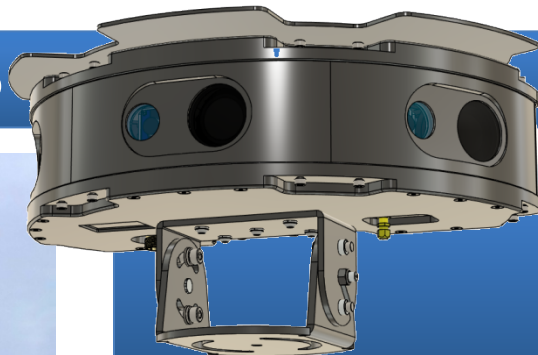


SA180 SITUATION AWARENESS



SA180

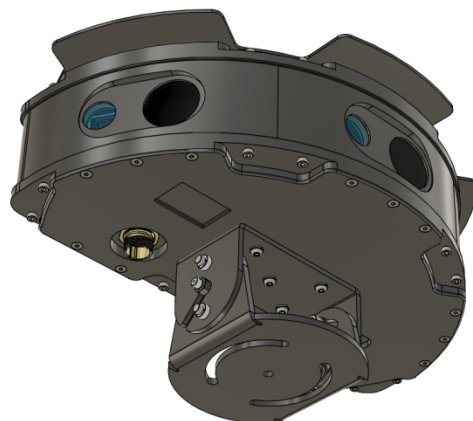
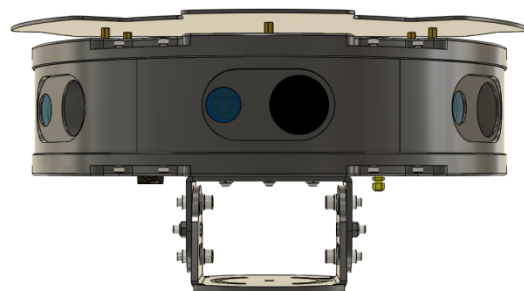
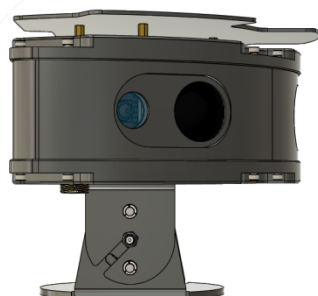
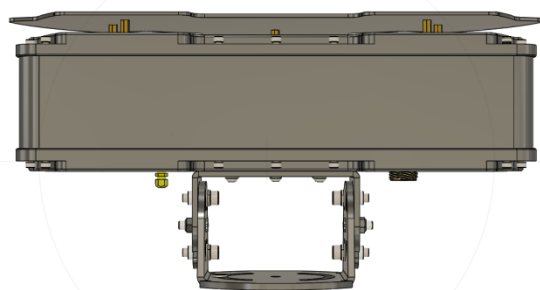
IP67 180 deg Situational Awareness

SA180 is a Multi Sensor Situational Awareness System.

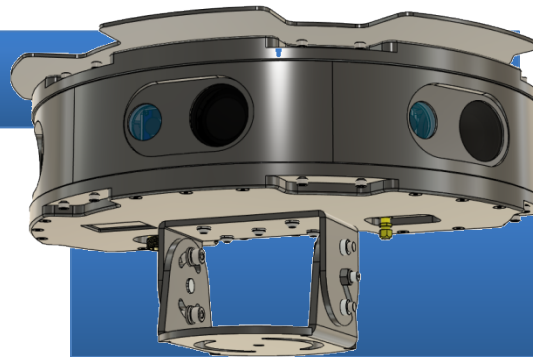
The system integrates 6 sensors, 3xLow Light (DAY) and 3x12 μ m LWIR which provide a real time 180° view on separate streams.

SA180 provides single Ethernet interface with an optional daisy chain capability in order to lower cable length on the platform.

The system is designed to work in a harsh marine environment based on IP67 CNC Hard anodized sealed aluminum enclosure which is nitrogen purged.



SA180 SITUATION AWARENESS



SA180

640x512 | 1280x1024 UNCOOLED LWIR SENSOR

RESOLUTION (PIXELS) 1280x1024 | 640x512 / 12 μm ,
LWIR LENS 13mm | 5.8mm, LENS FOCAL LENGTH 69° x 56 °
SPECTRAL BAND 7.5-13.5 μm , FRAME RATE 30Hz, SENSITIVITY (NEDT)
<50mK at F/1.0, GERMANIUM WINDOW

1920x1080 LOW LIGHT SENSOR

1920x1080 PIXELS, 30 FPS LENS FULL HD, START UP TIME 6 SEC,
SAPPHIRE WINDOW

FOV LOW LIGHT SENSOR

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

EMBEDDED ETHERNET SWITCH

EMBEDDED INDUSTRIAL GIGA ETHERNET SWITCH

CONNECTION INTERFACE

HERMETIC STAINLESS STEEL D38999/23YD35PN **MIL.STD** ETHERNET
(IP),
INPUT 8-32VDC

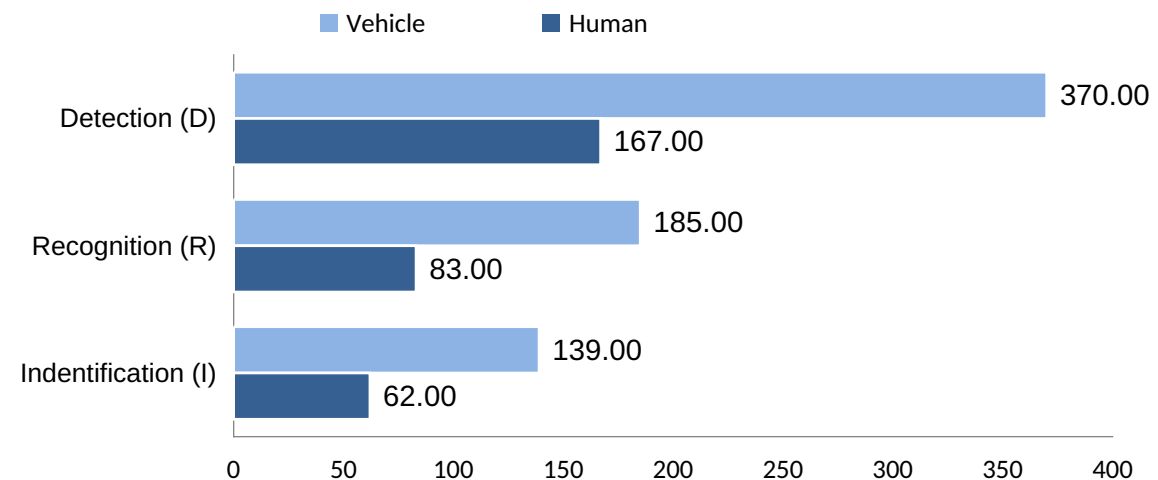
ENVIRONMENTAL

ANODIZED ALUMINUM, IP-67, OPERATING TEMP -40°C to +80°C,
NITROGEN PURGED
OPTIONAL HEATER OPERATION (start) <15°C (stop) >20°C

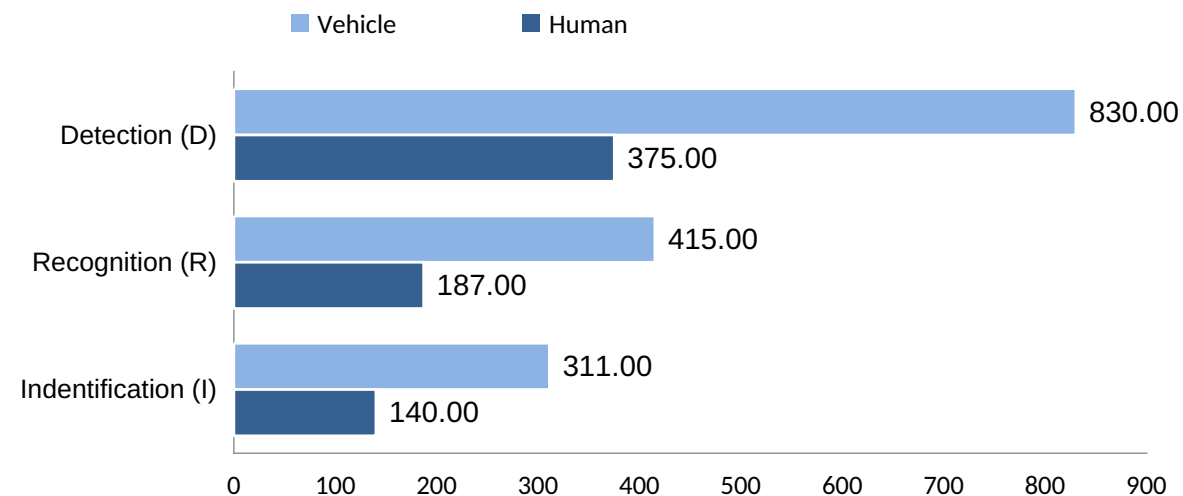
DIMENSIONS

(LWH, mm) 483x120x237, WEIGHT 15 kg

SA180-640 LWIR DRI (m)

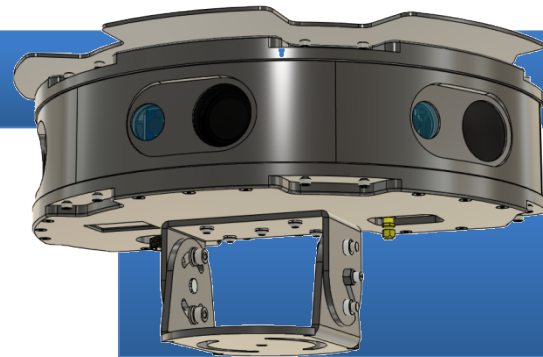


SA180-1280 LWIR DRI (m)

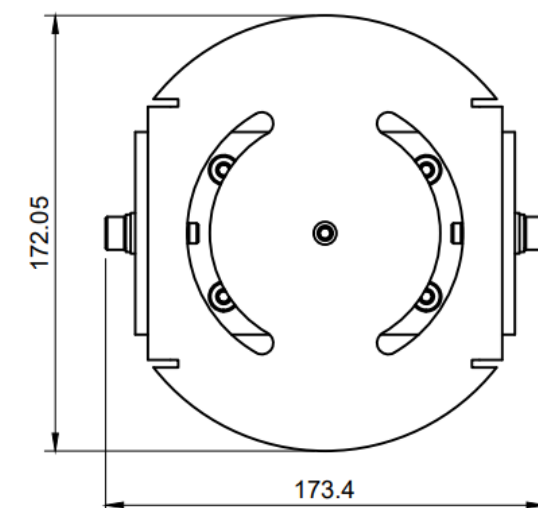
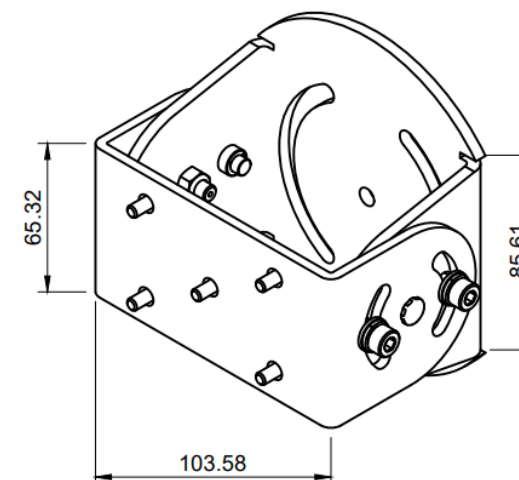
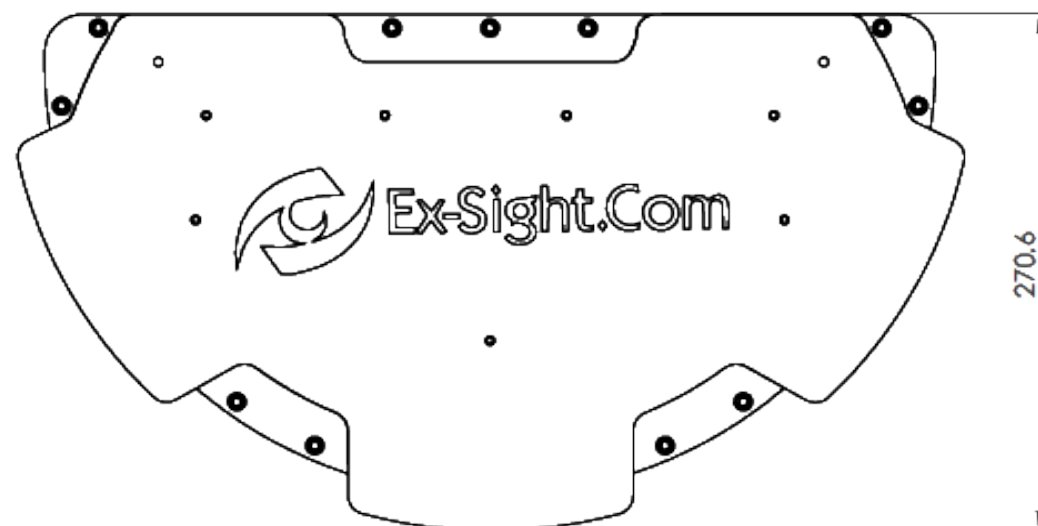
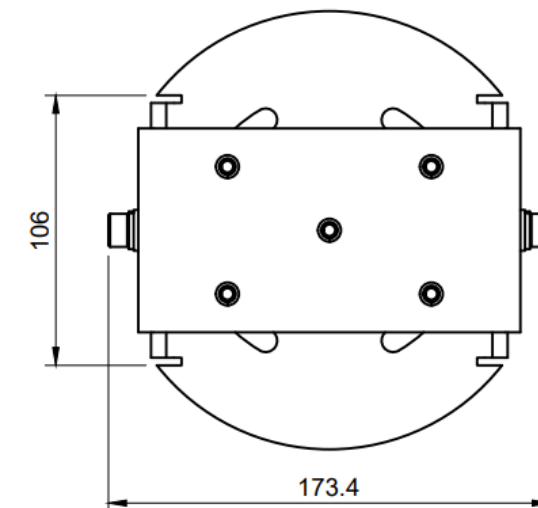
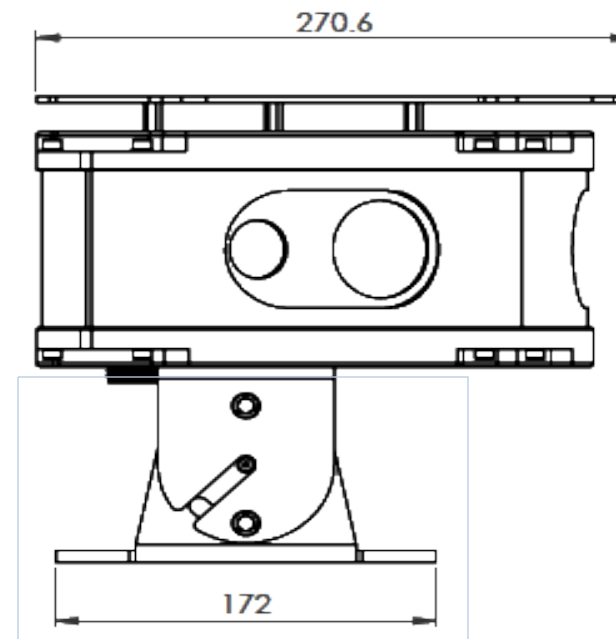
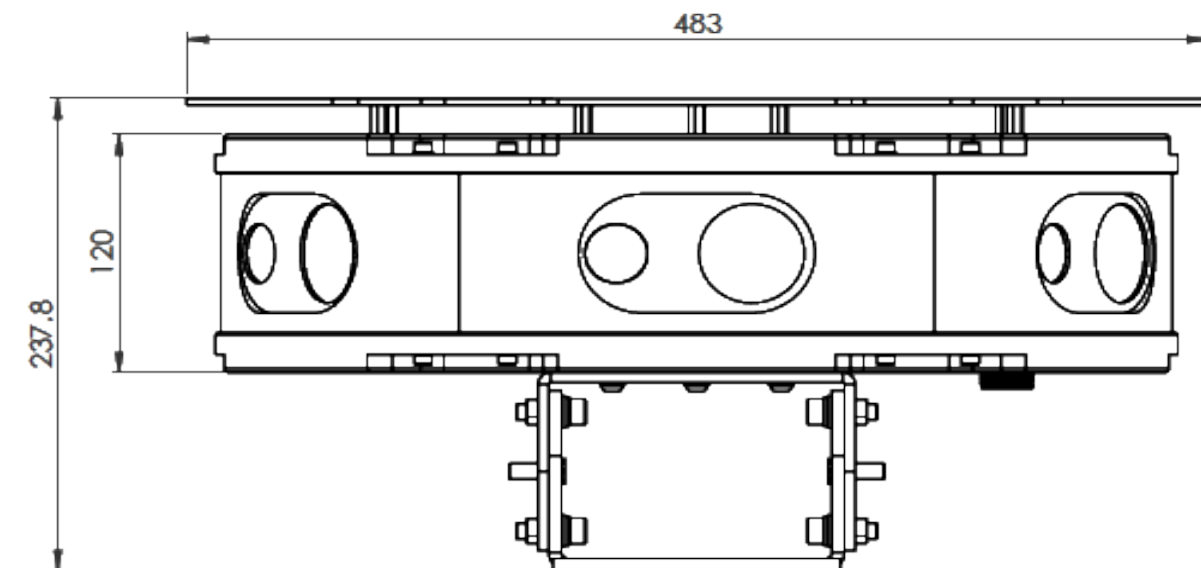


Up to Johnson Criteria

DIMENSIONS (mm)

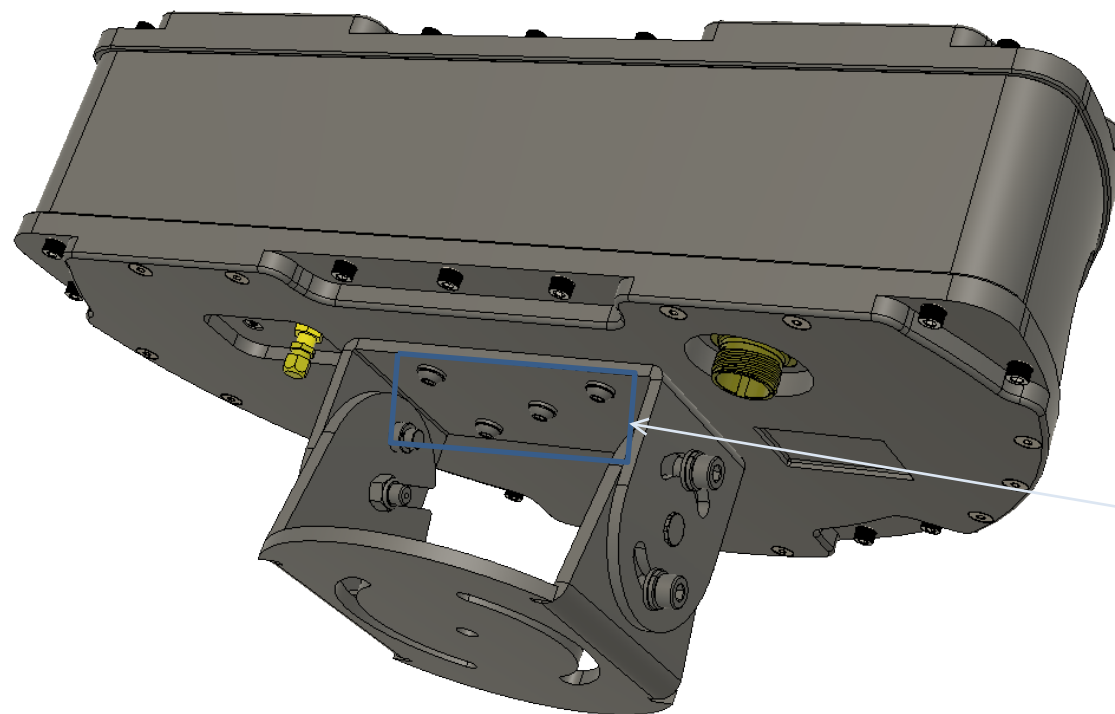


SA180



BRACKET INSTALLATION

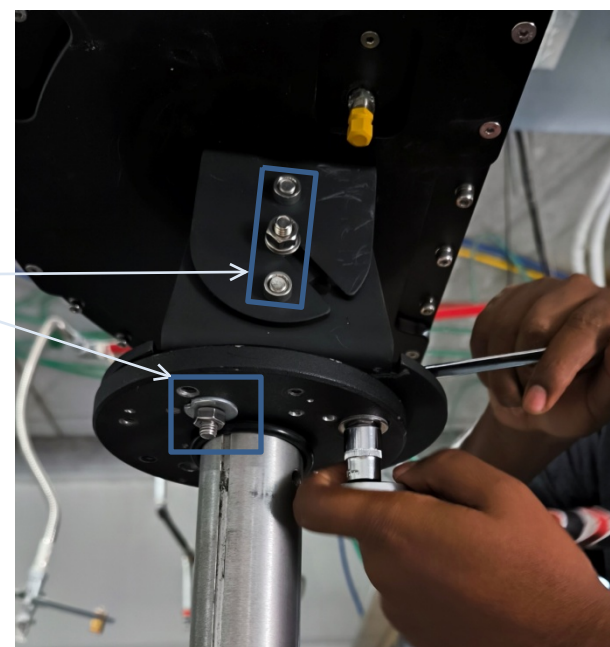
SA180



M8*16

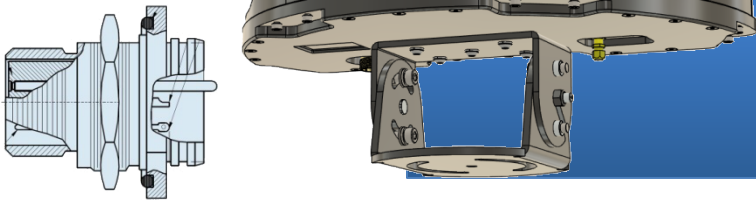
M8

M8



PRODUCT PIN LAYOUT

PANEL Pin Layout
D38999/23YD35PN
Stainless Steel Hermetic Connector

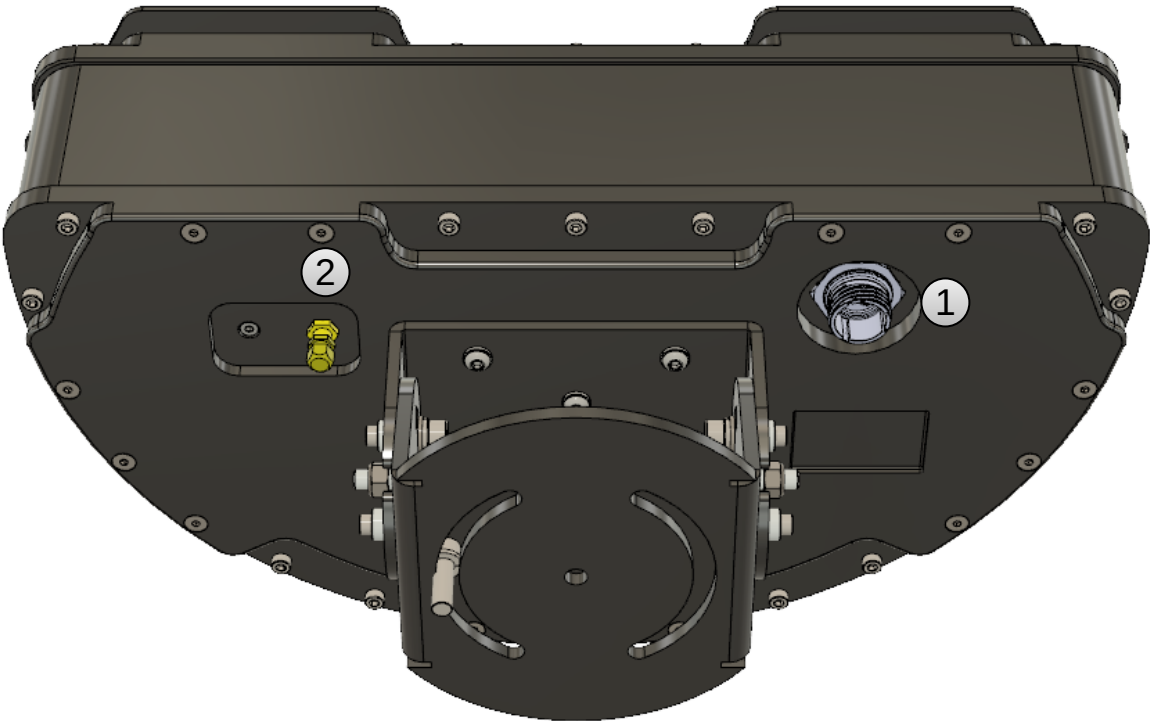


SA180

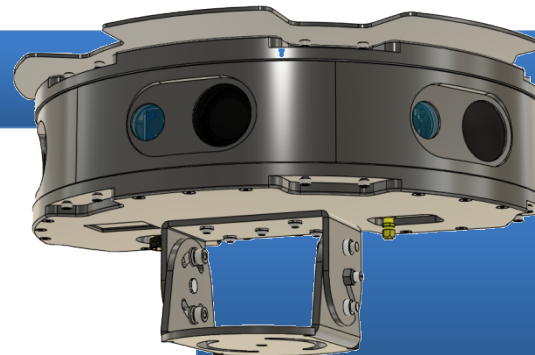
PIN	DESCRIPTION	
1	Main ETH 1 (White Orange)	Giga Ethernet Port to Switch
2	Main ETH 2 (Orange)	
3	Main ETH 3 (White Green)	
4	Main ETH 4 (Blue)	
5	Main ETH 5 (White Blue)	
6	Main ETH 6 (Green)	
7	Main ETH 7 (White Brown)	
8	Main ETH 8 (Brown)	
9	NC	Not Connected
10	NC	
11	12VDC	
12	GND	
13	12VDC Backup	
14	GND Backup	
15	CHAIN ETH 1 (White Orange)	Giga Ethernet to Chained Sensor
16	CHAIN ETH 2 (Orange)	
17	CHAIN ETH 3 (White Green)	
18	CHAIN ETH 4 (Blue)	
19	CHAIN ETH 5 (White Blue)	
20	CHAIN ETH 6 (Green)	
21	CHAIN ETH 7 (White Brown)	
22	CHAIN ETH 8 (Brown)	
23-37	NC	Not Connected

PART Numbering Index

#	P/N	DESCRIPTION
1	D38999/23YD35PN	Mil. Std Stainless Steel connector
2	MS51377-2 MS51607-1 MS20813-1	Nitrogen Valve Core Nitrogen MS Valves Nitrogen Fitting

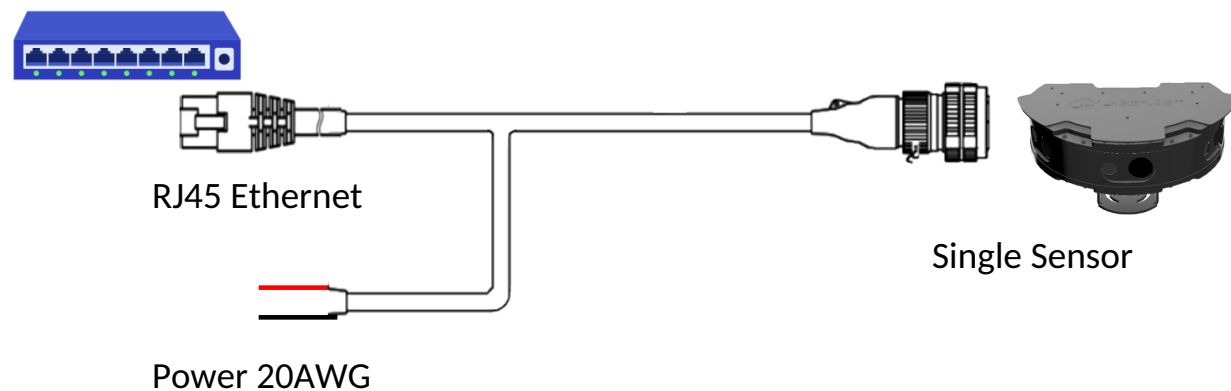


CABLE PART NUMBERING



SA180

SC Cable



SA180 PART NUMBERING:

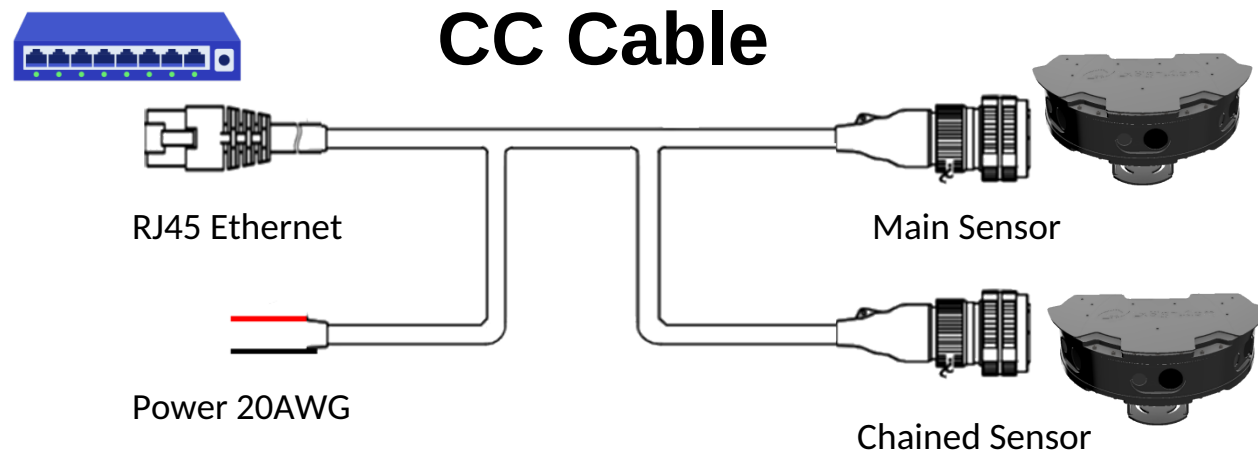
SA180-[RES]

[RES] LWIR RESOLUTION:

640 (LWIR 640x512 , 5.8mm)

1280 (LWIR 1280x1024 , 13mm)

CC Cable



CABLE PART NUMBERING:

SA180-CABLE-[CT]-[LEN1]-[LEN2]

[CT] CABLE TYPE:

SC (SINGLE CABLE)

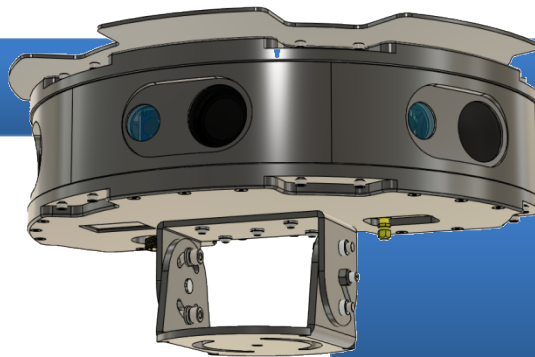
CC (CHAINED CABLE)

[LEN1] CABLE LENGTH in Meters

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

RQT1601875 CABLE

Cable Specification



SA180-CABLE

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:

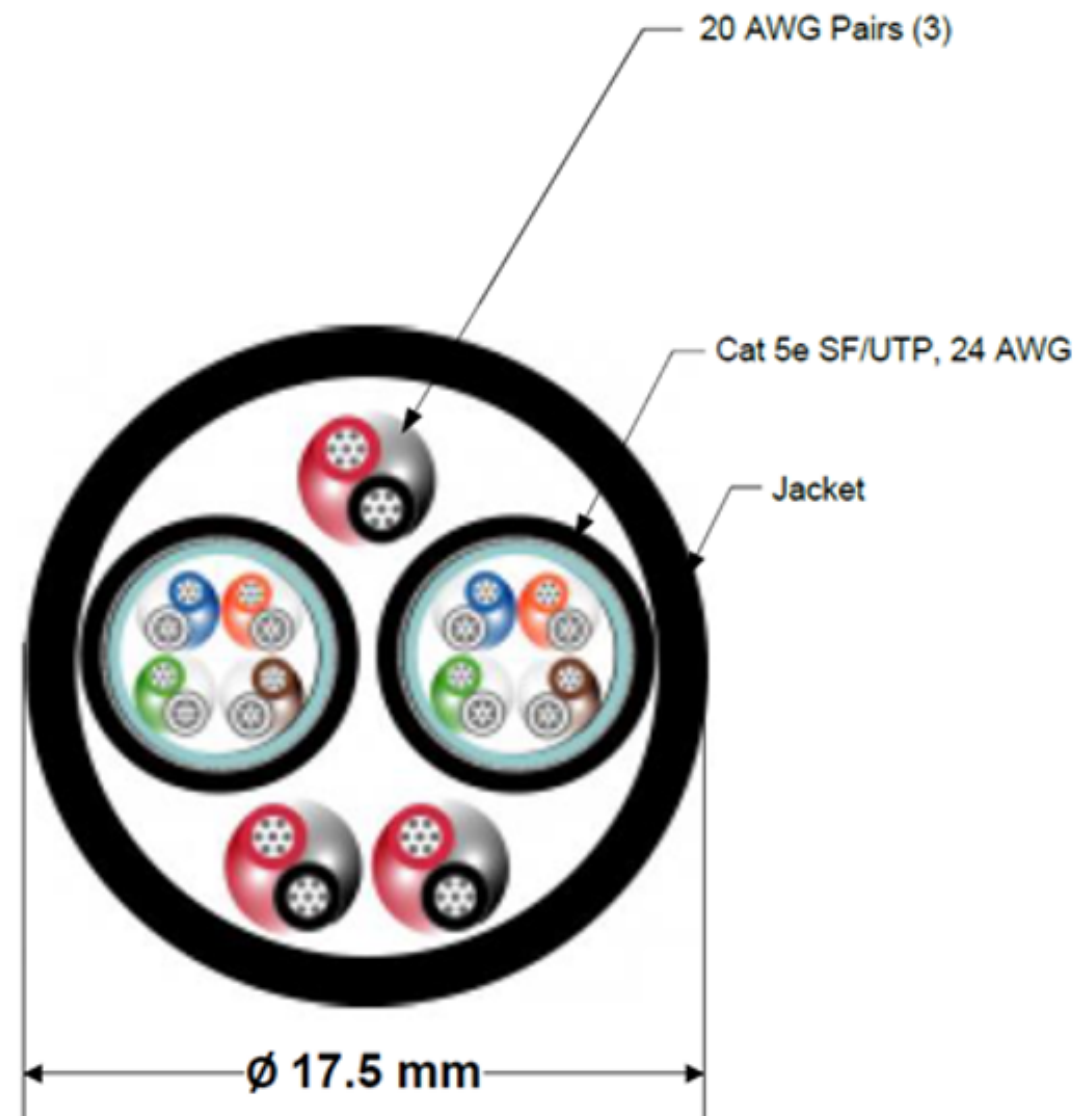
Halogen-free, flame retardant, Cross Linked Thermoplastic Elastomer.
to 17.5 mm nom – Black

Marking:

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

Performance:

Min. Bend Radius:	180 rmm
Min. Band Radius for Operation:	150°mm
Max. Operation Temperature:	+90 C
Min. Operation Temperature:	- 40 C
UV Resistance:	Yes
Weight:	260 Kg/Km

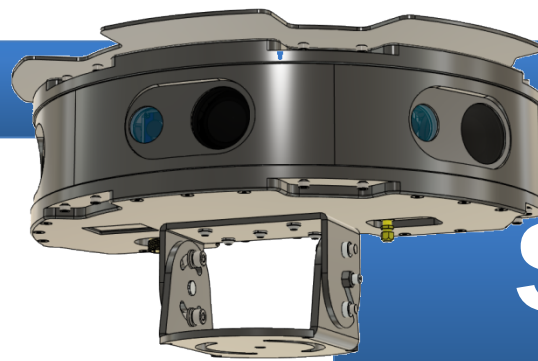


CABLE PIN LAYOUT

CABLE PIN LAYOUT

D38999/26KD35SN

Stainless Steel Hermetic Connector



SA180-CABLE-SC

PIN	DESCRIPTION
1	Main ETH 1 (White Orange)
2	Main ETH 2 (Orange)
3	Main ETH 3 (White Green)
4	Main ETH 4 (Blue)
5	Main ETH 5 (White Blue)
6	Main ETH 6 (Green)
7	Main ETH 7 (White Brown)
8	Main ETH 8 (Brown)
9	NC
10	NC
11	12VDC
12	GND

PIN	DESCRIPTION
13	12VDC
14	GND
15	Backup ETH 1 (White Orange)
16	Backup ETH 2 (Orange)
17	Backup ETH 3 (White Green)
18	Backup ETH 4 (Blue)
19	Backup ETH 5 (White Blue)
20	Backup ETH 6 (Green)
21	Backup ETH 7 (White Brown)
22	Backup ETH 8 (Brown)
23-37	NC

SA180-CABLE-SC-[LEN1]

SA180-CABLE is RQT1601875 Cable (6*20AWG + SPEC 55) with specified length.

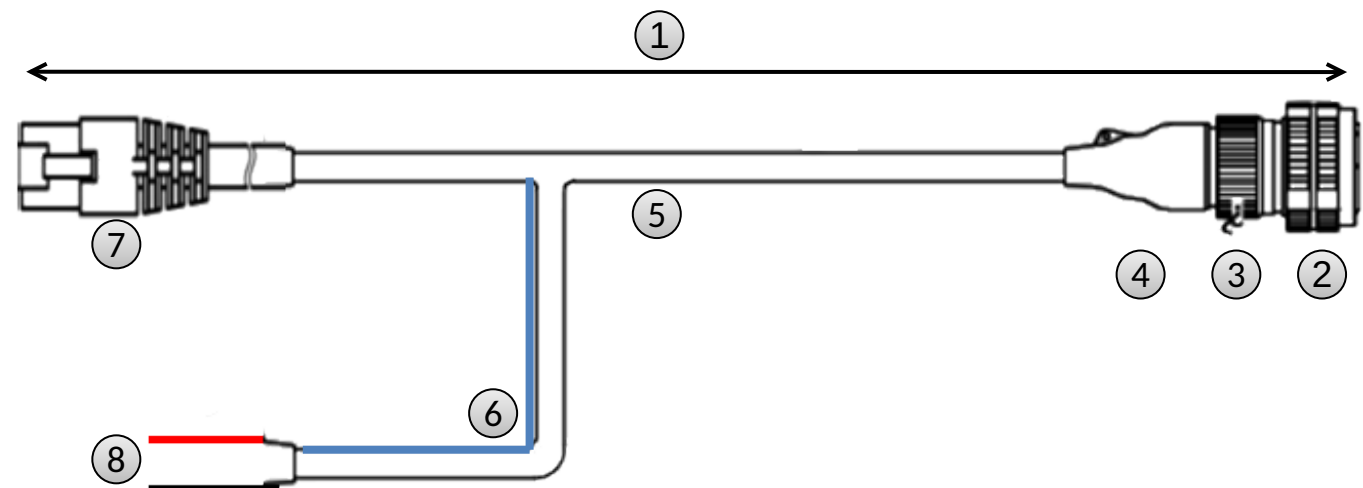
The cable includes connector D38999/26KD35SN Mil. Std Stainless Steel that connects to the connector D38999/23YD35PN on the SA180 system.

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.

CABLE PART NUMBERING INDEX

#	P/N	DESCRIPTION
1	[LEN1]	Total Cable length (meters)
2	D38999/26KD35SN	Mil. Std Stainless Steel connector (200°C, firewall capability, 500 hour salt spray resistance)
3	27140S141010410	Stainless Steel Backshell
4	202K132-25-0	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

MECHANICAL DRAWING

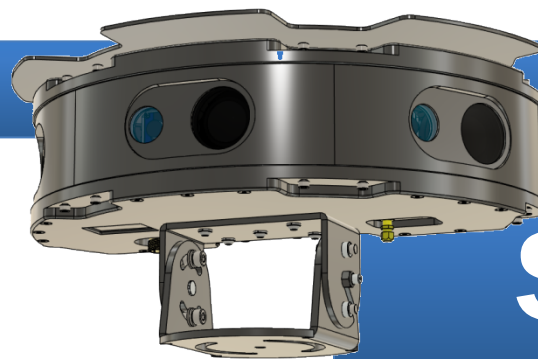


CABLE PIN LAYOUT

CABLE PIN LAYOUT

D38999/26KD35SN

Stainless Steel Hermetic Connector



SA180-CABLE-CC

PIN	DESCRIPTION
1	Main ETH 1 (White Orange)
2	Main ETH 2 (Orange)
3	Main ETH 3 (White Green)
4	Main ETH 4 (Blue)
5	Main ETH 5 (White Blue)
6	Main ETH 6 (Green)
7	Main ETH 7 (White Brown)
8	Main ETH 8 (Brown)
9	NC
10	NC
11	12VDC
12	GND

PIN	DESCRIPTION
13	12VDC
14	GND
15	Backup ETH 1 (White Orange)
16	Backup ETH 2 (Orange)
17	Backup ETH 3 (White Green)
18	Backup ETH 4 (Blue)
19	Backup ETH 5 (White Blue)
20	Backup ETH 6 (Green)
21	Backup ETH 7 (White Brown)
22	Backup ETH 8 (Brown)
23-37	NC

SA180-CABLE-CC-[LEN1]-[LEN2]

SA180-CABLE is RQT1601875 Cable (6*20AWG + SPEC 55) with specified length and Additional Chained sensor connector.

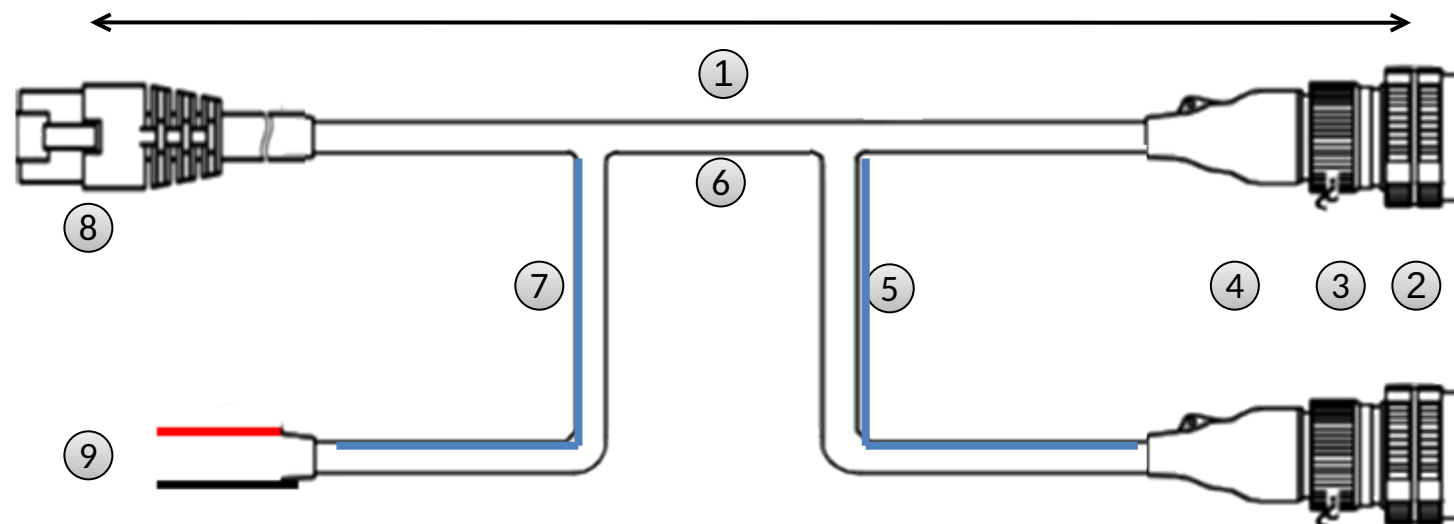
The cable includes two D38999/26KD35SN Mil. Std Stainless Steel connectors that connects to the D38999/23YD35PN on two SA180 systems.

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.

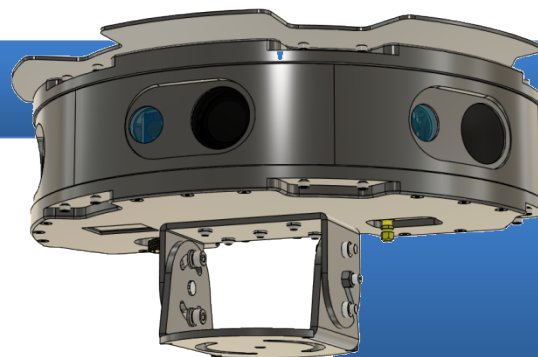
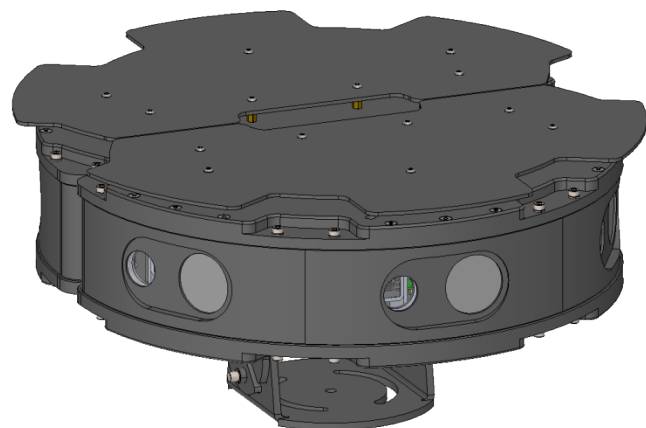
CABLE PART NUMBERING INDEX

#	P/N	DESCRIPTION
1	[LEN1]	Total Cable length (imeters)
2	D38999/26KD35SN	Mil. Std Stainless Steel connector (200°C, firewall capability, 500 hour salt spray resistance)
3	27140S141010410	Stainless Steel Backshell
4	202K132-25-0	Boot
5	[LEN2]	Chained Cable Length (in 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

MECHANICAL DRAWING



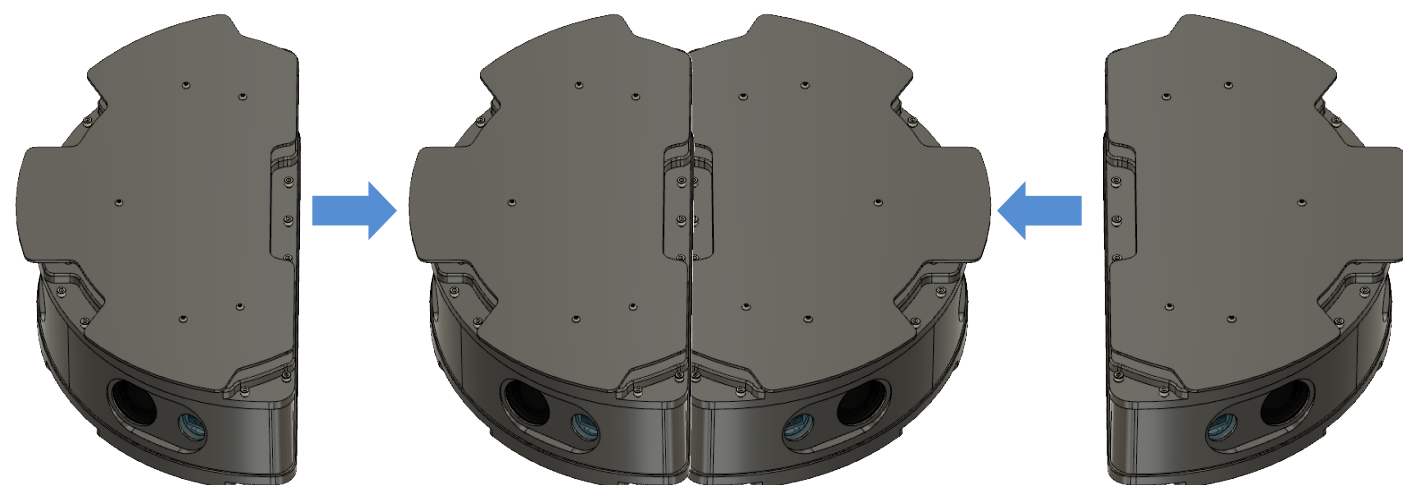
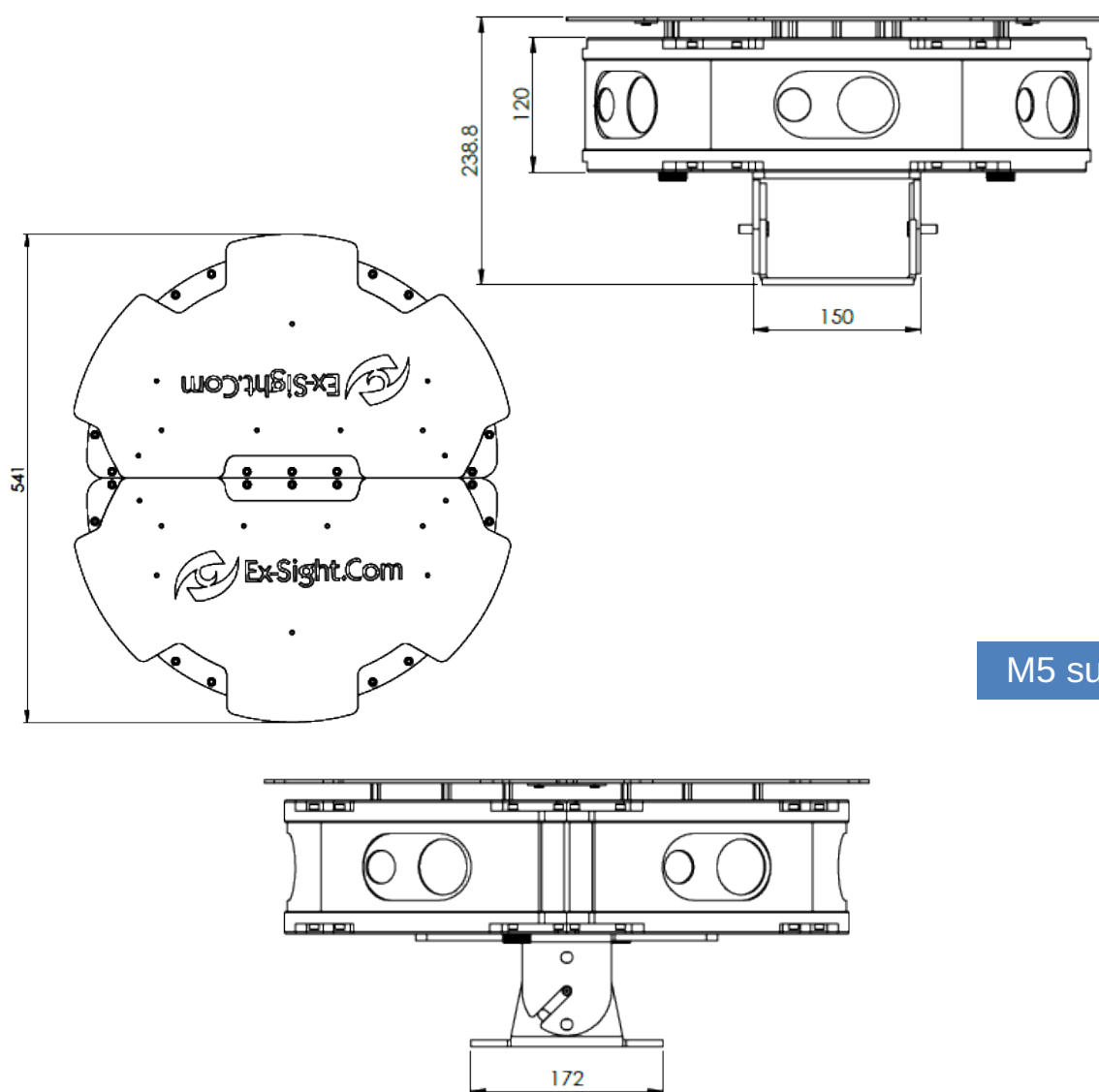
DIMENSIONS (mm)



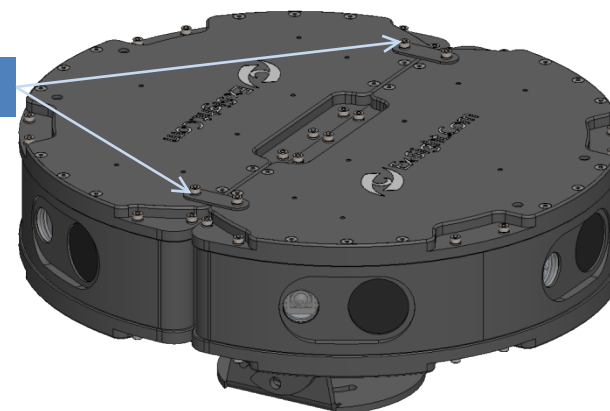
SA180-OPTION

SA360 CONFIGURATION

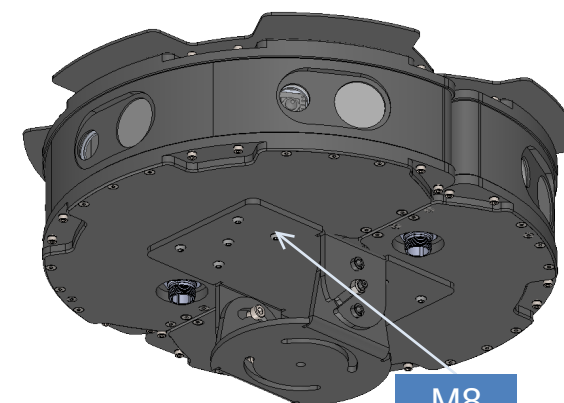
Two SA180 units can be assembled together in order to create SA360 system.



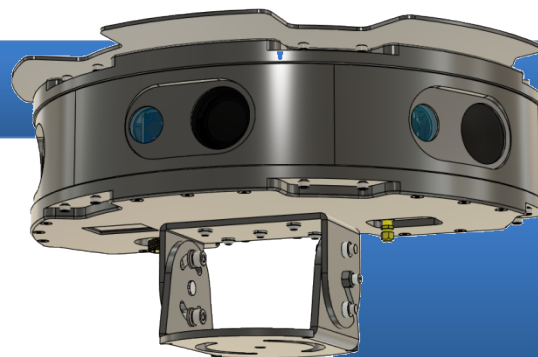
M5 support



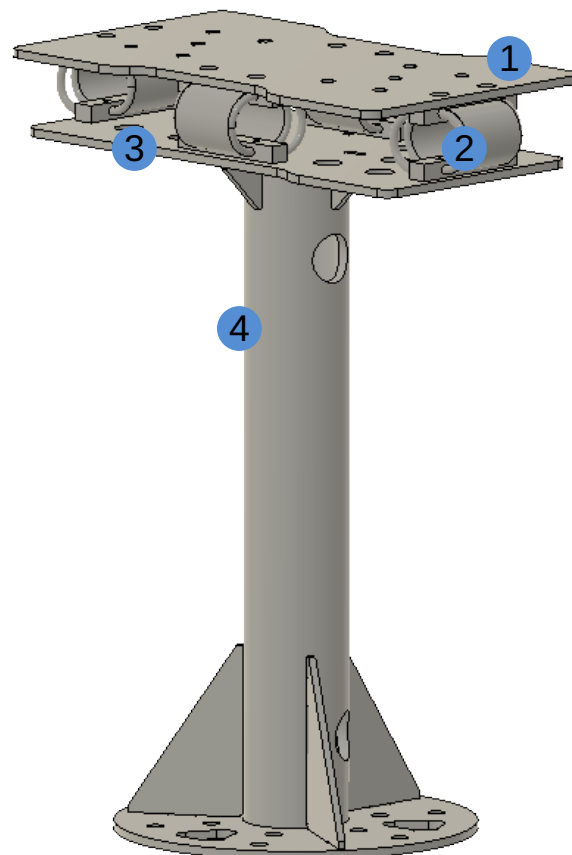
M8



CAMERA POLE



SA180-ACCESSORIES



MONO POLE

A single-legged support pole bears the camera's weight, providing height and stability. The pole has a wide base and shock absorbers to minimize vibrations and movements, ensuring stability.

OVERVIEW

1. Upper Plate
2. Shock Absorber
3. Bottom plate
4. Pole Base

DIMENSIONS (mm)

