

Falcon Dual

FUSION-F is a powerful pure digital dual sensor vision system for superior situational awareness

Product Highlights

- ☐ Embedded network switch
- ☐ Sensor daisy chain via Ethernet to save cabling
- ☐ Two Analog Out CVBS interfaces – Day + LWIR
- ☐ ONVIF Low Light Day Sensor 1080x1920
- ☐ ONVIF LWIR 12 μ m Sensor
- ☐ Hermetic IP-67, Nitrogen Purged, Military Grade
- ☐ Hermetic MIL.STD D38999/23YC35PN Connector
- ☐ Black Hard Anodized CNC Aluminum Chassis
- ☐ Easy Sensor-To-Screen, Sensor-To-PC Installation
- ☐ Optional SD card recording
- ☐ 9-36VDC Embedded Power Stabilizer



UNCOOLED LWIR DVE SYSTEM

THERMAL SENSOR

UNCOOLED LWIR 12 μm, RESOLUTION (PIXELS) 640x512,
LENS (640) 5.8mm / (1280) 13mm, FOV 67° (69.4° x57.3°) / 61° x50°, PITCH 12μm,
SPECTRAL BAND 8-14 μm/ 7.5-13.5μm , FRAME RATE 50 FPS, SENSITIVITY (NEDT)
<50mK at F/1.0, GERMANIUM WINDOW DLC+AR

DAY SENSOR (VIS)

SONY IMX327 1920x1080/2MP FULL HD, H.265/H.264/MJPEG, Video Frame Main
stream1920*1080(30fps), Sub stream: 1280*720/704*576 640*480

352*288(30fps),
Video Bit rate 16kbps~20Mbps, CBR/VBR, S/N Ratio ≥60dB, Min Illumination
0.001Lux@F1.2 , Ethernet Interface 1PCS RJ45 10M/100M TCP/IP, UDP, RTP, RTSP,
RTCP, RTMP, HTTP, DNS, DDNS, DHCP, NTP, PPPOE, SMTP, UPNP
SAPPHIRE WINDOW 3mm AR

FOV DAY SENSOR

LENS 4mm DC DRIVE M12, FOV (H) 84.6° (V) 45.9° (D) 100.0°

INTERFACES

ANALOG OUT FORMAT:2 OUTPUTS X PAL (DAY + LWIR) , ETHERNET SINGLE
CONNECTION, INTERNAL EMBEDDED SWITCH, SDK WEB INTERFACE , VIDEO
COMPRESSION RTSP H.264 / H.265 STREAMING, CAMERA CONTROL - SDK (CODE
EXAMPLES INCLUDED) , VIDEO STREAM : 2 SEPARATE DIGITAL VIDEO CHANNELS
FROM EACH CAMERA WITH DIFFERENT SETUPS, HERMETIC D38999/23YC35PN
CONNECTOR

PSU (POWER SUPPLY UNIT)

9-36VDC, NOMINAL 5.6W, (MAX on LOAD 12W)

HOUSING

BLACK HARD ANODIZED ALUMINUM, STAINLESS STEEL N316 SCREWS, NITROGEN
VALVE IN, SEALED OUTPUT SCREW , IP-67, NITROGEN PURGED, “O” RINGS

POWER CONSUMPTION

Power consumption (24V) : 140mA (2300mA MAX Constant)

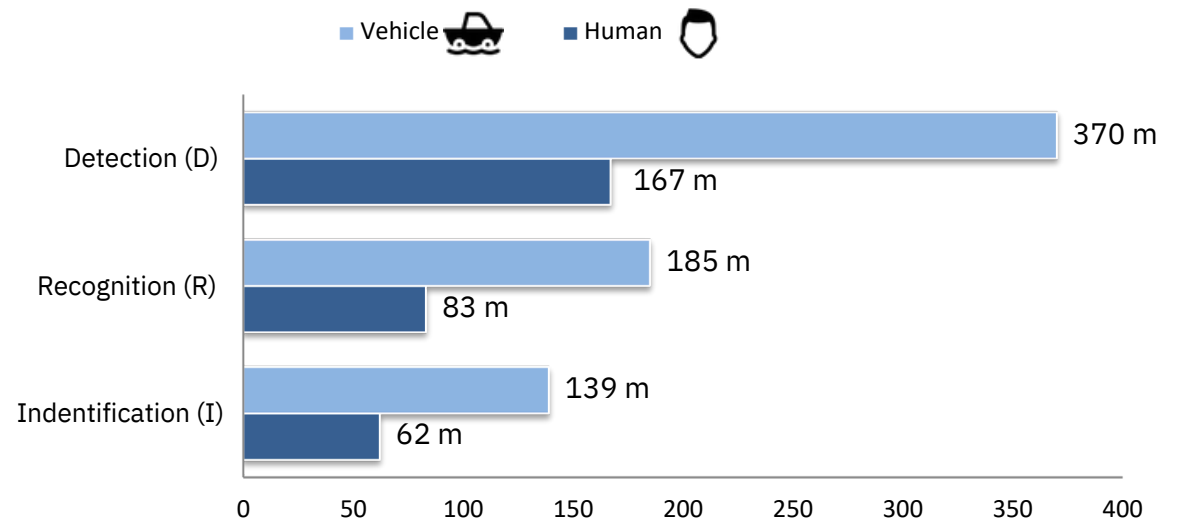
DIMENSIONS

(LxWxH, mm) 147x119x96mm, WEIGHT 2,300 gm



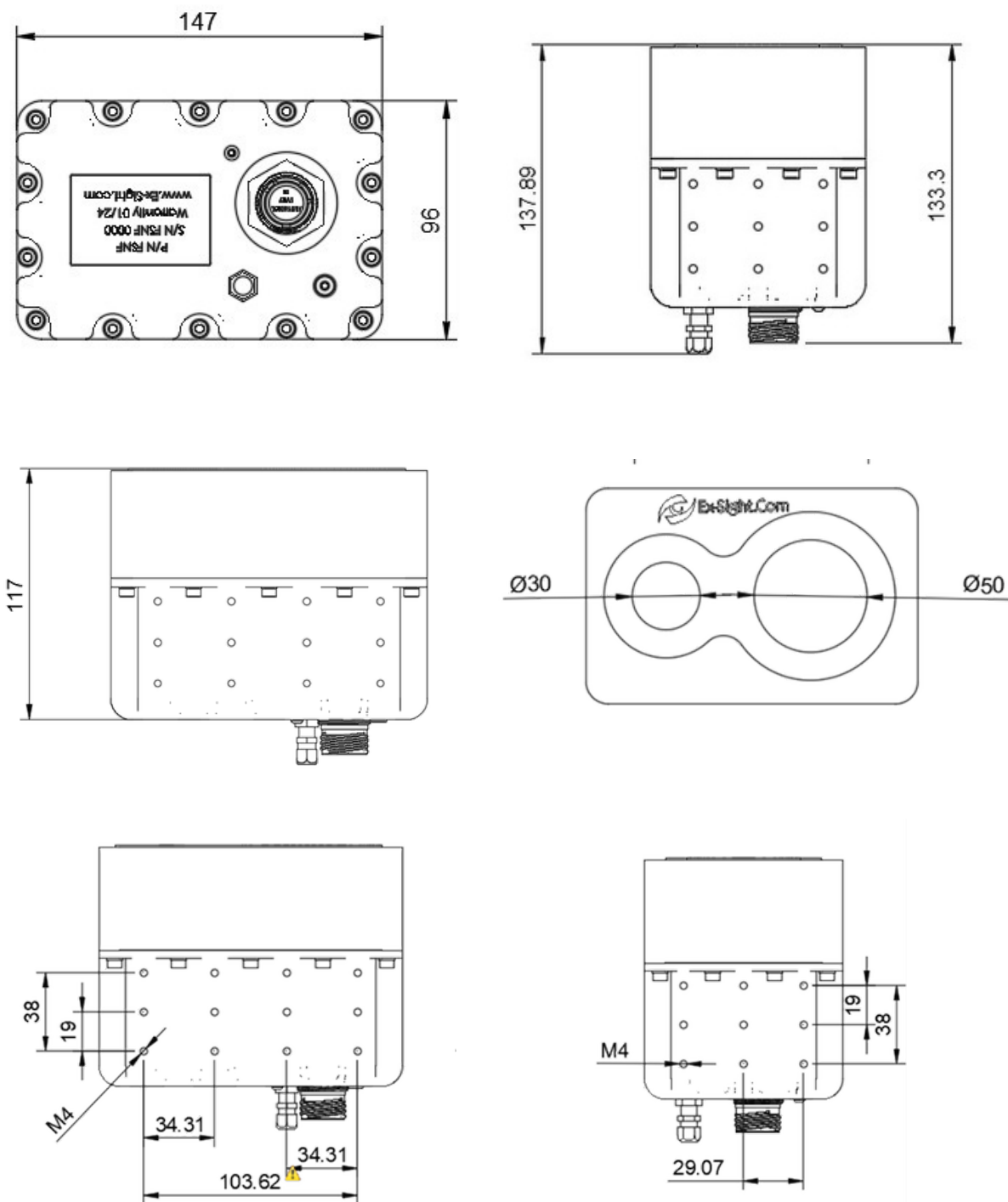
Falcon Dual

Falcon-F640 DRI LWIR (m)



Calculation according to Johnson Criteria

DIMENSIONS (mm)



Falcon Dual

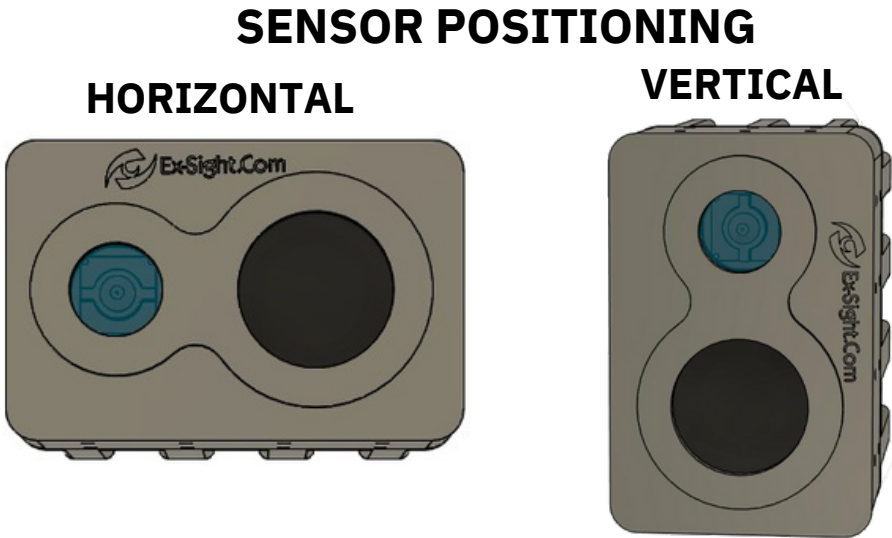
FUSION-F PART NUMBERING:

FUSION-F[RES]-[FOV]-[POS]

[RES] LWIR RESOLUTION
640 (LWIR 640x512 , 5.8mm)

[FOV] FIELD OF VIEW
70 - 70° LWIR (69.4° x 57.3°), 90° DAY (84.6°x45.9°)
S – 70° LWIR (69.4° x 57.3°), 70° DAY (70.7°x43.5) SYNC

[POS] CAMERA POSITION
H (HORIZONTAL)
V (VERTICAL)



PRODUCT PIN LAYOUT

PANEL Pin Layout
D38999/23YC35PN
Stainless Steel Hermetic Connector

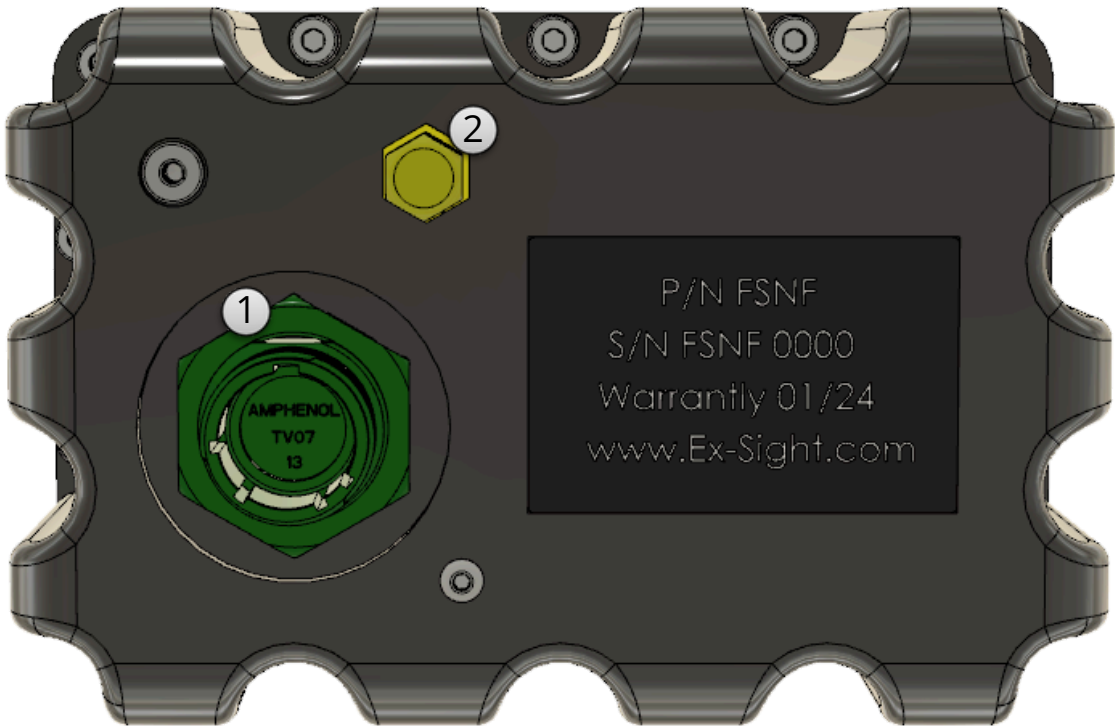


Falcon Dual

PART Numbering Index

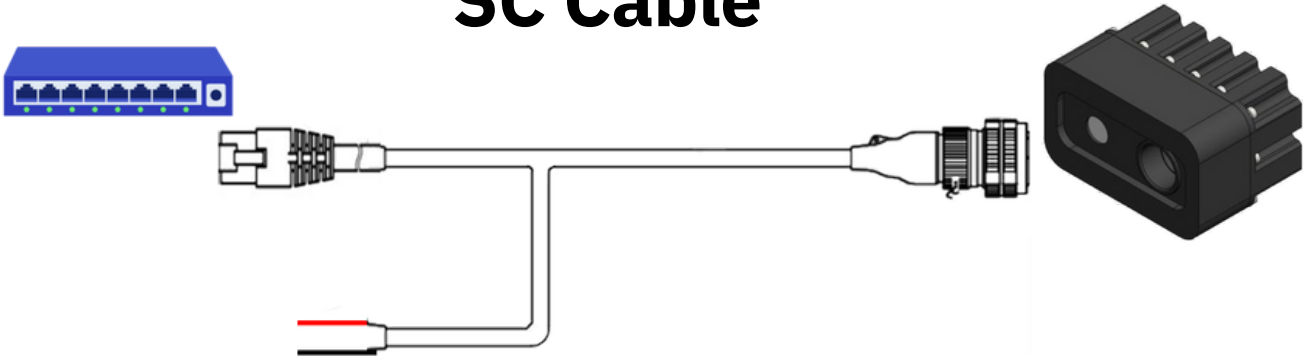
#	P/N	DESCRIPTION
1	D38999/23YC35PN	Mil. Std Stainless Steel connector
2	MS51377-2 MS51607-1 MS20813-1	Nitrogen Valve Core Nitrogen MS Valves Nitrogen Fitting

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



CABLE PART NUMBERING

SC Cable



CABLE PART NUMBERING:

FUSION-F-CABLE-[CT]-[LEN1]-[LEN2]

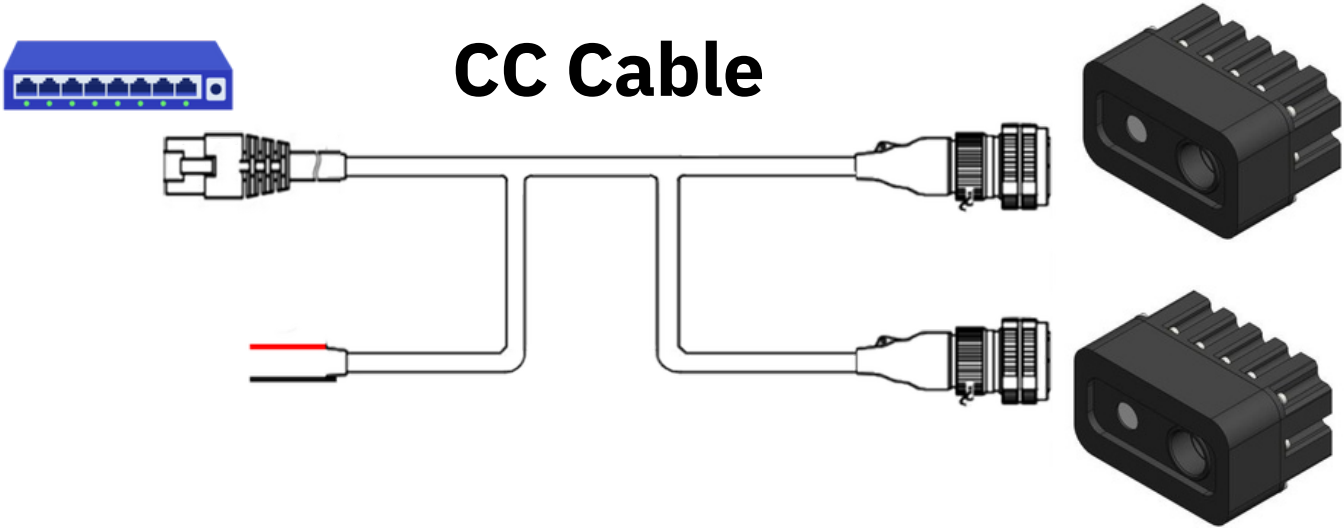
[CT] CABLE TYPE:

- SC (SINGLE CABLE)
- CC (CHAINED CABLE)

[LEN1] CABLE LENGTH in Meters

[LEN2] CHAINED CABLE LENGTH in Meters (CC cable only)

CC Cable



RQT1601875 CABLE - Cable Specification

22 Conductor Cable

Components:

Cat. 5e Cable:

Conductor: 24 AWG 7/32 Tinned Copper.

Insulation: XLPE, OD 1.3mm.

Color Code: Blue X White, Orange X White, Green X White, Brown X White.

Shield: Aluminum foil + Tinned cooper braid 80% Min coverage.

Jacket: PTX, OD 7.6 mm, Black, Numbered 1-2.

20 AWG pairs:

Conductor: 20 AWG 19/32 Tinned Copper.

Insulation: ETFE, OD 1.4 mm.

Color Code: Black, Red.

Cable:

Two (2) Cat. 5e 4X2X24 AWG SF/UTP.

Three (3) 20 AWG unshielded twisted pairs.

Jacket:

Halogen-free, flame retardant, Cross Linked Thermoplastic Elastomer.
to 17.5 mm nom – Black

Marking:

Jacket marked 'RQT1601875 – Week & Year of Manufacture' at 1000mm intervals.

Performance:

Min. Bend Radius: 180 mm

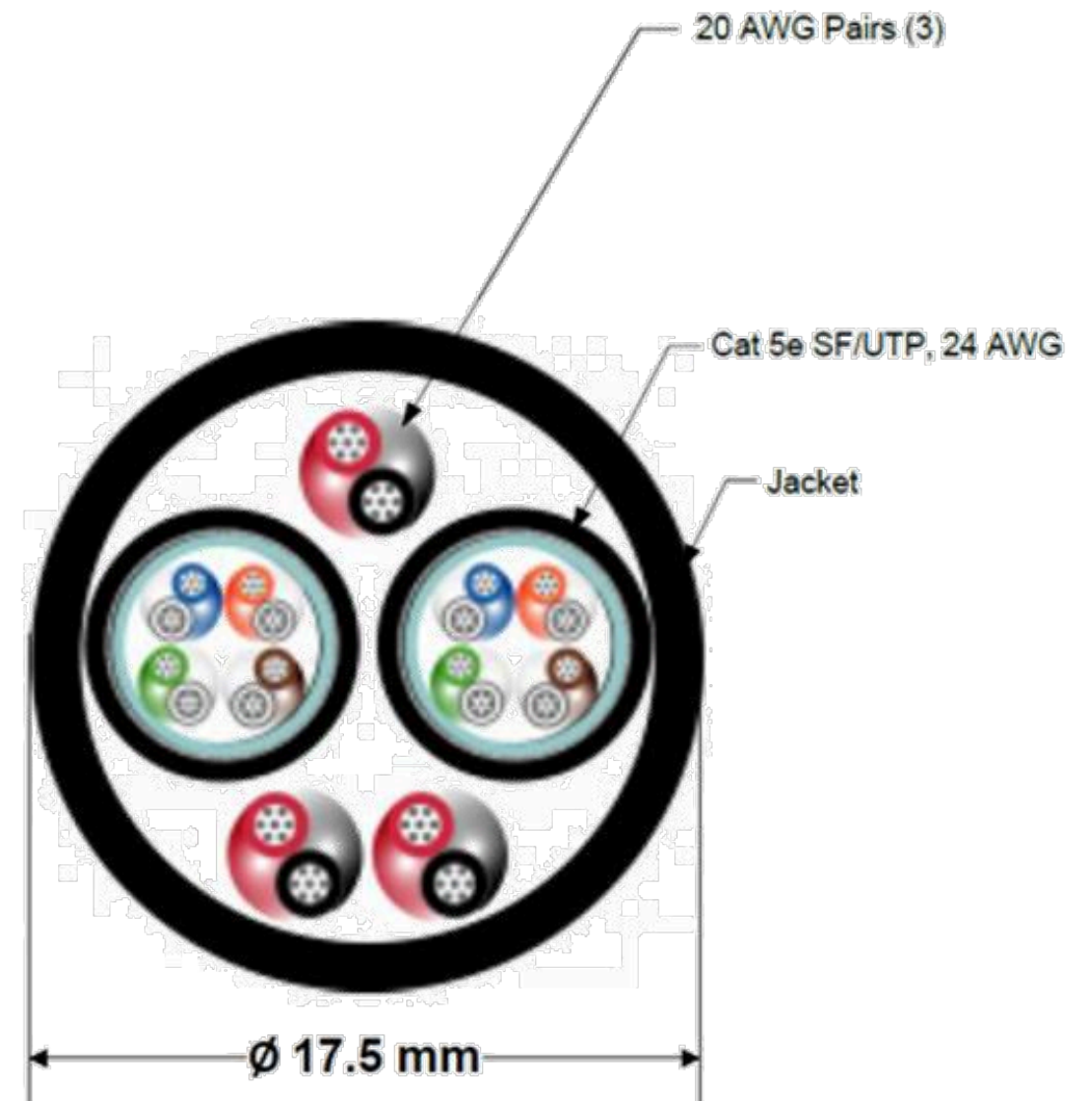
Min. Band Radius for Operation: 150°mm

Max. Operation Temperature: +90 C

Min. Operation Temperature: - 40 C

UV Resistance: Yes

Weight: 260 Kg/Km



CABLE PIN LAYOUT

CABLE PIN LAYOUT
D38999/26KC35SN Stainless Steel
Hermetic Connector

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

CABLE PART NUMBERING INDEX

#	P/N	DESCRIPTION
1	[LEN1]	Total Cable length (meters)
2	D38999/26KC35SN	Mil. Std Stainless Steel connector (200°C, firewall capability, 500 hour salt spray resistance)
3	RQND-40S2-S-1307	Stainless Steel Backshell
4	202K121-25-0	Boot
5	Cable RQT1601875	6*20AWG + SPEC55 (RAYCHEM DR-25)
6	Cable RQT1601875	6*20AWG + SPEC55 (1m) (RAYCHEM DR-25)
7	RJ45 Ethernet	Main Ethernet connector
8	Power Wires	20AWG For 9V-36V input



Falcon Dual

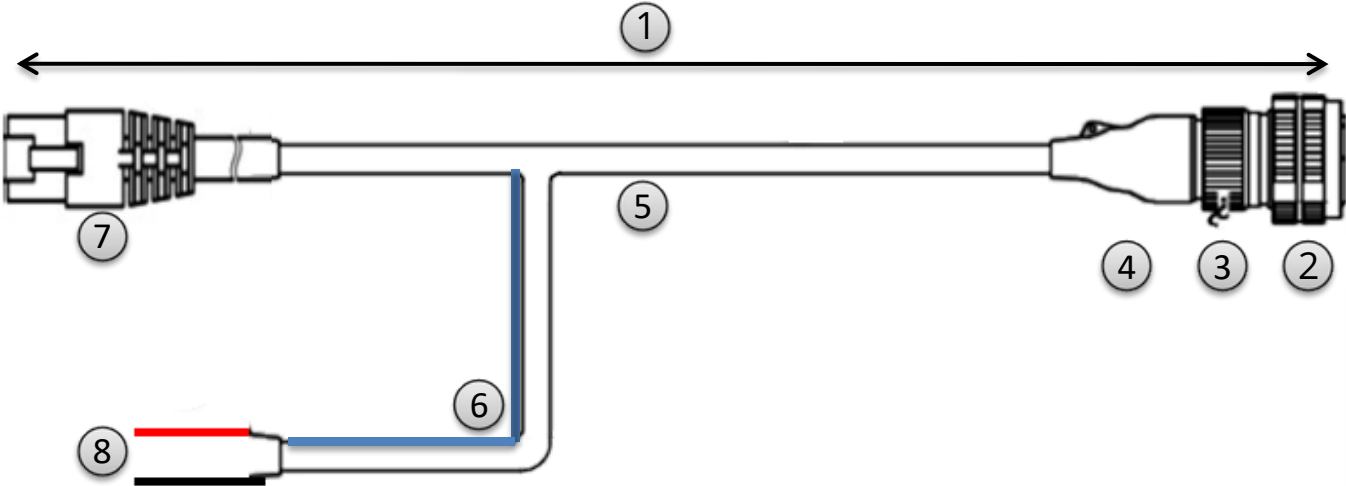
FUSION-F-CABLE-SC-[LEN1]

FUSION-F-CABLE is RQT1601875 Cable (6*20AWG + SPEC 55) with specified length.

The cable includes connector D38999/26KC35SN Mil. Std Stainless Steel that connects to the connector D38999/23YC35PN on the FUSION-F.

On the other side of the cable there is a connection to Power 9-36V (open black wire + open red wire) and RJ45 Giga Ethernet connection.

M ECHANICAL DRAWING



CABLE PIN LAYOUT

D38999/26KC35SN Stainless Steel
Hermetic Connector



Falcon Dual

PIN	DESCRIPTION
1 2	NC NC (+9 TO +36VDC) INPUT
3 4	POWER GND INPUT POWER (+9
5 6	TO +36VDC) INPUT POWER
7 8	GND INPUT POWER NC NC
9	ETHERNET2 (1) TX+
10	ETHERNET2 (2) TX-
11	ETHERNET2 (3) RX+

PIN	DESCRIPTION
12	ETHERNET2 (6) RX-
13	NC NC ETHERNET2
14	(1) TX+ ETHERNET2
15	(2) TX- ETHERNET2
16	(3) RX+ ETHERNET2
17	(6) RX- NC NC NC NC
18	
19	
20	
21	
22	

CABLE PART NUMBERING INDEX

#	P/N	DESCRIPTION
1	[LEN1]	Total Cable length (meters)
2	D38999/26KC35SN	Mil. Std Stainless Steel connector (200°C, firewall capability, 500 hour salt spray resistance)
3	RQND-40S2-S-1307	Stainless Steel Backshell
4	202K121-25-0	Boot
5	[LEN2]	Chained Cable Length (meter) from split
6	Cable RQT1601875	6*20AWG + SPEC55 (RAYCHEM DR-25)
7	Cable RQT1601875	6*20AWG + SPEC55 (1m) (RAYCHEM DR-25)
8	RJ45 Ethernet	Main Ethernet connector
9	Power Wires	20AWG For 9V-36V input

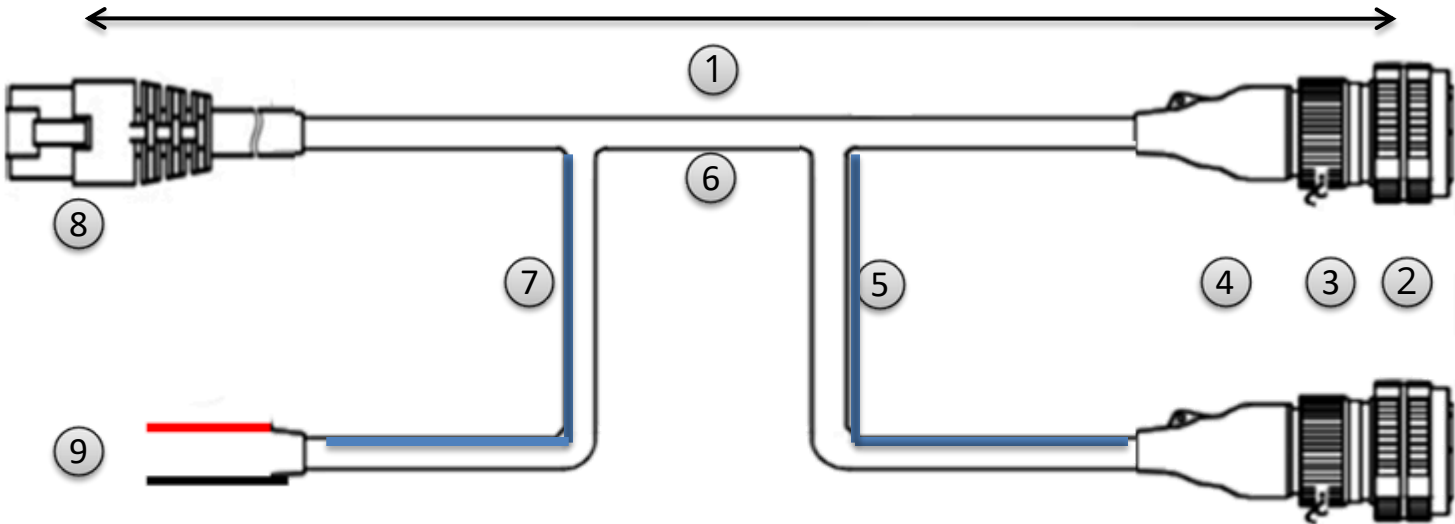
FUSION-F-CABLE-CC-[LEN1]-[LEN2]

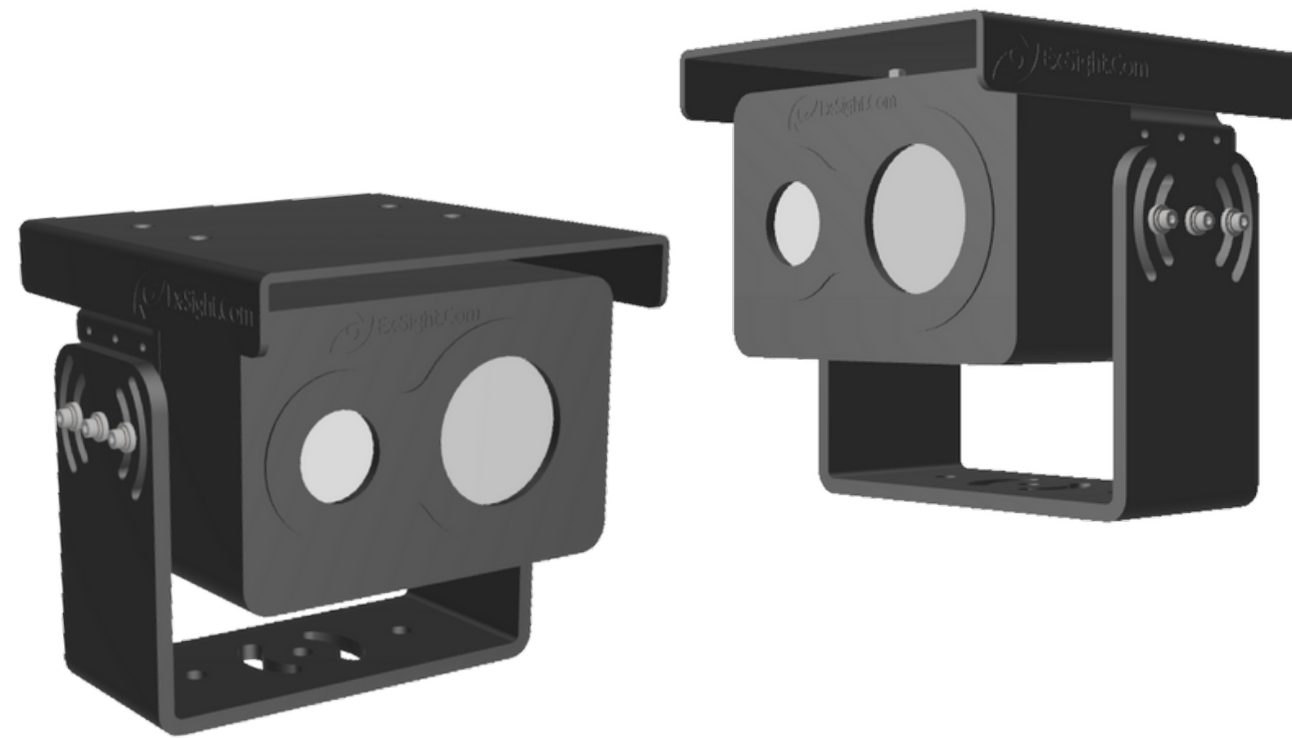
FUSION-F-CABLE is RQT1601875 Cable (6*20AWG + SPEC 55) with specified length and Additional Chained sensor connector.

The cable includes two connectors D38999/26KC35SN Mil. Std Stainless Steel that connects to the connectors D38999/23YC35PN on the two FUSION-F.

On the other side of the cable there is a connection to Power 9-36V (open black wire + open red wire) and RJ45 Giga Ethernet connection.

MECHANICAL DRAWING





BRACKET PART NUMBERING:

FUSION-F-BRKT-[BT]

[BT] BRACKET TYPE:

- 01 MATTE BLACK RAL 9005 ALUMINUM BRACKET
(one line assembly)**
- 02 MATTE BLACK RAL 9005 ALUMINUM BRACKET
(one or two lines assembly)**
- 02S BLACK STEEL BRACKET
(one or two lines assembly)**

FUSION-F-BRKT-02

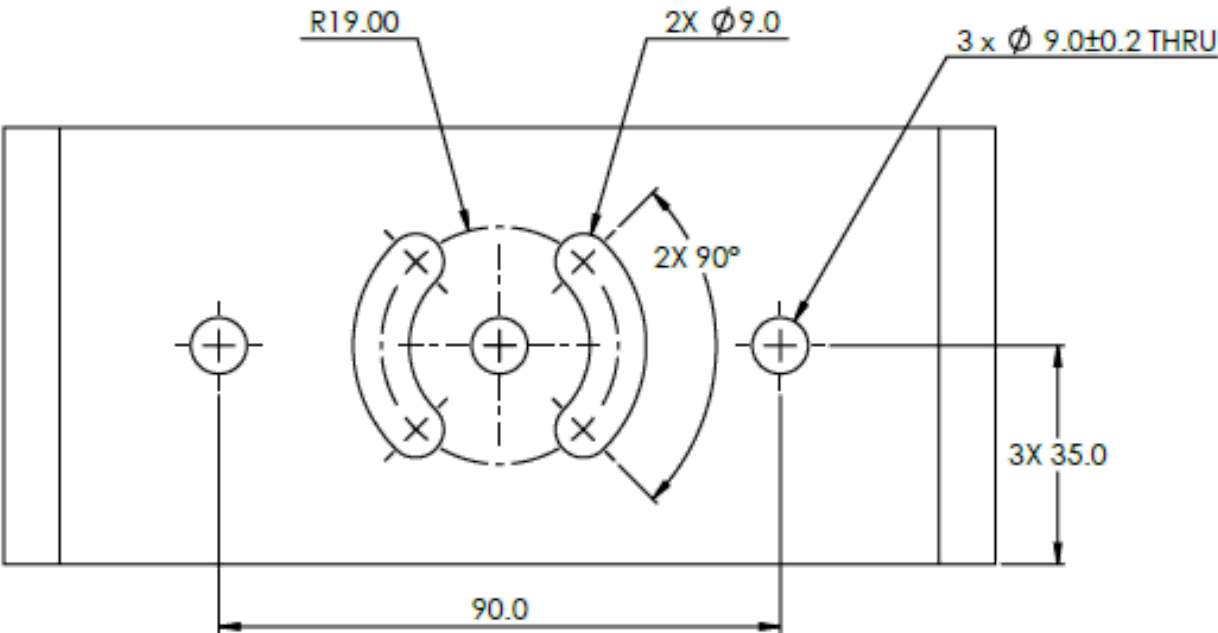


CAMERA INSTALLATION OPTIONS

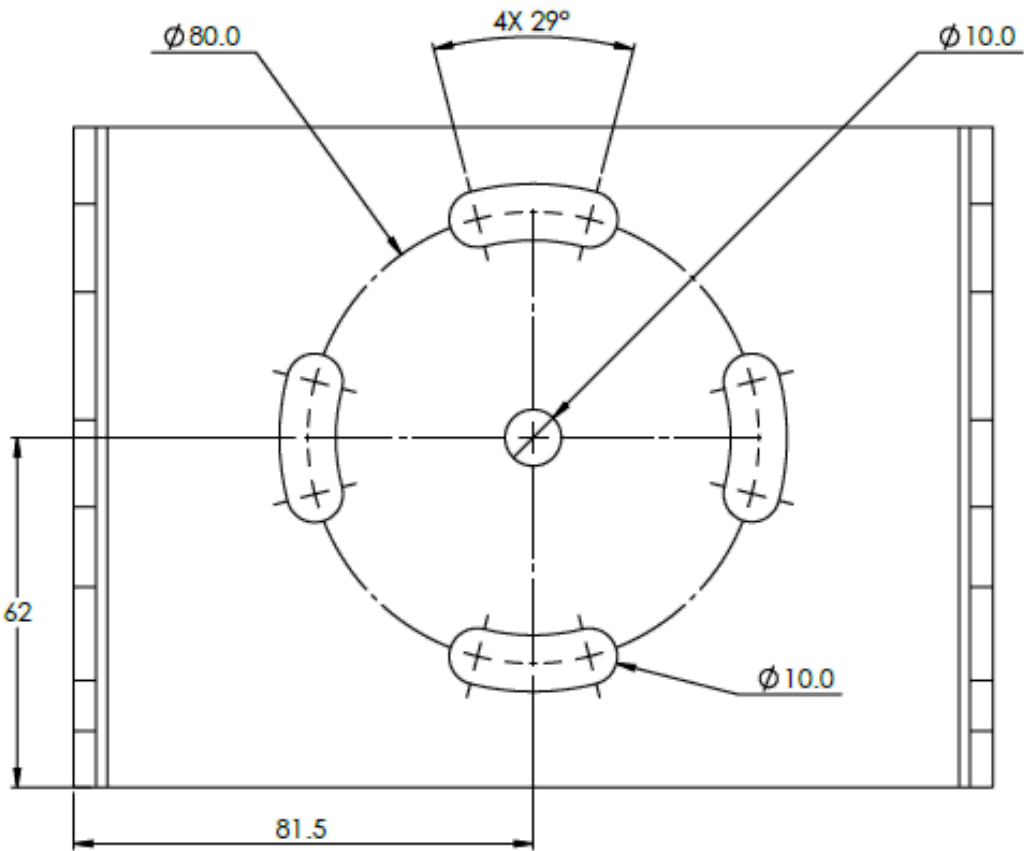


Falcon Dual

FUSION-F-BRKT-01
(FOR INSTALLATION USE M8 SCREWS)

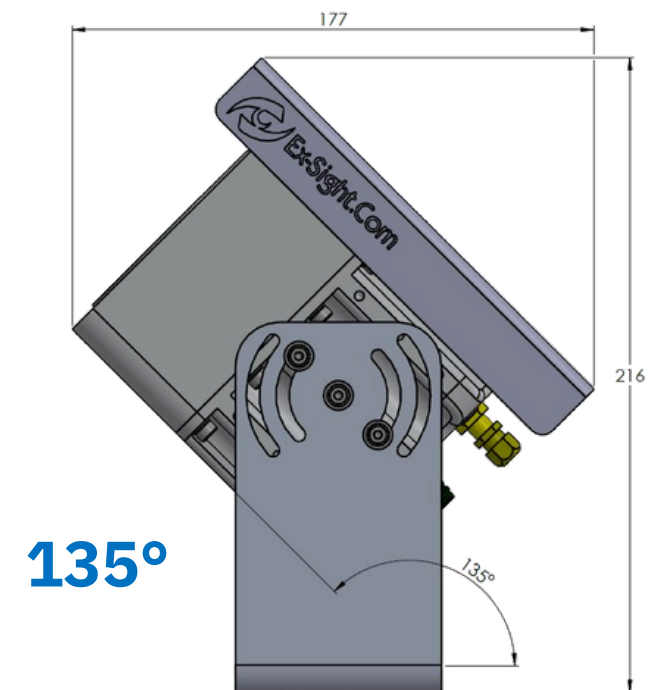
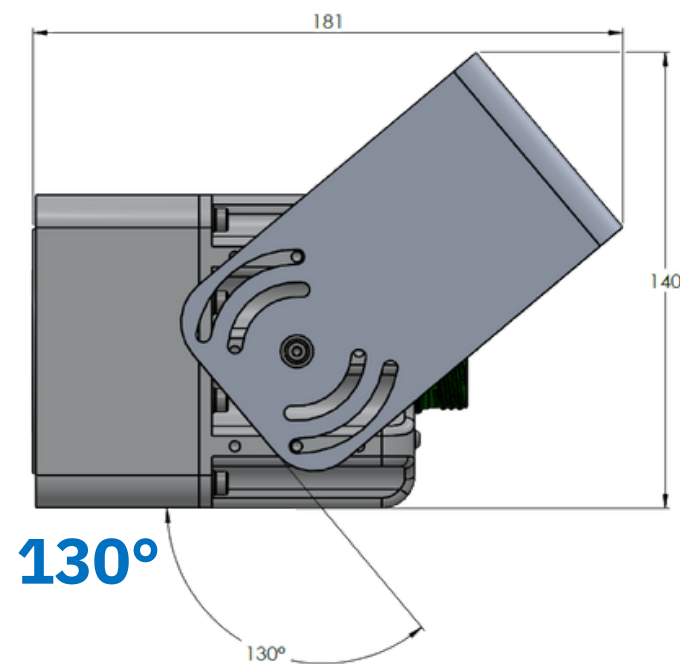
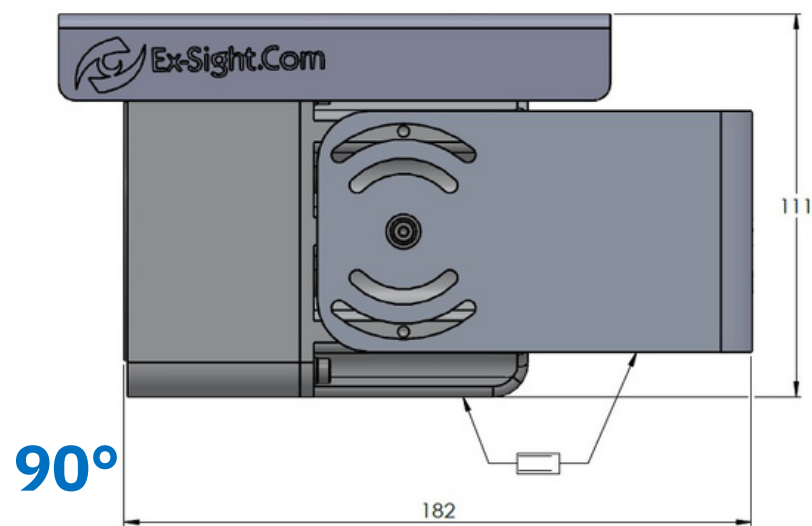
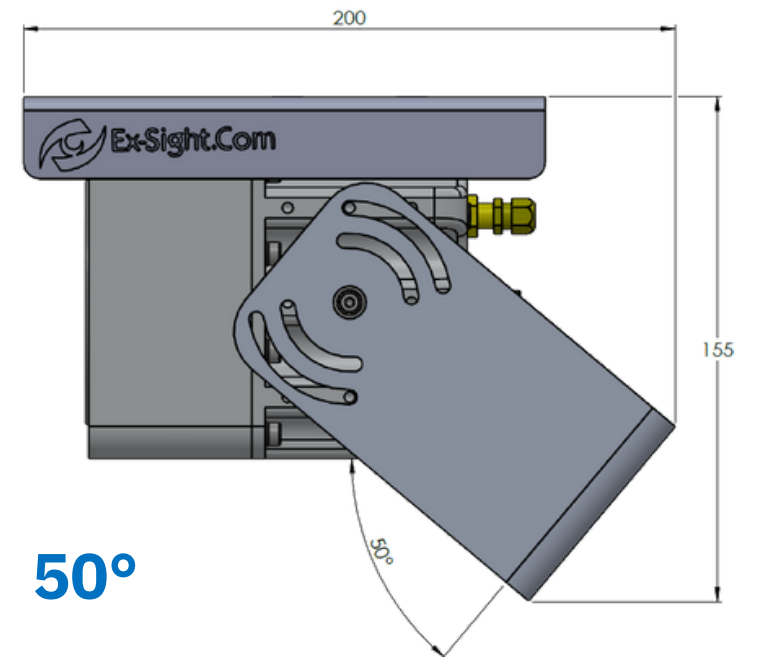
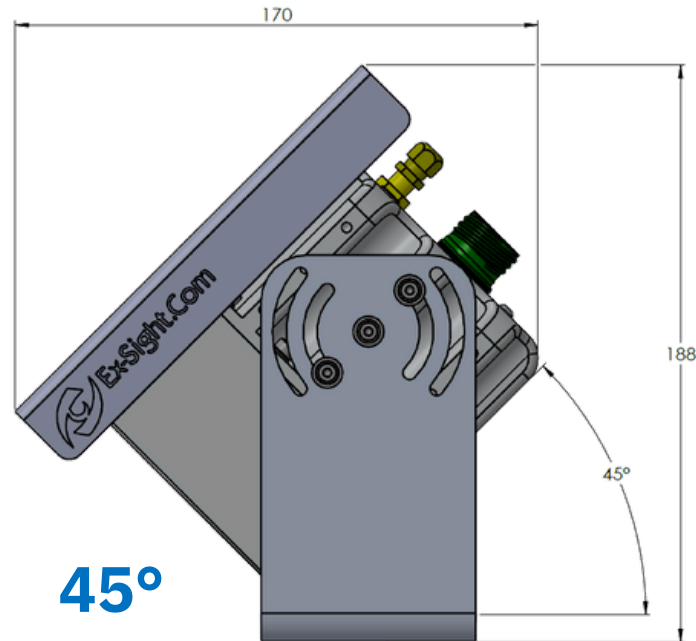
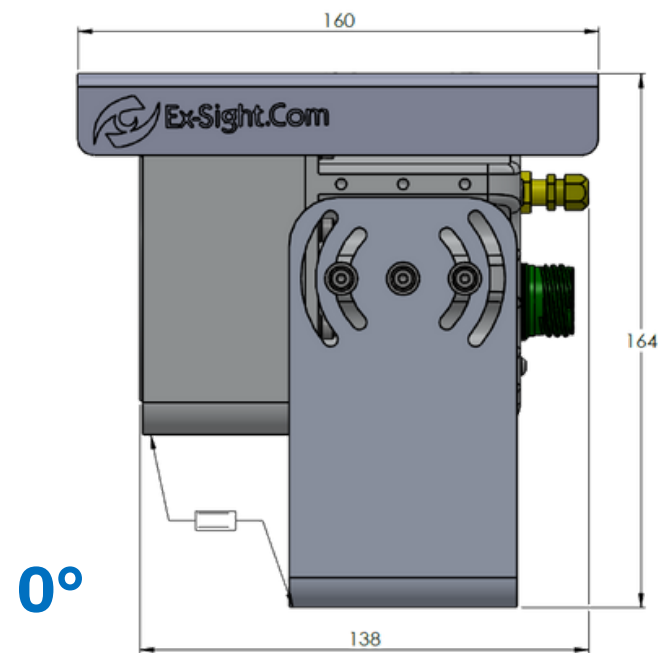


FUSION-F-BRKT-02
(FOR INSTALLATION USE M8 SCREWS)



INSTALLATION

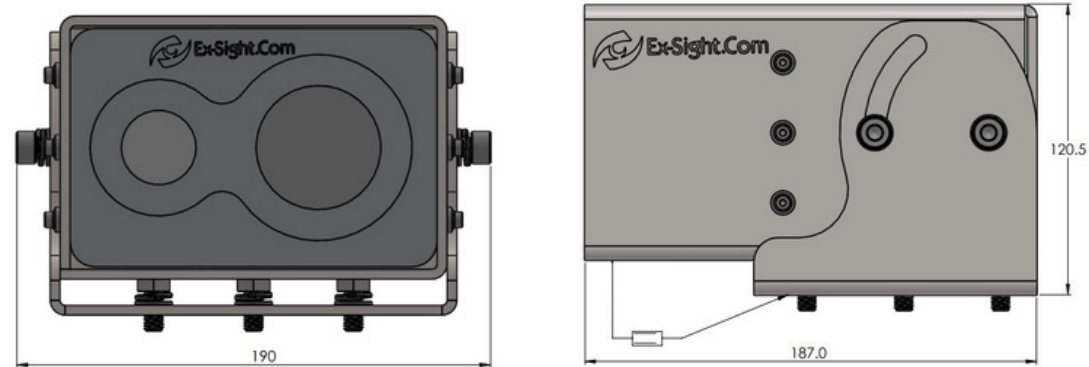
POSSIBLE INSTALLATION ANGLES



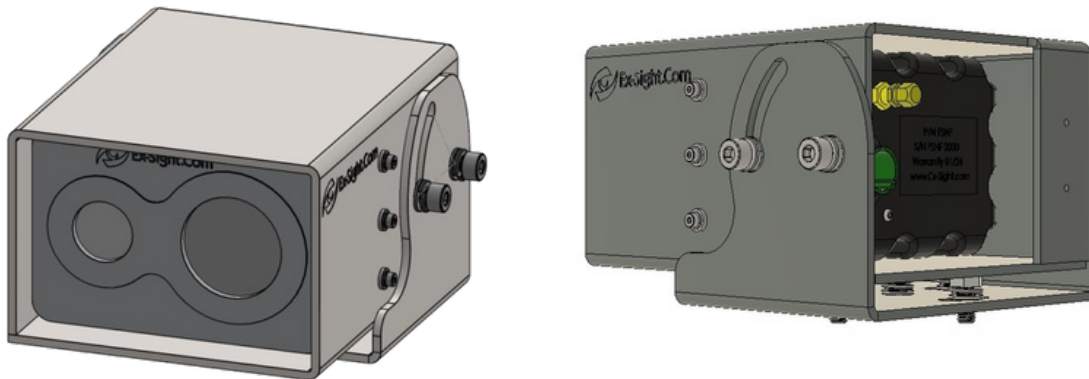
INSTALLATION

INSTALLATION ANGLES LIMITATIONS

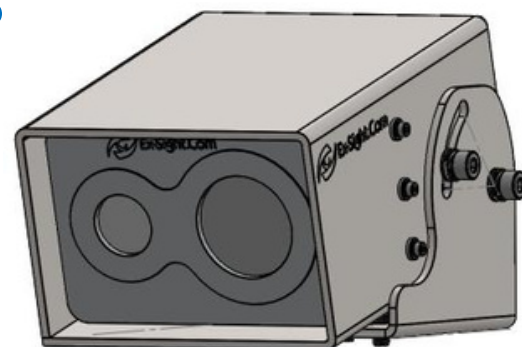
0°



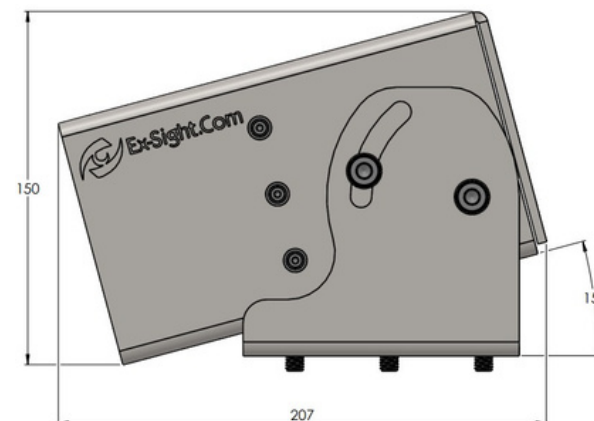
0°



-15°



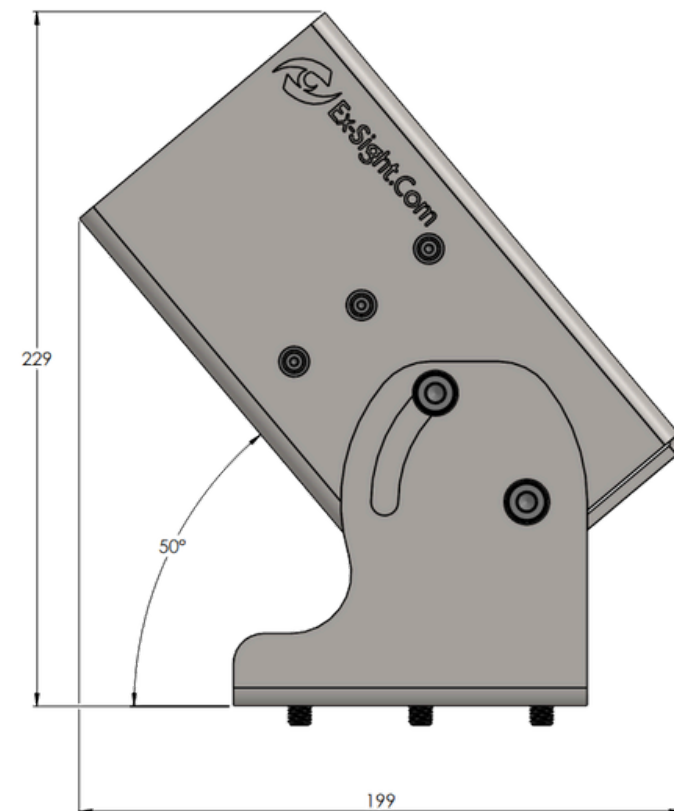
-15°



50°



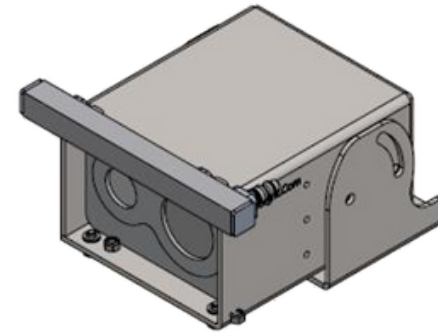
50°



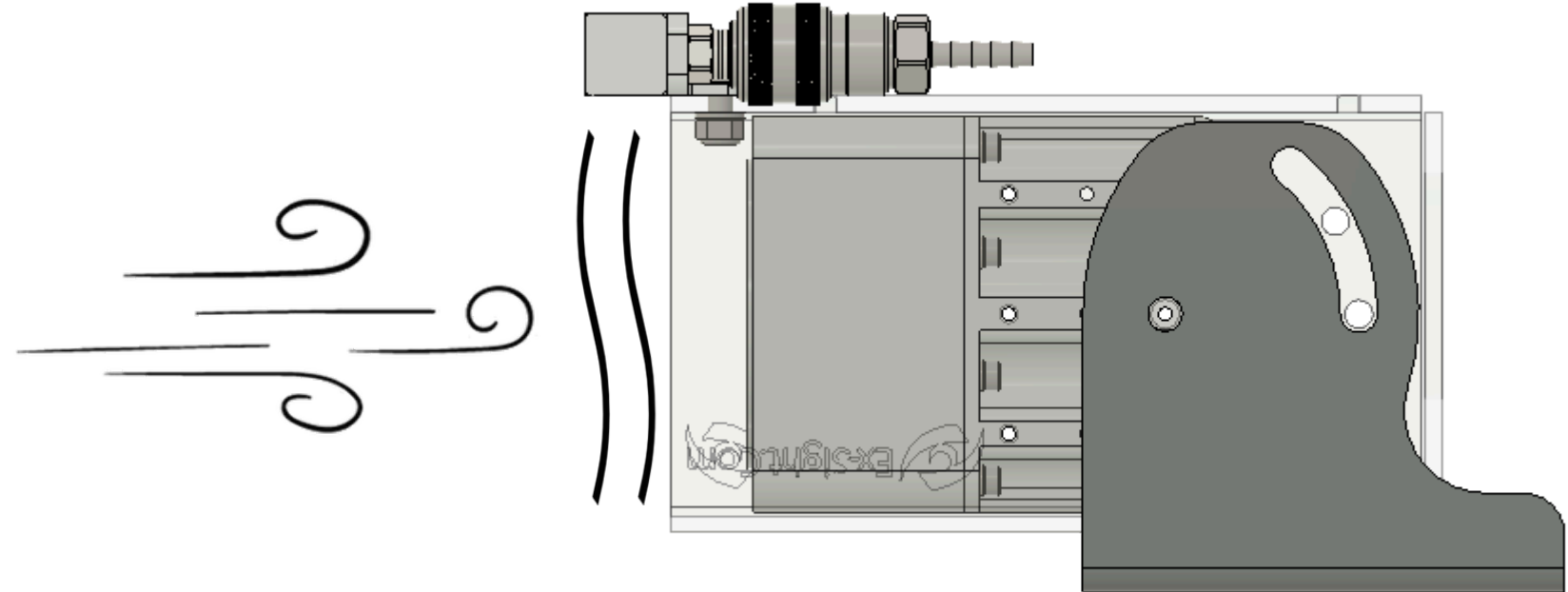
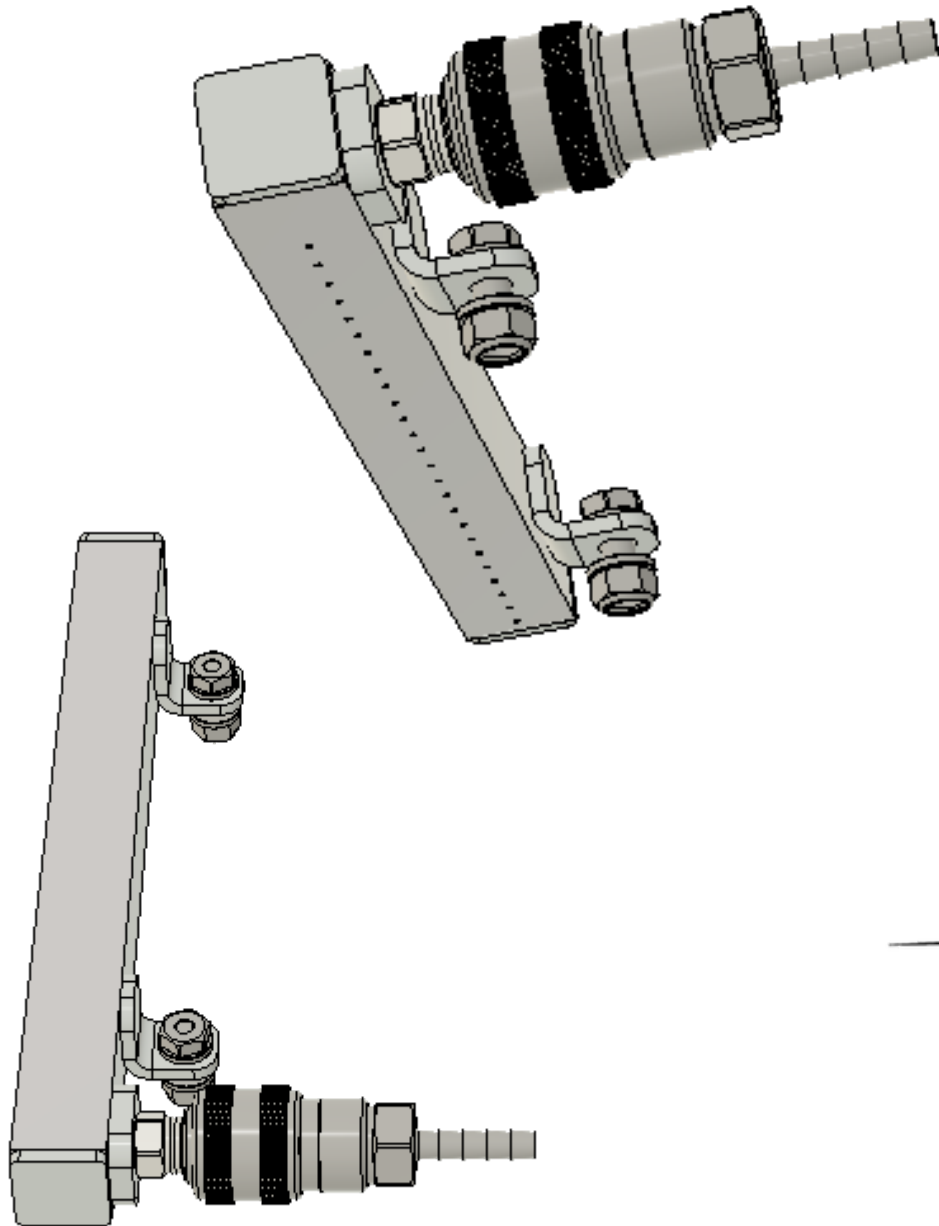
AIR-WALL

HOUSING

BLACK HARD ANODIZED ALUMINUM, M6 STAINLESS STEEL N316 SCREWS,
INDUSTRIAL QUICK-DISCONNECT HOSE COUPLING FOR AIR SOCKET 0.25 SIZE



FLANGE WITH 25 HOLES DESIGNED TO CREATE AN AIR BARRIER IN FRONT OF THE GLASS, PREVENTING THE FORMATION OF DUST DEPOSITS.



AIR-WALL

DIMENSIONS

(LxWxH, mm) 206x55x20mm

