PAN SPEED 0.005 TO 60 DEGREES PER SECOND

P/T HEAD IP 66 HOUSING IP68 PROTECTION

LOW BACKLASH DC STEPPER MOTORS

POSITION ACCURACY 0.015°

NITROGEN PRESSURIZABLE HOUSING

LONG RANGE ZOOM LENS INCLUDED

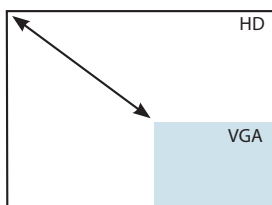# PAN / TILT / ZOOM SURVEILLANCE SYSTEM
GSC-LR-EOSS-1.0

The GSC-LR-EOSS-1.0 is a long range EOSS (Electro-Optical Surveillance System) designed for high precision performance with integrated visible tube housing, long range zoom lens and camera. The system is available with OTT (Over The Top) mount and side mount, to install a secondary payload (thermal camera) and other multiple devices upon request.

Key Features

- HD resolution (HD-SDI/IP output, crisp high resolution and details)
- State of the art long range zoom lense
- Image enhancement by poor visibility
- Operating temperature: -25 $^{\circ}$C + 70 $^{\circ}$C (very durable, can be used in multiple environmental conditions)
- Touch screen control for easy, intuitive operation (requires DirectShow compatible HD-SDI Frame Grabber)
- For observation in applications such as city centers, ports and airports, critical infrastructers, borders, pipelines and wind farms

Optional Features

- Thermal channel
- IR illumination
- Image enhancement by poor visibility
- Video management software integration

When comparing VGA with Full HD mode, the 2 megapixel resolution allows far more detail and thus earlier identification of possible danger.

System Components

- High performance pan/tilt head
- Long range zoom lens
- Camera
- Housing
- Control software for one or multiple systems

Key Features

- OTT and side mount
- Up to 60/45 degrees per second pan/tilt speed
- Proportional speed control
- Unlimited number of preset positions
- High accuracy positioning < 0.015°
- 360° continous rotation
- IP68 stainless steel housing, nitrogen purgeable
- IP66 pan/tilt housing
- Long range zoom lens included
- Autofocus
- Image Enhancement
- Optional Video Tracking
- User friendly control software included

Full HD Camera Features

- Newly developed ultra-high sensitivity 2/3 type CMOS sensor Full HD 1080/30p
- 3D noise reduction: The noise peculiar to CMOS is reduced substantially
- Power-saving camera with non-cooling type
- Excellent images in 24/7 operation

SPECIFICATIONS

Pan / Tilt-Head

Pan / Tilt Motors	DC stepper motors
Load Mode	Top Load / Side Load
Pan Rotation	360° continuous
Pan Speed	0.005° - 60°/sec (other speed range available under request, e. g. 0,005° - 90°/sec)
Tilt Range	Top Load ±45°; Side Load +90° to -90°
Tilt Speed	0.01° - 45°/sec (other speed range available under request, e. g. 0,005° - 22,5°/sec)
Precision	0,015°
Communication	Ethernet
Protocol	Proprietary Protocol, based on Pelco-D extended
Number of Presets	Up to 250 (unlimited using Absolute Angles Control)
Absolute Angles Control	Support with feedback
Video Output	1x HD-SDI (more options available upon request)
Lightning Protection	Built-in Lightning and Surge Protection, pass EMCtest
Operation Temperature	-25°C to +70°C
Input	24 VDC (+/- 20%) / 100 W - 400 W
IP Rating	IP66
Construction	Al Alloy
Dimensions	206 mm (L) x 345 mm (W) x 390 mm (H)
Additional features	Focal length dependant speed control; Different colours upon request

Lens Housing - Nitrogen Pressurisable

IP Rating	IEC529 Standard and IP68
Construction	Stainless Steel 316 material
Housing Window Glass	Option 1: Optical tempered hardened glass Option 2: Standard glass with wiper Option 3: Optical tempered hardened glass with wiper (extra charge) When ordering, please specify the desired glass option as subsequent conversion is not possible.
Pressurizing	Recommendend inertial gas: NITROGEN
Safety Capacity	Safety gasket capacity 5 to 30 PSI, default 14.5 PSI
Safety Protected	Auto release gas pressure, when over default value
Heater Function	Optional: Standard turn on at <8°C; turn off at >18°C
Blower Function	Optional: Turn on at >35°C; turn off at <25°C
Dimensions	520 mm (L) x 250 mm (Ø): 670 mm (L) x 254 mm (Ø) w. Sun-Shield
Surface Finishing	Corrosion proof material with post high temperature protection

Lens

Format / Mount	2/3" / C-Mount		1/2" / C-Mount	
Internal Extender	-		2.5X	
Focal Length (mm)	50 - 1500	25 - 750	w/o Extender: 12 - 660	c/wExtender:30.5-1,680
Iris Range	5 - close	2.5 - close	w/o Extender: 4 - 360	c/w Extender: 10 - 900
Horizontal Angle of View	10.01° - 0.34°	19.76° - 0.69°	w/o Extender: 31.7° - 0.6°	c/w Extender: 12.1° - 0.2°
Iris Control	Auto		Auto	
Filter Size (mm)	95		105	
Zoom Speed / Focus Speed (sec)	5 sec / 6 sec		4.5 sec / 5 sec	
Image Enhancement	HD, Auto Focus, 4 revolving filters		HD, Anti-Fog, Auto Focus, Image Stabiliser	

System Totals

Dimensions	630 mm (L) x 361 mm (W) x 622 mm (H) (w/o Sun Shield)
Weight	~ 50 kg (incl. Lens, Camera etc.)

HIGH SENSITIVE CAMERA

CAMERA

Imaging Device	1x CMOS /RGB Bayer
Total pixels	Approx 2.6 megapixels 2270(H)×1144(V)
Valid pixels	Approx 2.2 megapixels 1974(H)×1110(V)
Pixel size	5μm(H)×5μm(V)
Optical sensor	2/3 Type
Scanning system	Progressive
Sensitivity	F11, 2000lx
Minimum Illumination	0.005lxF1.4 1/30 +72dB 50IRE
Viewing resolution	>900TV
Lens	CS-mount
Lens Control	4pin DC Iris control
Electric zoom	x1; x1,1; x1,2; x1,3; ... x9,7; x9,8; x9,9; x10
Image display	Standard, Top/Bottom, Left/Right, Top/Bottom and Left/Right Invert
Privacy mask	8Mask GRAY / WHITE / BLACK
Internal test pattern	Color bar, Grayscale, Cross-line
OSD	Operating menu
DC Input Voltage	DC12V ±10% (Ripple 50mVp-p)
Power Consumption	7W
Operating Temp./Humidity	-10 to 50 °C; 35 to 90%
Storage Temp./Humidity	-20 to 60 °C; 20 to 90%
External Dimensions	78.0(W) × 66.0(H) × 139.0(D)mm
Weight	460g

IMAGE ADJUSTMENT

Electronic sensitivity Up	OFF / AUTO(S/N, STD, MOVE) / Manual x1, x2, x4, x6, x8, x16
Gain	AUTO:AGC / HYPER-AGC; MANUAL: 0dB-72dB(0.3dB STEP)
Electronic shutter	OFF, 1/50, 1/60, 1/100, 1/125, 1/250, 1/500, 1/1,000, 1/2,000, 1/4,000, 1/10,000
Iris control	9×5 Area Selection
Gamma correction	0.45 / 0.75 / 1
DNR	OFF / LOW / MID / HIGH
White balance	ATW1 / ATW2 / AWC / Manual
WDR MODE	OFF / WDR / AUTO KNEE / AUTO BLACK STRETCH
Color Matrix	R/G/B/Ye/Cy/Mg 6 axis adjust
Additional functions	DITAL / CHROMA / BLACK LEVEL

INTERFACE AND SOFTWARE SPECIFICATIONS

Video output Jacks	HD-SDI (BNC)	IP Ethernet
Protocol	Proprietary Protocol, based on Pelco-D extended	Can be integrated into video management software
Control	IP Ethernet	IP Ethernet
Video output	HD-SDI: 1080i60, 1080i50, 1080p30, 1080p25, 720p60, 720p50, 720p25, 720p30	On request

SYSTEM LENSES

HD RESOLUTION
30X (25-750mm or 50-1500mm) ZOOM

The lens's zoom range is 25-750mm or 50-1500mm, and does not have an extender that makes it unique in industry. The extremely high magnification in combination with HD resolution means a car number plate can be readable at distances of about 2km; a vehicle can be identified at a distance of several kilometers.

TECHNICAL SPECIFICATIONS

Model	Format size	Mount	Focal length in mm	Iris range	Iris control	Horizontal angle of view	Filter size in mm	Zoom Speed	Focus Speed
TM30Z5050HDGAIDCPN-IR	2/3"	C	50-1500	5.0 - close	DC	10.01 - 0.34°	95	5 sec	6 sec

HD RESOLUTION
55X (140X with 2.5X extender) ZOOM

The lens's zoom range is 12 to 660 mm, and when the internal 2.5X extender is switched in, the focal length increases to 30.5 to 1,680 mm. With 1,680 mm focal length at 1,000 m distance, the field of view is 3.8 m by 2.8 m. The extremely high magnification in combination with HD resolution means a person can be identified at distances in excess of 600 m.

TECHNICAL SPECIFICATIONS

Model	Format size	Mount	Focal length in mm	Iris range	Iris control	M. O. D.	Horizontal angle of view	Filter size in mm	Zoom Speed	Focus Speed
H55ZC-ME-F-HD-PR01	1/2"	C	12 - 660	4 - 360	VS	7 m	31.6 - 0.6°	105	4.5 sec	5 sec
with 2.5x extender*			30.5 - 1,680	10 - 900			12.1 - 0.2°			

* The extender needs 2 seconds to be activated/deactivated

EQUIPMENT & ACCESSORIES

FRONT GLASS OPTIONS

- **Option 1:** Optical tempered hardened glass
- **Option 2:** Standard glass with wiper
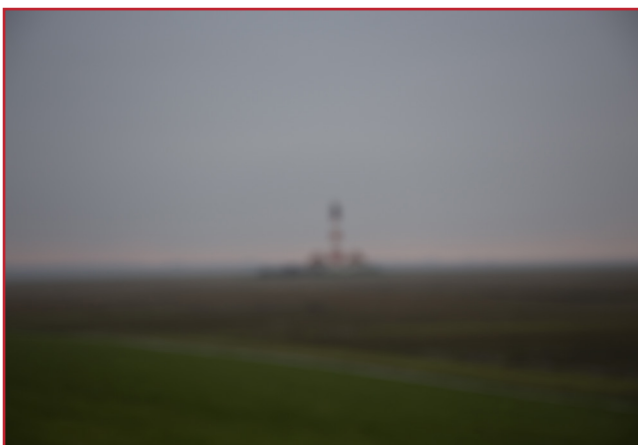- **Option 3:** Optical tempered hardened glass with wiper (extra charge)

When ordering, please specify the desired glass option as subsequent conversion is not possible.

The front glass quality is very important for the overall image performance of the whole system and should not be underestimated.

HD-SDI -> IP-Videoencoder

- 1080i   ->   IP
- 1080p   ->   IP
- Native IP video stream if network camera is used.

We can offer a number of different options to fit your project.
For further information and references, please do not hesitate to contact our office.

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