

Falcon Thermal

Falcon Thermal is our cutting edge weapon sight which was specially developed for remote control Weapon systems (RCWS).

Falcon Thermal is a multi sensor electro-optical payload designed for easy integration in remote controlled weapon stations and long range surveillance

Falcon Thermal SYSTEM INCLUDES

DAY Sensor	Full HD x92 Zoom FOV 65.5° to 0.78°
LWIR Sensor	LWIR 1280x1024 12μm 25-225mm Cont. x9 Zoom FOV 3.9°x3.1° to 34.2°x27.6°
LRF	8.6 KM NATO TARGET, 0.5-0.01m PRECISION
PSU	9-40 VDC MIL-STD-461; MIL-STD-1275; MIL-STD-704
CHASSIS	RAL 7004, Nitrogen purged, MIL.STD, CNC aluminum with hermetic D38999 Stainless Steel connector Internal Ethernet Switch
INTERFACE	Ethernet, ONVIF, RTSP
SOFTWARE	Ex-Sight Application, SDK Open Source C#



WEAPON SIGHT SYSTEM

FULLHD GLOBAL SHUTTER X36_or x92 DAY SENSOR

x36

1/2.8" 2MP SONY GLOBAL SHUTTER FULL-HD 1920x1080p, MAX.RESOLUTION 1600x1300@30fps, H.265/H.264 COMPRESSION, 6-216mm x36 ZOOM GLOBAL SHUTTER, FOCAL LENS f=4.5mm~162mm, APERTURE RATOP F1.5(wide) ~F4.0(tele), ICR, X36 H.FOV 59°-2.4°, SAPPHIRE WINDOW

x92

Up to 2PM (1920*1080) FULL HD 1920*1080@30fps Live Image, H.265/H.264/MJPEG, 1/1.8" PROGRESSIVE CMOS IMAGE SENSOR, ZOOM 90x OPTICAL ZOOM, 16x DIGITAL ZOOM, FOCAL LENGTH f=6.1mm~561mm, F1.4(wide)~F4.7(tele), FOV 65.5°~ 0.78°, VIDEO BITRATE 32Kbps~16Mbps

4K OVERVIEW MODULE 4mm

SONY IMX678, 1/1.8" PROGRESSIVE SCAN CMOS SENSOR, 120dB, VIDEO RESOLUTION 8MP/3840*2160, VIDEO ENCODING H.265/H.264/MJPEG, VIDEO BIT RATE 32kbps~80Mbps, CBR/VBR adjustable, ≥52dB, MIN.ILLUMINATION COLOR 0.0001 Lux@F1.2

1280x1024 LWIR SENSOR

UNCOOLED LWIR 12um 25-225mm x10.2 ZOOM NETD<50mK SPECTRAL RESPONSE 8-14 μm

32km LRF (LASER RANGE FINDER)

EYE SAFE 8.6KM NATO TARGET, 0.5-0.01m PRECISION, 0.6MRAD BEAM DIVERGENCE 1m RESOLUTION, <30m TARGET DISCRIMINATION, ALIGNMENT POINTER, SAPPHIRE WINDOW

CONNECTION INTERFACE

HERMETIC Type C: D38999/23YE35PN, ETHERNET/RTSP/ONVIF VIDEO & CONTROL

PSU (POWER SUPPLY UNIT)

18-32VDC 120W Max. MIL.STD704, MIL.STD810G POWER STABILIZER



Falcon Thermal

EMBEDDED VIDEO TRACKER*

DUAL CHANNEL EMBEDDED VIDEO ANALYTICS TRACKER (NON NEURAL NETWORK) PTZ ETHERNET TELEMETRY INTERFACE CONNECTION

DIGITAL VIDEO STABILIZER*

DUAL CHANNEL DIGITAL VIDEO STABILIZER INCLUDING ROLL CORRECTION

ENVIRONMENTAL

IP-67, NITROGEN PURGED, HERMETIC SEALED, ALUMINUM CHASSIS (6061) STAINLESS STEEL SCREWS (N316) ,GROUND PIN CONNECTOR, OPTIONAL SHOCK ABSORBERS

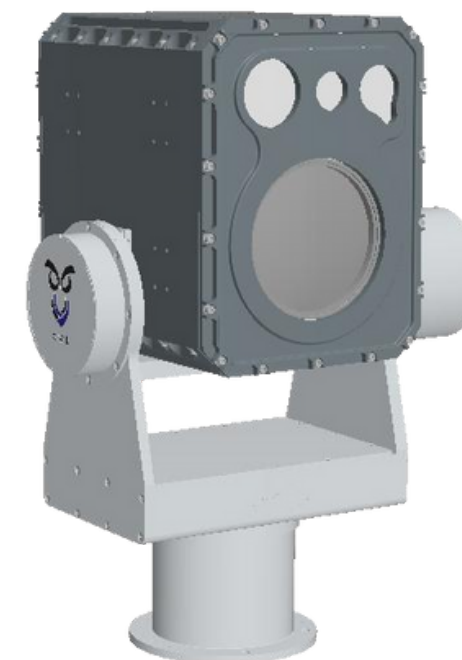
OPEN SOURCE API

VIDEO CONTROL OPEN SOURCE API, PTZ TRACKING SAMPLE APP (C#.NET)

DIMENSIONS

(LxWxH, mm) 352x275x360mm WEIGHT 20.5Kg

***Optional on digital versions only**



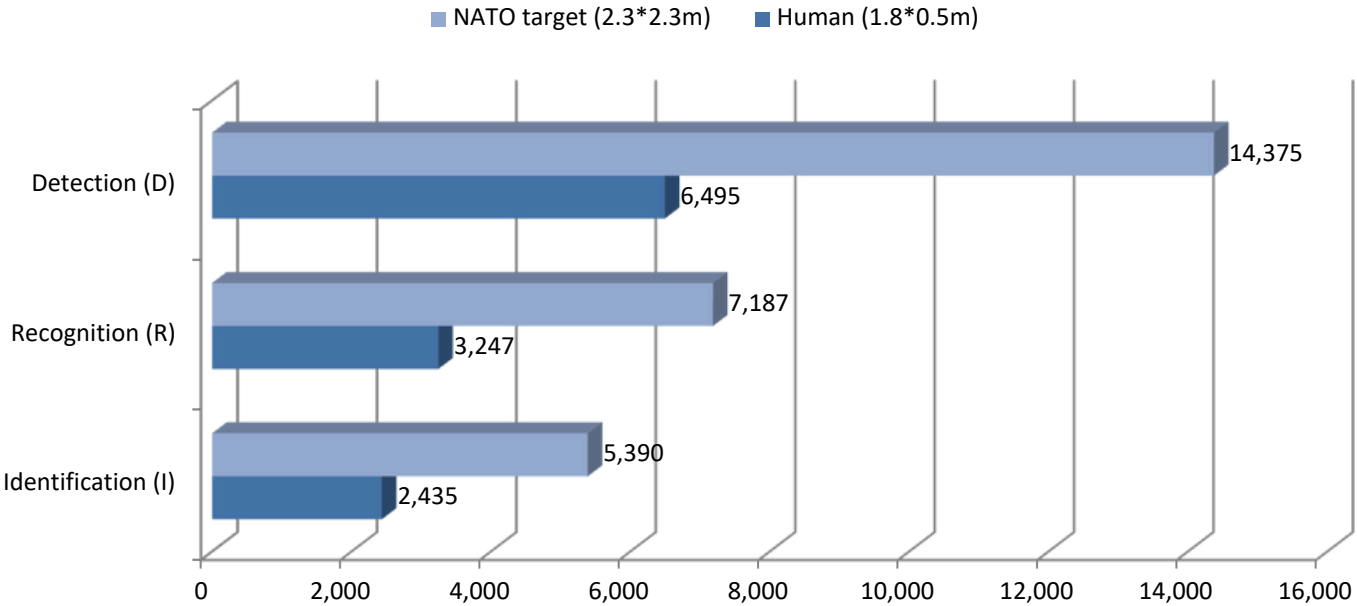
LWIR CONTINUOUS ZOOM LENS

OPTICAL PROPERTY	VALUE
FOCAL LENGTH	25mm~225mm
F#	0.95~1.5
TRANSMISSION (8-12μm)	85%
WAVELENGTH	8-14μm
FOV	25.0°x19.9~2.7°x2.2°

APPLICABLE ENVIRONMENT	VALUE
OPERATING TEMPERATURE	-40°C~+60°C
STORAGE TEMPERATURE	-45°C~+65°C
SEALING	IP67 (Front Lens)

MECHANICAL PROPERTY	VALUE
FOCUS TYPE	ELECTRONIC FOCUS
FOCUS RANGE	10m~∞
MOUNT TYPE	FLANGE INTERFACE
BACK WORKING DISTANCE	14.5mm
DIMENSIONS	Φ189.5mm, L259.9mm
WEIGHT	20.5 Kg

Falcon Falcon Thermal DRI LWIR (meters)



Calculation according to Johnson Criteria

SYSTEM OVERVIEW

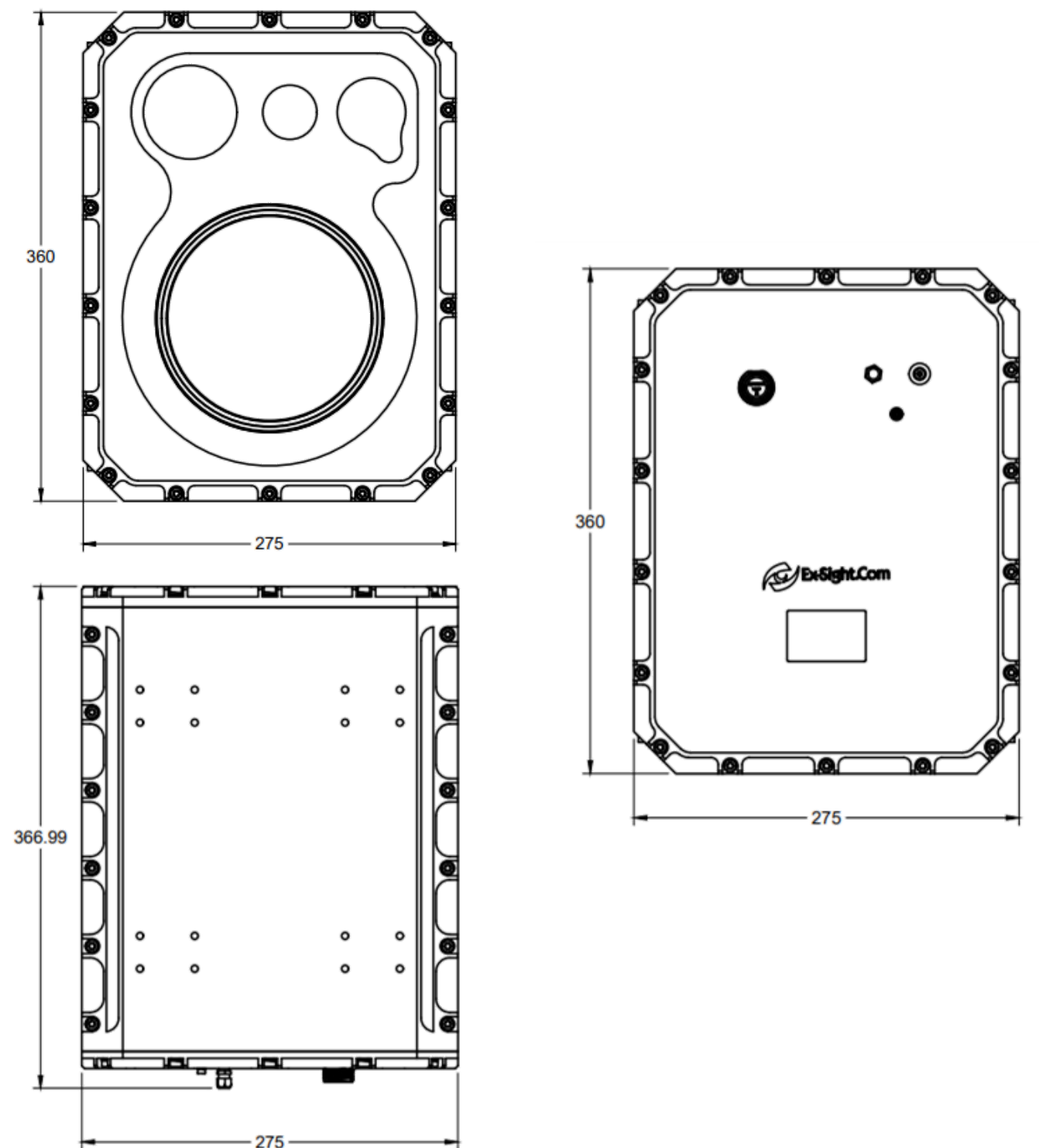
PART NUMBERING INDEX

#	PART	DESCRIPTION
1	LRF	LASER RANGE FINDER SAPPHIRE Window
2	DAY Sensor	FULLHD GLOBAL SHUTTER X36 or x92 DAY SENSOR SAPPHIRE Window
3	DAY Sensor	Camera Scene 90° 4K SAPPHIRE Window
4	LWIR Sensor	LWIR Sensor & LWIR LENS



SYSTEM OVERVIEW

DIMENSIONS (mm)



Falcon Thermal PART

NUMBERING:

SLB-1280-225-36-N

SLB-[RES]-[LENS]-[ZOOM-DS]-[LRF]

[RES] LWIR RESOLUTION

640 (LWIR 640x512 , 5.8mm)

1280 (LWIR 1280x1024 , 13mm)

[LENS] LWIR LENS

225 - Focal Length 25mm~225mm

[ZOOM-DS] ZOOM DAY SENSOR

36 - x36 Optical Zoom, Global Shutter

92 - x92 Optical Zoom, 16x Digital Zoom

[LRF]

N - NONE

LRF1 - 32Km Range LRF

LRF2 - 6Km Range LRF

SYSTEM OVERVIEW

PART NUMBERING INDEX

#	P/N	DESCRIPTION
1	D38999/23YE35PN	Mil. Std Stainless Steel connector
2	MS3212-25	Nitrogen Screw
3	MS51377-2 MS51607-1 MS20813-1 Ground	Nitrogen Valve Core Nitrogen MS Valves Nitrogen Fitting
4	Screw	Ground Screw



PANEL PIN LAYOUT **D38999/23YC35PN** Stainless Steel Hermetic Connector

PIN#	DESCRIPTION
1	NC
2	NC
3	(+9 TO +36VDC) INPUT POWER
4	GND INPUT POWER
5	(+9 TO +36VDC) INPUT POWER
6	GND INPUT POWER
7	NC
8	NC
9	ETHERNET2 (1) TX+
10	ETHERNET2 (2) TX-
11	ETHERNET2 (3) RX+
12	ETHERNET2 (6) RX-
13	NC
14	NC
15	ETHERNET1 (1) TX+
16	ETHERNET1 (2) TX-
17	ETHERNET1 (3) RX+
18	ETHERNET1 (6) RX-
19	DAY VIDEO CVBS SIGNAL
20	DAY VIDEO CVBS GND
21	THERMAL VIDEO CVBS SIGNAL
22	THERMAL VIDEO CVBS GND