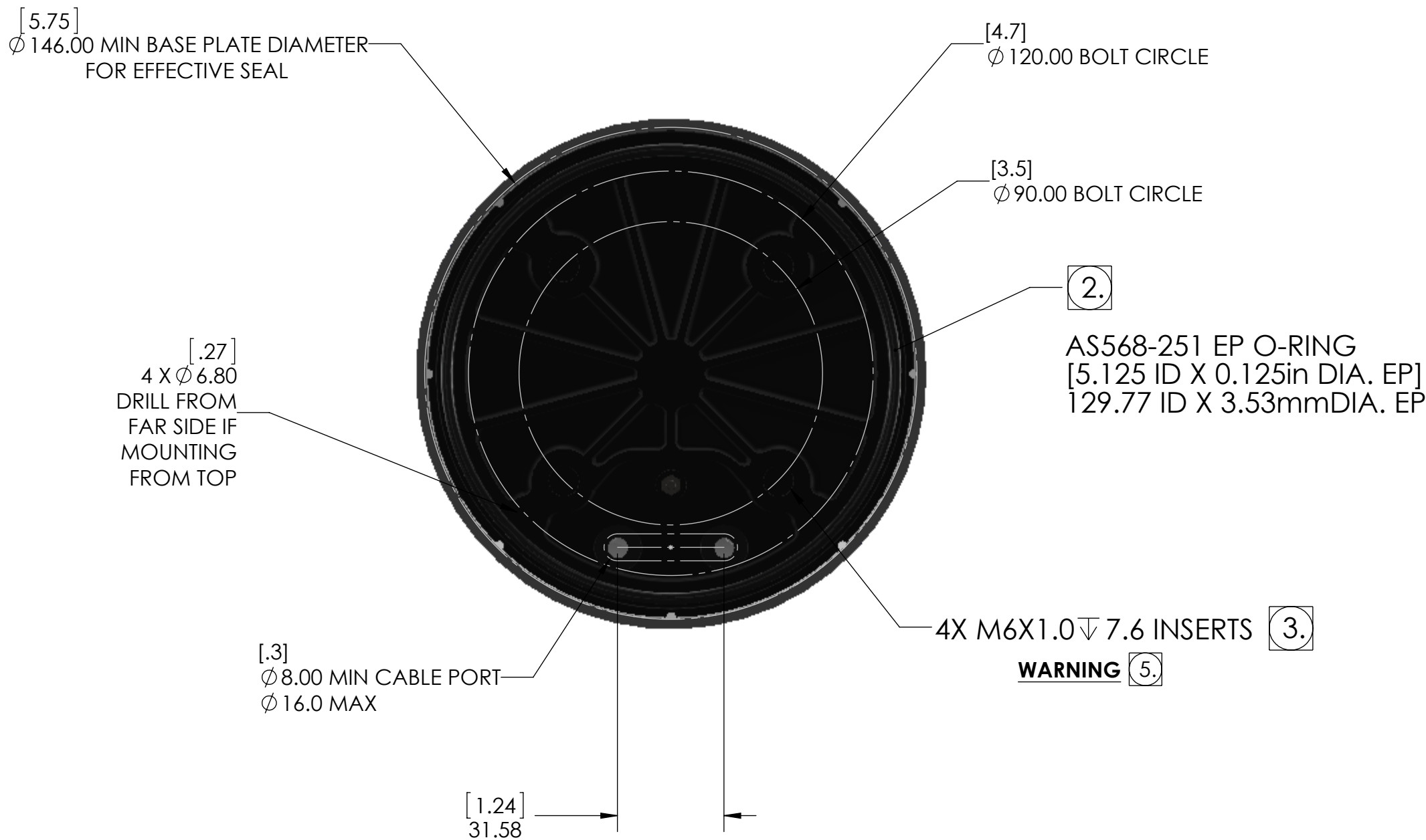
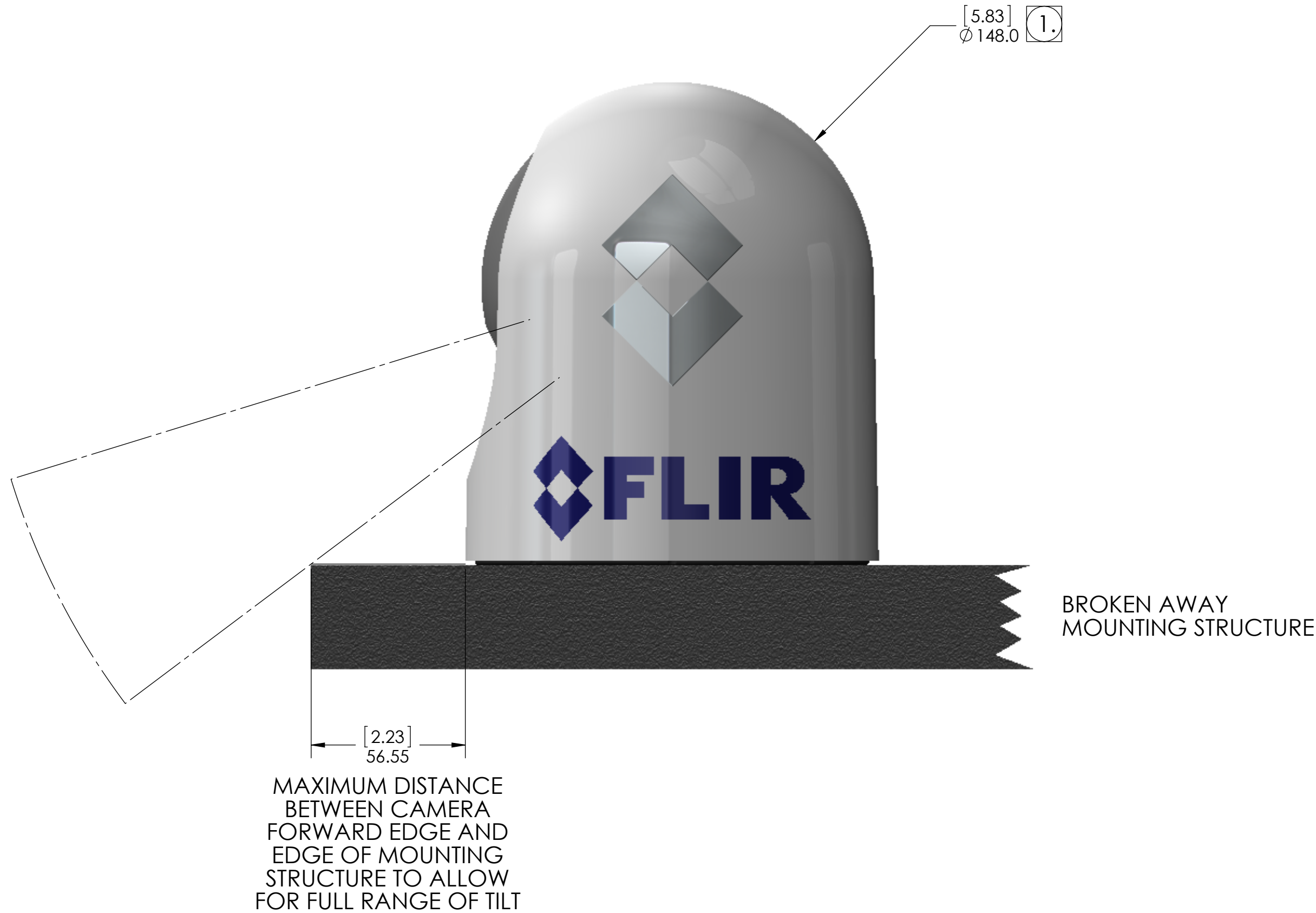
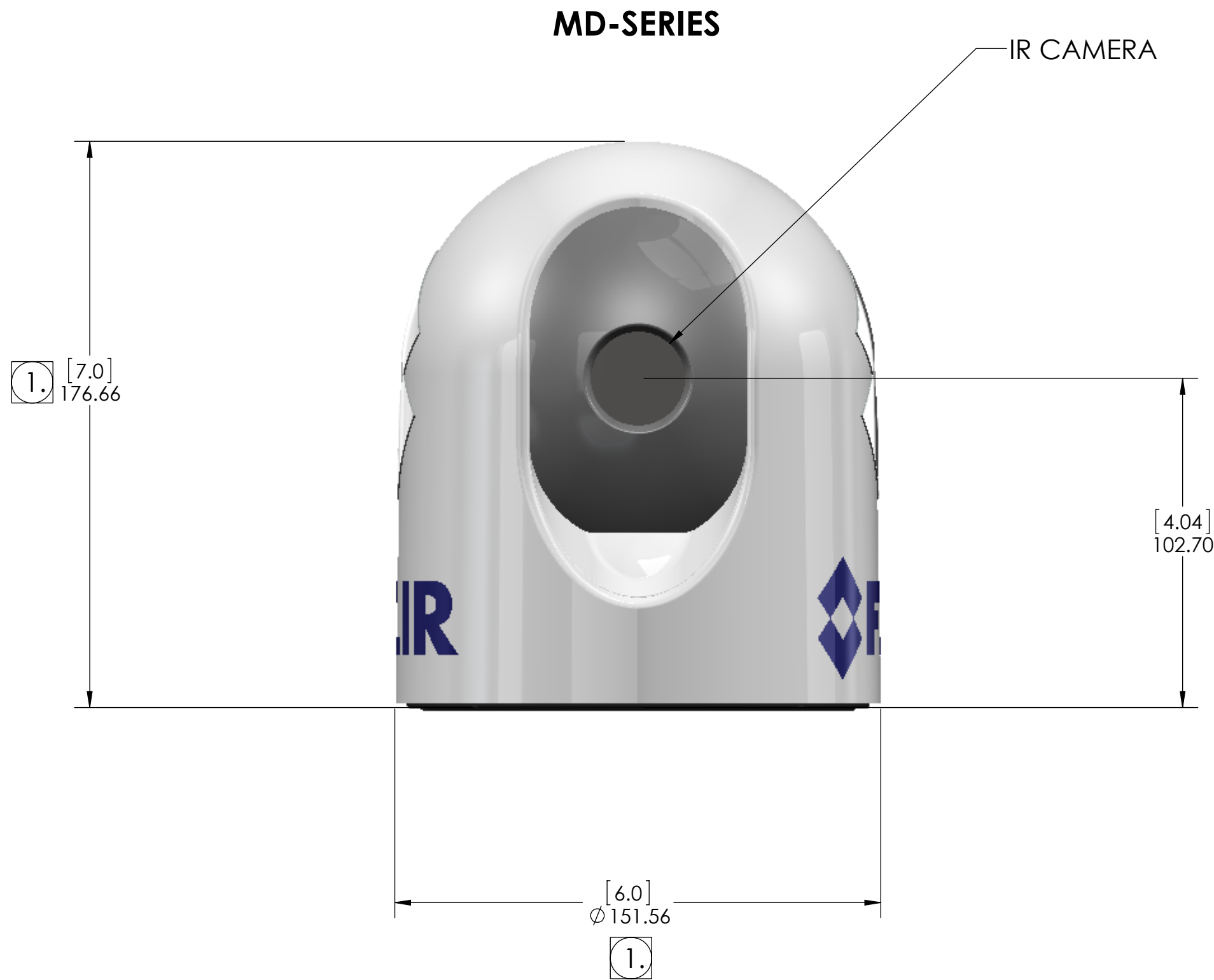


NOTES: UNLESS OTHERWISE SPECIFIED

1. CLEARANCE REQUIRED FOR SYSTEM. AT LEAST DOUBLE OVERALL ASSEMBLY HEIGHT REQUIRED FOR DOME REMOVAL, ALLOWING FOR POINTING ADJUSTMENTS, CABLE MANAGEMENT, AND REMOVAL FROM MOUNTING LOCATION IN CERTAIN CASES.
2. O-RING USED FOR SEALING SYSTEM TO MOUNTING STRUCTURE. STANDALONE UNIT MEETS IP66 SEALING SPECIFICATION. MINIMUM MOUNTING SURFACE FLATNESS OF 0.25mm [.010in] OVER SYSTEM DIAMETER REQUIRED FOR O-RING USE. WHEN MOUNTING TO IRREGULAR SURFACES, USE OF BEDDING COMPOUND RECOMMENDED.
3. USE WITH FLIR MOUNTING HARDWARE KITS.

4. USE LOCTITE 242 WITH ALL METAL TO METAL THREADED CONNECTIONS.

5. WARNING
DO NOT BOTTOM OUT FASTENERS IN BASE.
BOLT LENGTH NOT TO EXCEED 8mm INTO BASE.
SEAL TO MOUNTING STRUCTURE LOST BY BASE PENETRATION.
BOLT TORQUE NOT TO EXCEED 9.5 N-m [7 LB-f].



THIRD ANGLE PROJECTION

METRIC

INTERPRET DRAWING PER ASME Y14.5M-1994

UNLESS OTHERWISE SPECIFIED SURFACE ROUGHNESS 32

.X = ±.25

.XX = ±.13

ANGULAR = ±.5°

FILLET RADII = .13 MAX

MATERIAL	PROJECT NO.		 FLIR Systems, Inc. 70 Castilian Drive Goleta, CA 93117		
N/A	APPROVALS	DATE			
FINISH	DWN J DISEPNZA		TITLE MD-SERIES ICD		
N/A	CHK				
UNLESS OTHERWISE SPECIFIED ALL MEASUREMENTS ARE IN MM. ALL DIMENSIONS IN () ARE INCHES. DO NOT SCALE DRAWING.	DSGN J DISPENZA		SIZE D CAGE 064Y2 DWG NO. 432-0010-00-19 REV 100		
	ENG				
CALC WT: GRAMS	APP		SCALE 2:3	PRINTED: 3/12/2013	SHEET 1 OF 10
3	2		SOLIDWORKS MODEL: 432-0010-XX-XX Nudibranch Top Level MODEL REVISION: A-WC 1		

BOTTOM MOUNTING HOLE PATTERN

IMPORTANT NOTE:
PAPER SIZE: 11X17
TEMPLATE SHOULD PRINT 1:1

DISABLE PAGE SCALING WHEN PRINTING FOR USE AS A TEMPLATE.

DUE TO VARIATION IN SOFTWARE AND PRINTERS, PLEASE VERIFY
SCALE BELOW BEFORE MODIFYING MOUNTING SURFACE.

D

D

[.25]
4X Ø 6.40 THRU HOLE
EQUALLY SPACED ON
Ø 90 mm [3.54 IN]
BOLT CIRCLE

C

C

[2.00]
50.80

[1.97]
50.00

B

B

[2.03]
51.64

IMPORTANT NOTE:
CABLE PORT CAN BE CONFIGURED AS A SINGLE SLOT OR 3
DISCRETE HOLES.

[.31]
Ø 8.00 MIN CABLE PORT SLOT WIDTH OR
Ø 8.0 MIN CABLE PORT HOLE

[.51]
Ø 13.00 MAX CABLE PORT SLOT WIDTH OR
Ø 13.0 MAX CABLE PORT HOLE

[6.0]
Ø 151.56 MD-SERIES O.D.

OPTIONAL, DEDICATED
GROUNDING PORT
Ø 4.0 [0.16] MIN
Ø 7.5 [0.29] MAX

[1.24]
31.58
CABLE PORT LENGTH
(CENTER TO CENTER)

A

A



FLIR Systems, Inc.
70 Castilian Drive
Goleta, CA 93117

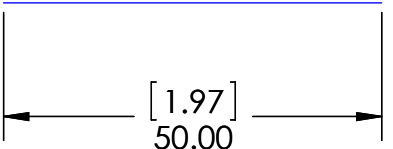
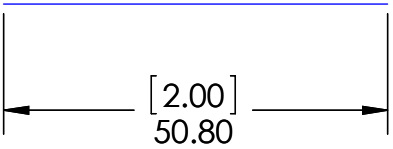
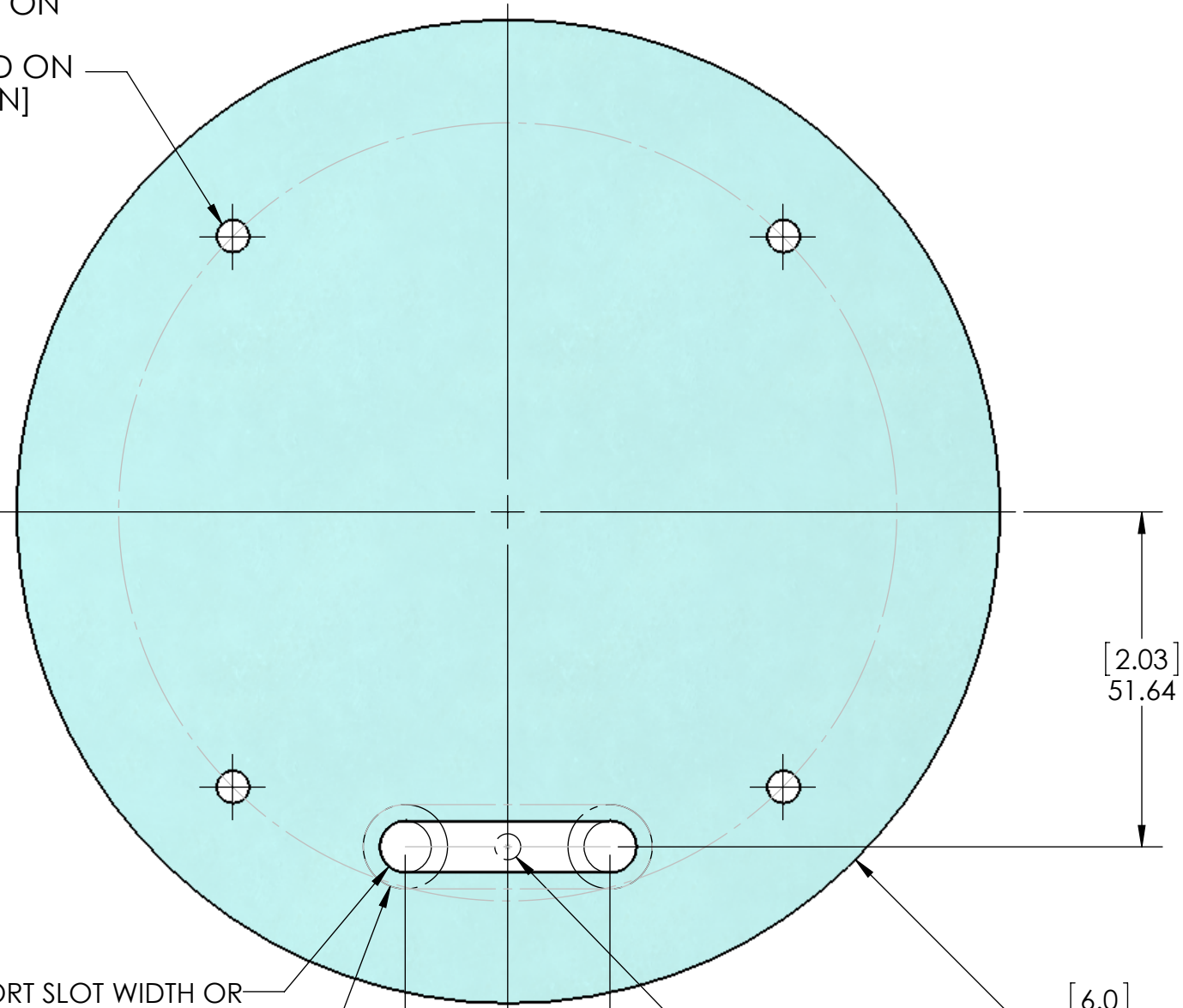
SIZE B	CAGE 064Y2	DWG NO. 432-0010-00-19	REV 100
SCALE 1:1	PRINTED: 3/12/2013	SHEET 2	OF 10

METRIC

TOP MOUNTING DRILL PATTERN

IMPORTANT NOTE:
PAPER SIZE: 11X17
TEMPLATE SHOULD PRINT 1:1
DISABLE PAGE SCALING WHEN PRINTING FOR USE AS A TEMPLATE.
DUE TO VARIATION IN SOFTWARE AND PRINTERS, PLEASE VERIFY
SCALE BELOW BEFORE MODIFYING MOUNTING SURFACE.

4X PILOT LOCATIONS
PIOLET HOLE
DIAMETER BASED ON
FASTENER SIZE
EQUALLY SPACED ON
Ø 120 mm [4.72 IN]
BOLT CIRCLE



[2.03]
51.64

IMPORTANT NOTE:
CABLE PORT CAN BE CONFIGURED AS A SINGLE SLOT OR 3
DISCRETE HOLES.

[.31]
Ø 8.0 MIN CABLE PORT SLOT WIDTH OR
Ø 8.0 MIN CABLE PORT HOLE

[.51]
Ø 13.0 MAX CABLE PORT SLOT WIDTH OR
Ø 13.0 MAX CABLE PORT HOLE

[6.0]
Ø 151.6 MD-SERIES O.D.

[1.24]
31.58
CABLE PORT LENGTH
(CENTER TO CENTER)

OPTIONAL, DEDICATED
GROUNDING PORT
Ø 4.0 [0.16] MIN
Ø 7.5 [0.29] MAX



FLIR Systems, Inc.
70 Castilian Drive
Goleta, CA 93117

8

7

6

5

4

3

DWG NO. 432-0010-00-19

SH 4

REV 100

1

D

C

B

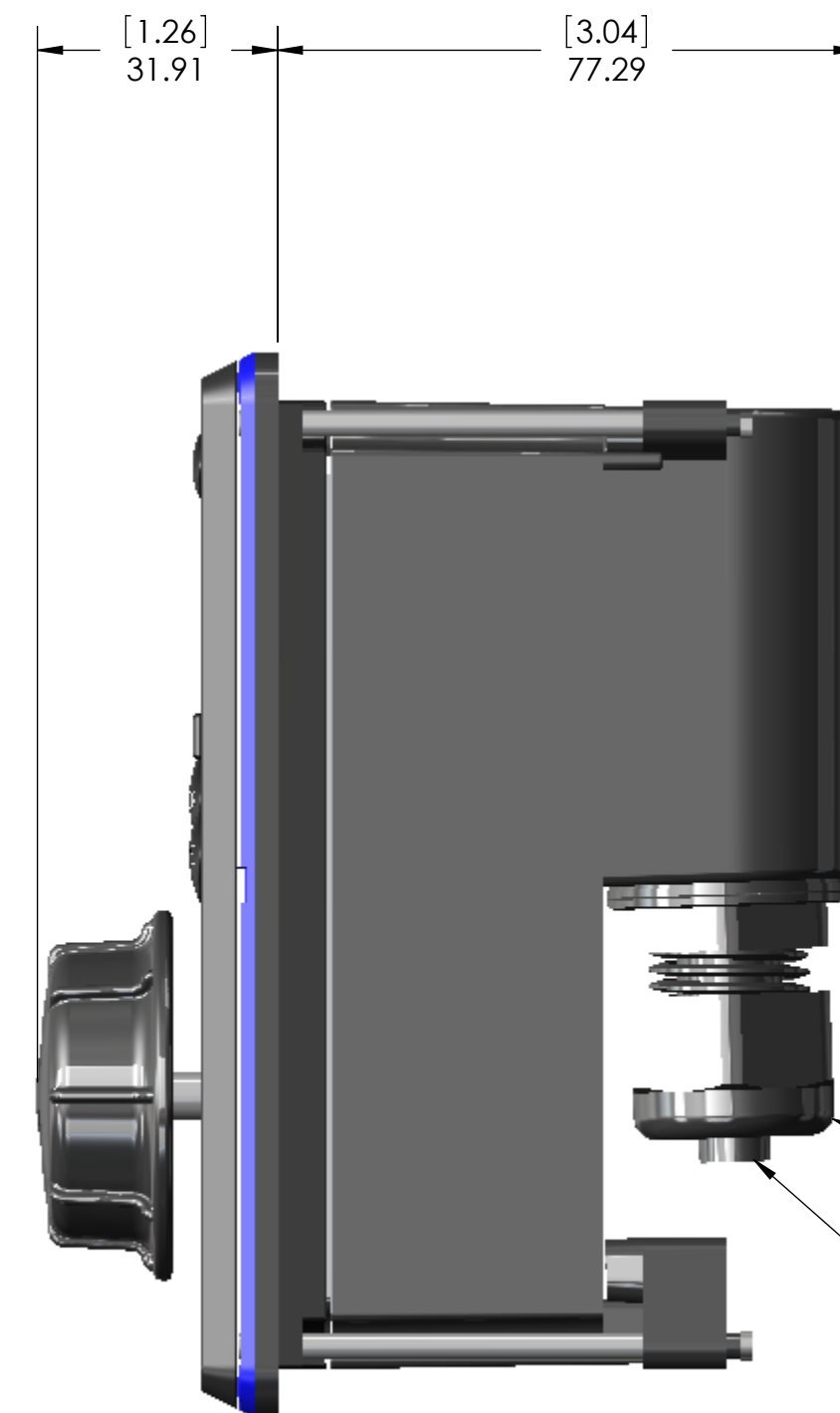
A

D

C

B

A



WITH CABLE INSTALLED, TURN NUT
1/4 TURN BEYOND HAND TIGHT.

GLAND SEAL DESIGNED FOR USE WITH DOUBLE SHIELDED
CAT 5 ETHERNET CABLE. USE OF SINGLE SHIELDED CABLE
MAY REQUIRE THE USE OF ADDITIONAL SEALANT SUCH
AS SILICON OR RTV TO ENSURE SEALING OF ENCLOSURE.

INSERT NETWORK CABLE RJ45 THROUGH GLAND NUT AND
SEAL BEFORE INSTALLING.

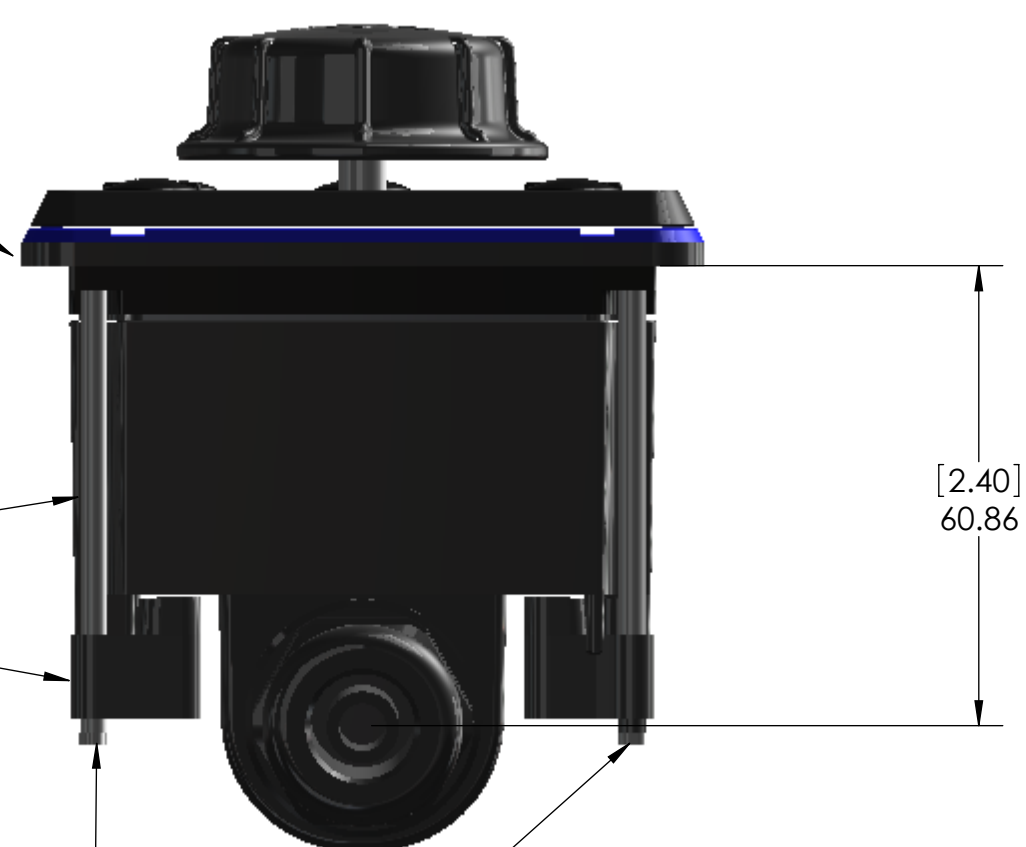
IP66 RATED ABOVE GASKET.

IP64 RATED BEHIND GASKET.

APPLY ADHESIVE SIDE OF GASKET TO JCU BODY.

MOUNTING PANEL THICKNESS RANGE 1.6-45
[0.063-1.750].
WHEN MOUNTING TO PANELS LESS THAN 6.3
[0.25] REVERSE PADDLES.

DURING INITIAL TIGHTENING, ENSURE MOUNTING TABS
ON SCREWS SWING FREE OF REAR HOUSING. WITH TABS
RUN UP AGAINST REAR OF INSTRUMENT PANEL, TIGHTEN
1/4-1/2 TURN BEYOND HAND TIGHT.

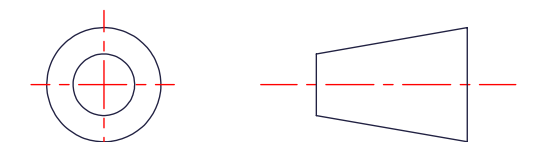


MARITIME JCU

SIZE	CAGE	PIECE PART	REV
D	064Y2	432-0010-00-19	100
SCALE	1:1	PRINTED: 3/12/2013	SHEET 4 OF 10

METRIC

THIRD ANGLE PROJECTION



INTERPRET DRAWING
PER ASME Y14.5M-1994

UNLESS OTHERWISE SPECIFIED
SURFACE ROUGHNESS 32
.X = ±.25
.XX = ±.13
ANGULAR = ±.5°
FILLET RADII = .13 MAX

D

CORNERS SHALL
BE SHARP.

[2.85]
72.39
OPTIONAL
DRILL GUIDE

IMPORTANT NOTE:

PAPER SIZE: 11x17in
TEMPLATE SHOULD PRINT 1:1

DISABLE PAGE SCALING WHEN PRINTING FOR USE AS A
TEMPLATE.

DUE TO VARIATION IN SOFTWARE AND PRINTERS,
PLEASE VERIFY SCALE BELOW BEFORE MODIFYING
MOUNTING SURFACE.

C

[4.85]
123.19
OPTIONAL
DRILL GUIDE

[5.100±.049]
129.54±1.25
CUTOUT

[5.6]
141.4
OUTSIDE
OF JCU

2.00IN

50.00MM

[.25]
Ø6.35

B

A

[3.100±.049]
78.74±1.25
CUTOUT

[3.6]
90.4
OUTSIDE
OF JCU

D

C

B

A

MOUNTING TEMPLATE
MARITIME JCU

SIZE B	CAGE 064Y2	DWG NO. 432-0010-00-19	REV 100
SCALE 1:1	PRINTED: 3/12/2013	SHEET 5 OF 10	

8

7

6

5

4

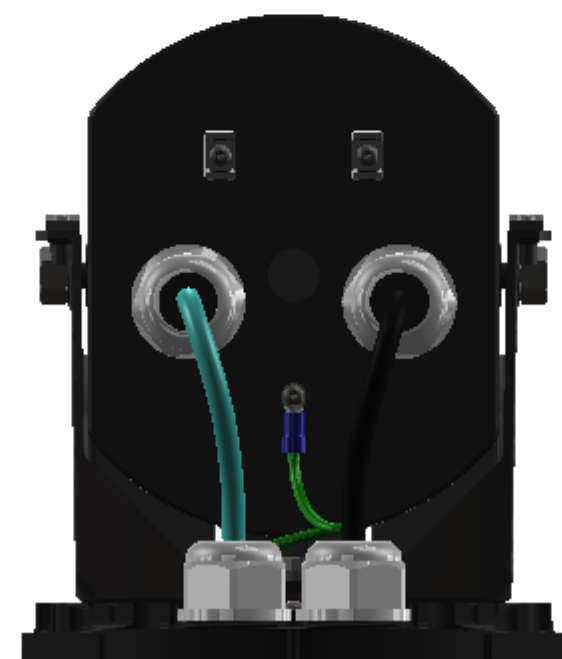
3

DWG NO. 432-0010-00-19 SH 6 REV 100

1

CONNECTIONS EXTERNAL

MD-SERIES



CONNECTOR RJ45
WATERPROOF
ENCLOSURE
FLIR PN 4115028

RG59U VIDEO CABLE
MALE TERMINATION

CONNECTOR F-TYPE
FEMALE TO FEMALE
FLIR PN 4115330

SEAL CONNECTION WITH
MARITIME GRADE SEALING
TAPE (3M SCOTCH-SEAL 229)
OR EQUIVALENT

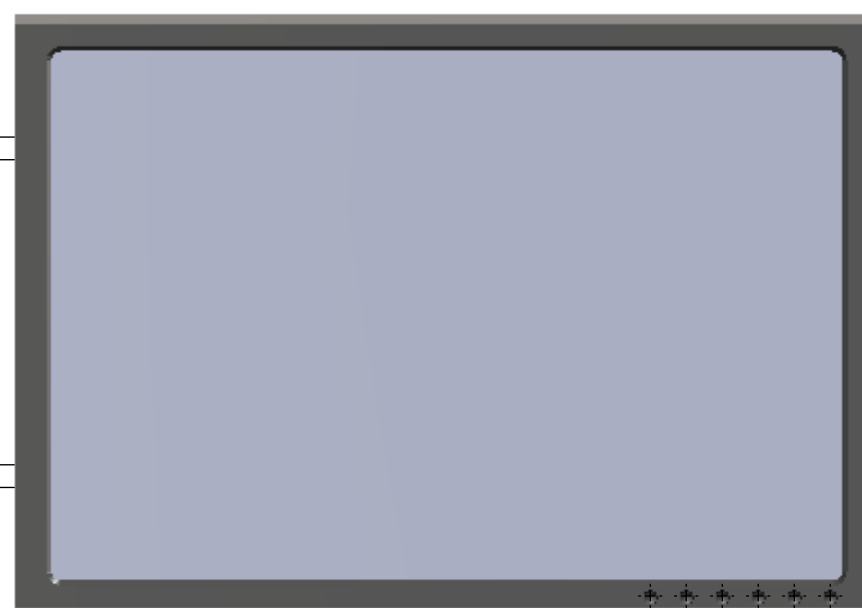
SUPPLIED VIDEO CABLE (308-0164-25 OR EQUIVALENT)
SHALL BE RATED RG59U OR BETTER

INJECTOR
DC/DC POWER
OVER ETHERNET
FLIR PN 4113746

VESSEL POWER

FOLLOW
MANUFACTURER
SPECIFIC SEALING
REQUIREMENTS

DISPLAY



NETWORK CABLE FOR PoE DEVICES (IEEE802.3af)
8 CONDUCTOR T568B, ETHERNET, DOUBLE SHIELDED
FLIR PN 308-0163-25 OR EQUIVALENT
NOTE: TO MAINTAIN IEC 60945 COMPLIANCE,
USE OF DOUBLE SHIELDED CABLE REQUIRED.

CONTROL CAPABLE MULTI-
FUNCTION DISPLAY (MFD)
REQUIRED FOR CONTROL
OF CAMERA

CONNECTIONS INTERNAL

MD-SERIES



CONNECTOR RJ45
WATERPROOF ENCLOSURE
FLIR PN 4115028

MD-SERIES



CONNECTOR
F-TYPE FEMALE TO
FEMALE
FLIR PN 4115330

SEAL CONNECTION
WITH MARITIME
GRADE SEALING
TAPE (3M SCOTCH-
SEAL 229) OR
EQUIVALENT

SUPPLIED VIDEO CABLE (308-0164-25 OR EQUIVALENT)
SHALL BE RATED RG59U OR BETTER

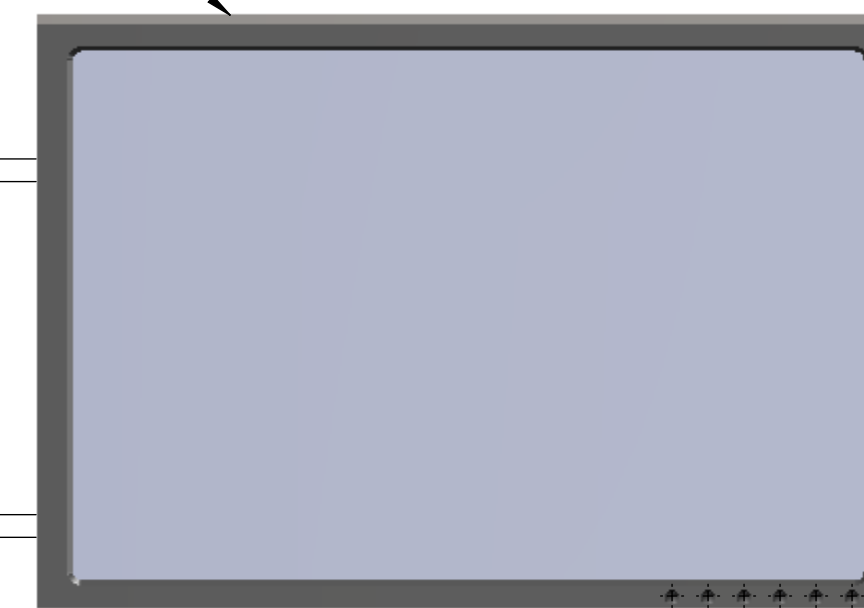
INJECTOR
DC/DC POWER
OVER ETHERNET
FLIR PN 4113746

VESSEL POWER

FOLLOW
MANUFACTURER
SPECIFIC SEALING
REQUIREMENTS

CONTROL CAPABLE MULTI-
FUNCTION DISPLAY (MFD)
REQUIRED FOR CONTROL
OF CAMERA

DISPLAY



NETWORK CABLE FOR PoE DEVICES (IEEE802.3af)
8 CONDUCTOR T568B, ETHERNET, DOUBLE SHIELDED
FLIR PN 308-0163-25 OR EQUIVALENT
NOTE: TO MAINTAIN IEC 60945 COMPLIANCE,
USE OF DOUBLE SHIELDED CABLE REQUIRED.

DWG NO. 432-0010-00-19 SH 6 REV 100

METRIC



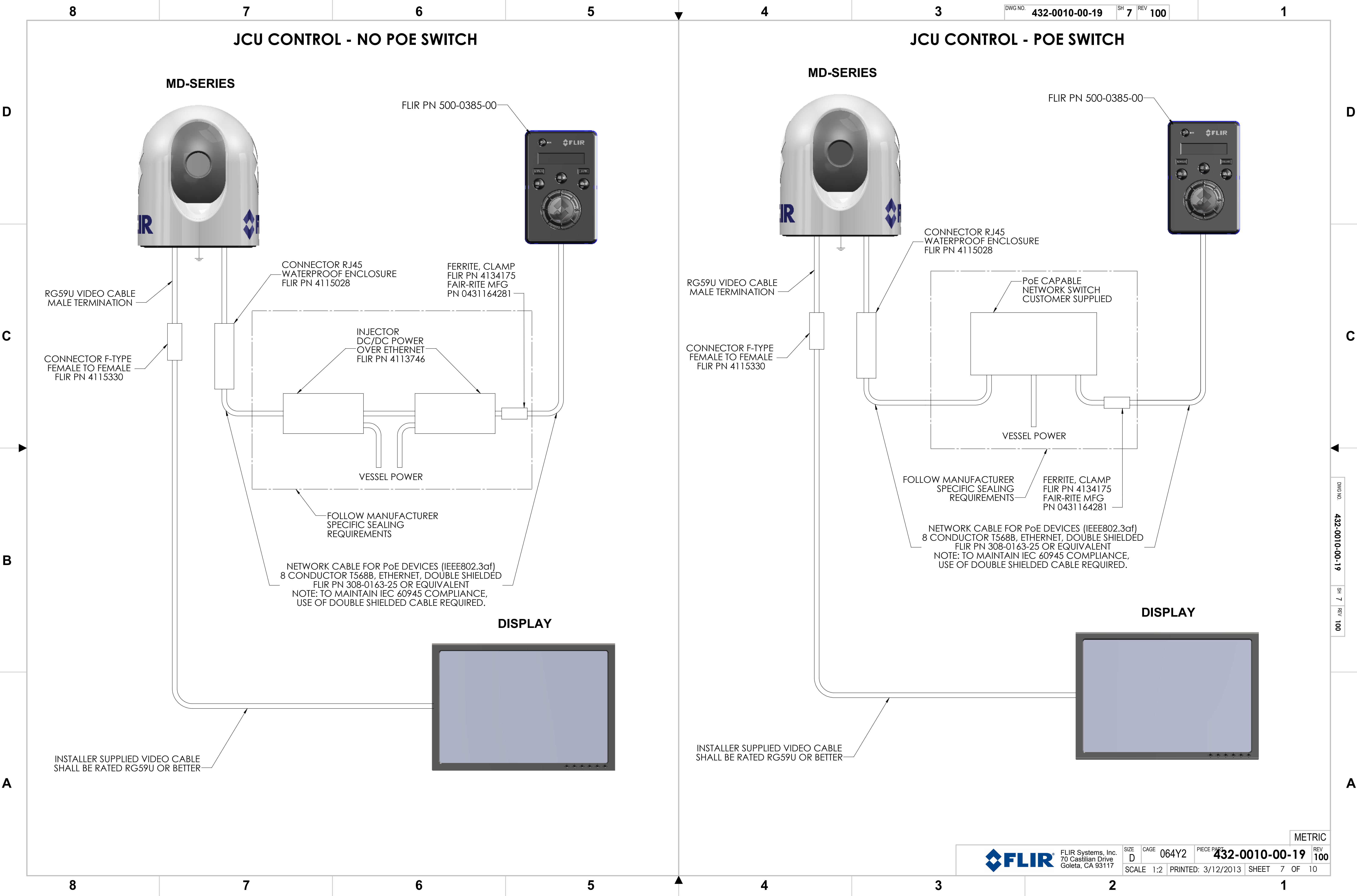
FLIR Systems, Inc.
70 Castilian Drive
Goleta, CA 93117

SIZE
DCAGE
064Y2PIECE PART
432-0010-00-19REV
100

SCALE 1:2

PRINTED: 3/12/2013

SHEET 6 OF 10



8

7

6

5

4

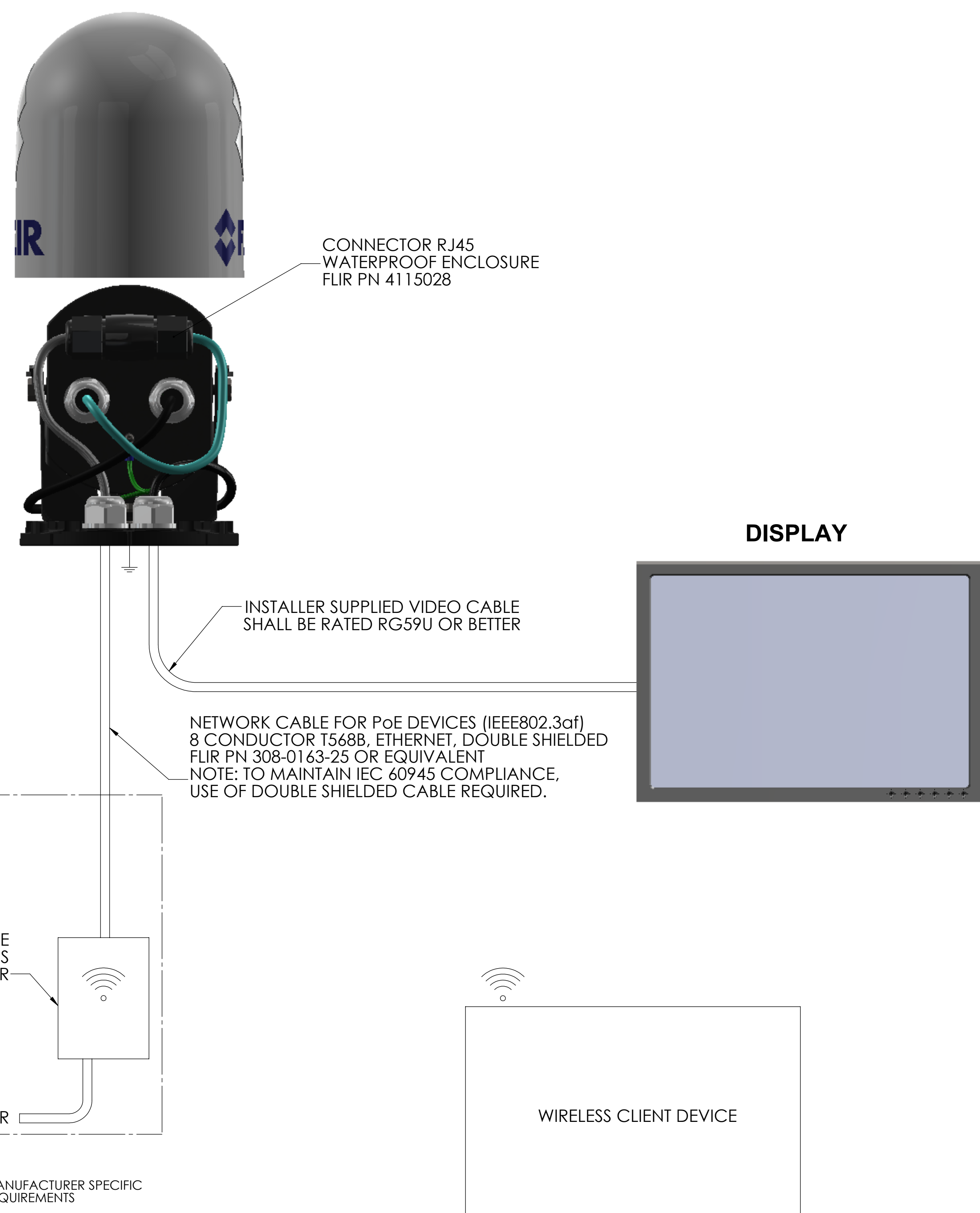
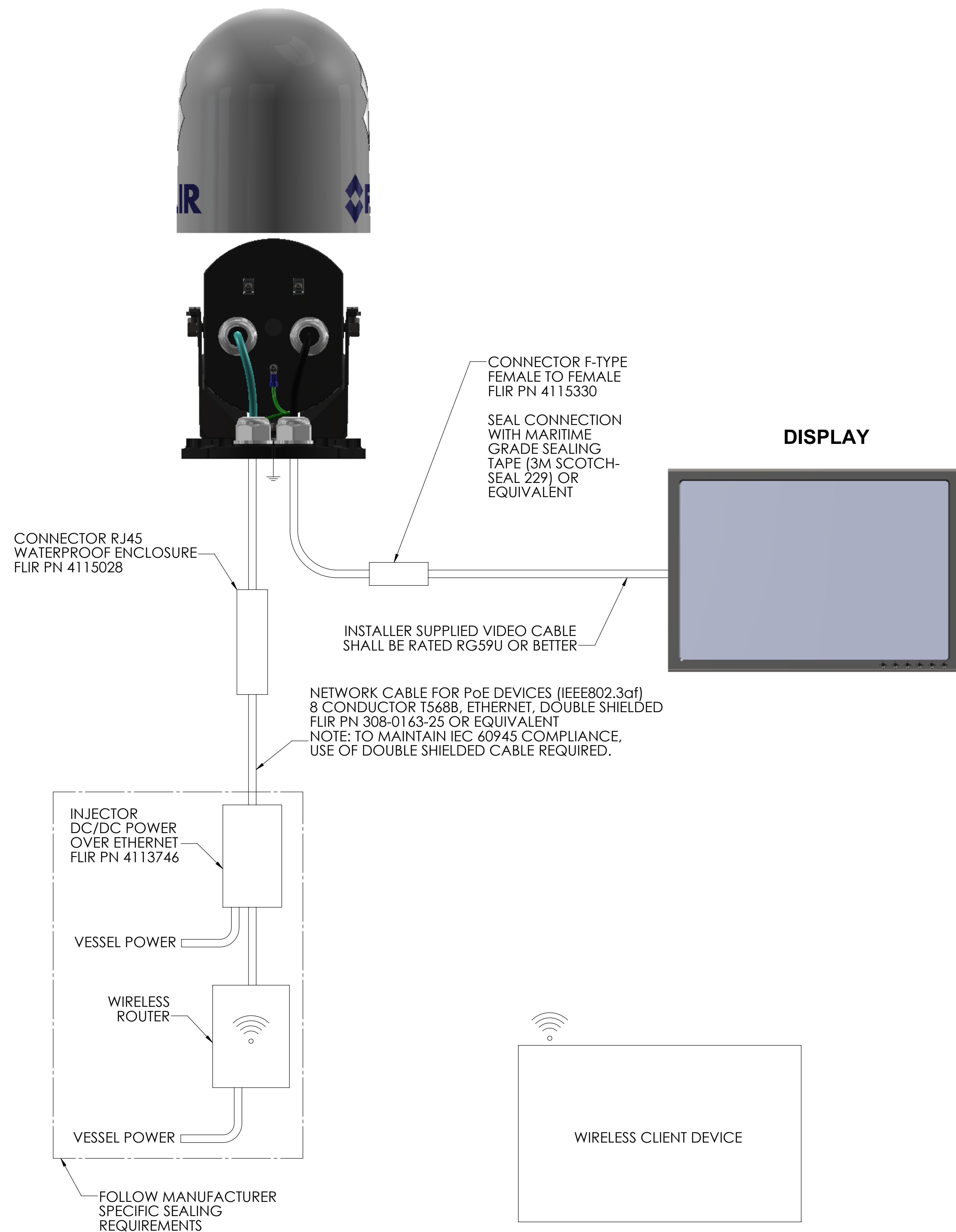
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DWG NO. 432-0010-00-19 SH 8 REV 100

1

CONNECTIONS EXTERNAL

CONNECTIONS INTERNAL

FLIR Systems, Inc.
70 Castilian Drive
Goleta, CA 93117

SIZE

D

CAGE

064Y2

PIECE PART

432-0010-00-19

REV

100

SCALE 1:2

PRINTED: 3/12/2013

SHEET 8 OF 10

METRIC

D

C

DWG NO. 432-0010-00-19 SH 9 REV 100

A

MD-SERIES ASSEMBLY
WEIGHT: < 1.81 kg [4 lbs]
BASED ON MODEL

IMPORTANT:
CHASSIS GROUND SHALL BE
ESTABLISHED FOR HIGH CONDUCTIVITY
PATH TO VESSEL GROUND.
MAX 0.25Ω

HOLE, CABLE PASS
8.0 MM WIDTH MIN
13.0 MM WIDTH MAX
31.6 MM SLOT LENGTH

CUSTOMER DECKING OR
OTHER MOUNTING STRUCTURE

AS568-251 EP O-RING
[5.125 ID X 0.125in DIA. EP]
129.77 ID X 3.53mmDIA. EP

HOLES, MOUNTING
6.4 MM DIAMETER
4 PLACES

WASHER, OPTIONAL
M6
316 STAINLESS STEEL

SOC HD CAP SCREW
M6 X 1.0
LENGTH: 6 MM + THICKNESS OF CUSTOMER DECKING
316 STAINLESS STEEL
4 PLACES
APPLY THREAD LOCKER (LOCTITE 242 OR EQUIVALENT)
TORQUE TO 9.5 N-m [7 lb-ft]

WARNING (5)

MOUNTING TO SEALED SURFACE FROM BOTTOM - BALL UP

MOUNTING DIRECTLY THRU CUSTOMER DECKING, OR OTHER SURFACES
STRUCTURE OPPOSITE CAMERA TO BE SEALED ENCLOSURE AND A DRY SPACE
CAMERA BALL UP CONFIGURATION SHOWN

ENTIRE ASSEMBLY VIEW CAN BE ROTATED 180° FOR BALL DOWN
INSTALLATION

SCREWS, PAN HEAD
MAX MAJOR DIAMETER OF FASTENER: 6.6 mm
TYPE AND LENGTH DEPENDENT ON MOUNTING SURFACE
316 STAINLESS STEEL
4 PLACES
PRE-DRILL MOUNTING SURFACE TO ACCEPT FASTENERS
PRE-DRILL CAMERA BASE FOR FASTENER CLEARANCE
SEAL AROUND FASTENERS WITH BEDDING COMPOUND
AFTER INSTALLATION (3M 4200 OR EQUIVALENT)

AS568-251 EP O-RING
[5.125 ID X 0.125in DIA. EP]
129.77 ID X 3.53mmDIA. EP

CUSTOMER DECKING OR
OTHER MOUNTING STRUCTURE

IMPORTANT:
CHASSIS GROUND SHALL
BE ESTABLISHED FOR HIGH
CONDUCTIVITY PATH TO
VESSEL GROUND.
MAX 0.25Ω

HOLE, CABLE PASS
8.0 MM WIDTH MIN
13.0 MM WIDTH MAX
31.6 MM SLOT LENGTH

MOUNTING TO SEALED SURFACE FROM TOP - BALL UP

MOUNTING DIRECTLY THRU CUSTOMER DECKING, OR OTHER SURFACES
STRUCTURE OPPOSITE CAMERA TO BE SEALED ENCLOSURE AND A DRY SPACE
CAMERA BALL UP CONFIGURATION SHOWN

ENTIRE ASSEMBLY VIEW CAN BE ROTATED 180° FOR BALL DOWN
INSTALLATION



FLIR Systems, Inc.
70 Castilian Drive
Goleta, CA 93117

SIZE D CAGE 064Y2
SCALE 1:2

PIECE PART 432-0010-00-19 REV 100
PRINTED: 3/12/2013 SHEET 9 OF 10
MODEL REVISION: A-WC

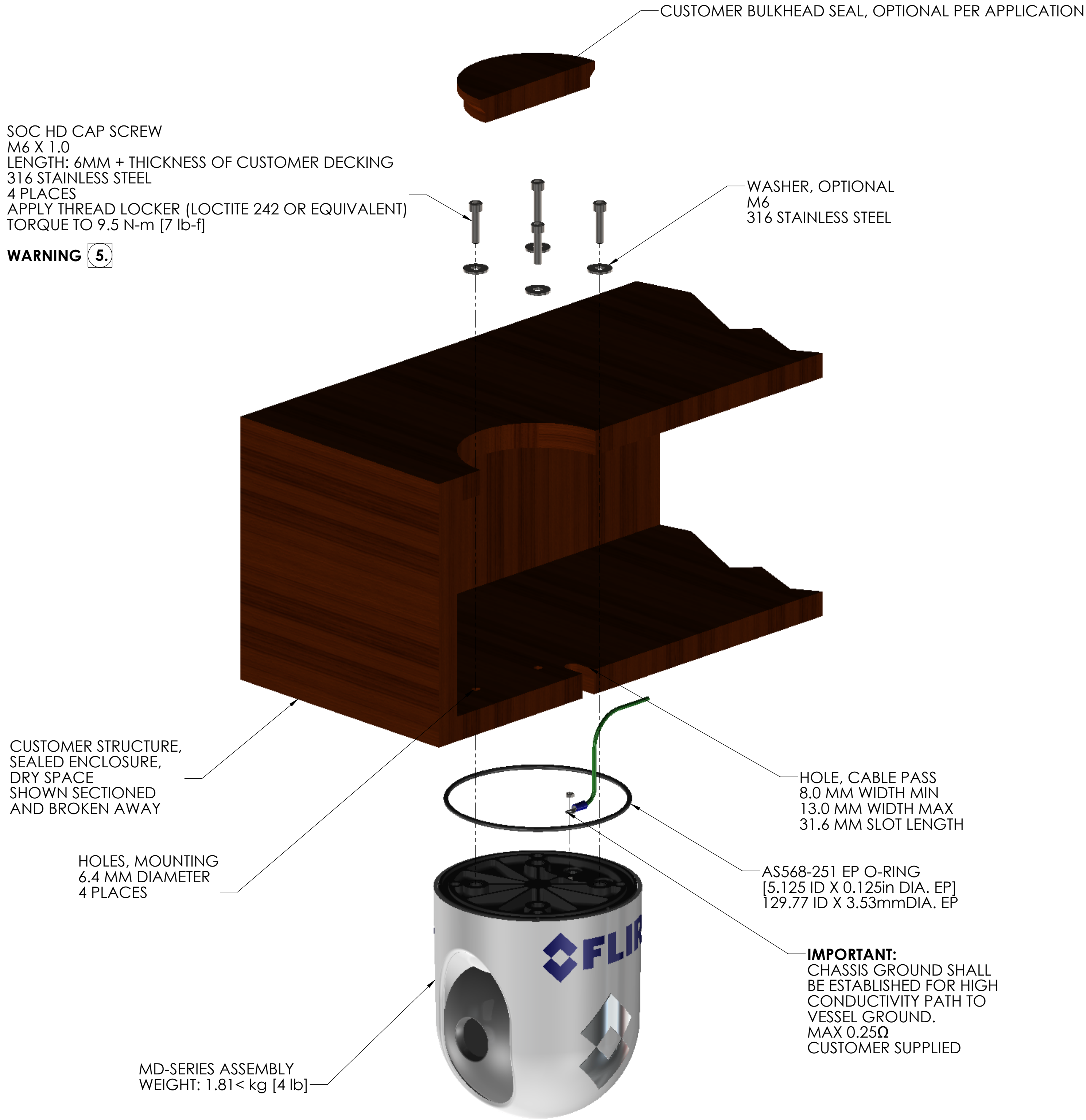
METRIC

D

C

B

A



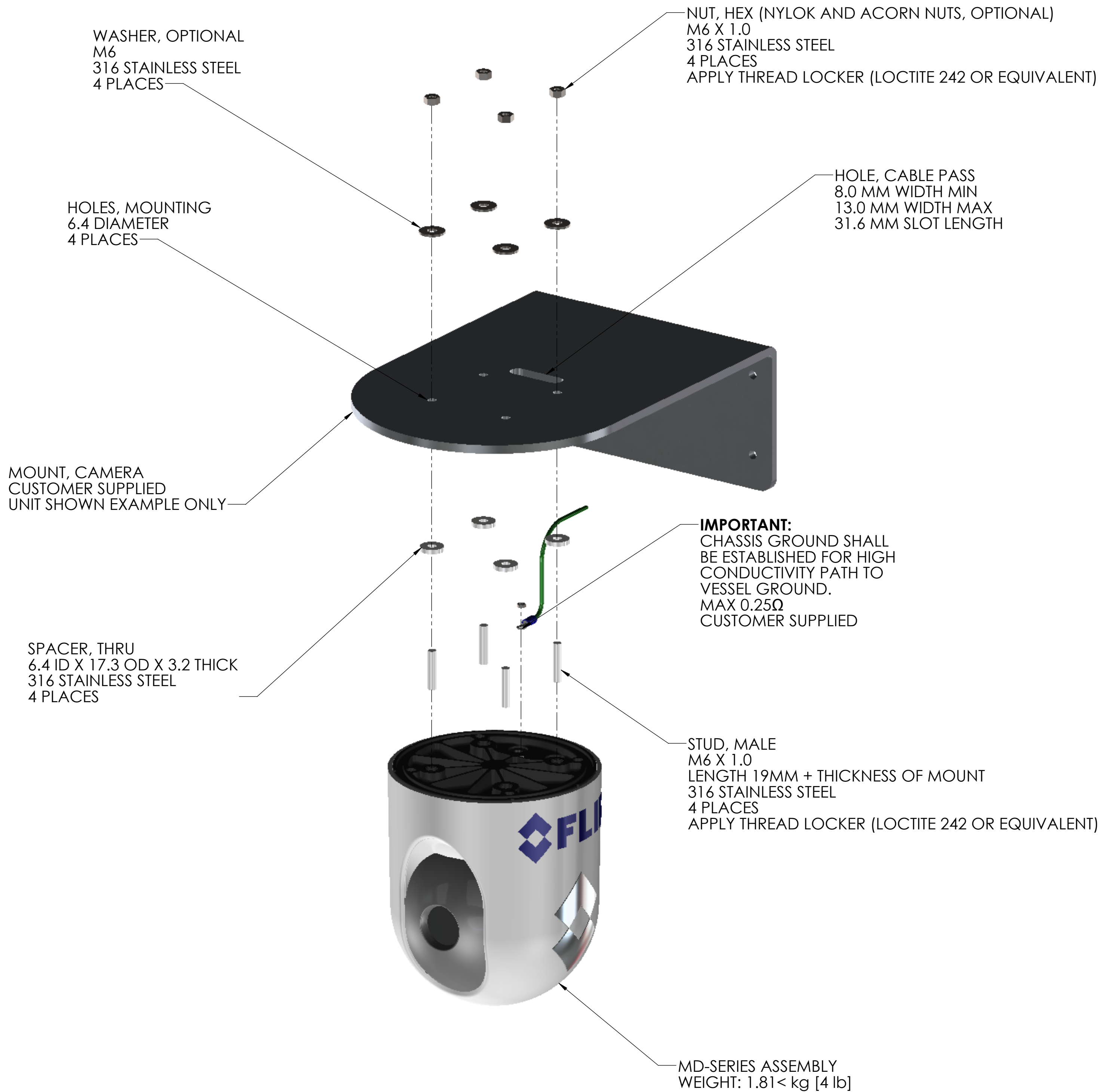
MOUNTING TO SEALED SURFACE FROM BOTTOM - BALL DOWN

MOUNTING DIRECTLY TO CUSTOMER STRUCTURE, ACTUAL STRUCTURES MAY VARY
CAMERA BALL DOWN CONFIGURATION SHOWN

ENTIRE ASSEMBLY VIEW CAN BE ROTATED 180° FOR BALL UP INSTALLATION

D

C



MOUNTING TO UNSEALED SURFACE FROM BOTTOM - BALL DOWN

CUSTOMER SUPPLIED MOUNTING BRACKET/SURFACE
CAMERA BALL DOWN CONFIGURATION SHOWN

ENTIRE ASSEMBLY VIEW CAN BE ROTATED 180° FOR BALL UP INSTALLATION

DWG NO. 432-0010-00-19 SH 10 REV 100

A



FLIR Systems, Inc.
70 Castilian Drive
Goleta, CA 93117

SIZE
D

CAGE
064Y2

PIECE PART

432-0010-00-19
REV 100

SCALE 1:5

PRINTED: 3/12/2013

SHEET 10 OF 10

MODEL REVISION: A-WC

METRIC

SOLIDWORKS MODEL: 432-0010-XX-XX Nudibranch Top Level