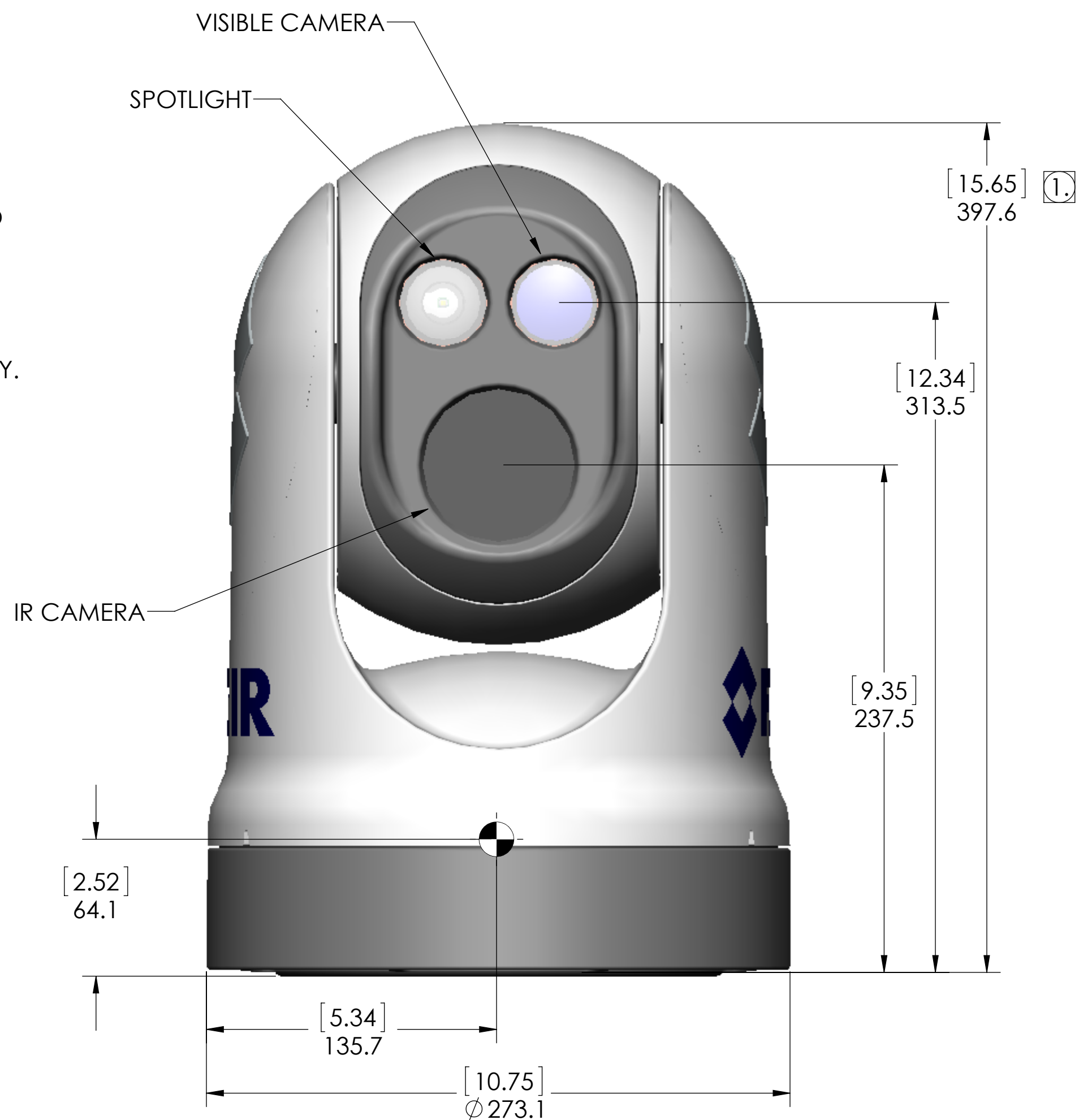


NOTES: UNLESS OTHERWISE SPECIFIED

- ①. CLEARANCE REQUIRED FOR FREE MOTION OF SYSTEM.
- ②. O-RING USED FOR SEALING SYSTEM TO MOUNTING STRUCTURE. STANDALONE UNIT MEETS IPX6 SEALING SPECIFICATION. MINIMUM MOUNTING SURFACE FLATNESS OF 1.5mm [0.060in] 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 262 WITH ALL METAL TO METAL THREADED CONNECTIONS THAT DO NOT HAVE LOCKING PATCHES.
- ⑤. **WARNING**
DO NOT BOTTOM FASTENERS IN BASE.
BOLT LENGTH NOT TO EXCEED 6MM INTO BASE.
ELECTRONICS WILL BE DAMAGED BY BASE PENETRATION - VOIDING WARRANTY.
BOLT TORQUE NOT TO EXCEED 9.5N-m [7 lb-ft].

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
	100	PRODUCTION RELEASE PER ECN 126678	9/15/2015	
	110	REVISED PER ECN 127315	10/21/2015	

M400



[8.86] ϕ 225.0 MIN BASE PLATE DIAMETER FOR EFFECTIVE O-RING SEAL

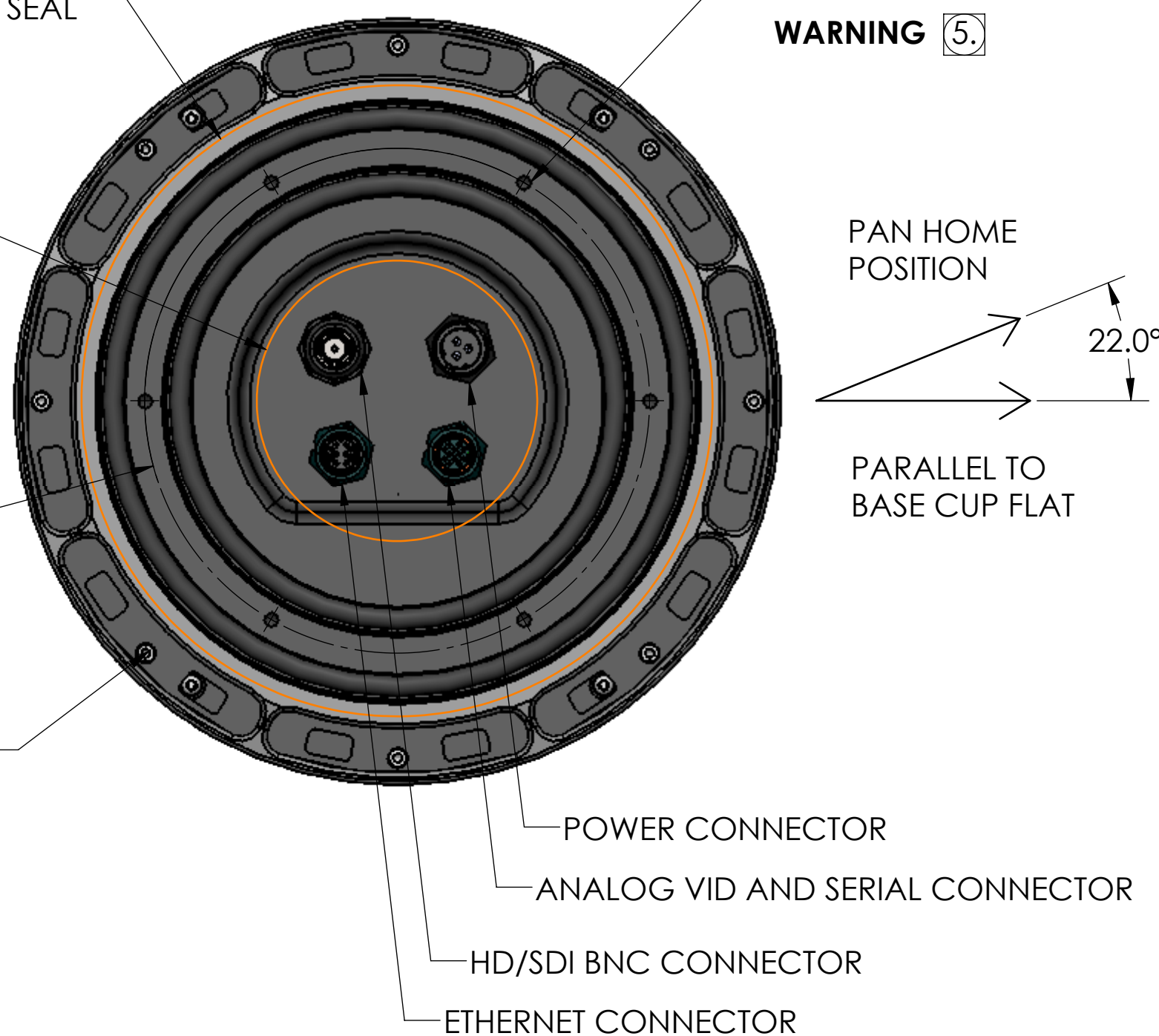
6X M6X1.0 ∇ 10 ③

WARNING ⑤

CABLE PORT DIMENSIONS DEPEND ON MOUNTING SOLUTION AND CABLE TYPE. SEE SHEETS 2 AND 3 FOR DETAILS.

[7.09] ϕ 180.0 BOLT CIRCLE

WARRANTY VOID IF SCREWS REMOVED



AS568A-436 EPDM O-RING
[5.85in ID x .275in DIA]
149mm ID x 7mm DIA

AS658A-444 EPDM O-RING
[7.72in ID x .275in DIA]
196mm ID x 7mm DIA

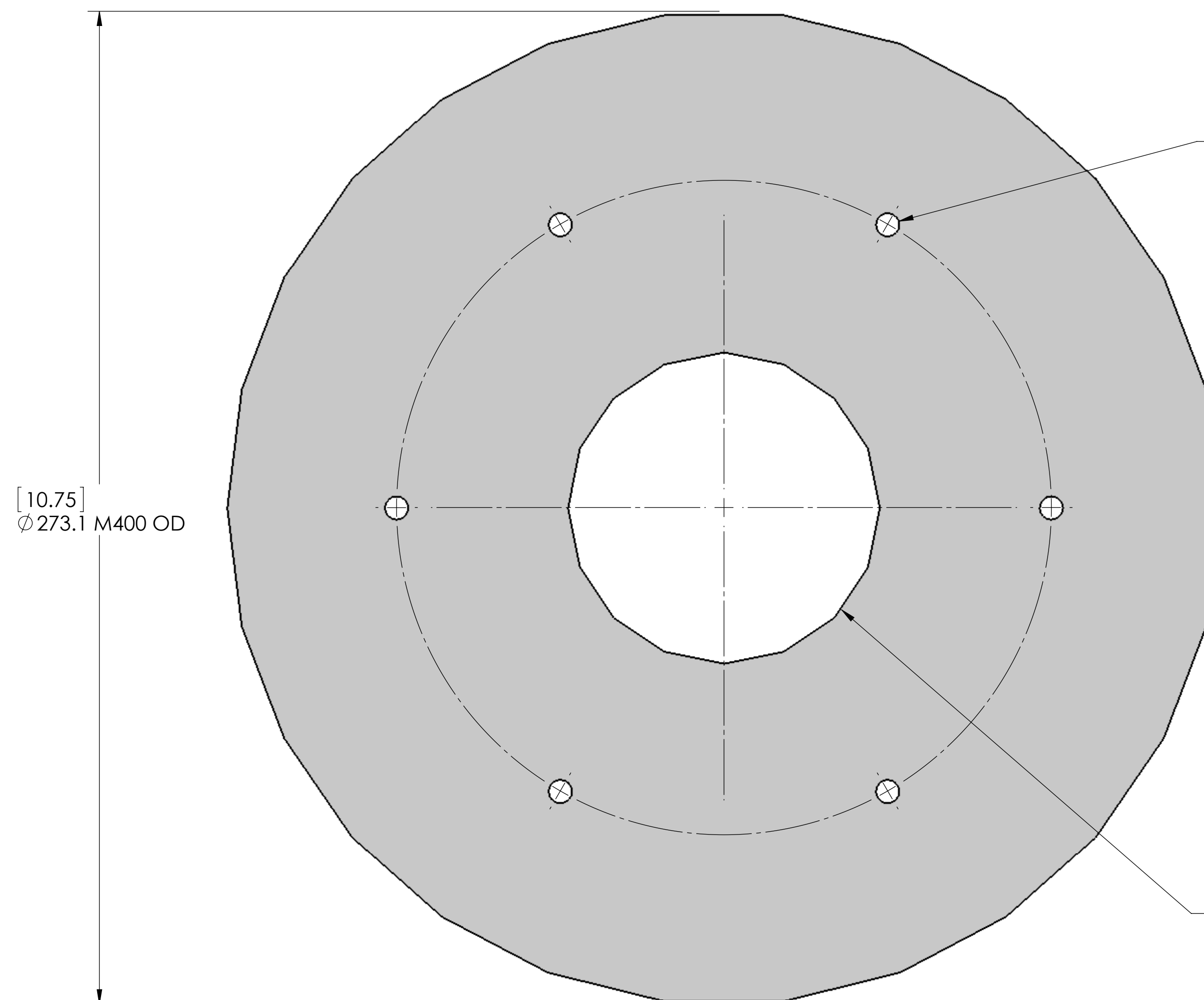
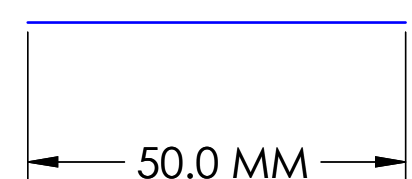
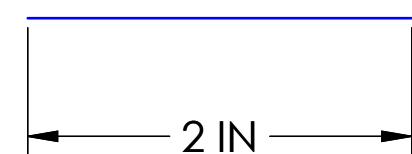
THIRD ANGLE PROJECTION		PROPRIETARY - FLIR SYSTEMS, INC.			
		THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION TO FLIR SYSTEMS, INC. THIS INFORMATION MUST BE MAINTAINED IN CONFIDENCE AND USED ONLY IN A MANNER CONSISTENT WITH THE DOCUMENTATION AND ANY EXECUTED NON DISCLOSURE AGREEMENT, AND MAY NOT BE DISCLOSED TO ANY THIRD PERSON WITHOUT FLIR'S WRITTEN CONSENT.			
METRIC		MATERIAL		PROJECT NO.	
INTERPRET DRAWING PER ASME Y14.5M-1994		N/A		APPROVALS DATE	
UNLESS OTHERWISE SPECIFIED SURFACE ROUGHNESS .8 μ m		FINISH		DWN K. MONCINO 5/7/2015	
X = \pm .25		N/A		CHK	
XX = \pm .13		UNLESS OTHERWISE SPECIFIED ALL MEASUREMENTS ARE IN MM. ALL DIMENSIONS IN () ARE INCHES. DO NOT SCALE DRAWING.		DSGN	
ANGULAR = \pm .5°		CALC WT: 24710.915 g GRAMS		ENG K. MONCINO 5/7/2015	
FILLET RADII = .13 MAX		APP		TITLE	
		SCALE 1:1		CAGE 064Y2	
		PRINTED: 10/21/2015		DWG NO. 432-0012-XX-41	
		SHEET 1 OF 10		REV 110	

IMPORNTANT NOTE:

PAPER SIZE: 22x34in
TEMPLATE SHOULD PRINT 1:1

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

ENSURE PRINTER MARGINS ARE SET TO ZERO AND SCALE
IS 100%



[.25]
6X ϕ 6.4 THRU HOLE
EQUALLY SPACED ON
 ϕ 180 [7.09] BOLT CIRCLE

[10.75]
 ϕ 273.1 M400 OD

DECK PORT CABLE CLEARANCE
 ϕ 85.7 [3 3/8] MIN
 ϕ 130.0 [5.12] MAX
RIGHT ANGLED CABLES NOT RECOMMENDED
FOR MOUNTING SURFACES >10MM THICK.
IF MOUNTING SURFACE IS >10MM THICK, USE
STRAIGHT CABLES OR MOUNT TO TOP DOWN RISER

D

D

C

C

B

B

A

A

BASE CUP MOUNTING TEMPLATE

TOP LEVEL ASSEMBLY
M400

METRIC

PROPRIETARY - FLIR SYSTEMS, INC.



SIZE	CAGE	PIECE PART	REV
D	064Y2	432-0012-XX-41	110
SCALE	1:1	PRINTED: 10/21/2015	SHEET 2 OF 10

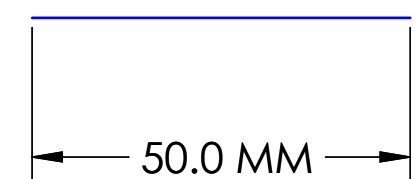
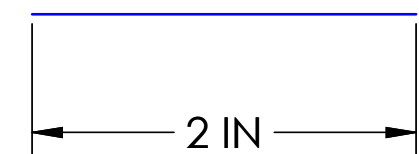
SOLIDWORKS MODEL: 432-0012-XX-YY TOP LEVEL ASSEMBLY, MARLIN
MODEL REVISION: 110

IMPORNTANT NOTE:

PAPER SIZE: 22x34in
TEMPLATE SHOULD PRINT 1:1

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

ENSURE PRINTER MARGINS ARE SET TO ZERO AND SCALE
IS 100%



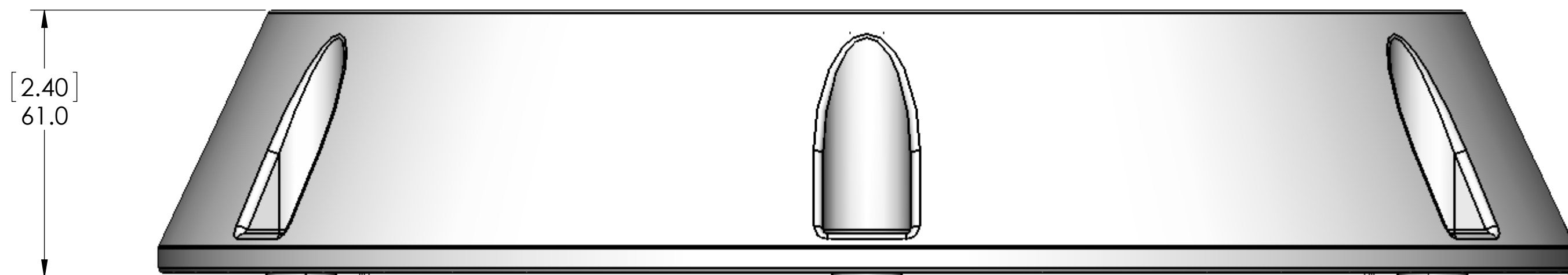
[12.75]
Ø 323.9
TOP DOWN RISER OD

[11.75]
Ø 298.5
TOP DOWN RISER BOLT CIRCLE

[.32]
6X Ø 8.2 RISER CLEARANCE HOLES
RECOMMENDED:
M8 SOCKET HEAD CAP SCREWS, OR
5/16" - 18 SOCKET HEAD CAP SCREWS, OR
5/16" - 18 HEX HEAD SHEET METAL SCREWS
TYPE AND LENGTH DEPENDANT ON MOUNTING SURFACE
316 STAINLESS STEEL
APPLY THREAD LOCKER (LOCTITE 262 OR EQUIVALENT)

[4.79]
Ø 121.6 RISER CABLE CLEARANCE HOLE
RECOMMENDED DECK PORT:
Ø 30.0 [1.18] MIN
Ø 130.0 [5.12] MAX

[7.09]
Ø 180.0
MARLIN BASE CUP HOLE CIRCLE



TOP DOWN RISER MOUNTING TEMPLATE

TOP LEVEL ASSEMBLY
M400

METRIC

PROPRIETARY - FLIR SYSTEMS, INC.



SIZE	CAGE	PIECE PART	REV
D	064Y2	432-0012-XX-41	110
SCALE 1:1		PRINTED: 10/21/2015	SHEET 3 OF 10

SOLIDWORKS MODEL: 432-0012-XX-YY TOP LEVEL ASSEMBLY, MARLIN
MODEL REVISION: 110

D

C

B

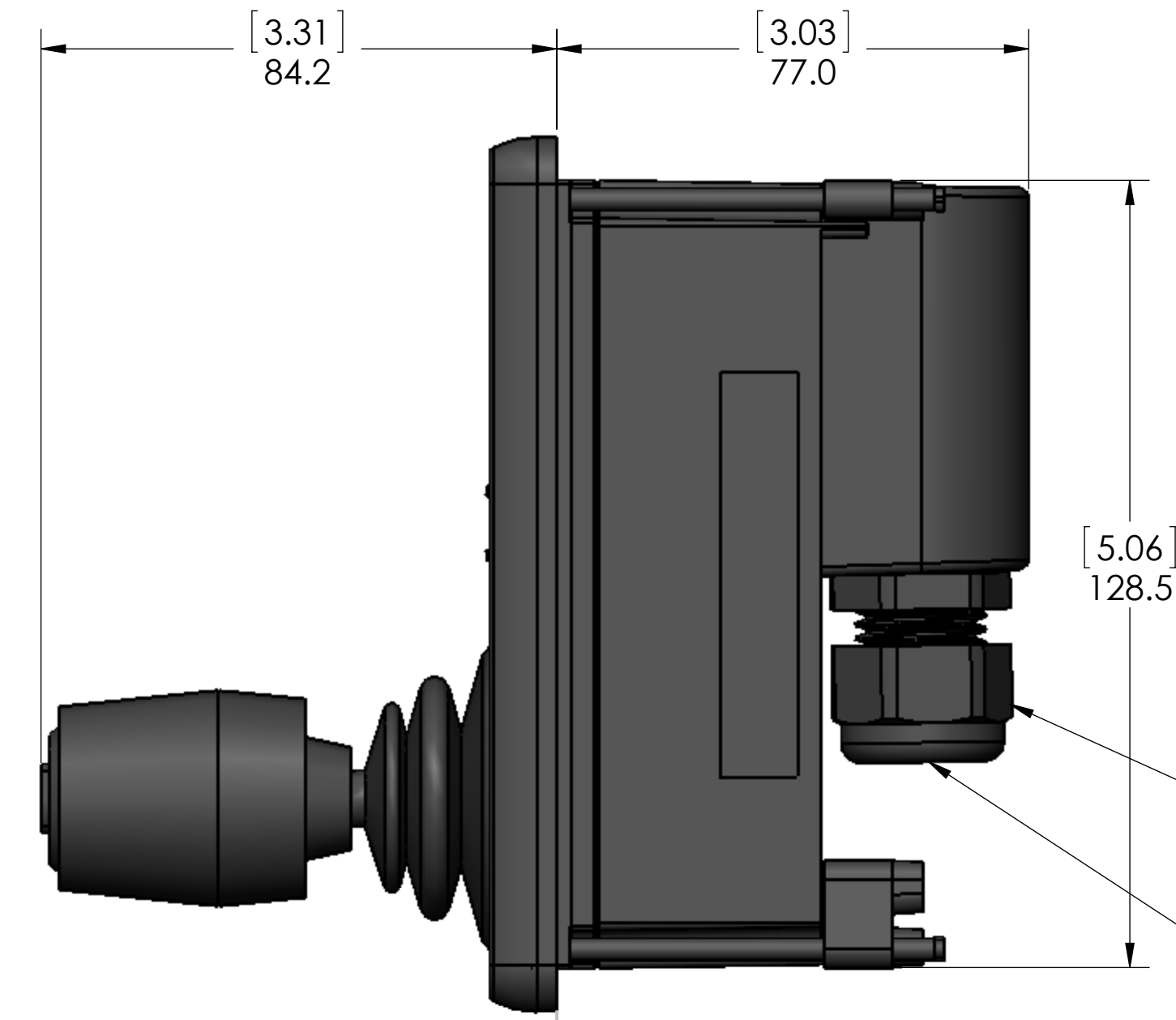
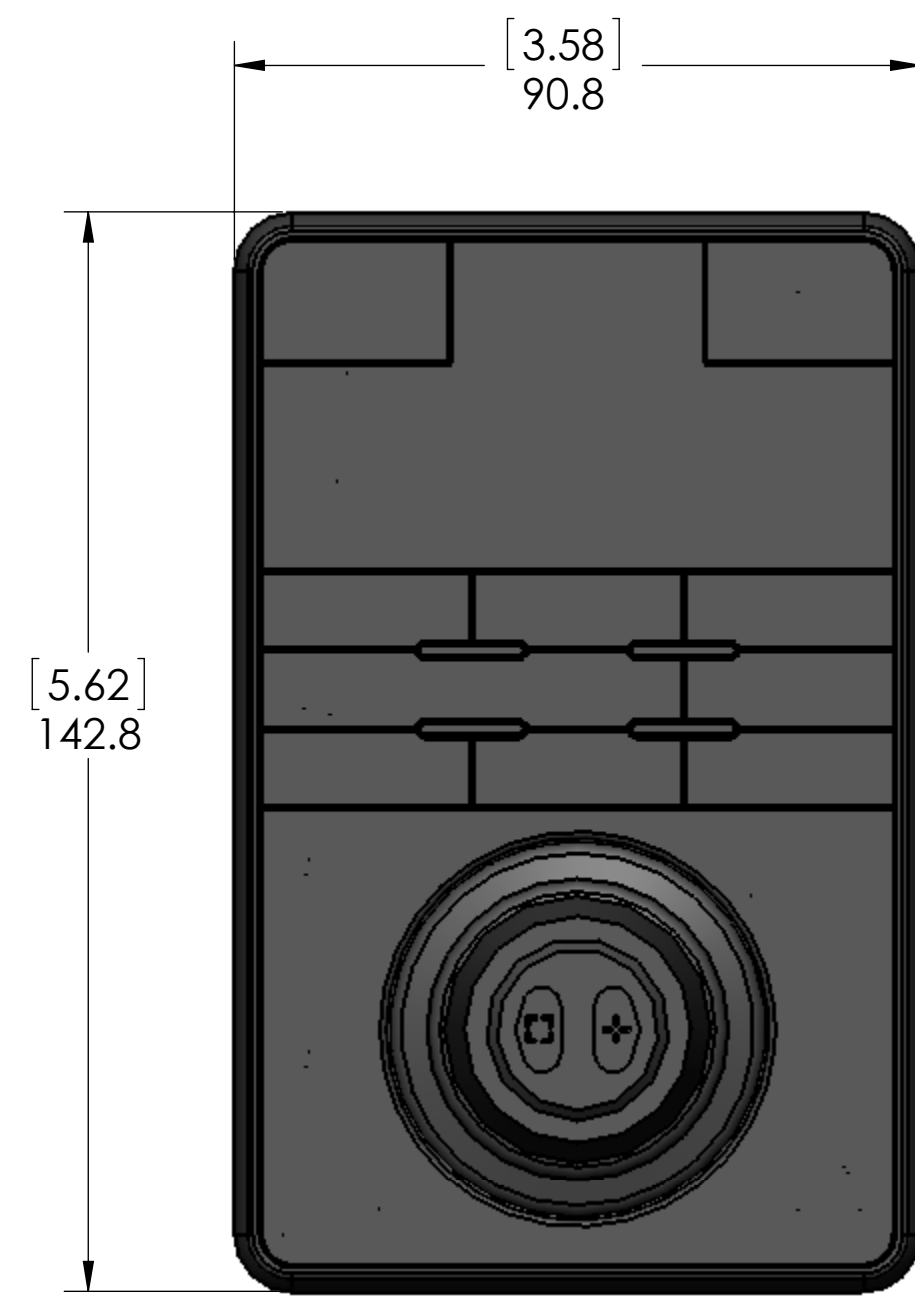
A

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 SINGL SHIELDED CABLE MAY REQUIRE THE USE OF ADDITIONAL SEALANT SUCH AS SILICON OR RTV TO ENSURE SEALING OF ENCLOSURE

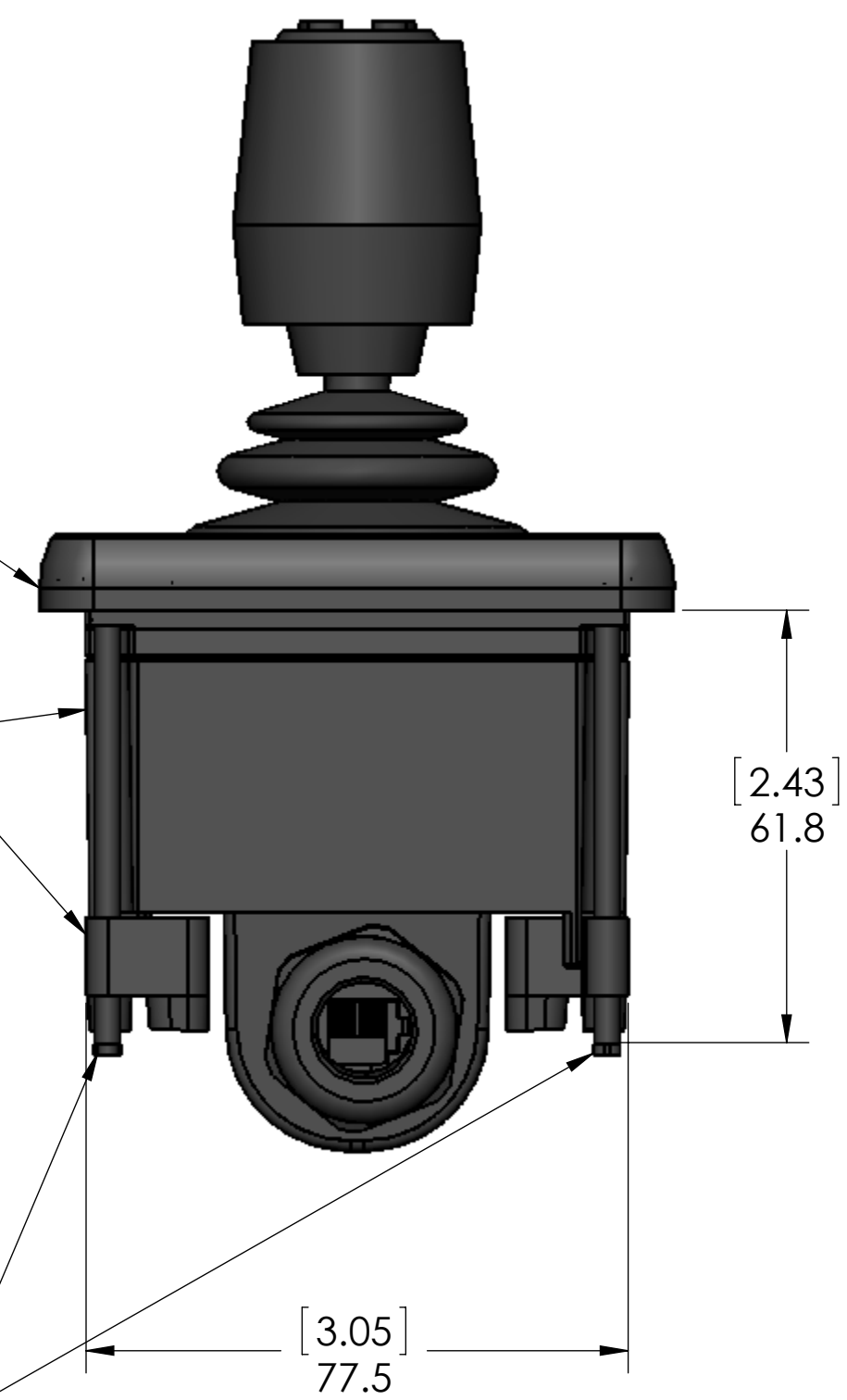
INSERT NETWORK CABLE RJ45 THROUGH GLAND NUT AND SEAL BEFORE INSTALLING

IP66 RATED ABOVE GASKET.

IP64 RATED BEHIND GASKET.

APPLY ADHESIVE SIDE OF GASKET TO JCU BODY.

MOUNTING PANEL THICKNESS RANGE 1.6-45 [0.036-1.750]. WHEN MOUNTING TO PANEL 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.

500-0398-10 MARITIME JCU

TOP LEVEL ASSEMBLY M400

METRIC

PROPRIETARY - FLIR SYSTEMS, INC.



SIZE D	CAGE 064Y2	PIECE PART 432-0012-XX-41	REV 110
SCALE 1:1	PRINTED: 10/21/2015	SHEET 4 OF 10	

SOLIDWORKS MODEL: 432-0012-XX-YY TOP LEVEL ASSEMBLY, MARITIME MODEL REVISION: 110

DWG NO. 432-0012-XX-41 SH 4 REV 110

IMPORTANT NOTE:

PAPER SIZE: 11x17in
TEMPLATE SHOULD PRINT 1:1

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

ENSURE PRINTER MARGINS ARE SET TO ZERO AND SCALE
IS 100%

CORNERS SHALL
BE SHARP.

[2.85]
72.3
OPTIONAL
DRILL GUIDE

[4.85]
123.1
OPTIONAL
DRILL GUIDE

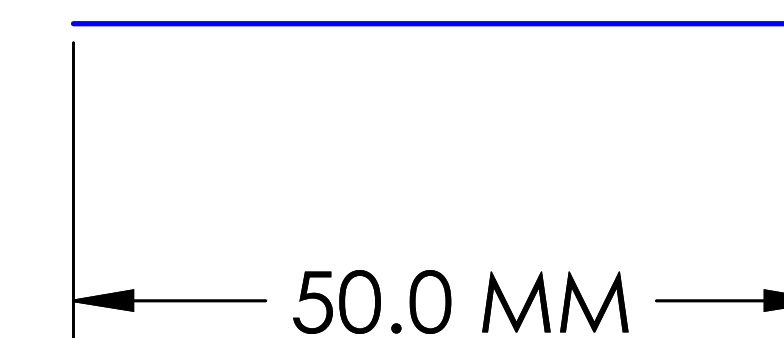
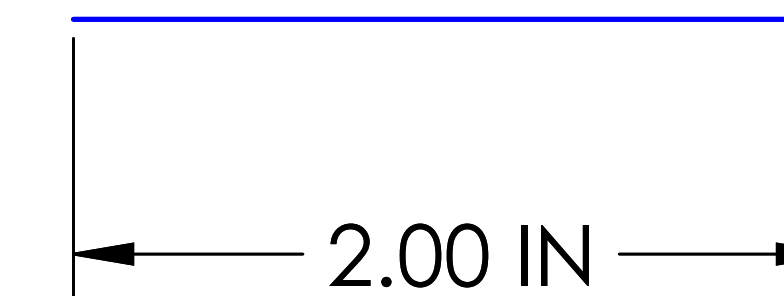
[5.10±.05]
129.5±1.3
CUTOUT

[5.57]
141.4
OUTSIDE
OF JCU

[.25]
Ø 6.4

[3.10±.05]
78.7±1.3
CUTOUT

[3.56]
90.4
OUTSIDE
OF JCU



TOP LEVEL ASSEMBLY
M400

METRIC

PROPRIETARY - FLIR SYSTEMS, INC.

500-0398-10 MARITIME JCU
MOUNTING PATTERN



SIZE B	CAGE 064Y2	DWG NO. 432-0012-XX-41	REV 110
SCALE 1:1		PRINTED: 10/21/2015	SHEET 5

NOTE: CABLE CONFIGURATIONS SHOWN ARE FOR SHORT CABLES INCLUDED WITH EACH UNIT. LONG ACCESSORY CABLES ARE AVAILABLE WHERE NO IN-LINE COUPLING IS NECESSARY. FOR MORE INFORMATION, SEE SHEET 9

M400



JCU

JCU

POWER CABLE
12AWG TINNED STRANDED WIRE
RED WIRE: +12-24 VDC (4.4-2.2 AMP NOM)
BLK WIRE: DC RETURN
DRAIN WIRE: EARTH GROUND

BUTT SPLICE OR INSTALLER SUPPLIED CONNECTOR

INSTALLER SUPPLIED POWER CABLE
GAUGE OF WIRE TO BE APPROPRIATE FOR SUPPLY VOLTAGE AND LENGTH OF CABLE RUN TO ENSURE ADEQUATE CURRENT CARRYING CAPABILITY.

CONNECTOR
RJ45 WATERPROOF ENCLOSURE
FLIR PN 4115028

(100M RUN LENGTH MAX WITHOUT BUFFER)

HD/SDI CABLE - RG6 BNC

ISOLATION TRANSFORMER
BNC FEMALE TO FEMALE

COUPLER
F-TYPE FEMALE TO FEMALE

ANALOG VIDEO CABLE
RG179 F-TYPE

PELCO INTERFACE

NMEA INTERFACE

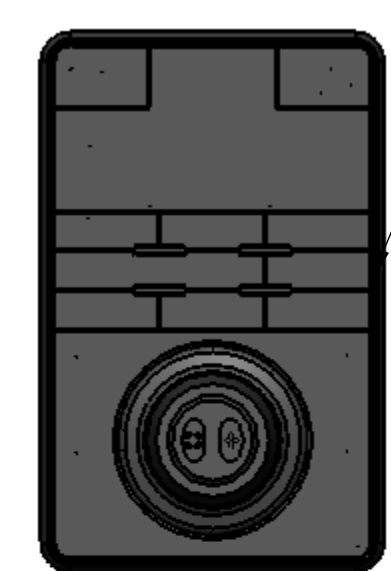
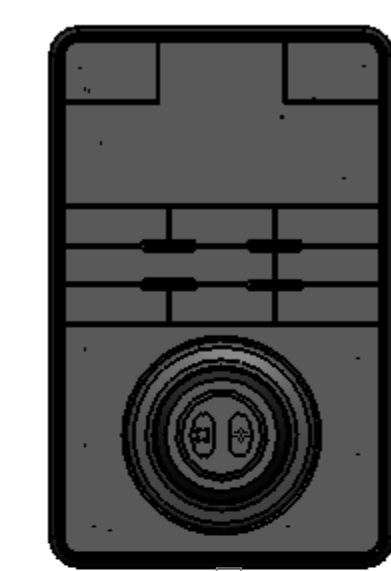
MANUFACTURER SPECIFIC ENVIRONMENTAL EXPOSURE RATINGS APPLY

POE NETWORK SWITCH
IEEE802.3af, T568B COMPLIANT
FLIR PN 4141042

HD/SDI CABLE
(100FT RUN LENGTH MAX WITHOUT BUFFER)

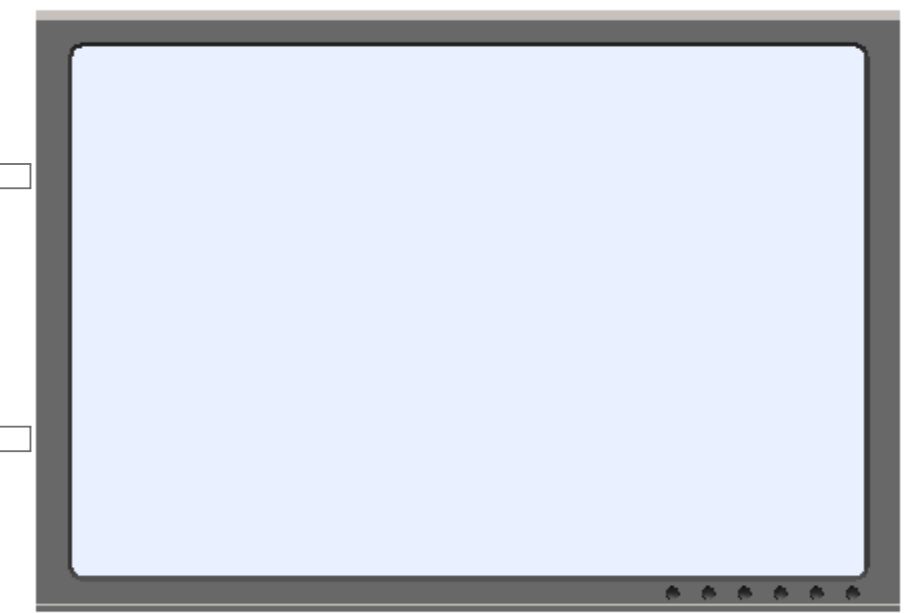
ANALOG VIDEO CABLE
(100FT RUN LENGTH MAX WITHOUT BUFFER)

INSTALLER SUPPLIED VIDEO CABLE SHALL BE RATED RG6



FLIR PN 500-0398-10

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 EMI COMPLIANCE, USE OF DOUBLE SHIELDED CABLE REQUIRED.

TOP LEVEL ASSEMBLY
M400

METRIC

PROPRIETARY - FLIR SYSTEMS, INC.

INTERCONNECT DIAGRAM
MULTIPLE JCU - POE SWITCH



SIZE	CAGE	PIECE PART	REV
D	064Y2	432-0012-XX-41	110
SCALE	1:1	PRINTED: 10/21/2015	SHEET 6 OF 10

SOLIDWORKS MODEL: 432-0012-XX-YY TOP LEVEL ASSEMBLY, MARLIN
MODEL REVISION: 110

NOTE: CABLE CONFIGURATIONS SHOWN ARE FOR SHORT CABLES INCLUDED WITH EACH UNIT. LONG ACCESSORY CABLES ARE AVAILABLE WHERE NO IN-LINE COUPLING IS NECESSARY. FOR MORE INFORMATION, SEE SHEET 9.

M400



JCU

JCU

FLIR PN 500-0398-10

POWER CABLE
12AWG TINNED STRANDED WIRE
RED WIRE: +12-24 VDC (4.4-2.2 AMP NOM)
BLK WIRE: DC RETURN
DRAIN WIRE: EARTH GROUND

BUTT SPLICE OR INSTALLER SUPPLIED CONNECTOR

INSTALLER SUPPLIED POWER CABLE
GAUGE OF WIRE TO BE APPROPRIATE FOR SUPPLY VOLTAGE AND LENGTH OF CABLE RUN TO ENSURE ADEQUATE CURRENT CARRYING CAPABILITY.

CONNECTOR
RJ45 WATERPROOF ENCLOSURE
FLIR PN 4115028

(100M RUN LENGTH MAX WITHOUT BUFFER)

HD/SDI CABLE - RG6 BNC

ISOLATION TRANSFORMER
BNC FEMALE TO FEMALE

COUPLER
F-TYPE FEMALE TO FEMALE

ANALOG VIDEO CABLE
RG179 F-TYPE

PELCO INTERFACE

NMEA INTERFACE

MANUFACTURER SPECIFIC ENVIRONMENTAL EXPOSURE RATINGS APPLY

NETWORK SWITCH, NON PoE
INSTALLER SUPPLIED

POE INJECTOR POWER REQUIREMENT
+9-36VDC (12V/1.85A - 24V/0.90A)

POE INJECTOR
IP20, RJ45 FEMALE
FLIR PN 4113746

DISPLAY

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

HD/SDI CABLE
(100FT RUN LENGTH MAX WITHOUT BUFFER)

ANALOG VIDEO CABLE
(100FT RUN LENGTH MAX WITHOUT BUFFER)

INSTALLER SUPPLIED VIDEO CABLE
SHALL BE RATED RG6

TOP LEVEL ASSEMBLY
M400

METRIC

PROPRIETARY - FLIR SYSTEMS, INC.

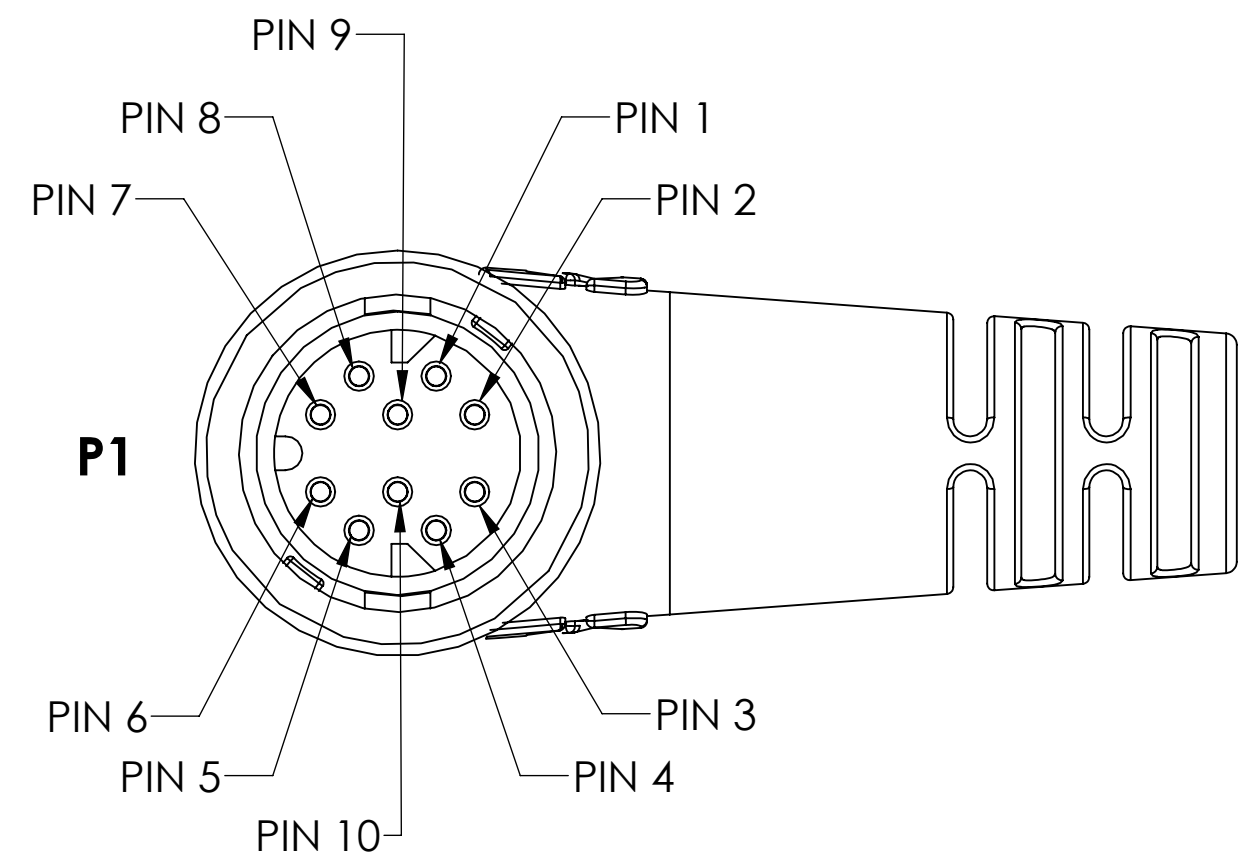
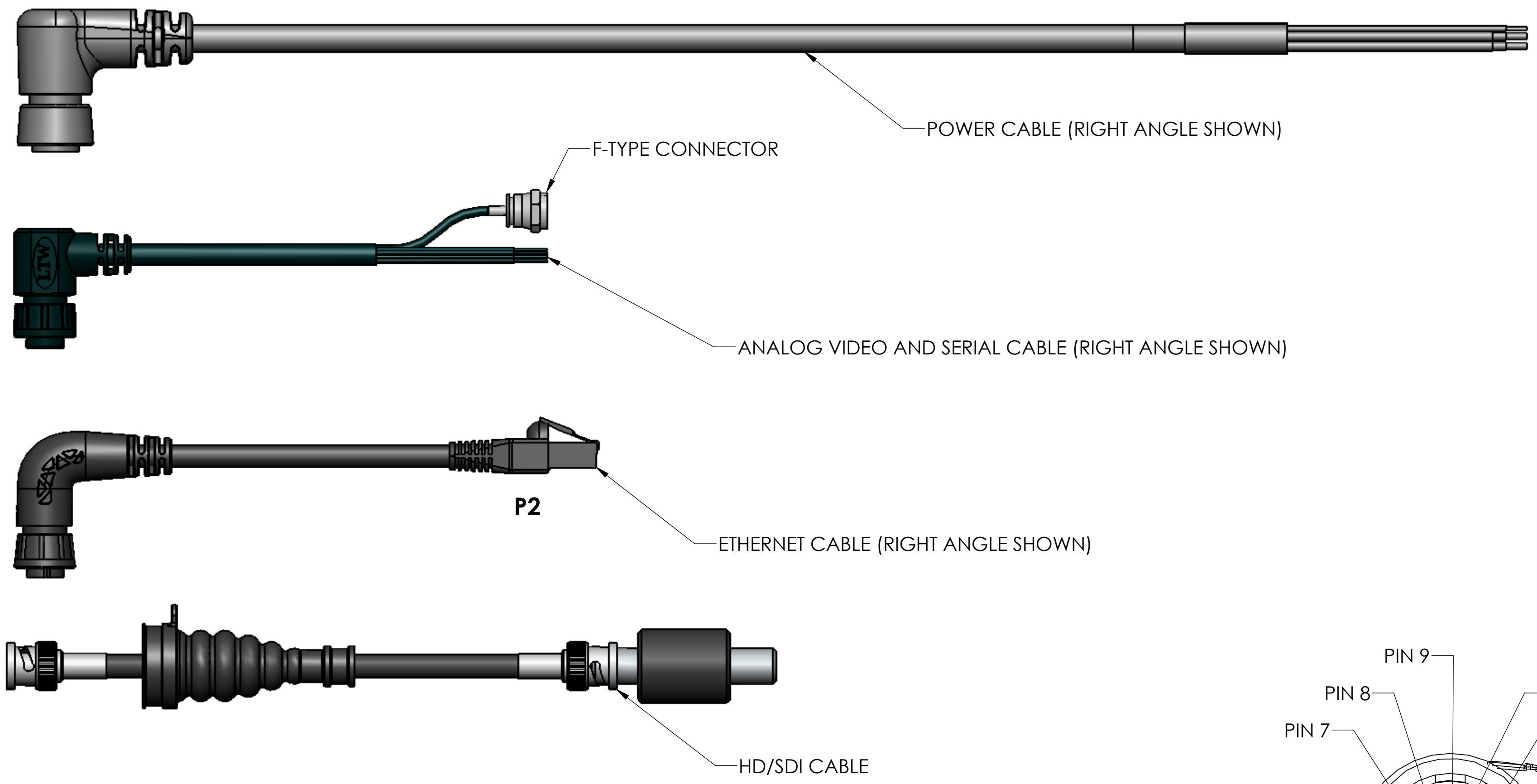
INTERCONNECT DIAGRAM
MULTIPLE JCU - POE SWITCH



SIZE	CAGE	PIECE PART	REV
D	064Y2	432-0012-XX-41	110
SCALE	PRINTED: 10/21/2015		SHEET 7 OF 10

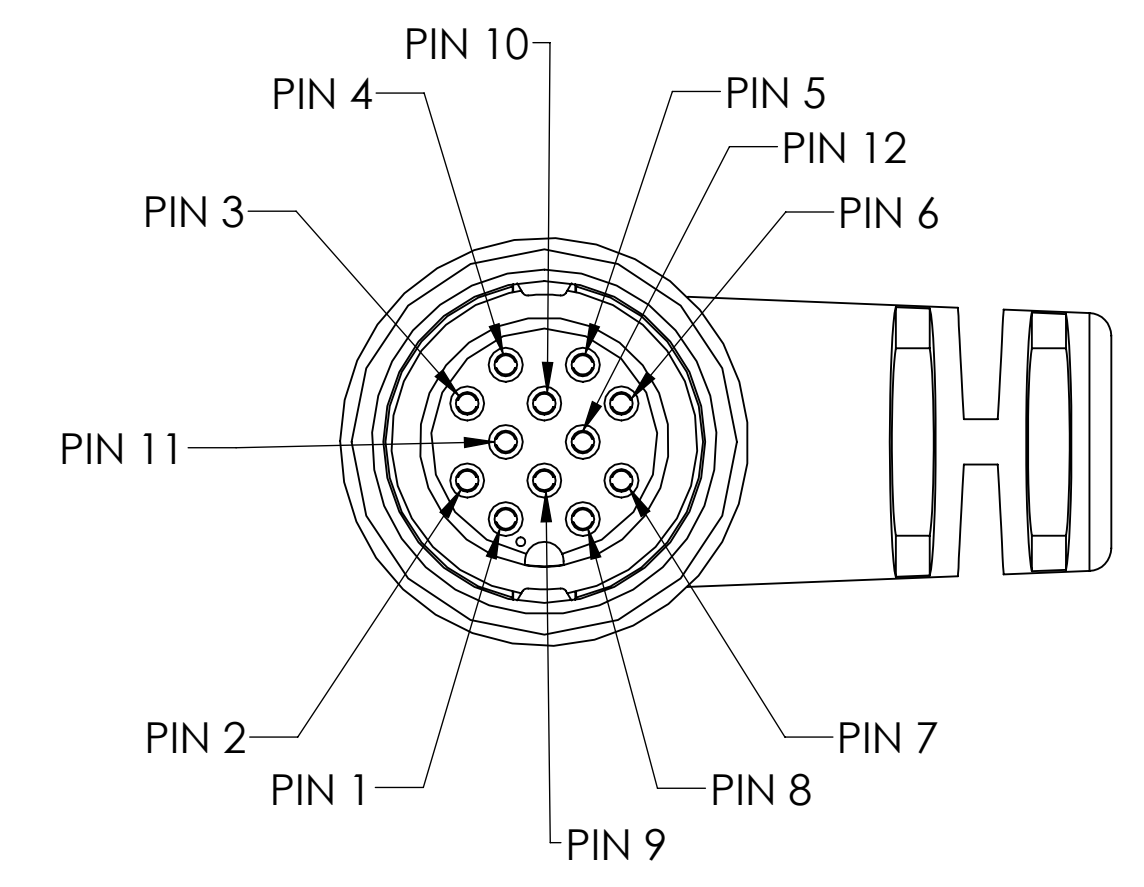
SOLIDWORKS MODEL: 432-0012-XX-YY TOP LEVEL ASSEMBLY, MARLIN
MODEL REVISION: 110

CABLE OPTIONS		
	FLIR PART NUMBER	CABLE DESCRIPTION
INCLUDED WITH EACH M400 UNIT	308-0261-01-00	CABLE - ETHERNET RA TO RJ45, 1M
	308-0263-01-00	POWER CABLE - RA 12 AWG, 1M
	308-0265-01-00	CABLE - AV AND SERIAL RA, 1M
	308-0267-00	CABLE - HD/SDI, 1M
AVAILABLE AS ACCESSORIES	308-0260-01-00	CABLE - ETHERNET TO RJ45, 1M
	308-0262-01-00	POWER CABLE - 12 AWG, 1M
	308-0264-01-00	CABLE - AV AND SERIAL, 1M
	4141864	CABLE - HD/SDI, 100FT
	308-0251-30-00	CABLE - ETHERNET TO RJ45, 100ft, LSZH
	308-0252-30-00	CABLE - ETHERNET RA TO RJ45, 100ft, LSZH
	308-0253-30-00	CABLE - POWER, 12 AWG, 100ft, LSZH
	308-0254-30-00	CABLE - POWER, RA, 12 AWG, 100ft, LSZH
	308-0255-30-00	CABLE - AV AND SERIAL, 100ft, LSZH
	308-0256-30-00	CABLE - AV AND SERIAL RA, 100ft, LSZH



ETHERNET CABLE CONNECTOR PINOUT

RJ45 CONNECTOR (P2)
PINOUT IN ACCORDANCE
WITH 802.3af STANDARD B



A/V AND SERIAL CABLE CONNECTOR PINOUT

ANALOG VIDEO AND SERIAL CABLE PINOUT TABLE		
WIRE COLOR	NAME	PIN NUMBER
GREEN	NMEA TX-P	1
GREEN/WHITE	NMEA TX-N	2
RG179	ANALOG VIDEO OUT	3
NATURAL	ANALOG VIDEO RETURN	4
BROWN/WHITE	PELCO RX-N	5
BROWN	PELCO RX-P	6
BLUE	PELCO TX-P	7
ORANGE/WHITE	NMEA RX-N	8
ORANGE	NMEA RX-P	9
DRAIN	PELCO SHIELD	10
DRAIN	NMEA SHIELD	11
BLUE/WHITE	PELCO TX-N	12

ETHERNET CABLE PINOUT TABLE				
P1	WIRE COLOR	NAME		P2
1	ORANGE/WHITE	TXRX A+		1
2	ORANGE	TXRX A-		2
3	BLUE	TXRX C+	DC+	4
4	BLUE/WHITE	TXRX C-	DC+	5
5	GREEN/WHITE	TXRX B+		3
6	GREEN	TXRX B-		6
7	BROWN/WHITE	TXRX D+	DC-	7
8	BROWN	TXRX D-	DC-	8
9	NA	NA		
10	DRAIN	DRAIN		SHELL

IMPORTANT: CHASSIS GROUND WIRE TO BE TIED SECURELY TO THE NEGATIVE BATTERY TERMINAL

POWER CABLE PINOUT TABLE	
WIRE COLOR	SIGNAL NAME
RED	BATT +
BLACK	BATT -
DRAIN	CHASSIS GROUND

TOP LEVEL ASSEMBLY
M400

PROPRIETARY - FLIR SYSTEMS, INC.



D

C

B

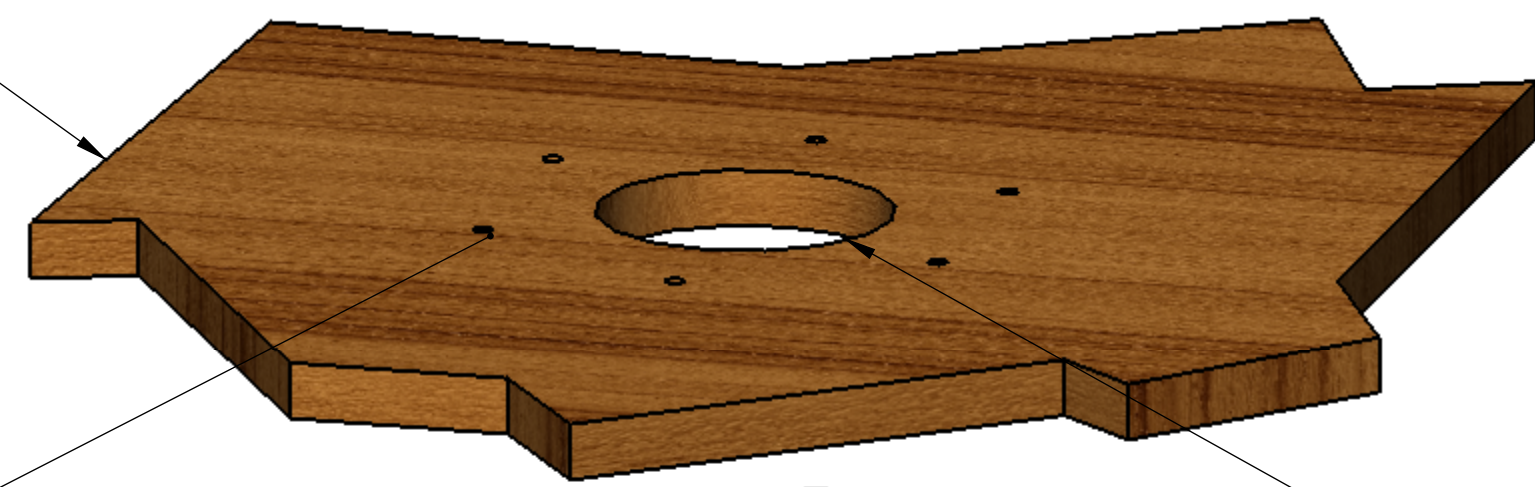
A

M400 WEIGHT: <12.25 kg (27lb)



AS568-436 EPDM O-RING
[5.85in ID x .275in DIA]
[49mm ID x 7mm DIA]
AS568-444 EPDM O-RING
[7.72in ID x .275in DIA]
[96mm ID x 7mm DIA]

CUSTOMER DECKING, OR
OTHER STRUCTURE.
MAX DECK THICKNESS FOR
RIGHT ANGLED CABLES WITHOUT
TOP DOWN RISER: 10mm



HOLES, MOUNTING
6.4 mm DIAMETER
6 PLACES

CABLE PORT
FOR DIMENSIONS SEE
SHEETS 2 AND 3

WASHER, OPTIONAL
M6
316 STAINLESS STEEL

SOCKET HEAD CAP SCREW WITH LOCKING PATCH
M6 X 1.0
LENGTH: 6mm + THICKNESS OF CUSTOMER DECKING
316 STAINLESS STEEL
6 PLACES
APPLY CORROSION INHIBITOR (USS TEF-GEL)
TORQUE TO 9.5 N-m (7 lb-ft)

WARNING 5

HIDDEN CABLE MOUNTING SCHEME:

MOUNTING DIRECTLY THROUGH CUSTOMER DECKING, OR OTHER SURFACES
STRUCTURE OPPOSITE M400 TO BE A SEALED ENCLOSURE AND A DRY SPACE
CAMERA SHOWN IN BALL UP CONFIGURATION

SOCKET HEAD CAP SCREW WITH LOCKING PATCH
M6 X 1.0
LENGTH: 6mm + THICKNESS OF CUSTOMER DECKING
316 STAINLESS STEEL
6 PLACES
APPLY CORROSION INHIBITOR (USS TEF-GEL)
TORQUE TO 9.5 N-m (7 lb-ft)

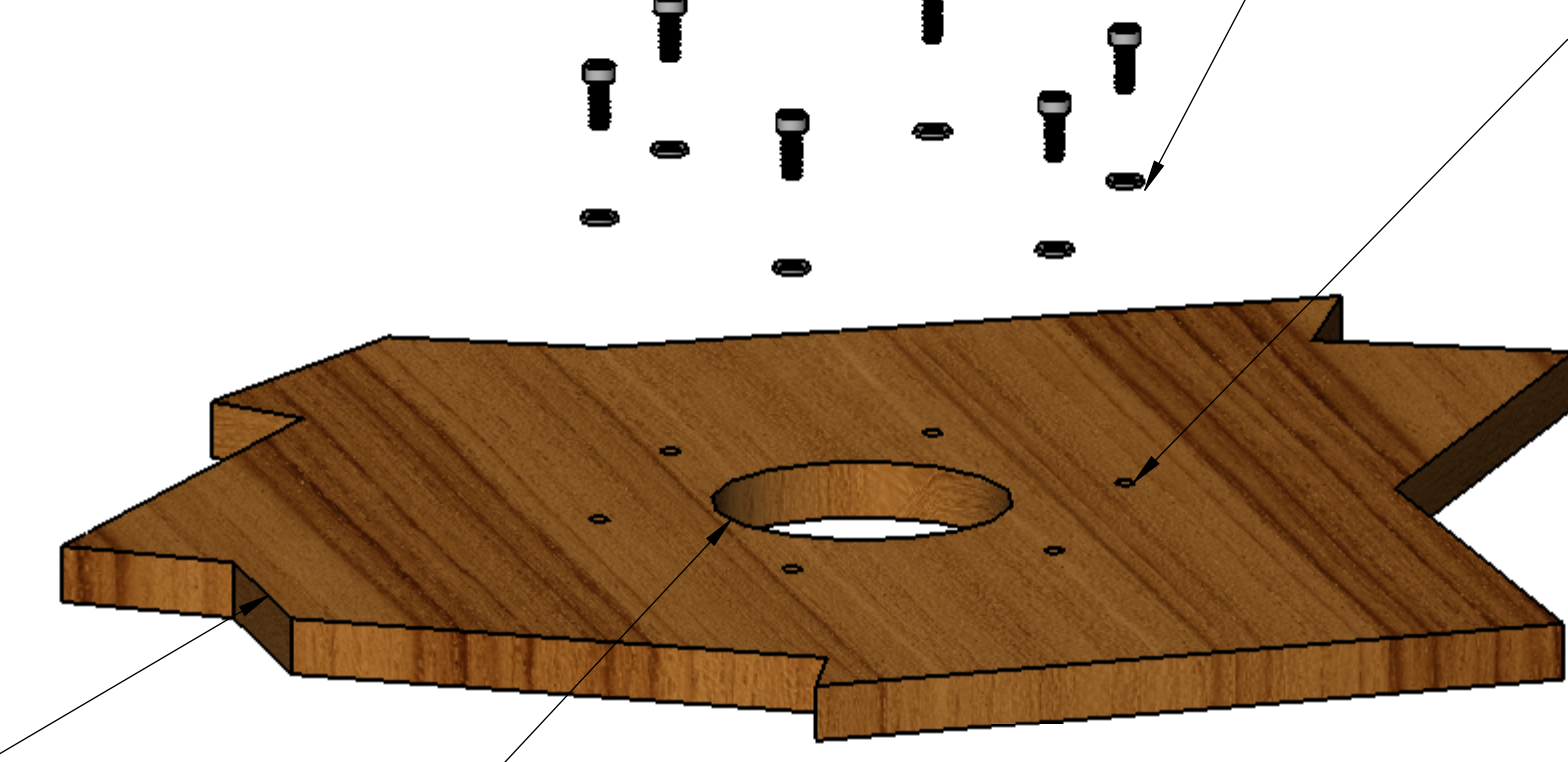
WARNING 5

WASHER, OPTIONAL
M6
316 STAINLESS STEEL

HOLES, MOUNTING
6.4 mm DIAMETER
6 PLACES

CUSTOMER DECKING, OR
OTHER STRUCTURE.
MAX DECK THICKNESS FOR
RIGHT ANGLED CABLES WITHOUT
TOP DOWN RISER: 10mm

CABLE PORT
FOR DIMENSIONS SEE
SHEETS 2 AND 3



AS568-436 EPDM O-RING
[5.85in ID x .275in DIA]
[49mm ID x 7mm DIA]
AS568-444 EPDM O-RING
[7.72in ID x .275in DIA]
[96mm ID x 7mm DIA]



M400 WEIGHT: <12.25 kg (27lb)

HIDDEN CABLE MOUNTING SCHEME:

MOUNTING DIRECTLY THROUGH CUSTOMER STRUCTURE.
ACTUAL STRUCTURES MAY VARY.
STRUCTURE OPPOSITE M400 TO BE A SEALED ENCLOSURE
AND A DRY SPACE
CAMERA SHOWN IN BALL DOWN CONFIGURATION

**TOP LEVEL ASSEMBLY
M400**

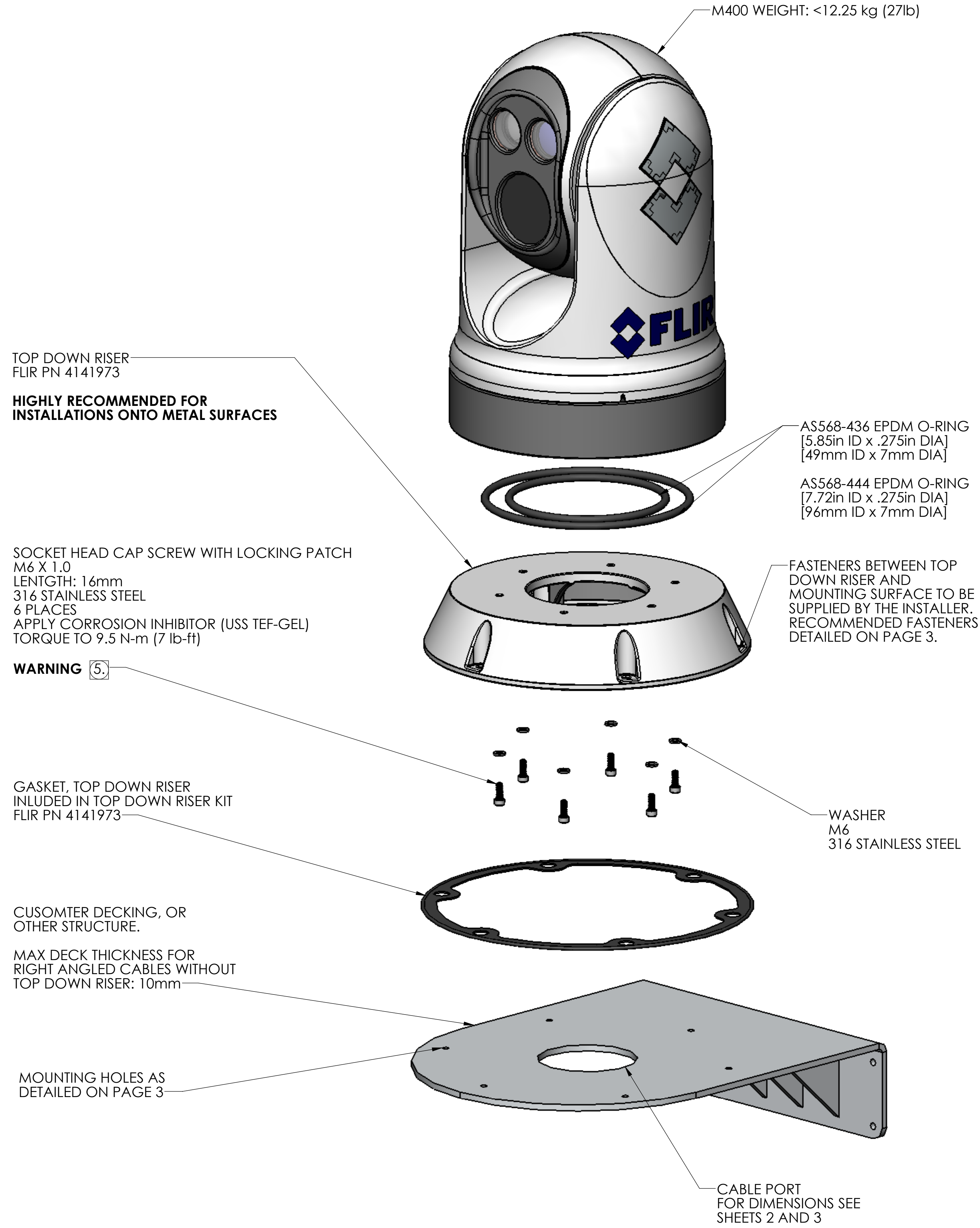
METRIC

PROPRIETARY - FLIR SYSTEMS, INC.



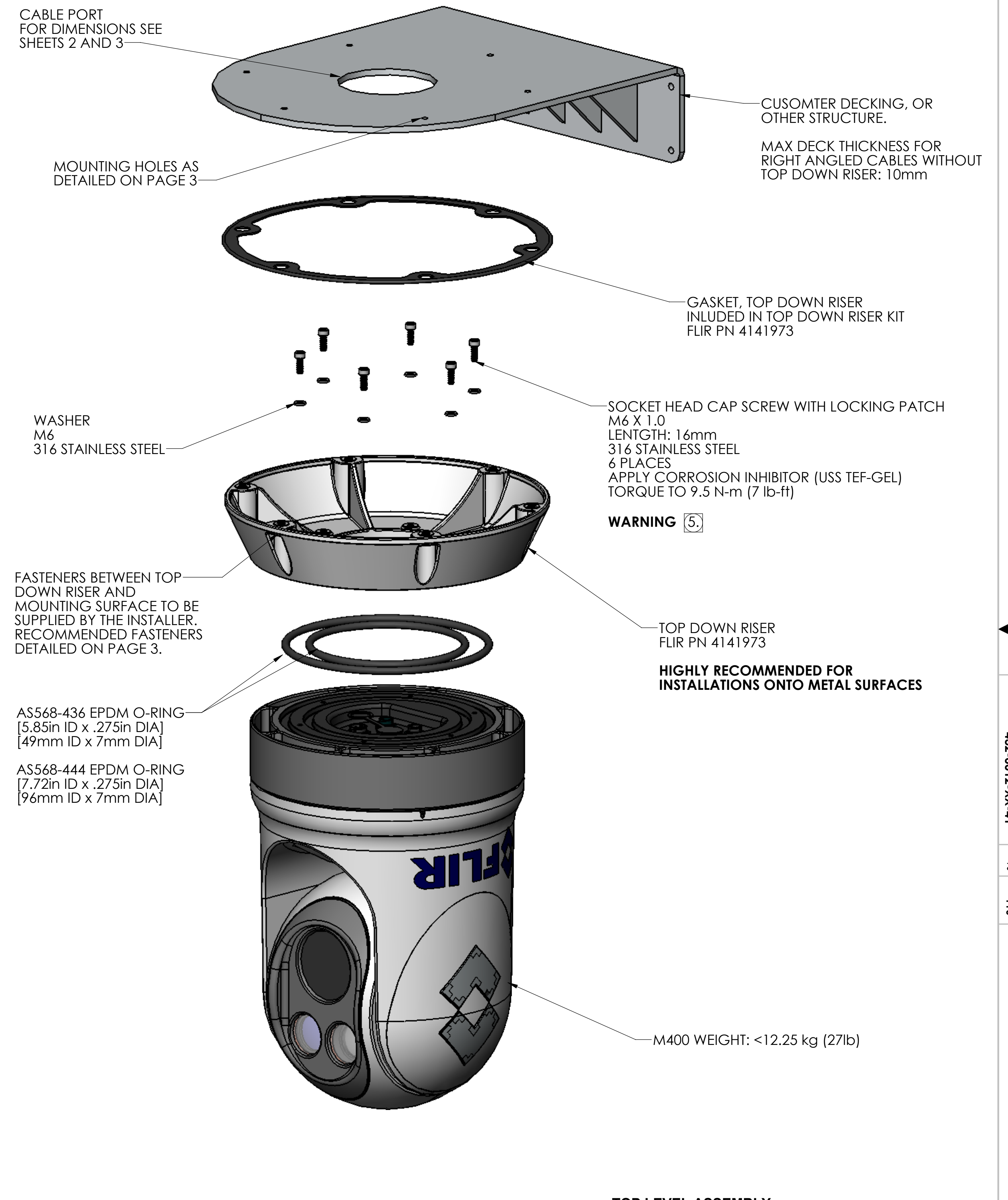
SIZE D	CAGE 064Y2	PIECE PART 432-0012-XX-41	REV 110
SCALE 1:5	PRINTED: 10/21/2015	SHEET 9 OF 10	

SOLIDWORKS MODEL: 432-0012-XX-YY TOP LEVEL ASSEMBLY, MARLIN
MODEL REVISION: 110



EXPOSED CABLE MOUNTING SCHEME:

CUSTOMER SUPPLIED MOUNTING BRACKET/SURFACE
BALL UP CONFIGURATION SHOWN



EXPOSED CABLE MOUNTING SCHEME:

CUSTOMER SUPPLIED MOUNTING BRACKET/SURFACE
BALL DOWN CONFIGURATION SHOWN

**TOP LEVEL ASSEMBLY
M400**

METRIC

PROPRIETARY - FLIR SYSTEMS, INC.



SIZE D	CAGE 064Y2	PIECE PART 432-0012-XX-41	REV 110
SCALE 1:5	PRINTED: 10/21/2015	SHEET 10 OF	10

D

C

DWG NO. 432-0012-XX-41 SH 10 REV 110

A