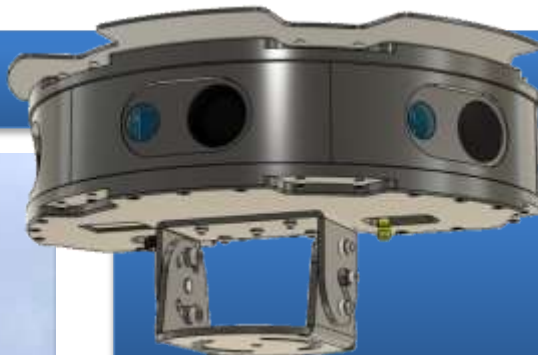


SA180 SITUATIONAL AWARENESS



SA180

IP67 180 deg Situational Awareness

SA180 is a Multi Sensor Situational Awareness System. The system integrates 6 sensors, 3x Low Light (DAY), 3x12 μm LWIR which provide a real time 180° view on separate streams.

SA180 provides single Ethernet interface with 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

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

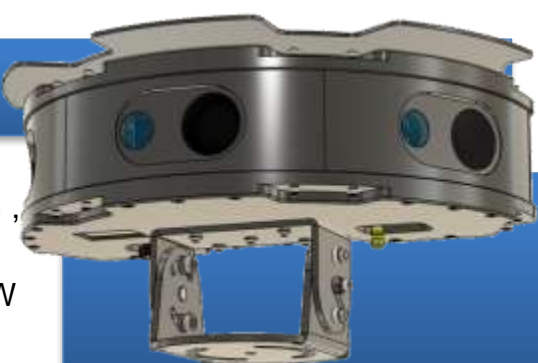
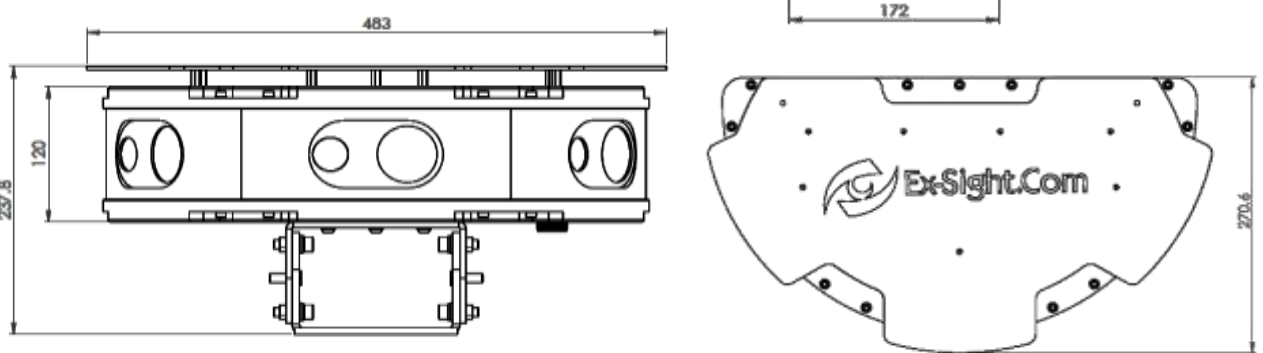
ENVIRONMENTAL

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

DIMENSIONS

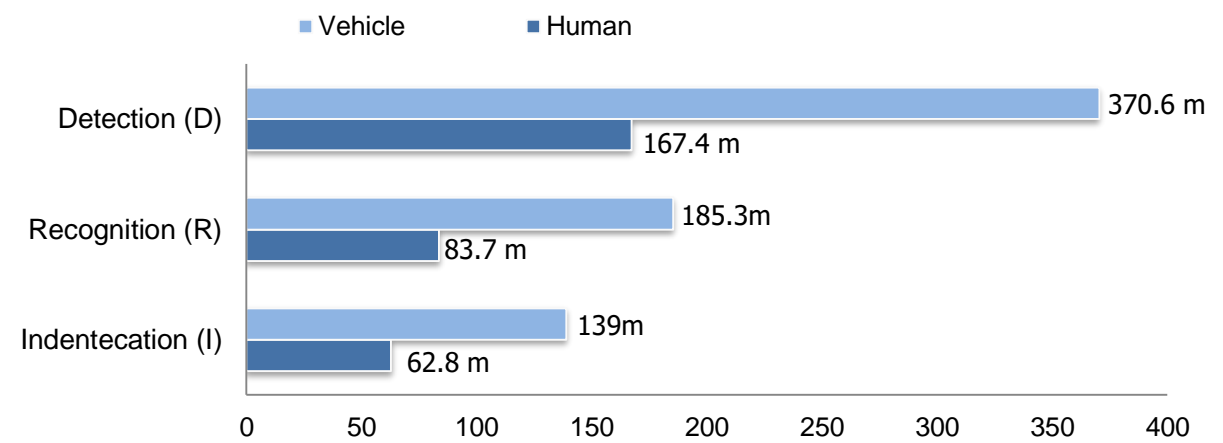
(LWH, mm) 483x120x237, WEIGHT 15 kg

DIMENSIONS (mm)

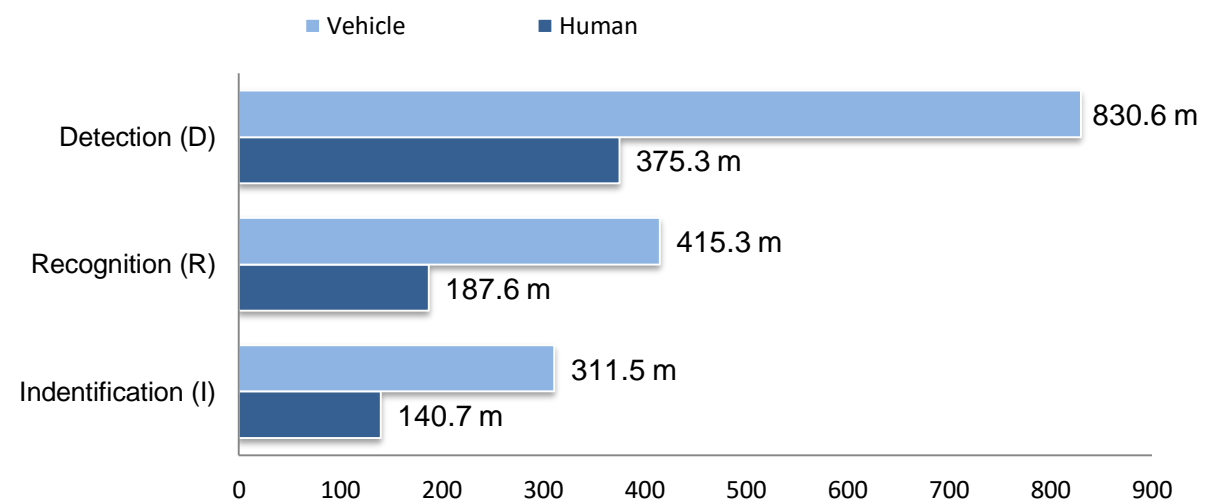


SA180

SA180-640 LWIR DRI (m)



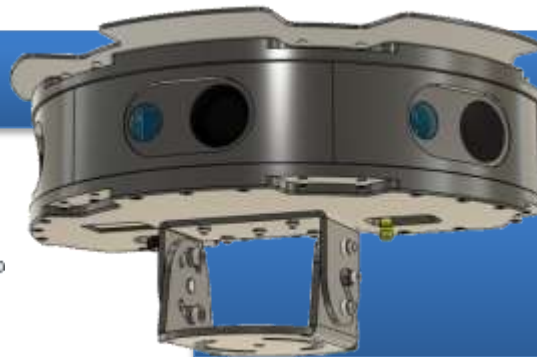
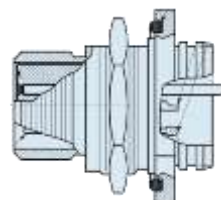
SA180-1280 LWIR DRI (m)



Up to Johnson Criteria

PRODUCT PIN LAYOUT

PANEL Pin Layout
D38999/23YD35PN
Stainless Steel Hermetic Connector



SA180

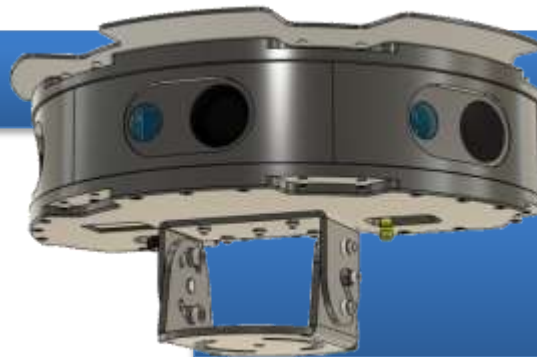
PIN	DESCRIPTION	
1	Main ETH 1 (White Orange)	Giga Ethernet Port to Switch
2	Main ETH 2 (Orange)	
3	Main ETH 3 (White Green)	
4	Main ETH 4 (Blue)	
5	Main ETH 5 (White Blue)	
6	Main ETH 6 (Green)	
7	Main ETH 7 (White Brown)	
8	Main ETH 8 (Brown)	
9	NC	Not Connected
10	NC	
11	12VDC	
12	GND	
13	12VDC Backup	
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)	

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

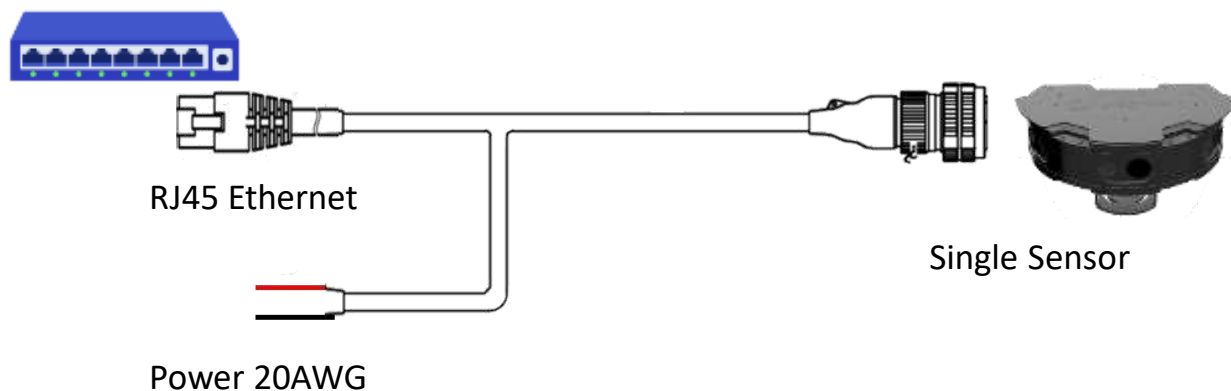


CABLE PART NUMBERING



SA180

SC Cable



SA180 PART NUMBERING:

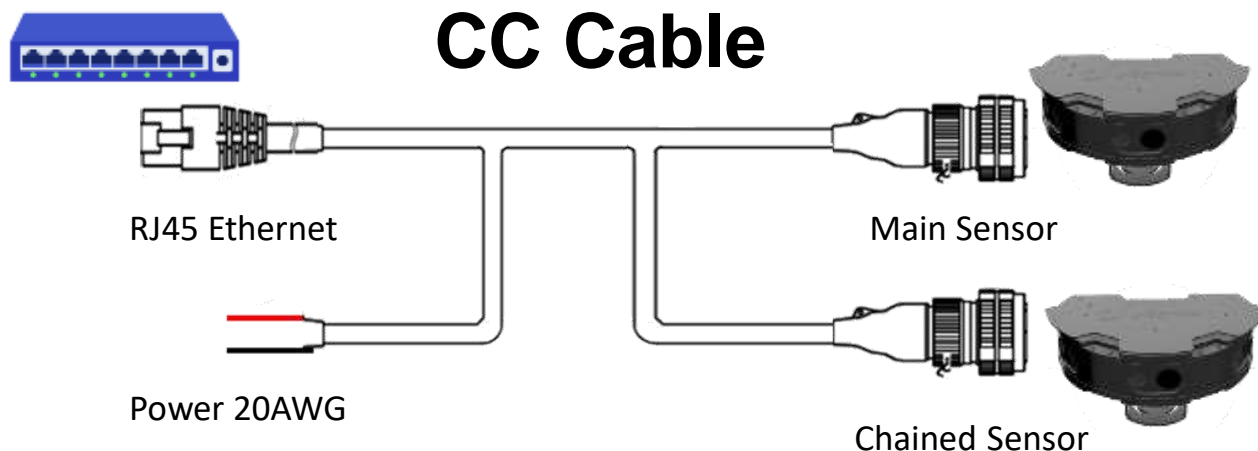
SA180-[RES]

[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)

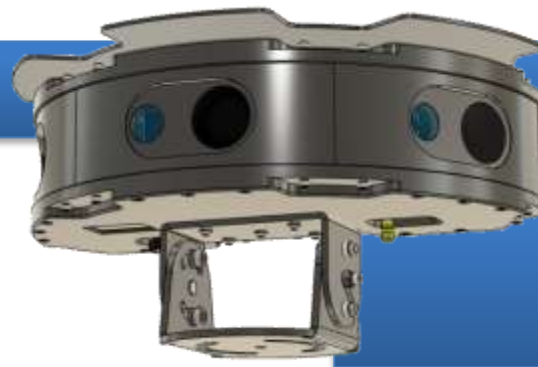
CC (CHAINED CABLE)

[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:

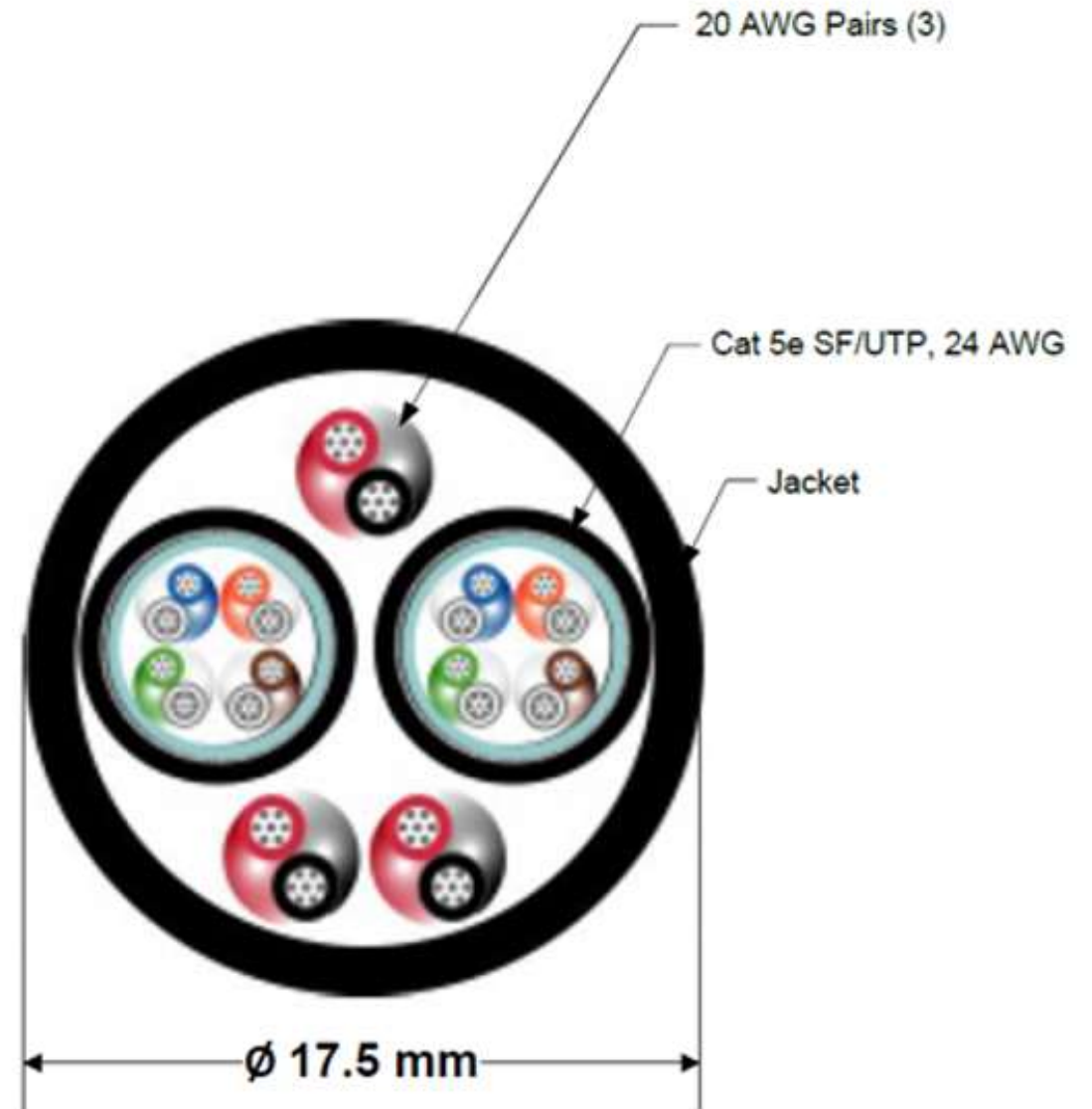
Halogen-free, flame retardant, Cross Linked Thermoplastic Elastomer.
to 17.5 mm nom – Black

Marking:

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

Performance:

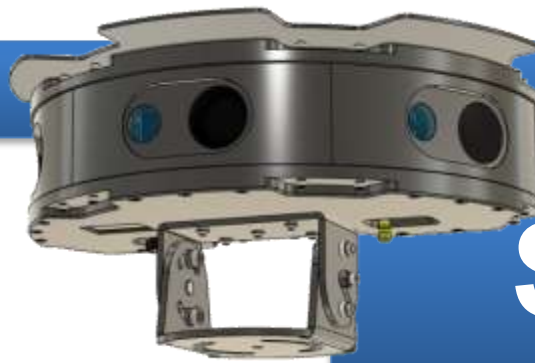
Min. Bend Radius:	180 rmm
Min. Band Radius for Operation:	150°mm
Max. Operation Temperature:	+90 C
Min. Operation Temperature:	- 40 C
UV Resistance:	Yes
Weight:	260 Kg/Km



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

PIN	DESCRIPTION
12	GND
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)

SA180-CABLE-SC-[LEN1]

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

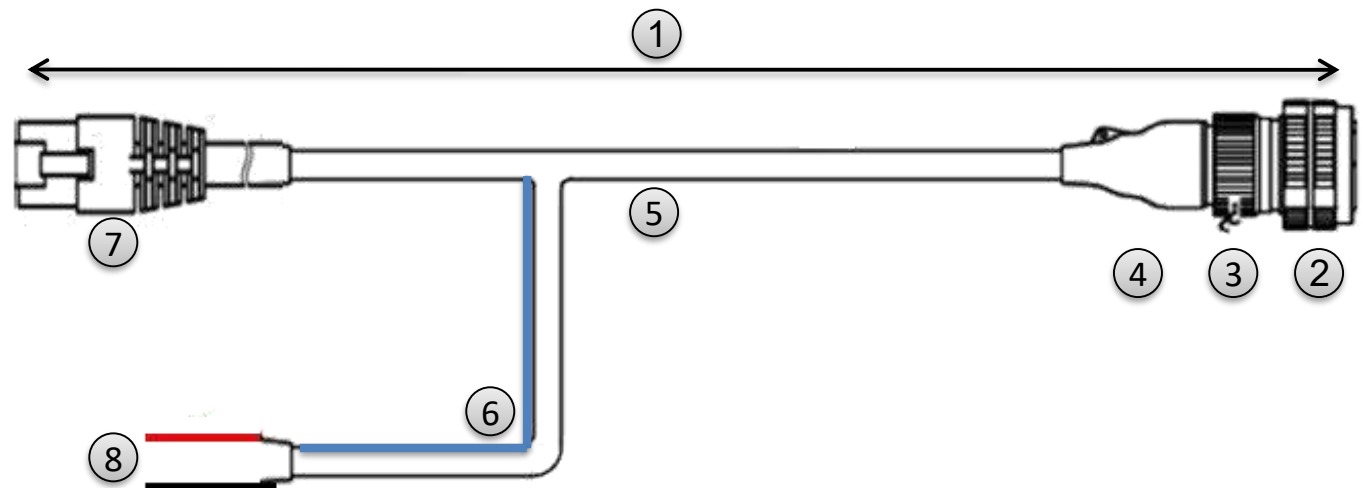
The cable includes connector D38999/26KD35SN Mil. Std Stainless Steel that connects to the connector D38999/23YD35PN on the SA180 system.

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

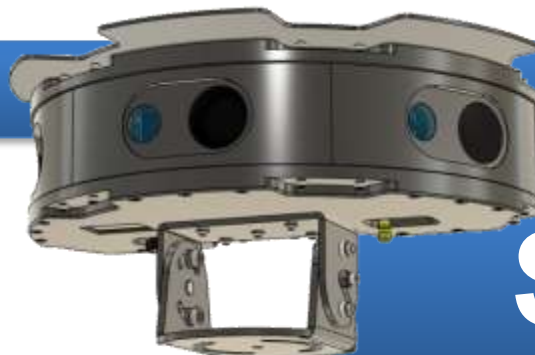
MECHANICAL DRAWING



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

PIN	DESCRIPTION
12	GND
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)

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

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

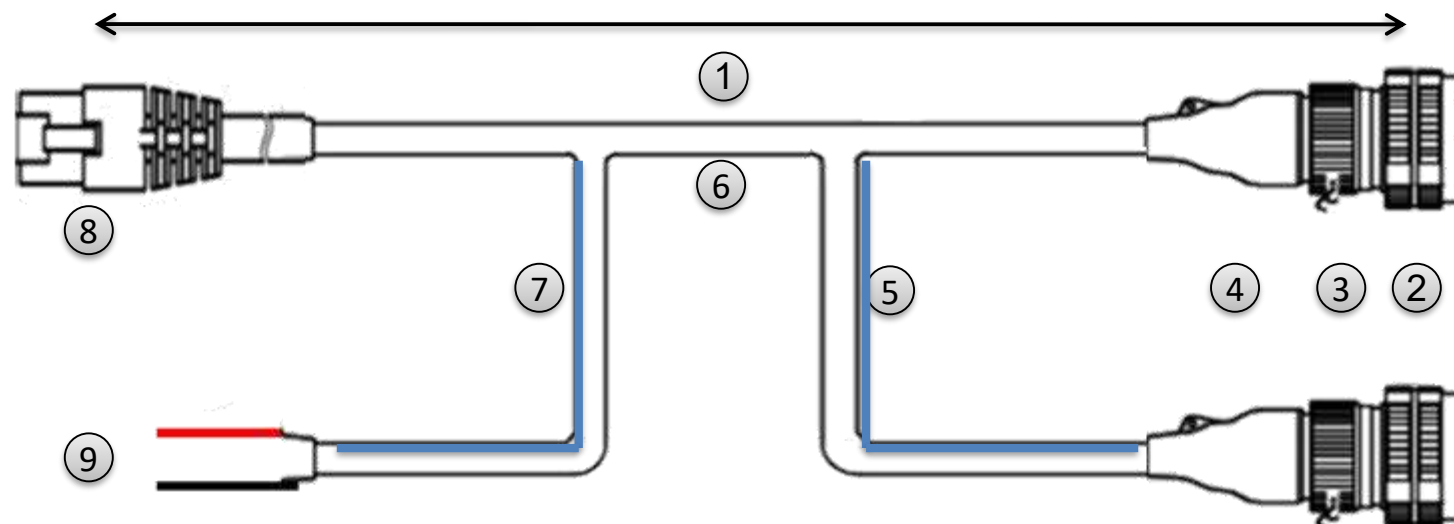
The cable includes two D38999/26KD35SN Mil. Std Stainless Steel connectors that connects to the D38999/23YD35PN on two SA180 systems.

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.

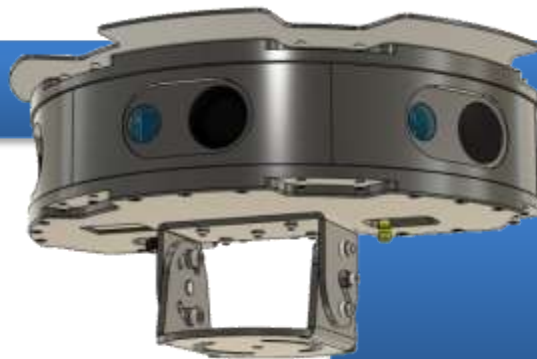
CABLE PART NUMBERING INDEX

#	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

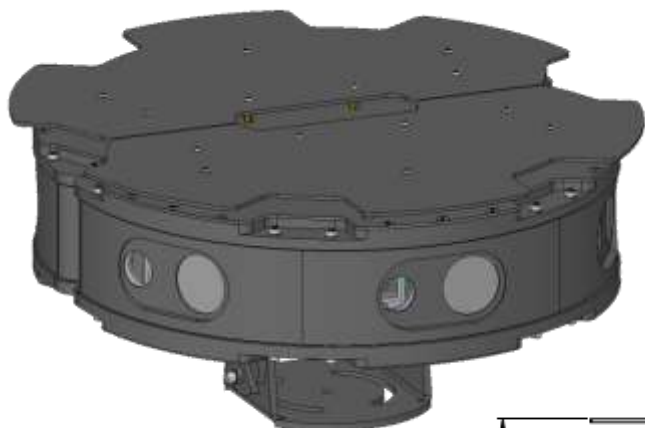
MECHANICAL DRAWING



DIMENSIONS (mm)

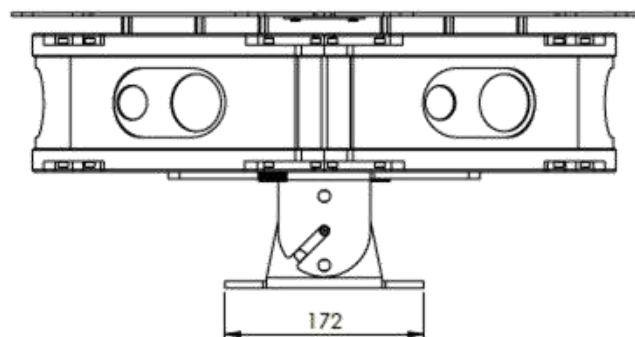
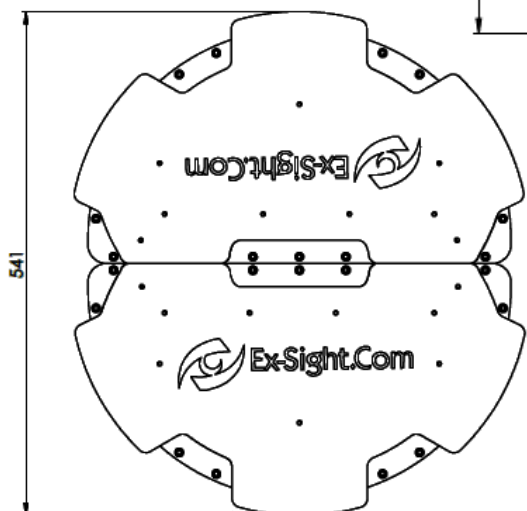
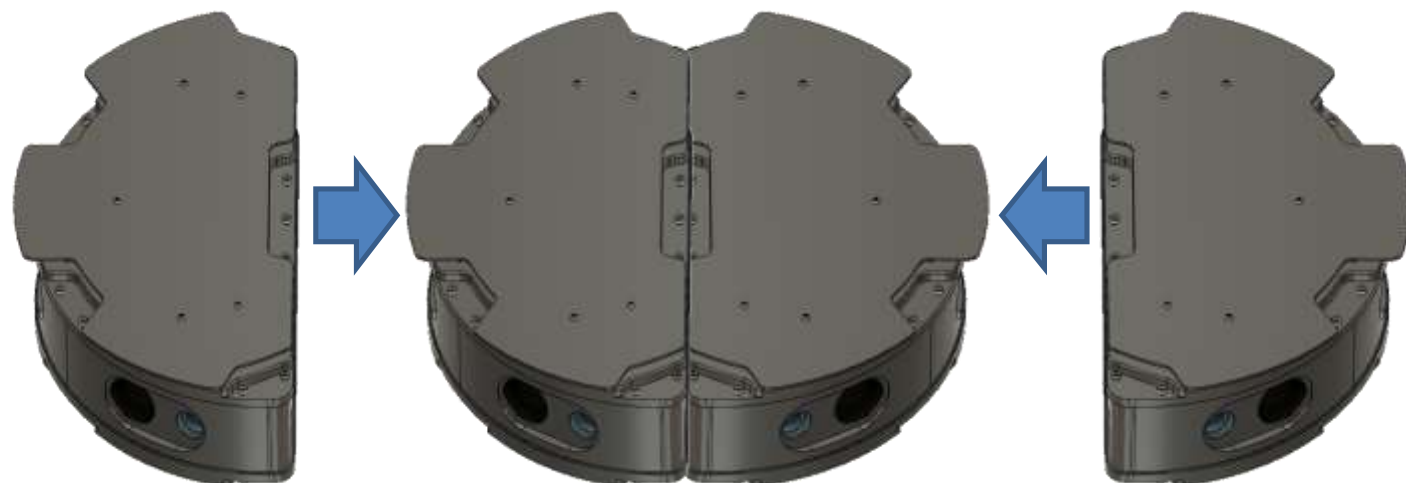
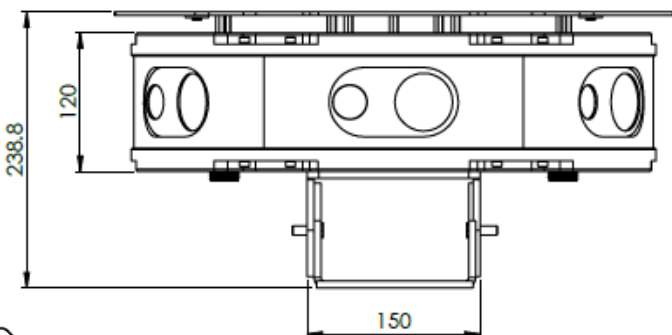


SA180-OPTION

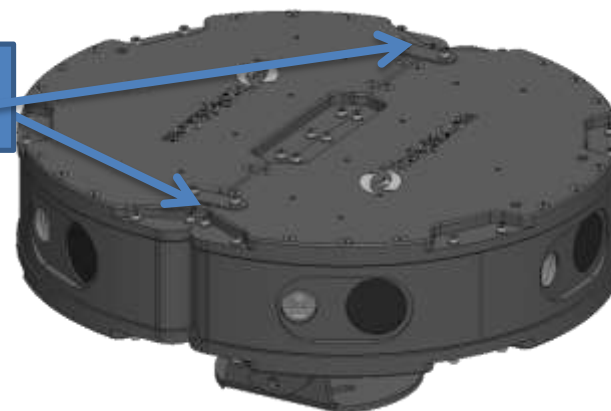


SA360 CONFIGURATION

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



M5 support



M8

