User definable left and right limitation, proportional Pan speed
- OSD programming menu, inside temperature and pan/tilt/zoom position
- User definable power-up action and temperature control
- Surge & non-volatile protection

Parameter

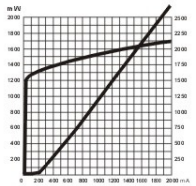
Mechanical Parameter

- Machined from the mixed A3 armor plate
- 5mm filmed and toughened glasses
- Continues working temperature: -10° C ~ +60° C



Electrical Parameter

- Input Voltage: AC24V±10%，50Hz, DC24±10%，50Hz
- Maximum Power: ≤72VA (Laser on)

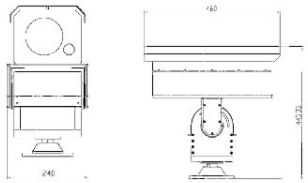


Pan/Tilt Parameter

- Pan/tilt speed: Pan 0.09° ~80° /s Tilt: 0.09° ~25° /s
- Preset speed: Pan 0.09° ~80° /s Tilt: 0.09° ~25° /s
- Preset accuracy: +/-0.03° (manual or auto calibration available)
- Auto scan speed: 1° ~40° /s
- Pan rotation: 360° Tilt rotation: -74° ~ +45°

Laser Parameter

- Laser electric current: Average 245mA
- Laser working voltage: Average 2050 mV
- Slope efficiency: Average 1.20
- Laser wavelength: 808nm (The Laser spectrogram)
- Electric working electric current：2000mA
- Electric light efficiency: 2000mW
- Laser angle: 1° ~8°
- Laser electric current- Power Consumption Specification chart

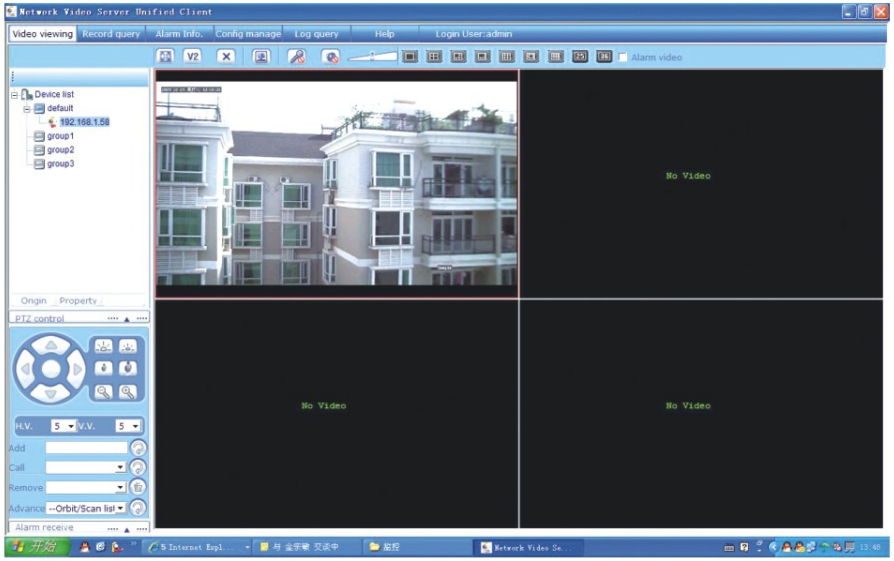


(unit：mm)

Order Guide

Built-in Lens	10~320mm	15~750mm
Model Number	MPVP-320	MPVP-750

Operation Interface



Application

With its night vision and remote control advantages, the Megapixel PTZ series cameras could catch any possible target in seconds, and provide perfect day/night mega pixel surveillance solution to perimeters, coasts, seaports, airports, schools, hospitals, banks, prisons, transportations and public safety.

PowerView Plus Fog Penetrate PTZ Camera

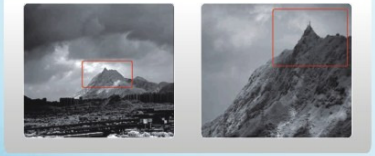
PVP

The PowerView Plus series is a precise pan/tilt / zoom camera system with built-in Mega Pixel long range lens, special camera and IR Laser illuminator, which has the excellent performances at day time and night even in foggy and rainy days.

The built-in zoom lens is designed to match the high sensitive day / night camera and IR Laser illumination, and to minimize the difference between the focus panel with a visible radiation and that with a near-infrared radiation.

The state-of-art design of pan/tilt system not only offers flexible pan and tilt rotation, but also delivers an accurate user controllable interface, which allows users to operate the system in a "micro-step" way. The Laser illuminator working at 808nm frequency has total 2000mw light power output, which offer super powerful light source to the camera in night working applications.

With the above outstanding technologies of LeadEx, PowerView Plus is a long range camera system, capable to see targets 3~6 km away, and even objects in a dark night and those behind the fog, rain and smog.



Unique Feature

Vandal Proof
Be resistant to the destructiveness of stones, bricks

Water Proof
Sealed to Ip65

Feature

- Integration of Fog Penetrate Camera, Mega Pixel Lens, adjustable IR Laser, receiver, variable pan/tilt motor and enclosure
- PVP series are machined from the mixed A3 armour plate, coupled with its unique sound and solid dome body design, efficiently prevent from many destructiveness and threaten in practical use.
- Flat designed optics window from filmed and toughened glass (5mm thick)
- Unique DIP switch design, offers the operator an easy-to-use windows
- Motor calibration in manual or auto guarantee preset precise in continuing running
- Alarm box and water pump system for optional
- IP65/CE/FCC/RoHS compliance
- Support with LeadEx firmware online remote upgrade function
- Optional built-in IP module

Laser Feature

- Built-in the 808nm long range adjustable laser-IR with light power 2000mw
- Laser ON/OFF by Manual or Auto for optional.

Fog Penetrate Camera Feature

- Built-in fog penetrate Camera
- Lens 10~320mm, 20~640mm, 15~750mm or 30~1500mm for optional
- Motorized focus and zoom
- 520TVL, 0.01Lux sensitivity

Pan/Tilt Feature

- 128 programmable presets, presets frozen
- Remote control with the special software
- Compatible to Pelco P/D protocol
- Auto / Manual zero calibration
- User definable left and right limitation, proportional Pan speed
- OSD programming menu, inside temperature and pan/tilt/zoom position
- User definable power-up action and temperature control
- Surge & non-volatile protection

Parameter

Mechanical Parameter

- machined from the mixed A3 armor plate
- 5mm filmed and toughened glasses
- Continues working temperature: -10° C ~ +60° C

Electrical Parameter

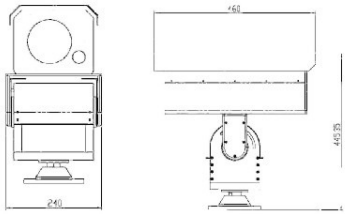
- Input Voltage: AC24V±10%，50Hz, DC24±10%，50Hz
- Maximum Power: ≤72VA (Laser on)

Laser Parameter

- Laser electric current: Average 245mA
- Laser working voltage: Average 2050 mV
- Slope efficiency: Average 1.20
- Laser wavelength: 808nm (The Laser spectrogram)
- Electric working electric current：2000mA
- Electric light efficiency: 2000mW
- Laser angle: 1~8°
- Laser electric current- Power Consumption Specification chart

Pan/Tilt Parameter

- Pan/tilt speed: Pan 0.09° ~80° /s Tilt: 0.09° ~25° /s
- Preset speed: Pan 0.09° ~80° /s Tilt: 0.09° ~25° /s
- Preset accuracy: +/-0.03° (manual or auto calibration available)
- Auto scan speed: 1° ~40° /s
- Pan rotation: 360° Tilt rotation: -74° ~ +45°



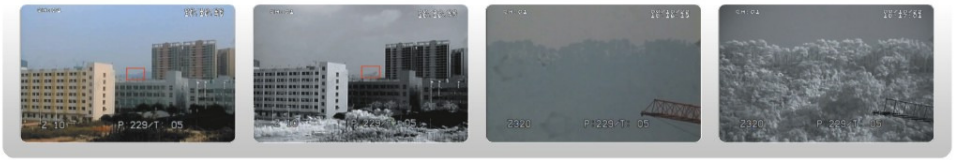
(unit：mm)

Lens Parameter

Iris Characteristics	a) Control	Auto or manual remote
	b) Rating Voltage	+12V DC (+9V to +15V)
	c) Input Signal	Composite video signal (1V(p-p)) or video signal (0.7V(p-p))
	d) Input Impedance	10 KΩ (TYP)
	e) Level Control Range	See fig. A
	f) Accuracy	±3.5% (at 0.5V APL *)
	g) Current Consumption	Operating current 45mA (MAX) Idling current 25mA (TYP)
	h) Response Time	Approx. 2s/full travel
	i) Function	Level remote
Zoom Characteristics	a) Control	Motor drive
	b) Rating Voltage	6V/12V/±6V/±12V DC (Switchable)
	c) Current consumption	Operating current 30mA (TYP), 90mA (MAX)
	d) Operating Time	Approx. 8s/full travel
	e) Potentiometer	10 kΩ 0.5W
Focus Characteristics	a) Control	Motor drive
	b) Rating Voltage	6V/12V/±6V/±12V DC (Switchable)
	c) Current consumption	Operating current 30mA (TYP), 90mA (MAX)
	d) Operating Time	Approx. 8s/full travel
	e) Potentiometer	10 kΩ 0.5W

Application		For 1/2" format day/night camera
focal length		10mm~320mm
zoom ratio		32X
Maximum relative aperture		1:25
Iris range		F2.5-T1500 (Equivalent to F1500)
Image size		Φ8mm (6.4mm X 4.8mm)
back focal length		22.7mm (In air)
flange focal length		17.526mm (In air)
Focus range		∞ ~ 3mm (From front of lens)
Shift of front lens		6.85mm
Field angle	Horizontal	Wide 35° 29′ Tele 1° 09′
	Vertical	Wide 26° 59′ Tele 0° 52′
	Diagoanl	Wide 43° 36′ Tele 1° 26′
Field of view at M.O.D.	Horizontal	Wide 1746mm Tele 57mm
	Vertical	Wide 1310mm Tele 43mm
Clear aperture	Front	Φ76.0mm
	Rear	Φ12.0mm
Exit pupil position		-53mm (from image plane)
Lens Dimension		134*114*224.8mm
Lens weight		2.5kg

Real Video



Order Guide

Model Number	Description
PVP-320	Built-in 10mm~ 320mm long range fog penetrate lens
PVP-640	Built-in 20mm~ 640mm long range fog penetrate lens
PVP-750	Built-in 15mm~ 750mm long range fog penetrate lens
PVP-1500	Built-in 30mm~ 1500mm long range fog penetrate lens

PowerView PTZ Camera

PV

PowerView Laser-IR Pan/Tilt Series

Is integrated with day/night camera module (18x/ 23x/ 26x/ 30X/ 35x/ 36x 530TVL for optional), adjustable laser-IR and geared pan/tilt controller.

The PowerView body is machined with A3 armour iron panel plus the resistance sealed design, which can effectively prevent the destructiveness from stones and bricks in the out door applications

PowerView Laser-IR Pan/Tilt Series is built in 808nm long distance adjustable Laser-IR illuminator. In the completely darkness environment, that even can identify human target within 200 meters, and discover the target within 300meters.

For its own unique omniseal waterproof design and night vision features, it is tailor made to be applied in low-night and total darkness environment.

Unique Feature

Vandal Proof
Be resistant to the destructiveness of stones, bricks

Water Proof
Sealed to IP65

Feature

- Integration of Day/ Night camera, adjustable IR Laser, receiver, variable PTZ Controller and enclosure
- PV series are machined from the mixed A3 armour plate, coupled with its unique sound and solid dome body design, efficiently prevent from many destructiveness and threaten in practical use.
- Flat designed optics window from filmed and toughened glass (5mm thick) offers distortion free image and
- maximum vandal resistant protection for IOP (Integrated Optical Package) camera module
- Unique DIP switch design, offers the operator an easy-to-use windows
- Motor calibration in manual or auto guarantee preset precise in continuing running
- Alarm box and water pump system for optional
- IP65/CE/FCC/RoHS compliance
- Support with LeadEx firmware online remote upgrade module
  Optional built-in IP module

Laser Feature

- Built-in the 808nm long distance adjustable laser-IR with light power 2000mw
- Laser ON/OFF by Manual or Auto for optional.

Camera Feature

- Built-in Sony or Hitachi IOP Camera module
- Back light compensation on/off selectable
- Wide Dynamic Range function
- Privacy mask function, 8 privacy zone
  (Please see the camera parameters for details)

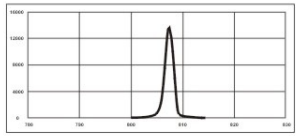
Pan/Tilt Feature

- 128 programmable presets, presets frozen
- Remote control with the special software
- Compatible to Pelco P/D protocol
- Auto / Manual zero calibration
- User definable left and right limitation, proportional Pan speed
- OSD programming menu, inside temperature and pan/tilt/zoom position
- User definable power-up action and temperature control
- Surge & non-volatile protection

Parameter

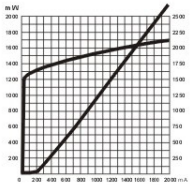
Mechanical Parameter

- Machined from the mixed A3 armor plate
- 5mm filmed and toughened glasses
- Continues working temperature: -10° C ~ +60° C



Electrical Parameter

- Input Voltage: AC24V±10%，50Hz, DC24±10%，50Hz
- Maximum Power: ≤72w (Laser on)

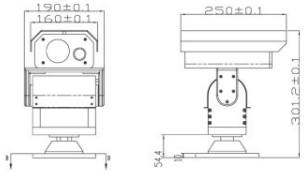


Pan/Tilt Parameter

- Pan/tilt speed: Pan 0.23° ~95° /s Tilt: 0.09° ~40° /s
- Preset speed: Pan 95° /s Tilt : 40° /s
- Preset accuracy: +/-0.03° (manual or auto calibration available)
- Auto scan speed: 1° ~40° /s
- Pan rotation: 360° Tilt rotation: -90° ~+45°

Laser Parameter

- Laser electric current: Average 245mA
- Laser working voltage: Average 2050 mV
- Slope efficiency: Average 1.20
- Laser wavelength: 808nm (The Laser spectrogram)
- Electric working electric current：2000mA
- Electric light efficiency: 2000mW
- Laser angle: 1° ~8°
- Laser electric current- Power Consumption Specification chart



(unit：mm)

Application

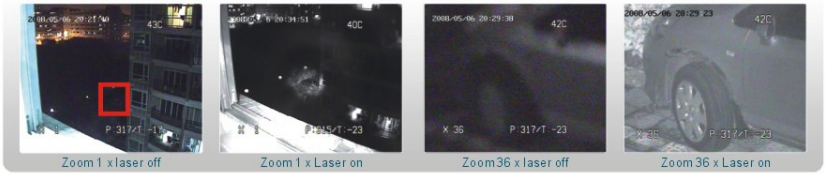
The typical applications include: marine transportation, military foundation, perimeter protection, ammunition depot, jails, ports, nuclear facility, oil refineries, rigs, offshore drilling platform, oil& gas station, chemical plants, embassies, airports, city surveillance, government and banks ,vehicles (off-road vehicles, police cars, military vehicles) etc.



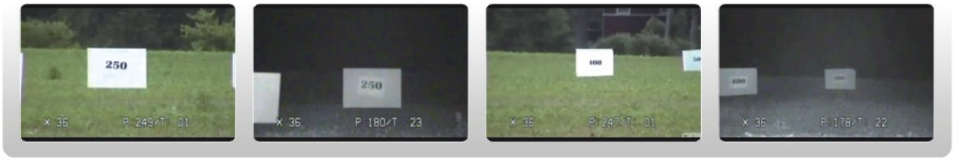

Real Video

Field testing of Laser IR PowerView Series(0 Lux)

Outdoor Illumination <0.1 Lux
The distance is about 100 meters between the Laser IR PowerView and the target with red mark



Zoom 1 x laser off | Zoom 1 x Laser on | Zoom36 x laser off | Zoom 36 x Laser on



Laser Off | Laser On

Order Guide

IOP Camera	SONY			Hitachi		
Model No.	PV-18S	PV-26S	PV-36S	PV-23S	PV-30S	PV-35S
	FCB-EX480 / 490	FCB-EX980 / 990	FCB-1000 / 1010	VK-S858	VK-S634	VK-S654

Long Range IR-Laser PTZ Camera

PVP-HQ2

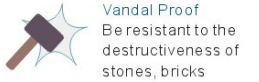
The PowerView Plus HQ2 series is a precise pan/tilt/zoom camera system with built-in HQ2 lens, special camera, and adjustable IR Laser illumination, which has excellent performances at day and night even in foggy and rainy days.

The built-in zoom lens is designed to match the high sensitive day / night camera and IR Laser illuminator, and to minimize the differences between the focus panel with a visible radiation and that with a near-infrared radiation.

The state-of-art design of pan/ tilt system not only offers flexible pan and tilt rotation, but also delivers an accurate user controllable interface, which allows users to operate the system in a "micro-step" way. The laser illuminator works at 808nm frequency which has total 2000mw light power, and offers super powerful light source for the camera in night applications.

With the above outstanding technologies of LeadEx, the PowerView Plus HQ2 is a long range camera system which is capable to detect targets in 1~2 km away, and even objects in dark night and those behind the fog, rain and smog.

Unique Feature



Vandal Proof
Be resistant to the destructiveness of stones, bricks

Water Proof
Sealed to IP65

Feature

- Integration of Day/ night camera, IR Laser, receiver, variable high-speed pan/tilt motor and enclosure
- PVP-HQ2 Series are machined from the mixed A3 armour plate, coupled with its unique sound and solid dome body design, efficiently prevent from many destructiveness and threaten in practical use.
- Flat designed optics window from filmed and toughened glass (5mm thick)
- Unique DIP switch design, offers the operator an easy-to-use windows
- Motor calibration in manual or auto guarantee preset precise in continuing running
- Alarm box and water pump system for optional
- IP65/CE/FCC/RoHS compliance
- Support with LeadEx firmware online remote upgrade module
- Optional built-in IP module

Laser Feature

- Built-in the 808nm long distance laser-IR with light power 2000mw
- Laser ON/OFF by Manual or Auto for optional.

HQ2 Lens Feature

- Built in HQ2 camera and high resolution lens
- Blemish static&dynamic detection(Maximum 32 points)
- Auto electric shutter, gain control, tracking white balance
- BLC compensation, high S/N ratio
- Combine BNC output

Pan/Tilt Feature

- 128 programmable presets, presets frozen
- Remote control with the special software
- Compatible to Pelco P/D protocol
- Auto / Manual zero calibration
- User definable left and right limitation, proportional Pan speed
- OSD programming menu, inside temperature and pan/tilt/zoom position
- User definable power-up action and temperature control
- Surge & non-volatile protection

Parameter

Mechanical Parameter

- Machined from the mixed A3 armor plate
- 5mm filmed and toughened glasses
- Continues working temperature: -10° C~ +60° C

Electrical Parameter

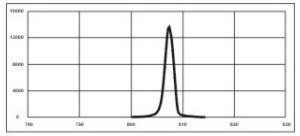
- Input Voltage: AC24V±10%，50Hz, DC24±10%，50Hz
- Maximum Power: ≤72VA (Laser on)

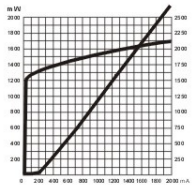
Pan/Tilt Parameter

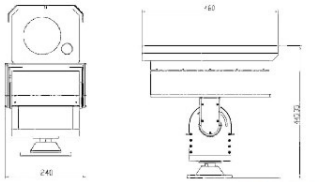
- Pan/tilt speed: Pan 0.09° ~80° /s Tilt: 0.09° ~25° /s
- Preset speed: Pan 0.09° ~80° /s Tilt: 0.09° ~25° /s
- Preset accuracy: +/-0.03° (manual or auto calibration available)
- Auto scan speed: 1° ~40° /s
- Pan rotation: 360° Tilt rotation: -74° ~ +45°

Laser Parameter

- Laser electric current: Average 245mA
- Laser working voltage: Average 2050 mV
- Slope efficiency: Average 1.20
- Laser wavelength: 808nm (The Laser spectrogram)
- Electric working electric current：2000mA
- Electric light efficiency: 2000mW
- Laser angle: 1° ~8°
- Laser electric current- Power Consumption Specification chart







(unit: mm)

Application

With its night vision and remote control advantages, the PVP-HQ2 PTZ series cameras could catch any possible target in seconds, and provide perfect performance in day/night surveillance. Such as coasts, seaports, airports, schools, hospitals, banks, prisons, transportation and public safety.

Order Guide

Lens	10~320mm	20~640mm	15~750mm	30~1500mm	77~374mm	154~748mm
Model No.	PVP-HQ2-320	PVP-HQ2-640	PVP-HQ2-750	PVP-HQ2-1500	PVP-HQ2-374	PVP-HQ2-748

HQ2 Camera Parameter

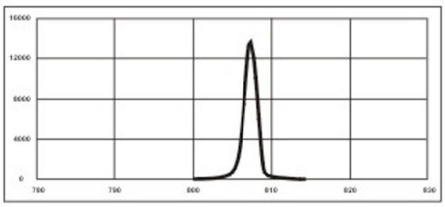
Image Device	1/3" Color CCD	
Picture Elements	NTSC	PAL
	768(H) X 494(V)	752(H) X 582(V)
Sync. System	Internal	
Horizontal Resolution	Color mode 520 TV Line	
Minimum Illumination	0.5Lux (F2.0)	
Lens Type	Selectable / Default：3.6mm / 6mm (F2.0) fixed lens	
Signal-to-Noise Ratio	More than 48dB (AGC Off)	
White Balance	ATW (2500° K- 9500° K)	
Electronic Shutter	1/60 - 1/100,000	1/50 - 1/100,000
Gamma	0.45	
AGC (Auto Gain Control)	ON	
AES (Auto Exposure Shutter)	ON	
Mirror Function	On/Off	
AGCMAX	On/Off	
BLC (Back Light compensation)	On/Off	
Color Rolling	On/Off	
Masking	On/Off	
Flicker less	On/Off	
Power Requirements	12VDC±2V	
Power Consumption	150mA±10mA	
Power Connector	DC Jack (Φ2/Φ6.3, ⊙:center "+")	
Video Connector	BNC Type	
Video Out	Composite (1.0V P-P), 75Ω	
Operating Temperature	0℃ to 60℃	
Storage Temperature	-10℃ to 70℃	
Humidity	Under 80% RH (non condensing)	

Real Video

Parameter

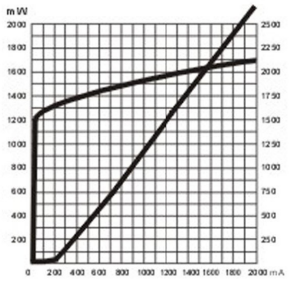
Mechanical Parameter

- Machined from the mixed A3 armor plate
- 5mm filmed and toughened glasses
- Continues working temperature: -10° C~+60° C



Electrical Parameter

- Input Voltage: AC24V±10%，50Hz, DC24±10%，50Hz
- Maximum Power: ≤72VA (Laser on)



Pan/Tilt Parameter

- Pan/tilt speed: Pan 0.09° ~80° /s Tilt: 0.09° ~25° /s
- Preset speed: Pan 0.09° ~80° /s Tilt: 0.09° ~25° /s
- Preset accuracy: +/-0.03° (manual or auto calibration available)
- Auto scan speed: 1° ~40° /s
- Pan rotation: 360° Tilt rotation: -74° ~ +45°

Laser Parameter

- Laser electric current: Average 245mA
- Laser working voltage: Average 2050 mV
- Slope efficiency: Average 1.20
- Laser wavelength: 808nm (The Laser spectrogram)
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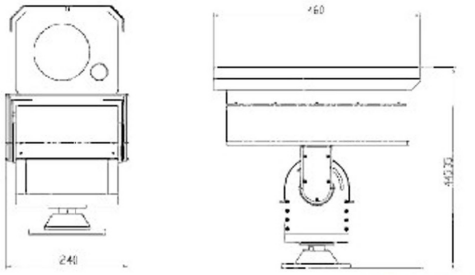

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Order Guide

Lens	10~320mm	20~640mm	15~750mm	30~1500mm	77~374mm	154~748mm
Model No.	PVP-HQ2-320	PVP-HQ2-640	PVP-HQ2-750	PVP-HQ2-1500	PVP-HQ2-374	PVP-HQ2-748

LDX-D High Speed Dome Series

LDX-D

LDX-D High Speed Dome Series are integrated with Day/Night Camera, receiver and variable PTZ controller .

The dome body of LDX-D Series are made from Aluminum Alloy which is resistance to high temperature and corrosion proof, and designed to be waterproof (IP66 standard).

The cover adopts Acrylic material which keep the image with distortion free. To make the dome body into vandal proof , the PVC material is also for optional.

LDX-D High Speed Dome Series mainly apply to the City Surveillance, Schools, Hospitals, Road Surveillance, Bank and Airport etc.

Unique Feature

Feature

- Integration of Day/ Night camera, lens, receiver, variable high-speed pan/ tilt motor and enclosure
- Dome housing: 5.9" Aluminum Alloy
- Dome drive: ABS plastic and/or aluminum
- Dome cover: Clear or smoke color acrylic, polycarbonate optional
- Surge & non-volatile protection
- DIP setup for protocol, baud rate and address ID
- Support remote upgrade function
- Built-in IP module for optional

Camera Feature

- Built-in Sony/Hitachi IOP camera module(see camera module pamameter chart)
- BLC Back Light Compensation function, Wide Dynamic Range function, 8 privacy mask zone
- Auto white balance, focus and Iris
- Auto tracking and motion detection function for optional(Only Hitachi camera module)

Pan/Tilt Feature

- 128 programmable presets, 1~8 preset tour
- Presets frozen
- Built-in 8 Alarm inputs; 2 Alarm outputs
- OSD password protection function
- Auto scan and pattern
- Privacy Mask function, 8 privacy zone
- Title/Time/Pan/Tilt display
- Proportional pan speed
- Auto-focus and Auto-iris
- Compatible to Pelco P/D protocal
- DIP setup for protocol, baud rate and address ID
- Surge & non-volatile protection

Application

Mechanical Parameter

- Aluminum Alloy housing, ABS plastic dome drive
- Dome cover: 5.9-inch sealed fixed acrylic bubble, clear or smoke color. Vandal proof optional
- IP66 water proof
- Continues working temperature: 0℃ ~ +60℃
- Storage and Transfer temperature: -20℃ ~ +85℃
- Package Dimension: 66*33*29CM(L*W*H)

Electrical Parameter

- Power consumption: Max 30W
- Input Voltage: AC150V--AC240V,50Hz
- Output Voltage：AC16V-AC26V,50Hz

Pan/Tilt Parameter

- Manual pan speed : 0.05° ~250° /S
- Manual tilt speed : 0.05° ~200° /S
- Preset speed : 250° /S for pan and 200° /S for tilt
- Preset accuracy: +/-0.03° (auto or manual)
- Auto scan speed: 1~40° /S
- Pan motion range: 360° continuous rotation
- Tilt motion range: -+2° ~-92°
- 180° auto flip
- Preset: 8 preset tour, duel time 1~99s

Description

The LDX-DSpeed Dome Camera is the integration of digital camera, lens, multi-protocol receiver, variable high-speed pan/tilt and dome enclosure. A complete speed dome is composed of dome housing, a plastic (clear or smoked color) lower dome (bubble) and a dome drive with a built-in camera and lens, the connection PCB unit is included in the dome housing and the system mother board is inside the dome driver.

The system is noted for its high acceleration rate and smooth, steady motion with flexible presets programming and setup. The dome driver features an Integrated Optics Package camera and a mechanical /electrical quick, disconnect system, making installation quick and easy.

The Speed Dome System is available as either an in-ceiling or pendant mount (indoor or outdoor) model. The in-ceiling system may be installed in either suspended or hard ceilings. The pendant model mount directly to any recommended mount, flush to a ceiling, or to NPT female threaded pipe. All out door pendant models are environmentally sealed to a rating of NEMA 4X and IP66 and include a sun shied, heater and fan. (See housing pictures of indoor in-ceiling mount, indoor pendent mount and outdoor pendent mount.)

The dome is capable of 360° continuous pan rotation and 92° tilt rotation with auto-flip function. UP 128 target presets could be setup to see specific target scene automatically after receiving a preset call command or alarm. Frozen preset call is optional to avoid un-useful fast moving scene during preset call up period, thus only presets are displayed one by one on the screen. And sequence tour is available to call up to 8 presets in sequence with user programmable dwell time.

A user programmable home position will ensures that the dome will turn back to important preset after 2 to 255 seconds un-activated time. Built-in 8 alarm inputs will call #1-8 presets automatically in case of alarm, and trigger the 2 auxiliary outputs.

The pattern, which is also called PTZ learning in some countries, enables the user to control the pan/tilt zoom and call presets within 2 hours, and the dome will learn and save the user's operation. The user could call up the pattern and let the dome run automatically, just like the operator is controlling the dome.

The On-Screen-Display menu makes it possible and easy for the detailed system programming such as alarm joint-action-control setup, camera parameter adjustment and so on.

DIP setup for protocol, LDX-DC series will adapt to the controller's protocol(Pelco P/D) and baud rate (2400/4800/9600).

Privacy Mask function, The user can set 8 privacy zone.

Application

LDX-D series high speed dome mainly apply to the City Surveillance, Schools, Hospitals and Road Surveillance, Bank and Airport etc.

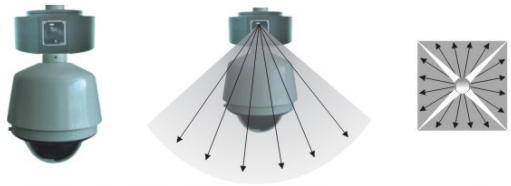
Optional Built-in DMD

The LeadEx Speed Dome Series could match perfectly with the newly released LeadEx Dual Microwave Detection Unit (DMD technology). One DMD unit includes 4 dual microwave detectors, each detector covers up to 35m for human detection and 70~100m for vehicle detection at 90 degree.

In case one alarm is detected by one detector, the LDX-D Series could automatically turn to this zone, and activate the auto-tracking function to track the moving objects. Total 360 degree area is under protection.

The traditional video based motion detection becomes very weak and has bad performance in dark night, rainy/snowing or foggy days. While LeadEx DMD technology sorts out all the troubles, and is also immune from leaves falling, small bird flying and tree sway. Its combination with LDX-D Series offer more professional and safer protections.

The most outstanding advantages of these dual microwave detector is that it is totally ineffective to the interfering of wind, rain, fog or any drift small objects. So the LDX-D High Speed Dome Series with motion detection device are designed to fit to working in most darkness environment with rare false alarm.



Installation

LDX-D Speed Dome Series is available as either an in-ceiling or pendant mount (indoor or outdoor) model. Please see the following chart.

- Indoor in-ceiling: may be installed in either suspended or hard ceilings. Do not need the bracket.
- Indoor pendant mount: can be install directly to any recommended mount, flush to a ceiling, or to NPT female threaded pipe.
- Outdoor pendant mount: they are environmentally sealed to a rating of NEMA4X and IP66 and include a sun shield, heater and fan.

Indoor in-ceiling mount　Indoor pendant mount　Outdoor pendant mount

Order Guide

	Camera model	Product model
Hitachi	VK-S214	LDX-D22C
	VK-S274	LDX-D22L
	VK-S858	LDX-D23S
	VK-S634	LDX-D30S
	VK-S654	LDX-D35S

	Camera model	Product model
Sony	FCB-EX45	LDX-D18C
	FCB-EX480 / 490	LDX-D18S
	FCB-EX980 / 990	LDX-D26S
	FCB-1000 / 1010	LDX-D36S

Notice：I = Indoor in-ceiling mount　D = Indoor pendant mount　P= Outdoor pendant mount
Such as: LDX-D18S-P means 18X day/night outdoor pendant mount

IP Speed Dome Series

LDX-D-IP

The dome body of LDX-D-IP Series are made from aluminum alloy material which is resistance to high temperature and corrosion proof, and designed to be waterproof (IP66 standard). The cover adopts Acrylic(ABS) material which keep the image with distortion free. To make the dome body into vandal proof , the PVC material is also for optional.

LDX-D-IP high speed dome series are integrated with Day/Night Camera, receiver, variable PTZ controller and IP module. With the built-in IP module, the system compressed the video to be TCP/IP Protocol compatible. With the integrated Web Server, the video image and data could be transmitted by WAN/LAN or Internet. Through Remote Control Users could see the in-time video and operate the Pan/Tilt system in Internet Explore. With the plug and play net cable line and power supply, users could conveniently make installation and connection to the IP Speed Dome.

LDX-D-IP series high speed dome mainly apply to remote control to Schools, Hospitals and Road Surveillance, Bank and Airport etc.

Unique Feature

Vandal Proof
Be resistant to the destructiveness of stones, bricks

Water Proof
Sealed to IP66 and NEMA 4X

Feature

- Integration of Digital camera, lens, receiver, variable high-speed pan/tilt motor and enclosure
- Dome housing: 5.9" aluminum alloy(To make the dome body into vandal proof , the PVC material is also for optional.)
- Dome drive: ABS plastic and/or aluminum
- Dome cover: Clear or smoked color acrylic, polycarbonate optional
- Surge & non-volatile protection
- Inside temperature on screen display and control
- DIP setup for protocol, baud rate and address ID
- User definable power-up action and temperature control
- RS-485 / RS-422 / RS-232 bus line communication for optional
- Compatible to Pelco P/D protocal and customerized protocal for optional
- Support software online upgrade module
- Heater kit included for outdoor pendant mount type

Camera Feature

- Built-in Sony/Hitachi IOP camera module(see camera module pamameter chart)
- Back light compensation on/off selectable, wide dynamic function
- Privacy Mask function, 8 privacy zone
- Auto white balance, focus and Iris
- Auto tracking and motion detection function for optional(Hitachi camera module)
- 3 selectable white balance: auto on / off, Red - Blue
- Adjustable or auto sharpness, shutter speed to optimize light sensitivity,

IP Module Feature

- Resolution Supported:
  PAL: 704*576/ 704*288/ 352*288/
  NTSC: 704*480/ 704*240/352*240
- Video format support D1/Half-D1/CIF
- Standard H.264 optimized video compression
- Support image frame capture and recording
- Support audio and talk back audio
- Local recording and playback
- Image rate: Max 30fps, band with 32Kbps~4Mbps
- Network 10/100M Base-T Ethernet, WAN/LAN
- Alarm recording, and pre-alarm recording in 5~30 seconds
- Support auto dialling when network in disconnection
- Support reboot and recovery in abnormal status

Pan/Tilt Feature

- 360° Continuous Pan Rotation, Automatic 180° flip
- 128 programmable presets
- 1 presets tour available to call 1 to 8 presets in sequence
- Presets frozen
- Built-in 8 Alarm inputs; 2 Alarm outputs
- Programmable pattern & auto scan
- OSD password protection
- Auto / Manual zero calibration
- User definable left and right limitation
- User definable proportional Pan speed
- OSD programming menu and pan/tilt/zoom position (Title/Time/Pan/Tilt display)

Description

The LDX-D-IP Speed Dome Camera is the integration of digital camera, lens, multi-protocol receiver, variable high speed pan/tilt and dome enclosure. A complete speed dome is composed of dome housing, a plastic (clear or smoke color) lower dome (bubble) and a dome drive with a built-in camera and lens, the connection PCB unit is included in the dome housing and the system mother board is inside the dome drive.

The system is noted for its high acceleration rate and smooth, steady motion with flexible presets programming and setup. The dome driver features an Integrated Optics Package camera and a mechanical /electrical quick, disconnect system, making installation quick and easy.

The Speed Dome System is available as either an in-ceiling or pendant mount (indoor or outdoor) model. The in-ceiling system may be installed in either suspended or hard ceilings. The pendant model mount directly to any recommended mount, flush to a ceiling, or to NPT female threaded pipe. All out door pendant models are environmentally sealed to a rating of NEMA 4X and IP66 and include a sun shied, heater and fan. (See housing pictures of indoor in-ceiling mount, indoor pendent mount and outdoor pendent mount.)

The dome is capable of 360° continuous pan rotation and 92° tilt rotation with auto-flip function. UP 128 target presets could be setup to see specific target scene automatically after receiving a preset call command or alarm. Frozen preset call is optional to avoid un-useful fast moving scene during preset call up period, thus only presets are displayed one by one on the screen. And sequence tour is available to call up to 8 presets in sequence with user programmable dwell time.

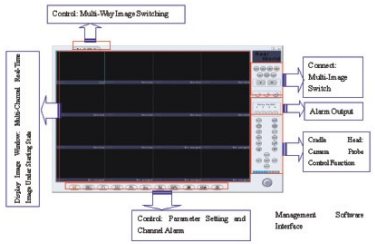
A user programmable home position will ensures that the dome will turn back to important preset after 2 to 255 seconds un-activated time. Built-in 8 alarm inputs will call #1-8 presets automatically in case of alarm, and trigger the 2 auxiliary outputs.

The pattern, which is also called PTZ learning in some countries, enables the user to control the pan/tilt zoom and call presets within 2 hours, and the dome will learn and save the user's operation. The user could call up the pattern and let the dome run automatically, just like the operator is controlling the dome.

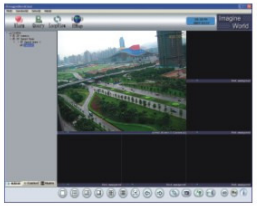
The On-Screen-Display menu makes it possible and easy for the detailed system programming such as alarm joint-action-control setup, camera parameter adjustment and so on.

DIP setup for protocol, LDX-D-IP series will adapt to the controller's protocol (Pelco-P or D) and baud rate (2400/4800/9600).

CMS (Central Management Software) GUI software is available to display the image and perform the PTZ control. And up to 80 IP speed domes or web transmitter could be controlled through the CMS.



From a client PC in the LAN or WAN, the operator could access the speed dome control, as well as real time and high resolution video display, by entering the relative IP address.



Parameter

Mechanical Parameter

- Aluminum Alloy housing, ABS plastic dome drive
- Dome cover: 5.9-inch sealed clear or smoked color acrylic bubble, vandal proof polycarbonate optionall IP66 water proof
- Continues working temperature: 0℃ ~ +60℃
- Storage and Transfer temperature: -20℃ ~ +85℃
- Package Dimension: 66*33*29CM(L*W*H)
- Gross weight : 7.5KG(in-ceiling type); 8KG(in-door pendent type); 8.5KG(outdoor pendent type)

Pan/Tilt Parameter

- Manual pan speed : 0.05° ~250° /S
- Manual tilt speed : 0.05° ~200° /S
- Preset speed : 250° /S for pan and 200° /S for tilt
  Preset accuracy: +/-0.03° (auto or manual)
  Auto scan speed: 1~40° /S
  Pan motion range: 360° continuous rotation
- Tilt motion range: +2° ~-92° Pan:180° auto flip
- Preset: 8 preset tour, duel time 1~99s

Electrical Parameter

- Power consumption: Max 30W
- Input Voltage: AC150V--AC240V
- Output Voltage: AC16V-AC26V

Network Feature

- Audio Input: RCA unbalanced audio, single channel
- Audio Output: RCA interface, unbalanced audio, single channel
- Video Compression: H.264, MPEG4
- Audio Compression: MP3
- 3-Level user management with password
- Network: 10/100M Base-T Ethernet
- Data: RS485
- Alarm Input: NC or NO
- Alarm Output: Relay
- Simultaneously visit user: 10
- Image delay: less then 200 ms(LAN)
- Video Input: PAL/NTSC 1Vp-p/75ohm
- Image Adj.: Brightness /contrast/color/saturation
- Image Rate: 25fp/s (PAL), 30fps(NTSC)
- Software Upgrade: Through IE browser
- Resolution: PAL: 704×576, 704×288, 352×288
  NTSC: 704×480, 704×240, 352×240
- Image Rate: Max 30fps, band width 32Kbps~4Mbps
- Events In: Timer event: Date/Time/
- Alarm event: Contact alarm/motion detection/ video loss detention
- Events Out: Alarm recording of video and audio, including 5-second pre-record Relay output
- Configuration: CPU(PIII or above) / RAM(96M or above) Display(1024×768)

Installation

LDX-D-IP Speed Dome System is available as either an in-ceiling or pendant mount (indoor or outdoor) model.

Please see the following chart:

- Indoor in-ceiling mount: may be installed in either suspended or hard ceilings. Do not need the bracket.
- Indoor pendant mount: can be directly to any recommended mount, flush to a ceiling, or to NPT female threaded pipe.
- Outdoor pendant mount: they are environmentally sealed to a rating of NEMA 4X and IP66 and include a sun shied, heater and fan.

  (See housing pictures of indoor in-ceiling mount, indoor pendent mount and outdoor pendent mount.)

Order Guide

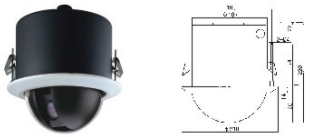
Camera model		Product model
Hitachi	VK-S214	LDX-D22C-IP
	VK-S274	LDX-D22L-IP
	VK-S858	LDX-D23S-IP
	VK-S634	LDX-D30S-IP
	VK-S654	LDX-D35S-IP

Camera model		Product model
Sony	FCB-EX45	LDX-D18C-IP
	FCB-EX480 / 490	LDX-D18S-IP
	FCB-EX980 / 990	LDX-D26S-IP
	FCB-1000 / 1010	LDX-D36S-IP

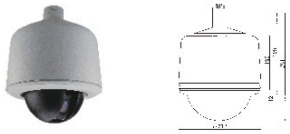
Notice: I = Indoor in-ceiling mount D = Indoor pendant mount P= Outdoor pendant mount
Such as: LDX-D18S-IP-P means 18X IP speed dome day/night outdoor pendant mount

Dimensions & Al-alloy accessories

LDX-D Indoor in-ceiling mount

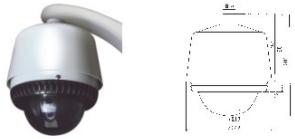


LDX-D Indoor pendant mount

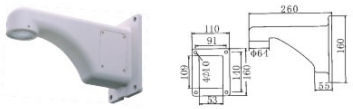


LDX-D Outdoor pendant mount

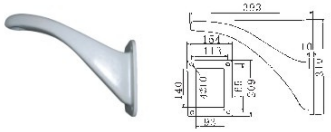
LDX-D-IP Outdoor pendant mount



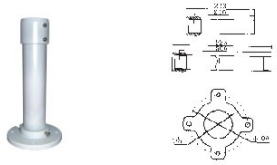
LDX-WM-M Middle Size wall mount bracket



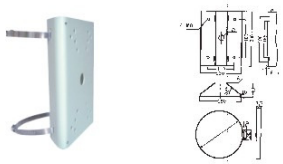
LDX-WM-L Long Size wall mount bracket



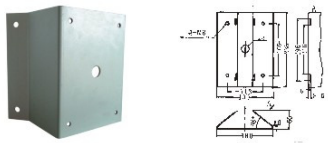
LDX-DC-20 Drop-ceiling mount bracket



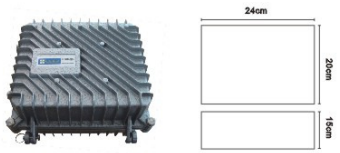
LDX-PM Pole mount bracket



LDX-CM Corner mount bracket



LDX-PSB waterproof Power Supply Box



Product Description

HQ2 Fix Camera with LED can obtain the clear image which is up to 80m~100m view distance in the complete darkness. It is built-in an HQ2 Camera and 32pcs small power LED and 4pcs big power LED. The LED will be open when the light lower. It can be used in any darkness environment——Aquaculture grounds, Terminal, Warehouse, Container Terminal, Coastline, Dockyard Perimeter, Airport, Highway, Vehicles and City Surveillance etc.

Feature

- Built-in HQ2 Camera, 32pcs small power LED and 4pcs big power LED
- Low power consumption
- Horizontal resolution up to 520TVL
- Blemish static & dynamic detection (Maximum 32 points)
- Auto electronic shutter
- Auto gain control
- Auto white balance
- Back light compensation
- High sensitivity
- High S/N ratio
- Composite BNC output
- Bracket optional
- Meas: 40*19*16cm
- Gross Weight: 3KGS (Including power supply)
- Power Supply: AC100~260V/12VDC

Parameter

Image Device	1/3" Color CCD	
Picture Elements	NTSC	PAL
	768(H) X 494(V)	752(H) X 582(V)
Sync. System	Internal	
Horizontal Resolution	Color mode 520 TV Line	
Minimum Illumination	0.5Lux (F2.0)	
Lens Type	Selectable / Default: 3.6mm / 6mm (F2.0) fixed lens	
Signal-to-Noise Ratio	More than 48dB (AGC Off)	
White Balance	ATW (2500° K- 9500° K)	
Electronic Shutter	1/60 - 1/100,000	1/50 - 1/100,000
Gamma	0.45	
AGC (Auto Gain Control)	ON	
AES (Auto Exposure Shutter)	ON	
Mirror Function	On/Off	

AGCMAX	On/Off
BLC (Back Light compensation)	On/Off
Color Rolling	On/Off
Masking	On/Off
Flicker less	On/Off
Power Requirements	12VDC±2V
Power Consumption	150mA±10mA
Power Connector	DC Jack
	(Φ2/Φ6.3, ⊙:center "+")
Video Connector	BNC Type
Video Out	Composite (1.0V P-P), 75Ω
Operating Temperature	0℃ to 60℃
Storage Temperature	-10℃ to 70℃
Humidity	Under 80% RH
	(non condensing)

Customized Options

- Customized housing
- IR Laser illuminator for optional
- LED light for optional
- Bracket for optional

LDX-VT Web Server

4V Encoder

Encoder with USB

Web Server Transmitters are embedded with video processing, control and transmitting device, and the core module built-in it are the embedded computer system and digital signal processor(DSP). After being digitalized and compressed by the DSP, the input video will be loaded on the embedded computer. End user could check the in-timevideo by Internet Explore or any other supporting software. And through remote control, users could setting and control the web transmitters, and even control the Pan/Tilt system, lens of the cameras.

Feature

- 1/2/4-CH video through LAN/WAN
- Multiple PTZ protocol
- Standard MPEG-4 optimized video compression
- Standard MP3 audio compression
- Video format support D1/Half-D1/CIF
- Built-in Web Server through IE browser
- Dynamic stream control
- 3-level user management with password
- Motion detection and Privacy zone masking
- Built-in contact alarm input/output
- Support image frame capture and recording
- Local recording and playback, support Media Player
- Video Input: PAL/NTSC 1Vp-p/75ohm
- Resolution Supported: PAL: 704×576,704×288,352×288
  NTSC: 704×480,704×240,352×240
- Image Rate: Max 30fps, bandwidth 32Kbps~4Mbps
- Software Upgrade Through IE browser
- Network10/100M Base-T Ethernet
- RS-485 / RS-422 / RS-232 bus line
- Alarm Input/Output: NC or NO/Relay

Parameter

- Working temperature: -30℃~60℃
- Working humidity: Relative 20~80%
- Power Supply : AC 220±10% 50±1Hz
- Power Consumption: Max 5 Watt
- Cover Material : Aluminum Alloy
- Dimension : 205mm(L) * 122mm(W) * 48mm(H)

LDX-C-IP Camera

Feature

- Support NTSC or PAL format
- Multiple PTZ protocol
- Standard H.264/MPEG-4 video compression
- Standard G.722 audio compression
- Video format support D1/Half-D1/CIF
- Built-in Web Server through IE browser
- Dynamic stream control
- 3-level user management with password
- Motion detection and Privacy zone masking
- Built-in contact alarm input/output
- Support image frame capture and recording
- Local recording and playback, support Media Player
- Video Input: PAL/NTSC 1Vp-p/75ohm
- Resolution Supported: PAL: 704×576,704×288,352×288
  NTSC: 704×480,704×240,352×240
- Image Rate: Max 30fps, bandwidth 32Kbps~4Mbps
- Software Upgrade Through IE browser
- Network10/100M Base-T Ethernet
- DataRS485

Parameter

- Working Temperature: -5 ~ 60℃
- Working Humidity: 20 ~ 80%
- Output Voltage:DC12V/1.0A
- Power: Less than 3 Watt
- PCB Dimension: 100mm(W) * 55mm(H)*1.6mm(D)
- Installing Dimension: 4.3mm(W)*86.0mm(H)*50.8mm(D)
- Weight: 0.66KG

LDX-MDVR Mobile Recording Black Box

LDX-MDVR

Description

- MPEG-4 technology for video compression
- Removable HDD
- External EDGE/GPRS/CDMA/WI-FI Module for wireless Transmission
- Stand alone NON-PC embedded operating system (RTOS) provides maximum stability
- High Quality MPEG-4 video recording and playback at full frame rate (30 fps)
- 4 Channels video and audio recording simultaneously
- Built-in GPS allows for vehicle tracking and location recording in video field
- Compact Flash Card (CFC) can be used for software upgrades and uploading advertising clips to the MDR
- Two USB connectors, allows laptop connection to download & upload data
- Station announcement automatically
- Explosion Proof and Vandal Proof

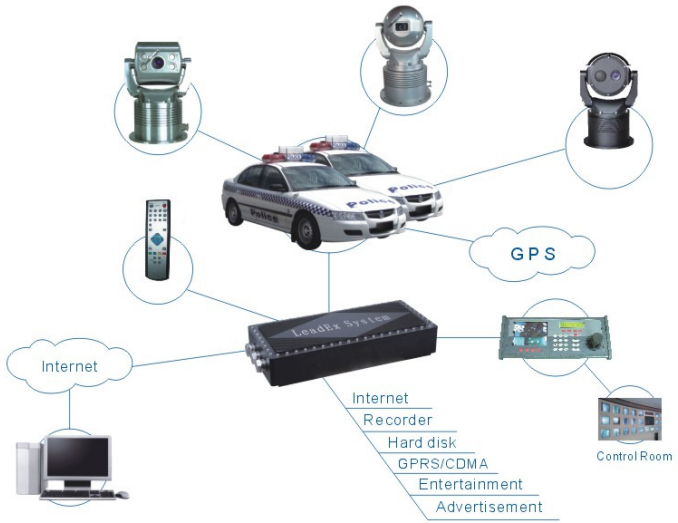
Specification

System	OS	Linux (providing standalone stable operation system)
	Operation Interface	Hand-held, IR controller with On-Screen Display (OSD) for all operations of the MDR
	Storage	60, 80, 120 ,160 and 200 GB (2.5 in. mobile anti-vibration and shock resistance HDD support)
	Signal System	NTSC\PAL
	Input Voltage	12-volt DC or 24-volt DC (can range from 8 V-55V DC)
Video	Camera Input	up to 4 cameras
	Display	4 Video Windows Screens
	Image Quality	8 - Level Adjustable
	Fwd/Playback speed	×2, ×4, ×1/2, ×1/4
	Stream Standard	ISO1449
	Record Resolution	Selectable recording resolutions (CIF, half D1, D1) PAL: CIF(352×288), half D1 (704×288), D1 (704×576) NTSC: CIF(352×240), half D1 (704×240), D1 (704×480)
	Image Compression	12.5K-112.5KB/s, 25K-150KB/s
	Max FPS	200 / 240 FPS (25/30 fps/CH at CIF, 12.5/ 15 fps/CH at HD1, 6.25/7.5 fps/CH at D1)
	Display Res.	TV monitor 704×576 pixels for PAL at DI / 720x480 pixels for NTSC at D1, VGA output 720×576 pixels for PAL at DI / 704x480 pixels for PAL at D1
Audio	Audio Input	4 (stereo)
	Audio Output	2 (stereo)
	Audio Compression	ADPCM
I/O Interface	TV-OUT	2 Composite Outputs with BNC connectors
	VGA	1(d-SUB 15 pins)
	LAN	1(RJ-45) 10M / 100M Ethernet connector
	USB	Support USB OTG Technology (USB2.0)
	Serial	RS-485 ×3, RS-232×2
Network	Protocol	TCP / IP
Alarm	Input	8 inputs sensors
	Multi-mode	Auto-reset after power-break, auto-alarm when missing signal input, Camera Cover alarm
Power Requirement	Ignition Switch	Device operate once ignition power on/ auto shutdown delay after ignition power off
	Power Consumption	Average 15W
	Power Adapter	8-55V DC. Typical 12V DC @5A, 24V DC @ 3A

Application

Software Support

Model NO.	Central Monitoring System(CMS)	Remote Management Software (RMS)	Auto-Download System (ADS)	Multi-media Configuration Management Tool (MCM)	Playback Analysis Software
LDX-MDVR	√	√	√	√	√



LDX-FM Digital Fiber Optics Series

8-Chanel Audio

8 Video+Audio+Data+Ethernet Fiber Optics

Feature

- Transmit up to 64ch video plus 8-ch duplex audio,32-ch duplex data, 1 Ethernet over 1 Fiber
- Stand alone type and Card module types
- 8/10 bits digital coding
- CWDM technology
- No EMI, RFI, Ground Loops ,No Attraction to Lighting
- ST/SC/FC Optical Connector
- 6.5 MHz Video Bandwidth
- Optional sub-rack for 19 inch/4U

LDX-KBD Multi-function Keyboard Series

LDX-KBD-D

LDX-KBD-E

Feature

- Support DVR/ Matrix/ Speed dome
- 20*2 LED display,which show the cameras and3-axis joystick status etc.
- Alarm function.
- Built-in buzzer and key warning tones
- Convenient connection for the power supply.
- UTP connection
- Size:160(W) X220(L) X95(H)mm(with joystick)
- Weight:1.2KG
- Power supply:12VDC 1000mA,12W
- Protocol:PELCO P/D (Default with PELCO D)
- Communication interface:RS-485
- Baud Rate:1200~9600bps(default with 2400bps)
- Communication distance:1200m

Feature

- Support DVR/ Matrix/ Speed dome
- 20*2 LED display,which show the cameras and3-axis joystick status etc.
- 5.6 inch monitor , Alarm function.
- Built-in buzzer and key warning tones
- Convenient connection for the power supply.
- UTP connection
- Size:160(W) X220(L) X95(H)mm(with joystick)
- Weight:2.2KG
- Power supply:12VDC, 2A, 25W
- Protocol:PELCO P/D, (default with PELCO D)
- Communication interface:RS-485
- Baud Rate:1200~9600bps (default with 2400bps)
- Communication distance:1200m

Camera Parameter(Hitachi)

Description	35S (day/night)		30S (day/night)		23S (day/night))		22CL (Low Lux)		22C (Color)	
Signal system	NTSC	PAL	NTSC	PAL	NTSC	PAL	NTSC	PAL	NTSC	PAL
Camera Model	VK-S654	VK-S654E	VK-S634	VK-S634E	VK-S858R	VK-S858ER	VK-S274R	VK-S274ER	VK-S214R	VK-S214ER
Picture elements	~380K (768X494)	~440K (752*582)	~380K (768X494)	~440K (752*582)	360K (724*494)	420K (724*582)	380K (768*494)	440K (752*582)	380K (768*494)	440K (752*582)
Horizontal resolution	Color: 540TVL, B/W: 600TVL		Color: 540TVL, B/W: 600TVL		Color: 540TVL, B/W: 600TVL		480TVL		480TVL	
Image sensor	1/4		1/4		1/4		1/4		1/4	
Optical Zoom	X35		X30		X23		X22		X22	
Digital Zoom	12X		12X		12X		12X		12X	
Lens	f=3.4-119mm F=1.4~4.2		f=3.4-102mm		F1.6 f=3.6mm~82.8mm		F1.6 f=4~88m		F1.6 f=4mm~88m	
Angle of view	55.8° (W) to 1.7° (T)		55.8° (W) to 1.7° (T)		54° (W) to 2.5° (T)				47.3° (W) to 2.2° (T)	
synchronization	Internal/External(V-lock)		Internal/External(V-lock)		Internal/External(V-lock)		Internal/External		Internal/External	
Min. Illumination	0.05Lux/1/4sec 0.01Lux/1/4sec	0.05Lux/1/3sec 0.01Lux/1/3sec	0.05Lux/1/4sec 0.01Lux/1/4sec	0.05Lux/1/3sec 0.01Lux/1/3sec	Color: 0.1Lux B/W: 0.02Lux		0.05Lux		0.05Lux	
S/N Ratio	>50dB		>50dB		>50dB		>50dB		>50dB	
BLC	ON/OFF		ON/OFF		ON/OFF		ON/OFF		ON/OFF	
Shutter speed	1/60-1/40000S	1/50-1/40000S	1/60-1/40000S	1/50-1/40000S	1/60-1/30000S	1/50-1/30000S	1/2-1/30000S		1/60-1/30000S	1/50-1/30000S
Shutter	Auto/Manual		Auto/Manual		Auto/Manual		Auto/Manual		Auto/Manual	
White balance	Auto/Manual		Auto/Manual		Auto/Manual		Auto/Manual		Auto/Manual	
Gain Ctrl	Auto/Manual		Auto/Manual		Auto/Manual		Auto/Manual		Auto/Manual	
Video Output	VBS:1Vp-p (sync negative), Y/C		VBS:1Vp-p (sync negative), Y/C		1.0+0.07Vp-p		1.0+0.07Vp-p		1.0+0.2Vp-p	
Iris Ctrl	Auto/Manual		Auto/Manual		Auto/Manual		Auto/Manual		Auto/Manual	
Focus Ctrl	Auto/Manual		Auto/Manual		Auto/Manual		Auto/Manual		Auto/Manual	
Color./B&W shift	ON/OFF		ON/OFF		ON/OFF		ON		ON	
WDR	ON/OFF		ON/OFF		ON/OFF		ON		ON	
WDR	ON/OFF		ON/OFF		ON/OFF		ON		ON	
Anti-shaking	ON/OFF		ON/OFF		ON		ON		ON	

Camera Parameter(Sony)

Description	36X (Day/Night) High resolution		36X (Day/Night)		26X (Day/Night) High resolution		26X (Day/Night)		18X (Day/Night) High resolution		18X (Day/Night)		LDX-D18C (color)	
Signal system	NTSC	PAL	NTSC	PAL	NTSC	PAL	NTSC	PAL	NTSC	PAL	NTSC	PAL	NTSC	PAL
Camera Model	FCB-EX1010	FCB-EX1010P	FCB-EX1000	FCB-EX1000P	FCB-EX990	FCB-EX990P	FCB-EX980	FCB-EX980P	FCB-EX490	FCB-EX490P	FCB-EX480	FCB-EX480P	FCB-EX45C	FCB-EX45CP
Picture elements	~380K (768X494)	~440K (752*582)	~380K (768X494)	~440K (752*582)	~380K (768X494)	~440K (752*582)	~380K (768X494)	~440K (752*582)	~380K (768X494)	~440K (752X582)	~380K (768X494)	~440K (752X582)	~380K (768X494)	~440K (752X582)
Horizontal resolution	530TVL		470TVL		530TVL		470TVL		530TVL		470TVL		470TVL	
Image sensor	1/4 type EXview HAD CCD		1/4 type EXview HAD CCD		1/4" Super HAD CCD		1/4" Super HAD CCD		1/4 type IT CCD (EX view HAD)		1/4 type IT CCD (EX view HAD)		1/4type IT CCD (Super HAD)	
Optical Zoom	36X		36X		26X		26X		18X		18X		X18	
Digital Zoom	12X		12X		12X		12X		12X		12X		X12	
Lens	F=3.4mm~122.4mm F=1.6~4.5		F=3.4mm~122.4mm F=1.6~4.5		F=3.5mm~91mm, F=1.6~3.8		F=3.5mm~91mm, F=1.6~3.8		F=4.1mm~73.8mm, F=1.4~3.0		F=4.1mm~73.8mm, F=1.4~3.0		f=4.1mm~73.8mm , F1.4~3.0	
Angle of view	57.8° (W) to 1.7° (T)		57.8° (W) to 1.7° (T)		54.2° (W) to 2.2° (T)		54.2° (W) to 2.2° (T)		54.2° (W) to 2.2° (T)		54.2° (W) to 2.2° (T)		48° (W) to 2.8° (T)	
Synchron-ization	Internal/External(V-lock)		Internal/External(V-lock)		Internal/External(V-lock)		Internal/External(V-lock)		Internal/External(V-lock)		Internal/External(V-lock)		Internal/External(V-lock)	
Min. Illumination	1.4 lux/1/60 sec (NTSC), 1/50 sec (PAL), 0.1 lux/1/4 sec (NTSC), 1/3 sec (PAL), ICR-ON 0.01 lux/1//4 sec (NTSC), 1/3 sec (PAL)		1.4 lux/1/60 sec (NTSC), 1/50 sec (PAL), 0.1 lux/1/4 sec (NTSC), 1/3 sec (PAL), ICR-ON 0.01 lux/1//4 sec (NTSC), 1/3 sec (PAL)		1.0 lux/1/60 sec (NTSC), 1/50 sec (PAL), 0.09 lux/1/4 sec (NTSC), 1/3 sec (PAL), ICR-ON 0.01 lux/1//4 sec (NTSC), 1/3 sec (PAL)		1.0 lux/1/60 sec (NTSC), 1/50 sec (PAL), 0.09 lux/1/4 sec (NTSC), 1/3 sec (PAL), ICR-ON 0.01 lux/1//4 sec (NTSC), 1/3 sec (PAL)		0.7 lux/1/60 sec (NTSC), 1/50 sec (PAL), 0.07 lux/1/4 sec (NTSC), 1/3 sec (PAL), ICR-ON 0.01 lux/1//4 sec (NTSC), 1/3 sec (PAL)		0.7 lux/1/60 sec (NTSC), 1/50 sec (PAL), 0.07 lux/1/4 sec (NTSC), 1/3 sec (PAL), ICR-ON 0.01 lux/1//4 sec (NTSC), 1/3 sec (PAL)		1.0Lux (F1.4, 1/60sec)	1.0Lux (F1.4, 1/50sec)
S/N Ratio	>50dB		>50dB		>50dB		>50dB		>50dB		>50dB		>50dB	
BLC	ON/OFF		ON/OFF		ON/OFF		ON/OFF		ON/OFF		ON/OFF		ON/OFF	
Shutter speed	1/4~1/10000sec	1/3~1/10000sec	1/4~1/10000sec	1/3~1/10000sec	1/4~1/10000sec	1/3~1/10000sec	1/4~1/10000sec	1/3~1/10000sec	1/1~1/10000sec	1/1~1/10000sec	1/1~1/10000sec	1/1~1/10000sec	1/60~1/10000s	1/50~1/10000s
Shutter	Auto/Manual		Auto/Manual		Auto/Manual		Auto/Manual		Auto/Manual		Auto/Manual		Auto/Manual	
White balance	Auto/Manual		Auto/Manual		Auto/Manual		Auto/Manual		Auto/Manual		Auto/Manual		Auto/Manual	
Gain Ctrl	Auto/Manual		Auto/Manual		Auto/Manual		Auto/Manual		Auto/Manual		Auto/Manual		Auto/Manual	
Video Output	VBS:1Vp-p (sync negative), Y/C		VBS:1Vp-p (sync negative), Y/C		VBS:1Vp-p (sync negative), Y/C		VBS:1Vp-p (sync negative), Y/C		VBS:1Vp-p (sync negative), Y/C		VBS:1Vp-p (sync negative), Y/C		VBS:1.0Vp-p (sync negative)	
Iris Ctrl	Auto/Manual		Auto/Manual		Auto/Manual		Auto/Manual		Auto/Manual		Auto/Manual		Auto/Manual	
Focus Ctrl	Auto/Manual		Auto/Manual		Auto/Manual		Auto/Manual		Auto/Manual		Auto/Manual		Auto/Manual	
Color./ B&W shift	Yes		Yes		Yes		Yes		Yes		Yes		Yes	
WDR	ON/OFF		NO		ON/OFF		NO		ON/OFF		NO		NO	

LeadEx JM612-IR type Robot is a PTZ camera system with laser IR illumination. In this article, we will describe and discuss about the safety notification of this laser equipped unit.

Laser safety is the avoidance of laser accidents, especially those involving eye injuries. Moderate and high-power lasers are potentially hazardous because they can burn the retina of the eyes, or even the skin. The sale and usage of lasers is typically subject to government regulations. To control the risk of injury, various specifications, for example ANSI Z136 in the US and IEC 60825 internationally, define "classes" of laser depending on their optical power density and wavelength. These regulations also prescribe required safety measures, such as labeling lasers with specific warnings and so on.

For LeadEx JM612-IR, we have the following measures or specifications to reduce or eliminate as much as possible the hazardous risk:

Laser Safety Range Description

Traditionally, the optical output of lasers are narrow angled (< 1° x1°) and emitting in beam type like laser pointers and laser pens, as well as those used in equipments for scientific research applications. Both the optical output part from the laser and the receiving part in target side are small dots with higher power density. Hereby we could prescribe these kinds of lasers as " point-to - point type laser" because the target area is small.

With the technology developments of lasers' industry, lasers with wider angle appeared in the market, mainly for illumination purposes. As far as LeadEx

LeadEx IR Laser Series Products are concerned, the optical output of the laser illuminator is rectangular shaped with angle about 12° x 12° (horizontal x vertical), and the optical power density is decreasing proportionally according to the distance between laser diode and its target.

Here below is the formula to calculate the power density at target side:

$OD = 22 * P/D^2$

"OD" is optical density in watts per cm^2;

"P" is the optical power output in watts or mill-watts;

"D" is the distance or range between the laser diode and the target.

The maximum optical output of LeadEx laser is 2000MW each, and we let them work at 1000MW each by hardware and firmware control, so the total 4pcs laser diodes are working at about 4000MW (P = 4000MW),then for example:

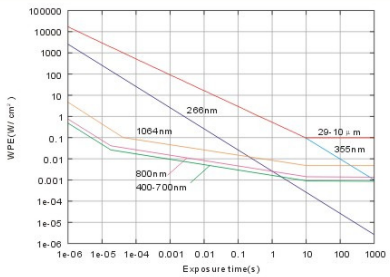
OD= 8.8MW (D = 100CM)

OD= 0.78MW(D = 335CM)

OD= 0.088MW(D = 1000CM)

A important parameter to classify the hazardous level of laser exposure is MPE value.

The MPE (Maximum Permissible Exposure) is the highest power or energy density (in W/cm^2 or J/cm^2) of a light source that is considered safe, i.e. that has a negligible probability for creating a damage. It is usually about 10% of the dose that has a 50% chance of creating damage under worst-case conditions. The MPE is measured at the cornea of the human eye or at the skin, for a given wavelength and exposure time. See the chart form below:



To LeadEx IR Laser Series Products, the laser works at wave length 808nm, let's take the 800nm curve (pink color curve) in the chart as reference, the average MPE value in the chart from 1e-06 to 1000 seconds exposure time is about $0.01W/cm^2$ ($10mW/cm^2$), which means within 130cm only range between LeadEx laser diode and target.

Safety Measures in installation and operation.

The LeadEx IR Laser Series Products are designed to use in applications installed on top or side of a pole or a wall, or on top of big ships and heavy vehicles. The shortest possible illumination range is minimum 2 meters away (Factory suggestion), so that we could avoid as much as possible the potential hazardous risk.

And also, the laser is manually controlled or automatically controlled on/off to follow up the day/night shift of the camera module. It only works when the ambient illumination is too dark below 1 Lux in case the power is on after being installed in the above typical applications. In this case, direct and close human eye contact to the laser light is almost impossible.

LABEL WARNINGS

To further guarantee its safety usage, The JM612-IR includes one warning label as below according to the international standards.

SAFETY CLASS (CLASS 3R)

Further to the above specifications and calculation, LeadEx JM612-IR is almost impossible to be used within its shortest range, and is considered to meet the CLASS 3R, which is classified for those lasers considered to be safe if handled carefully, with restricted beam viewing. With a class 3R laser, the MPE can be exceeded, but with a low risk of injury.

SPECIAL CAUTION NOTICE:

NEVER DIRECTLY EXPOSE YOUR EYES CLOSE TO THE ANY LASER DIODES.

FOU New Function Release

An important and exciting new function called FOU (Firmware On-line Upgrade) is released in LeadEx today!

This function enables distributors & installers to upgrade all LeadEx Robot Series cameras, PowerView & PowerView Plus series PTZ cameras, and all LDX-D series speed dome cameras with latest version firmware through RS-485 bus line.

(System Layout)

The Procedure of online upgrade

Do you think that remote upgrade is very complex task that requires a special training and lots of knowledge and experience?

For most deployment tools, it's true that the task need a long time to learn. With FOU function, firmware maintenance becomes never so easy.

LeadEx' s FOU function focus only on remote upgrade package that provides completely all-in-one package software management, simple interface through RS485, and the setting procedure is clearly marked in the instruction manual. So even for the non-technical people, it may requires only 5 minutes self-learning for them to be prepared for the first setting.

Receive Latest Firmware File ➤ Connect Laptop to Camera Through RS-485 Bus Line ➤ Download Software From Laptop (In 10 Seconds) ➤ Upgrade (In 10 Seconds) ➤ OK

Upon request, the authorized engineer could receive the latest version firmware from LeadEx by email, and then connect his laptop to the RS-485 bus line of the system over RS-232/485 converter, upload the new firmware to the system within 10 seconds, and the system will work with new brain. From July, 2009 all the newly shipped product as above from LeadEx will include this function!

The advantage of the FOU

1> Firmware On-line Upgrade reduces the amount of engineer's work.

They engineer does not need to climb a ladder and laboriously unscrew the camera system and finally take off the dome from the install places to fix any possible bugs or make the firmware system for an upgrade. This help to avoid a lot of fussy works and save the time.

2> Firmware On-line Upgrade save a lot of after service time and costs
Normally when the firmware system need upgrading, customer can only return the whole camera system or the mother board to the factory. It takes long time and extra cost. LeadEx FOU function make it possible to sort out all the troubles.

3>Firmware On-line Upgrade is a convenient way to easily and remotely update the firmware to the latest available version without any complicated procedure.

Since the product is upgrade continuously, customers do not need to always buy each upgrade style. Now they can easily upgrade every new released function by remotely online upgrade, just few minutes the customer can get a new version with new function!

For detail setting procedure, please feel free to contact with us, we are here to serve!

LeadEx
Security Surveillance Solutions