

Falcon360 SITUATION AWARENESS



Falcon360

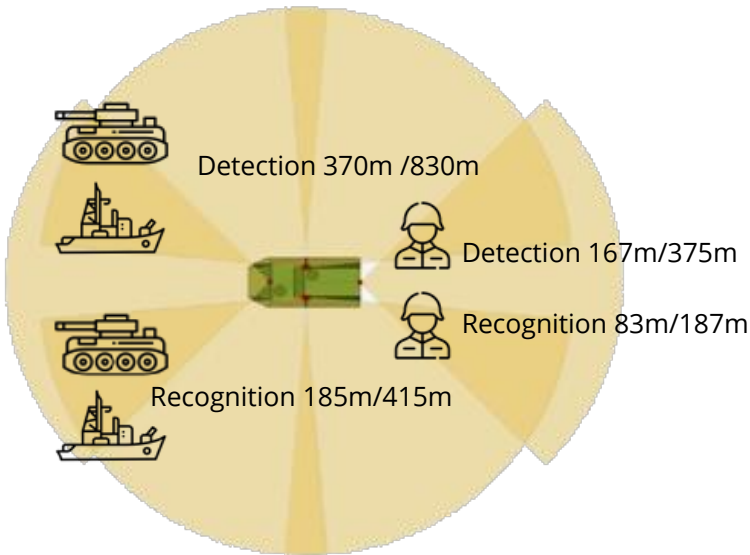
IP67 360 deg Situational Awareness

Falcon360 is a Multi Sensor Situational Awareness System.

The system integrates 12 sensors, 6 x Low Light (DAY), 6 x 12 μ m LWIR which provide a real time 180° view on separate streams.

Falcon 360 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 nitrogen purged aluminum enclosure.

SA360-640/1280



Falcon360 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 DAY 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,

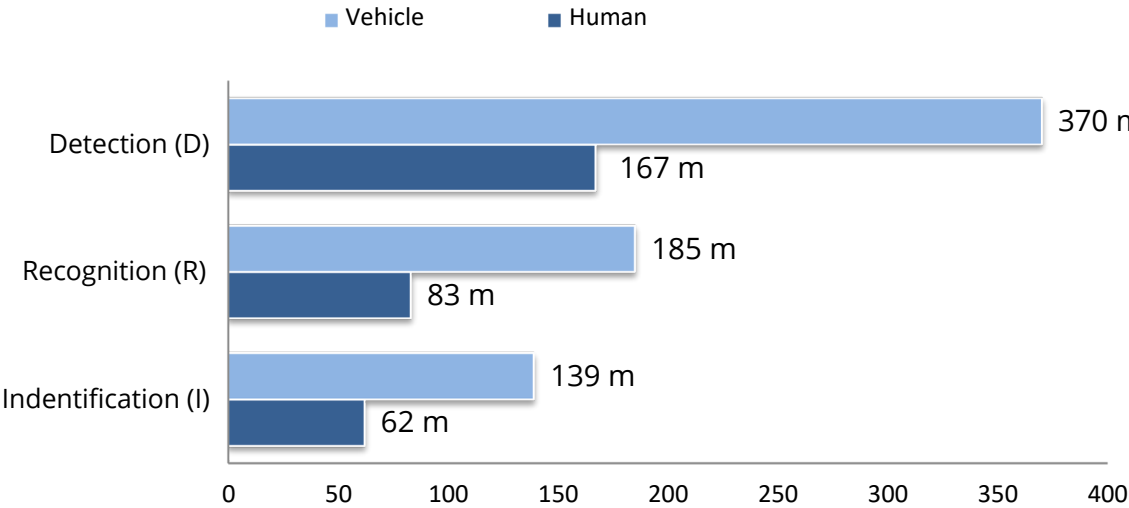
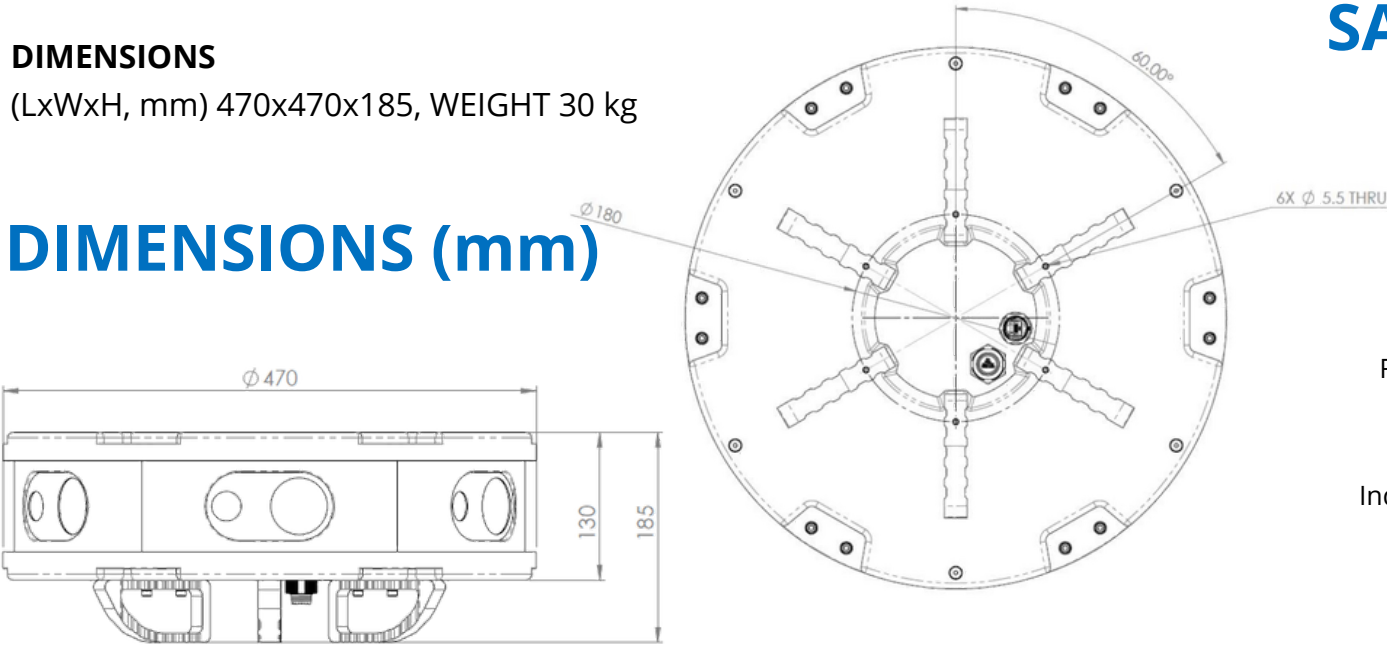
ENVIRONMENTAL

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

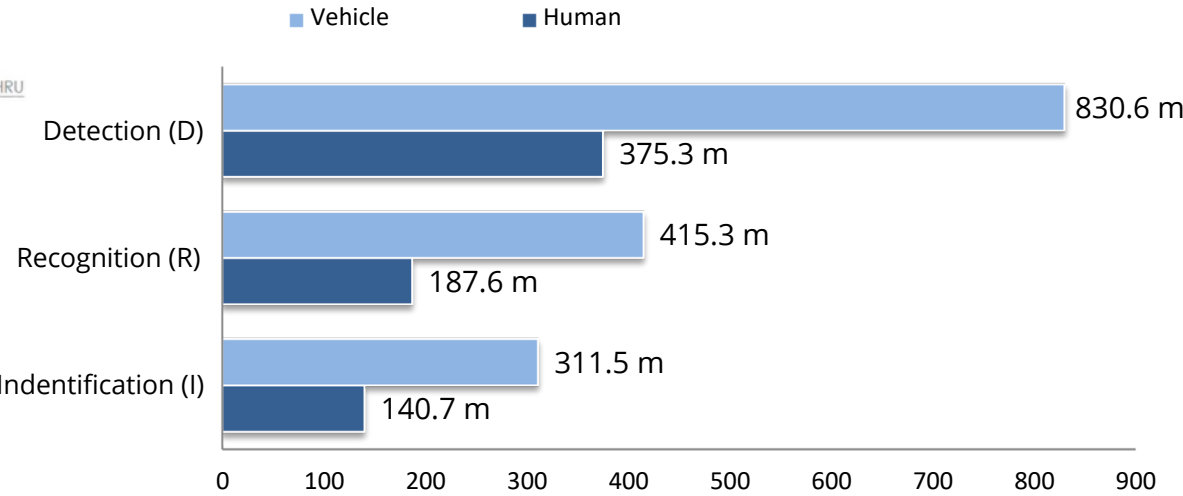
DIMENSIONS

(LxWxH, mm) 470x470x185, WEIGHT 30 kg

DIMENSIONS (mm)



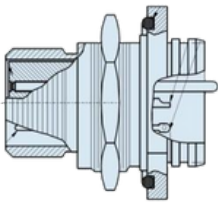
SA360-1280 LWIR DRI (m)



Calculation according to Johnson Criteria

PRODUCT PIN LAYOUT

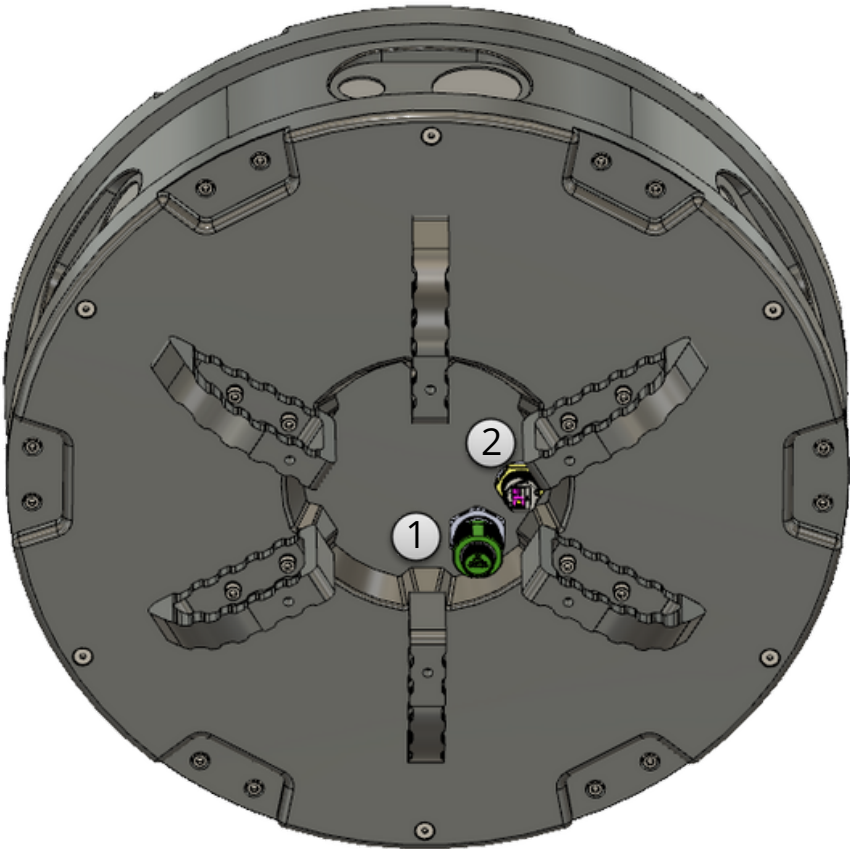
PANEL Pin Layout
D38999/23YD35PN
Stainless Steel Hermetic Connector



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

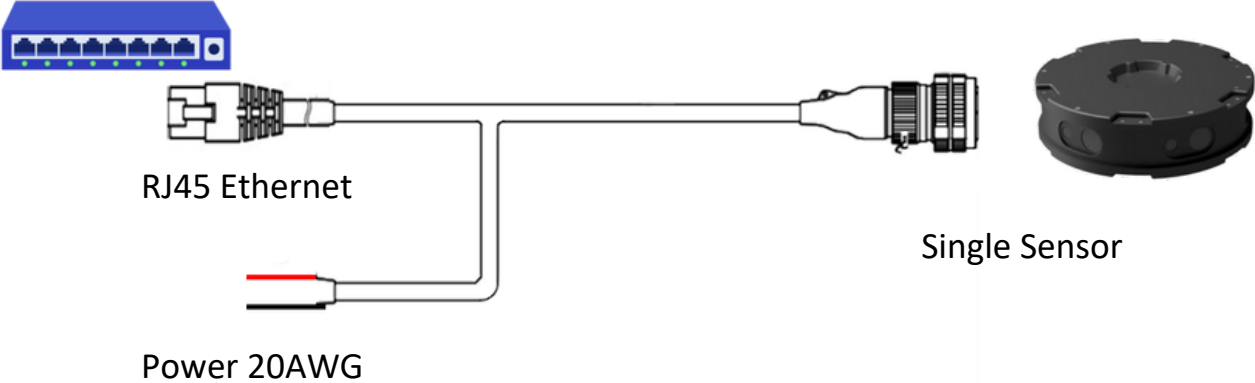
PART Numbering Index

#	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

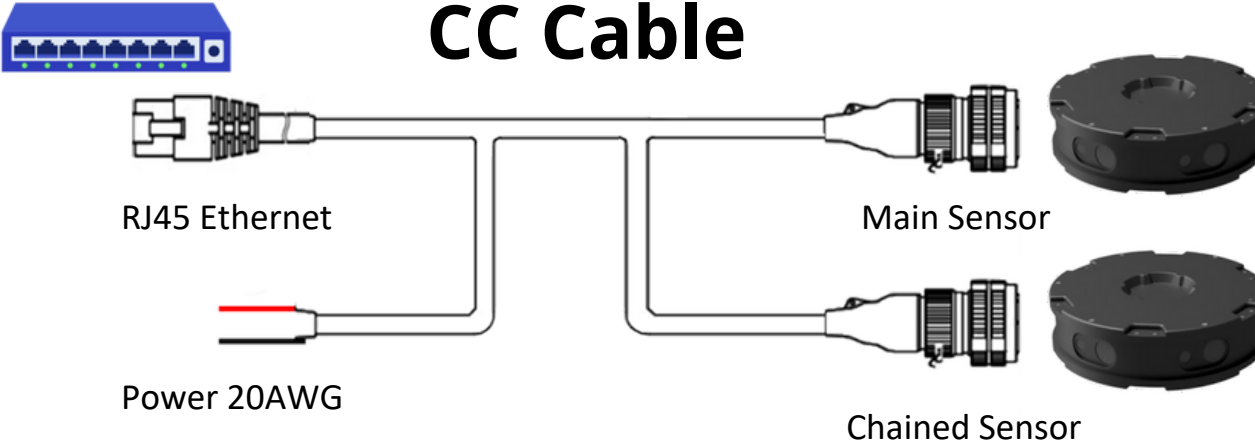


CABLE PART NUMBERING

SC Cable



CC Cable



FALCON360 Cable

SA360 PART NUMBERING:

SA360-[RES]-[FOV]

[RES] LWIR RESOLUTION:

640 (LWIR 640x512 , 5.8mm)
1280 (LWIR 1280x1024 , 13mm)

[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

CABLE PART NUMBERING:

SA360-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)



Cable Specification



22 Conductor Cable

Components:

Cat. 5e Cable:

Conductor: 24 AWG 7/32 Tinned Copper.

Insulation: MLP, OD 1.3mm

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

Shield: Aluminum foil + Tinned copper 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:

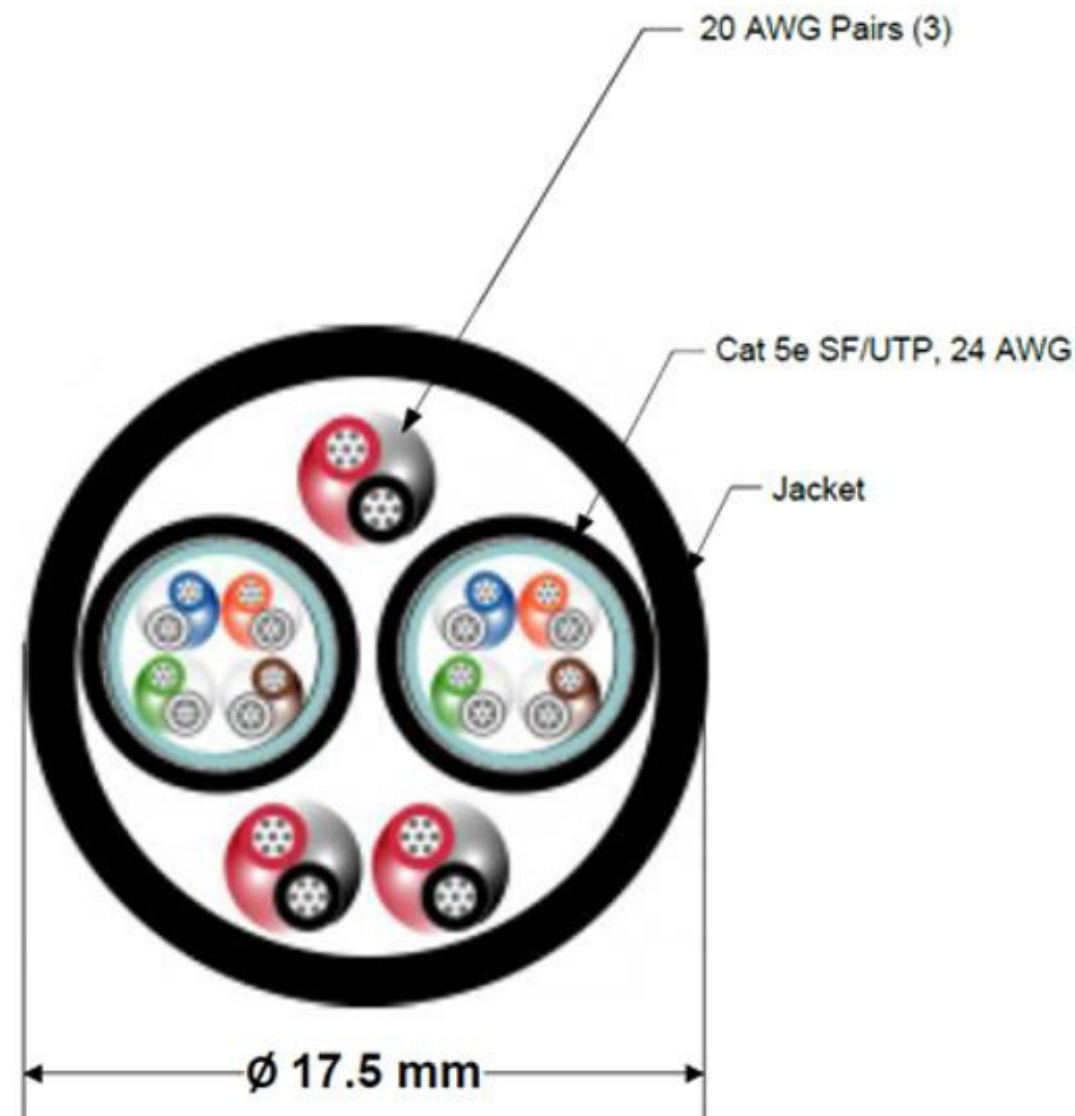
Halogen-free, flame retardant, Cross Linked Thermoplastic Elastomer.
to 17.5 mm nom – Black

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
D38999/26KD35SN Stainless Steel
Hermetic Connector



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

CABLE PART NUMBERING INDEX

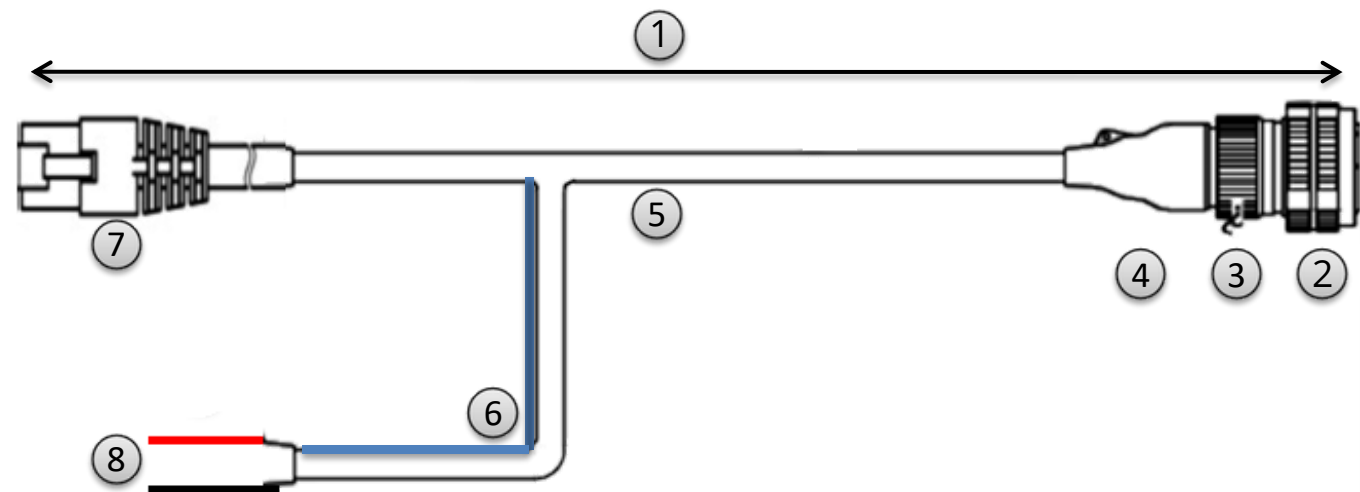
#	P/N	DESCRIPTION
1	[LEN1]	Total Cable length (meters)
2	D38999/26KD35SN	Mil. Std Stainless Steel connector (200°C, firewall capability, 500 hour salt spray resistance)
3	27140S141010410	Stainless Steel Backshell
4	202K132-25-0	Boot
5	Cable RQT1601875	6*20AWG + SPEC55 (RAYCHEM DR-25)
6	Cable RQT1601875	6*20AWG + SPEC55 (1m) (RAYCHEM DR-25)
7	RJ45 Ethernet	Main Ethernet connector
8	Power Wires	20AWG For 9V-36V input

FALCON360-CABLE-SC

Falcon360-CABLE-SC-[LEN1]

SA360-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.

MECHANICAL DRAWING



CABLE PIN LAYOUT

CABLE PIN LAYOUT
D38999/26KD35SN Stainless Steel
Hermetic Connector



PIN	DESCRIPTION	PIN	DESCRIPTION
1 2	Main ETH 1 (White Orange)	13	12VDC
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12	(Brown) NC NC 12VDC	20	Backup ETH 6 (Green)
	GND	21	Backup ETH 7 (White Brown)
		22	Backup ETH 8 (Brown)
		23-	NC
		37	

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

Falcon360 - CABLE-CC-[LEN1]-[LEN2]

Falcon360-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.

MECHANICAL DRAWING

