Prime^X Cameras
Product Details

Push the limits of precision with Prime^X. Prime^X offers fast frame rates and unparalleled tracking fidelity for high-performance motion capture.

Prime^X Cameras
Specifications

	Prime^X 13	Prime^X 13W	Prime^X 22	Prime^X 41	Prime^X 41W	Prime^X 120	Prime^X 120W	Prime^X 260	Prime^X 260W
Performance									
Maximum Frame Rate (Full Resolution)	240 Hz		360 Hz	180 Hz		300 Hz		150 Hz	
Maximum Possible Frame Rate	1000 Hz								
Selectable Frame Rates	Yes								
Latency @ Max Frame Rate and Full Resolution	4.2 ms		2.8 ms	5.55 ms		3.33 ms		6.66 ms	
3D Accuracy	+/- 0.2 mm		+/- 0.3 mm	+/- 0.1 mm	+/- 0.3 mm	+/- 0.1 mm		TBD	
Marker Type	Active/Passive								
Maximum Detection Distance	25m / 16m	15m / 9m	30m / 21m	45m / 30m	30m / 21m	90m / 40m	40m	TBD	TBD
Sensor									
Resolution	1280 x 1024		2048 x 1088	2048 x 2048		4096 x 3072		5120 x 5120	
Pixel Count	1.3MP		2.2MP	4.1MP		12.0MP		26MP	
Shutter Type	Global								
Adjustable Exposure	Yes								
Shutter Speed (Default)	0.25 ms								
Shutter Speed (Max.)	0.01 ms								
Shutter Speed (Min.)	3.9 ms at 240 fps		2.5 ms at 360 fps	4.0 ms at 250 fps		3.13 ms at 300 fps		6.2 ms at 150 fps	
Physical Attributes									
Width	68.9 mm (2.7")		126 mm (4.96")	126 mm (4.96")		168 mm (6.61")			
Height	68.9 mm (2.7")		126 mm (4.96")	126 mm (4.96")		168 mm (6.61")			
Depth	54.6 mm (2.1")		107 mm (4.19")	132 mm (5.16")		161.7 mm (6.37")		140.2 mm (5.7")	
Weight (includes lens)	0.32 kg (0.7 lbs)		1.26 kg (2.77 lbs)	1.36 kg (3.0 lbs)		2.88 kg (6.3 lbs)		2.70 kg (5.96 lbs)	
Base Materials	Aluminum & Polycarbonate								
Color	Black & Gray								
Aim/Focus Assist Spotlights	No								
Ringlight									
Contains	Yes								
Modular	No								
Number of LEDs	10		20			60			
LED Wavelength	850 nm, 940 nm (optional)								
LED Output	High-Power	Wide, High-Power	High-Power	High-Power	Wide, High-Power	High-Power	Wide, High-Power	High-Power	Wide, High-Power
Optical Attributes									
Lens FOV (HxV)	56˚ x 46˚	82˚ x 70˚	79˚ x 49˚	51˚ x 51˚	65˚ x 65˚	51˚ x 39˚	65˚ x 51˚	57˚ x 57˚	74˚ x 74˚
Lens Focal Distance	5.5 mm	3.5 mm	6 mm	12 m	8.9 mm	24 mm	18 mm	11.8 mm	8.9 mm
Aperature Size	f / 1.8	f / 2.4	f / 1.6	f / 1.8		f / 2.5		f / 1.8	
Lens Adjustable Focus	Yes								
Lens Adjustable F-Stop	No		Yes						
Filter Wavelength	850 nm bandpass 800 nm longpass (optional) 940 nm bandpass (optional)		850 nm bandpass 940 nm bandpass (optional)						

	Prime^X 13	Prime^X 13W	Prime^X 22	Prime^X 41	Prime^X 41W	Prime^X 120	Prime^X 120W	Prime^X 260	Prime^X 260W
Optical Attributes Continued									
Filter Switcher	Optional		N/A			Optional			
Filter Switcher Wavelengths	850 nm bandpass 800 nm longpass (optional)		N/A			850 nm bandpass 940 nm bandpass (Optional)			
Electrical Attributes									
Power Input	PoE		PoE+			PoE++			
IEEE Standard	IEEE 802.3af		IEEE 802.3at			IEEE 802.3bt (Type 4)			
Power Draw (@PSE)	15 W		30 W			90 W			
Connector	RJ45								
Cabling	Cat 6 or Cat 6a (Highly recommended)								
Data Architechture									
Communication	GigE Ethernet								
Ethernet Protocol	OptiTrack Proprietary								
Camera Sync	Yes								
Image Processing	Object Segment Raw Grayscale MJPEG Grayscale Duplex Mode (Patent Pending)								
Grayscale Depth	8-bit		10-bit						
Status Indicators									
Numeric LED	2-digit					3-digit			
Full-color LED Health and Activity	Yes								
Mounting									
Type and QTY	1/4"-20 (2X)					1/4"-20 (2X) 3/8-16		3/8-16 (2X)	
Precision Alignment	No								
Sensor									
IP Rating	IP4X								
Operational Temperature	0 - 50˚C								
Storage Temperature	-40 - 70˚C								
RoHS Compliant	Yes								
CE	Yes								

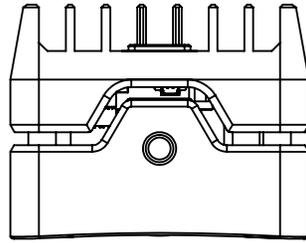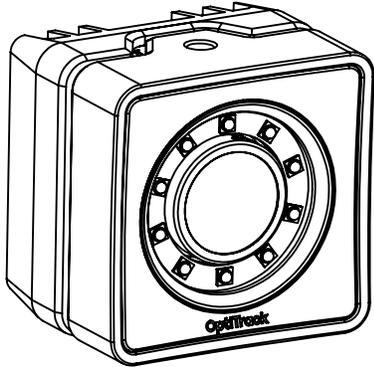# Prime^X 13

Technical Drawings

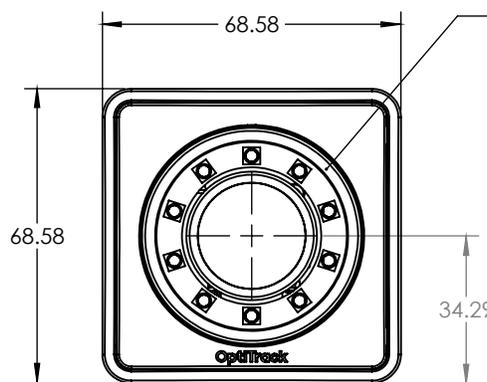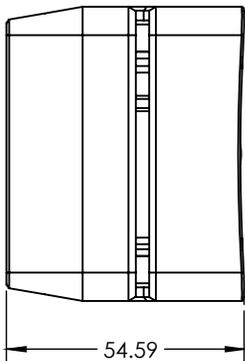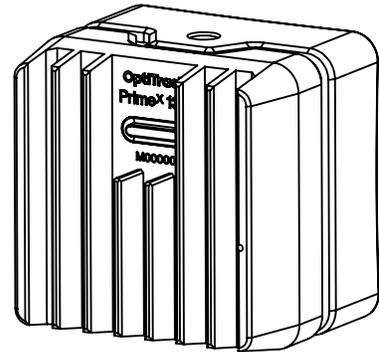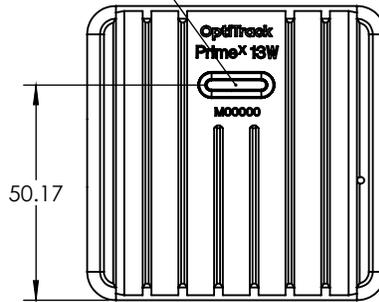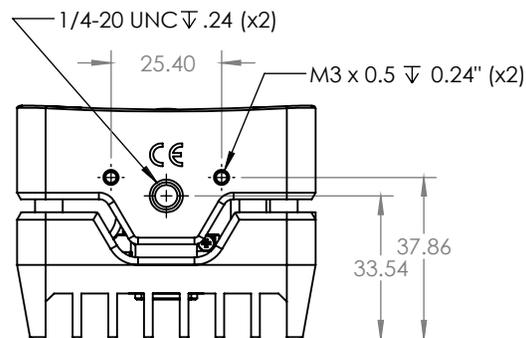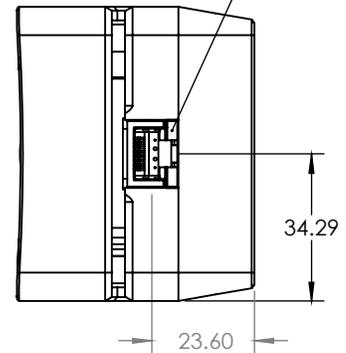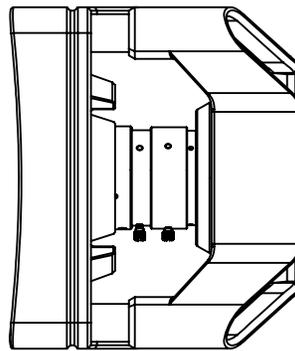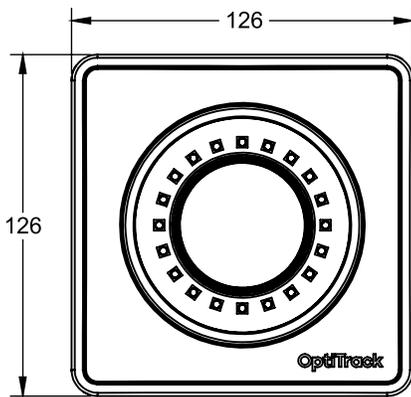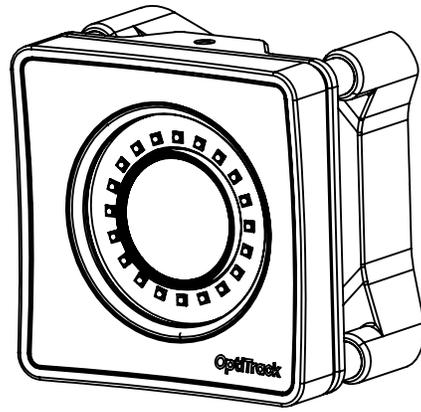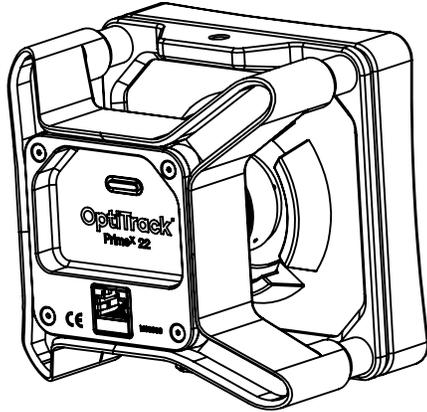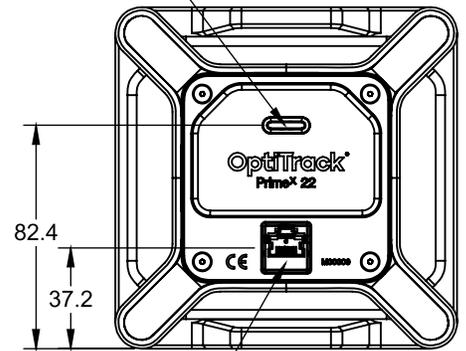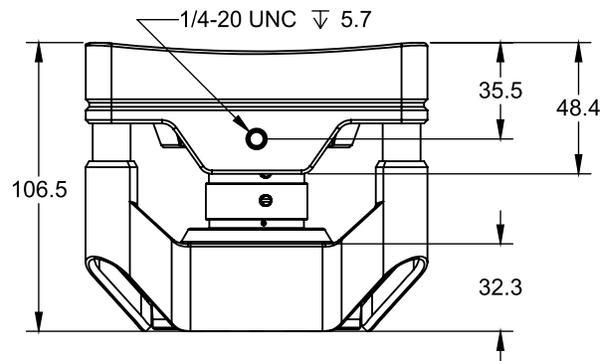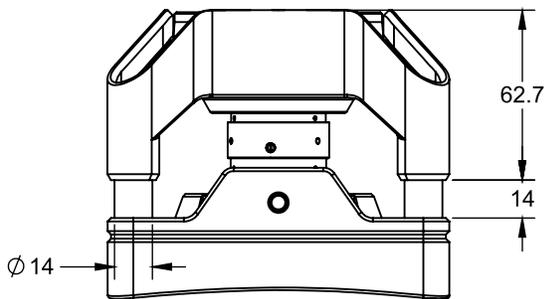Aim Assist Button
& Status Indicator

50.17

68.58

68.58

Status Indicator Ring

GigE & PoE Jack

34.29

34.29

54.59

23.60

1/4-20 UNC ⍑ .24 (x2)

25.40

M3 x 0.5 ⍑ 0.24" (x2)

37.86

33.54
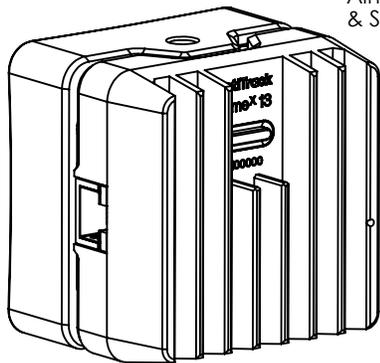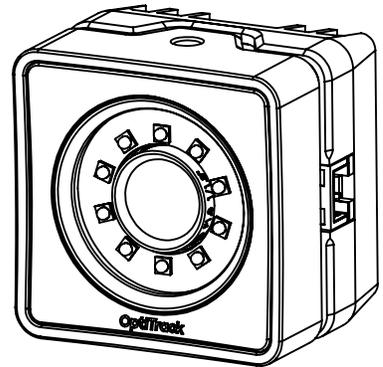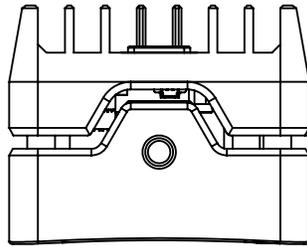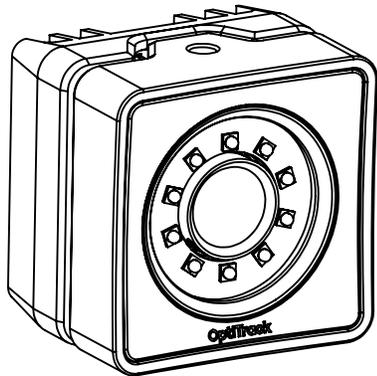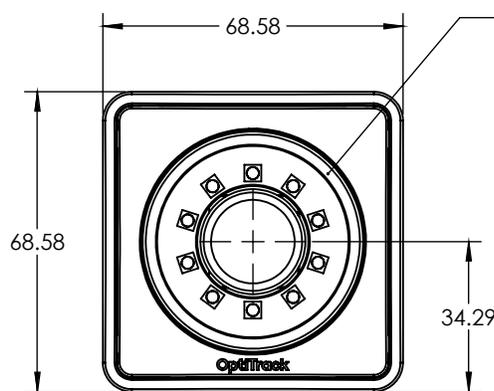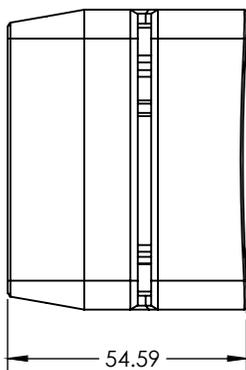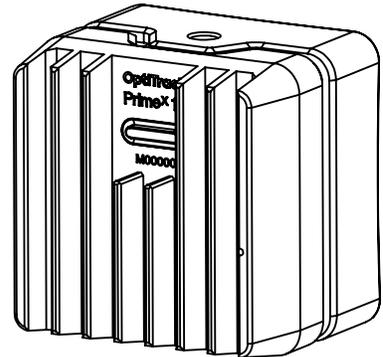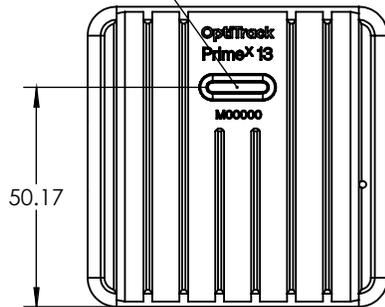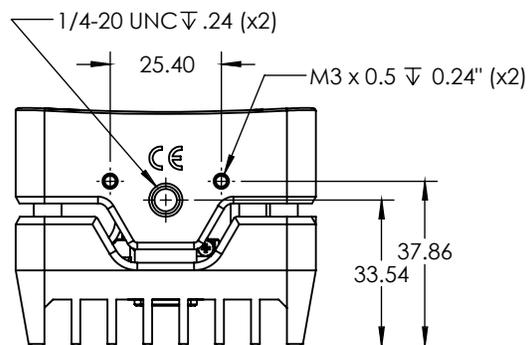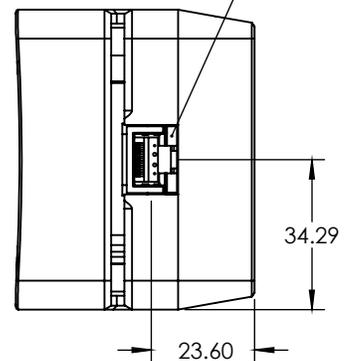
Prime^X 13W

Technical Drawings

Aim Assist Button
& Status Indicator

OptiTrack
Prime^X 13W

M00000

50.17

Status Indicator Ring

GigE & PoE Jack

68.58

68.58

34.29

34.29

54.59

23.60

1/4-20 UNC ▽ .24 (x2)

25.40

M3 x 0.5 ▽ 0.24" (x2)

CE

37.86

33.54
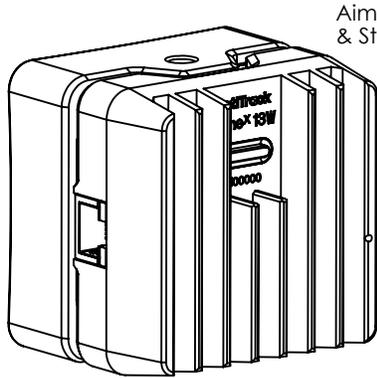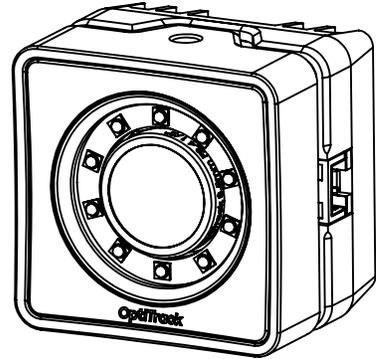
Prime^X 22
Technical Drawings

126

126

126

Aim Assist Button
& Status Indicator

82.4

37.2

GigE & PoE+ Jack

62.7

14

Ø 14

1/4-20 UNC ▽ 5.7

35.5

48.4

106.5

32.3

Prime^X 41
Technical Drawings

126

126

Aim Assist Button
& Status Indicator

82.4

37.2

OptiTrack
Prime^X 41
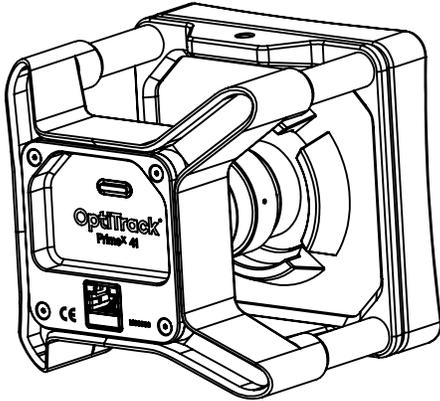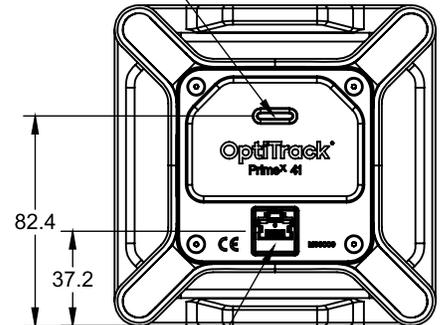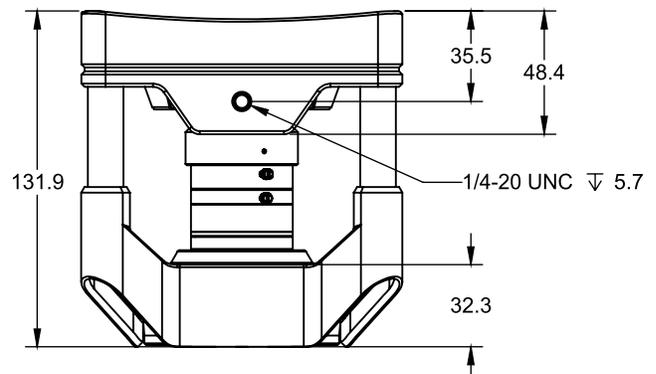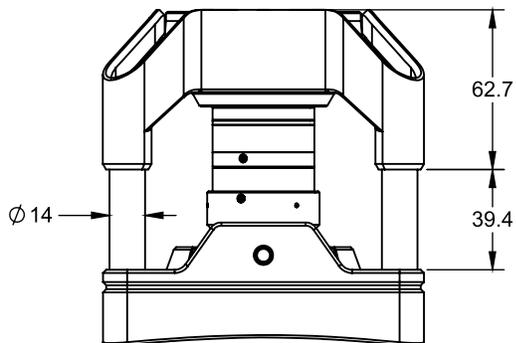
GigE & PoE+ Jack

62.7

39.4

Ø 14

131.9

35.5

48.4

1/4-20 UNC ⤓ 5.7

32.3
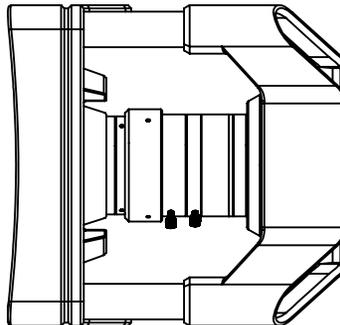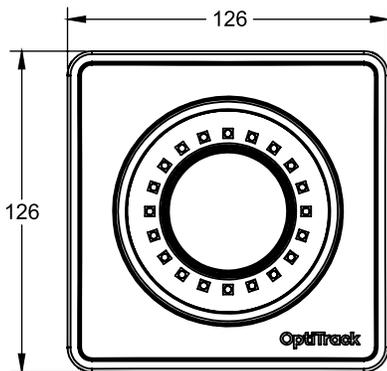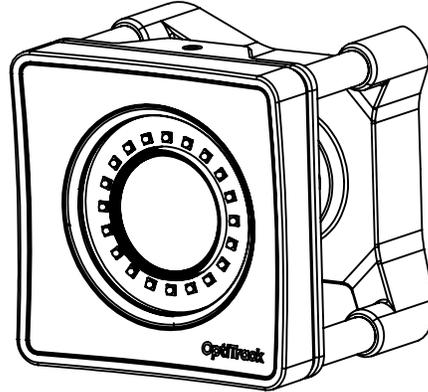
Prime^X 120
Technical Drawings

[6.365]
161.68

[.340]
8.63

[6.614]
168

[6.614]
168

[2.441]
62

AIM ASSIST
BUTTON

ETHERNET PORT

DISPLAY
LOCATION

STATUS RING

[4.834]
122.79

[4.834]
122.79

3/8-16 UNC ⌄ 12.70 [0.500]

3/8-16 UNC ⌄ 12.70 [0.500]
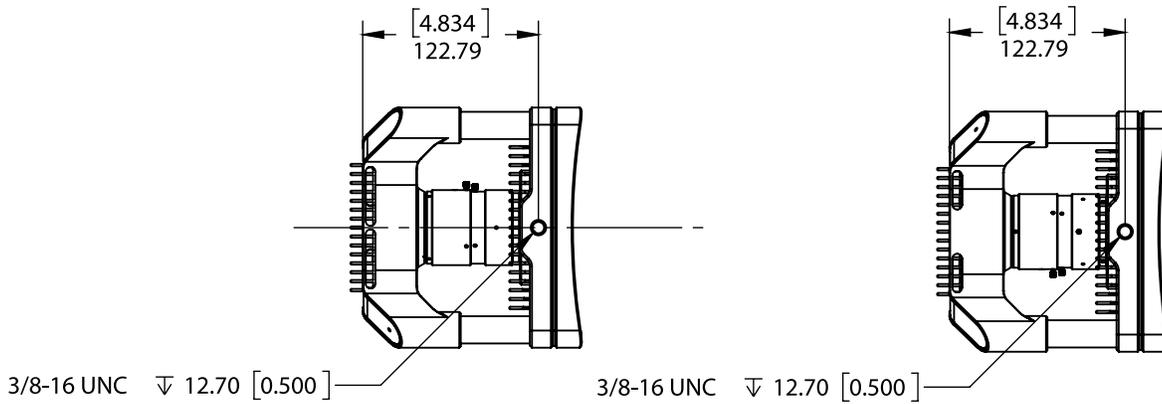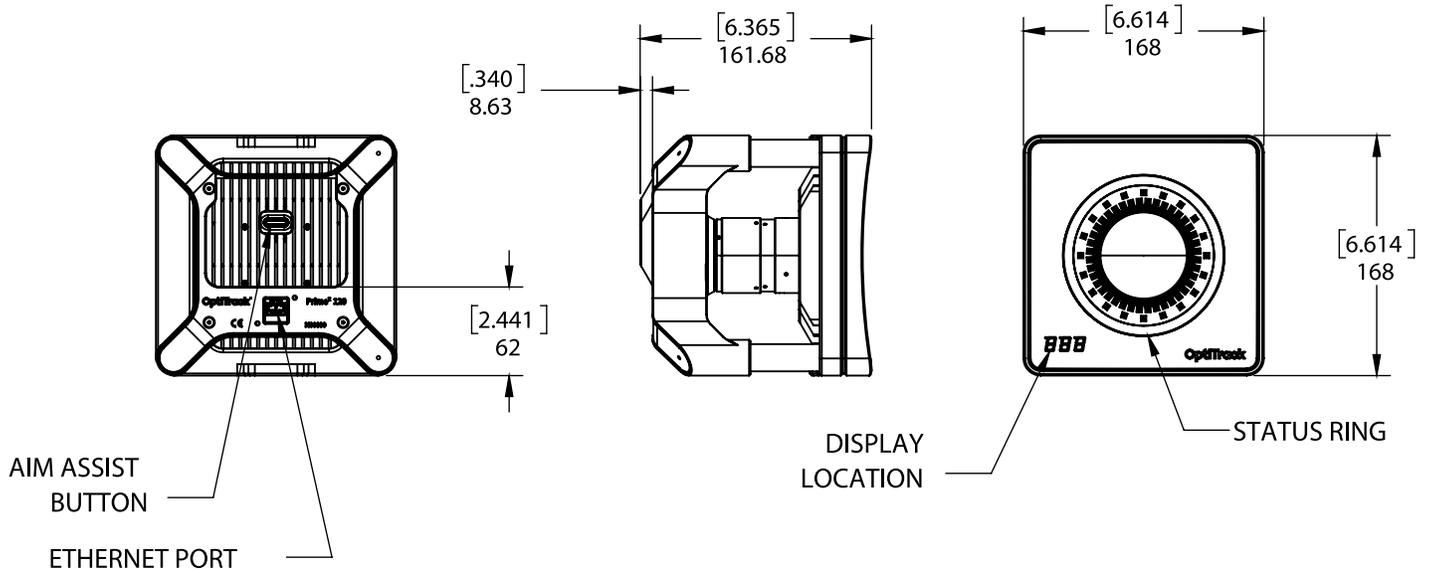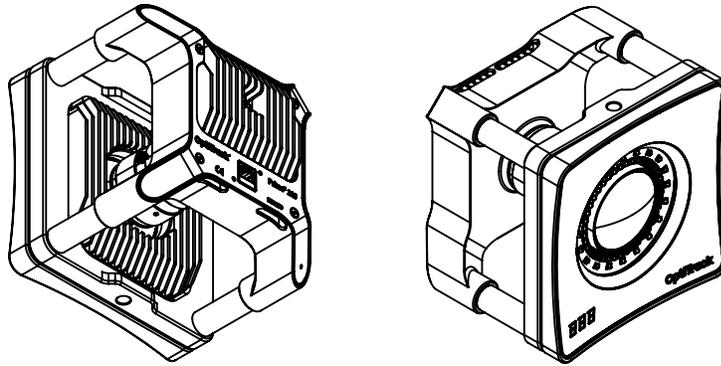
Prime^X 260

Technical Drawings

Status Ring

Display Location

$\begin{bmatrix}6.61\end{bmatrix}$ 168

$\begin{bmatrix}6.61\end{bmatrix}$ 168

Aim Assist Button

$\begin{bmatrix}4.49\end{bmatrix}$ 114

$\begin{bmatrix}4.49\end{bmatrix}$ 114

Ethernet Port

⤓ 12.7 $\begin{bmatrix}0.50\end{bmatrix}$
3/8-16 UNC

$\begin{bmatrix}.36\end{bmatrix}$ 9.2

L1

L2

⤓ 12.7 $\begin{bmatrix}0.50\end{bmatrix}$
3/8-16 UNC

3/8-16 to 1/4-20
Reducer Bushing

$\begin{bmatrix}4.49\end{bmatrix}$
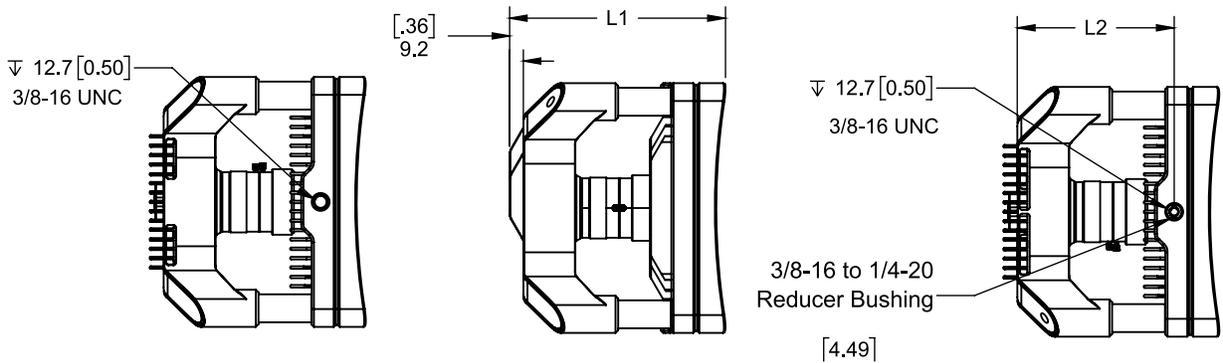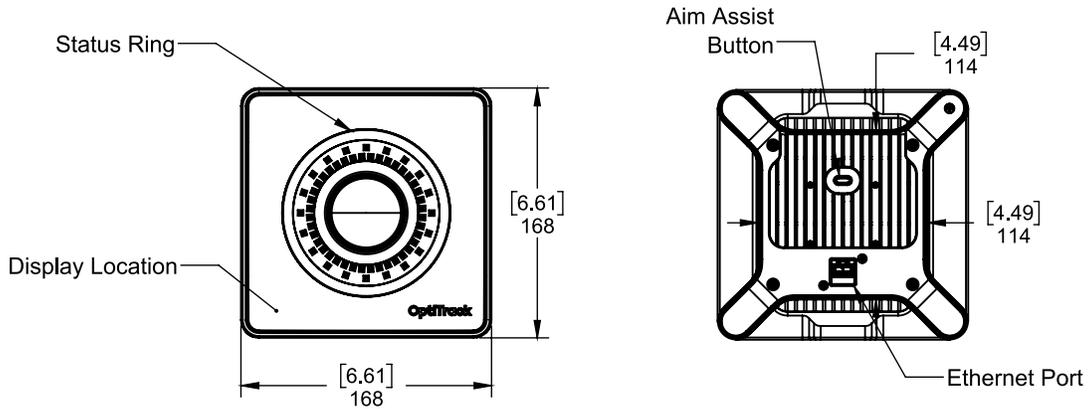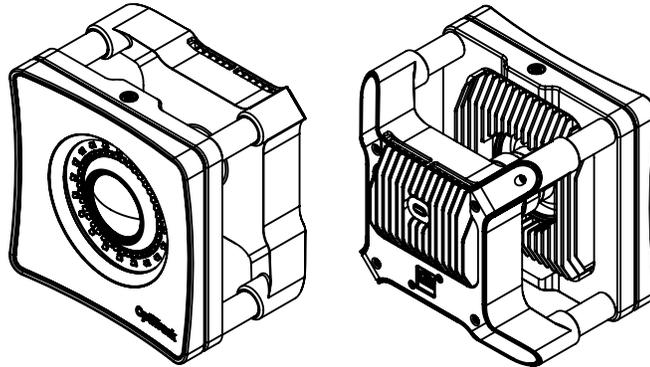
Lens Options					
Focal Length	Field of View	L1		L2	
		mm	in	mm	in
8.9mm	74° x 74°	140.2	5.52	100.7	3.97
11.8mm	57° x 57°	144.7	5.70	105.2	4.14

OptiTrack