NDI Line Product

BOLIN

NDI HX3
Indoor PTZ Camera

R9-230NX

Full HD NDI HX3 PTZ Camera

The R9-230NX NDI HX3 PTZ camera is equipped with Sony image block with 30x zoom range UHD lens to provide Full HD(1080P60) cristal extreme high-quality color image in tough low light environment and stable image with super iamge stabilizer to output HMDI, 3G-SDI, Optical SDI, and NDI HX3 video streaming for NDI® and are fully compatible with NDI-enabled hard-ware and software.

R9-230NX

KEY FEATURES

- NDI HX3 Certified
- Sony 1/1.18 type CMOS sensor STARVIS II
- 30X zoom range
- Resolution 1080i59.94, 1080p60
- IP Video Resolution: Up to 1080p60
- Video Output: Simultaneous 3G-SDI, HDMI, NDI HX3
- SFP Optical SDI video output
- RTSP. RTMP, SRT Supported
- NDI Control, Visca Ocer IP, Onvif, FreeD, Serial Control
- Extreme Low Light Performance
- Super Image Stabilizer

NDI|HX3 · FHD 1080p60 1080i59.94 · ZOOM 30X · HDMI 2.0 · 12G-SDI · OPTICAL · IP H.265 HEVC · Image Stabilizer · Low Light · NDI Control · VISCA over IP · RTSP · RTMP · FreeD · SRT READY · ONVIF

IMAGE MODULE

- The latest Sony new image block that achieves higher visibility by adopting the 8M ultra high resolution lens, 4M image sensor and ISP from Sony.
- 1/1.8 inch STARVIS II sensor
- Enhanced High Resolution image quality
- 30X 8M High Resolution optical zoom lens
- Advanced AF performance
- Wide Dynamic Range (Wide-D)
- Visibility Enhancer (VE)
- Super low light in color performance
- Super image stabilizer

SONY

FEATURES

Image Quality Upgraded in Day and Night

The 8M compatible lens, 4M image sensor (1/1.8 type), and ISP all use new devices from Japanese manufacturers. The combination of these three Core technologies provides an overwhelming sense of resolution, and the advanced AF / AE / AWB functions reproduce faithful images even in low-light environments.

High Resolution-Day Light (Pre/New)

High Resolution-Night View (Pre/New)

Super Image Stabilizer

- The camera enables two levels of image stabilization capabilities, super, super+, which provides clear picture/image in vibrating environment use.
- See R9-230H Stabilization Performance video on Bolin's website.

Low Light Performance

- Thanks to the new Sony 1/1.18 type CMOS sensor STARVIS II, the camera performs a great and clean image in extreme low light condition in color, and even with ICR on in color.
- See R9-230H image performance video on Bolin's website.

FEATURES

Interoperability | Low Latency | High Quality

R9-230NX Output Interface

NDI Control	NDI HX3	RTSP, RTMP, RTMPS, SRT	True Dual-Output
Dual 3G-SDI	HDMI	SFP Optical SDI	Genlock
All Video with Audio Embedded	XLR Broadcast Audio Input/Output	FreeD	Serial/IP Control

Full Broadcast SDI Format and Standard

Full Format
1920 x 1080P 60/59.94/50/30/29.97/25/24/23.98
1920 x 1080i 60/59.94/50
1280 x 720P 60/59.94/50

SDI Standard
SMPTE 292M
SMPTE 296M (1.5Gb/s)
SMPTE 424M
SMPTE 274M
SMPTE 425-A (3Gb/s)
With SMPTE352 SDI Metadata Supported

- Dual 3G-SDI
- HDMI 1.4
- NDI-HX3 and NDI Control
- SFP Optical SDI
- External Synchronization Genlock
- Audio embedded with all video output
- XLR broadcast audio input/output
- On-screen character generator
- Lifting Handle built-in

FEATURES

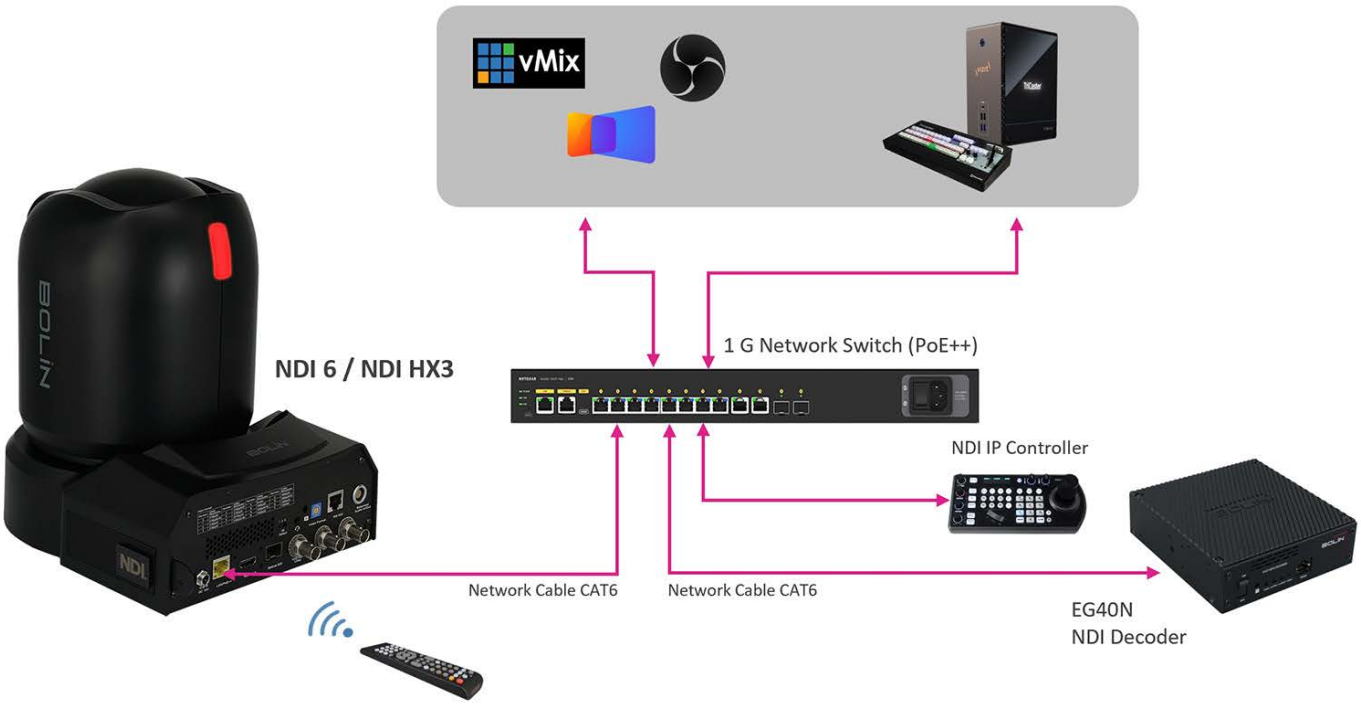
FreeD Protocol Integrated for VR/AR Video Production

FreeD helps provide all the axis data needed for a Bolin PTZ camera to intelligently and smoothly pan, tilt, and zoom while following designated objects and people. Broadcasters can combine Bolin's FreeD-enabled PTZ cameras with available, sophisticated software to automate complex camera operations with spectacular results. It is especially useful for virtual live video productions with baseband video feeds and, with Bolin PTZ cameras, with ultra-low latency AV Over IP streaming

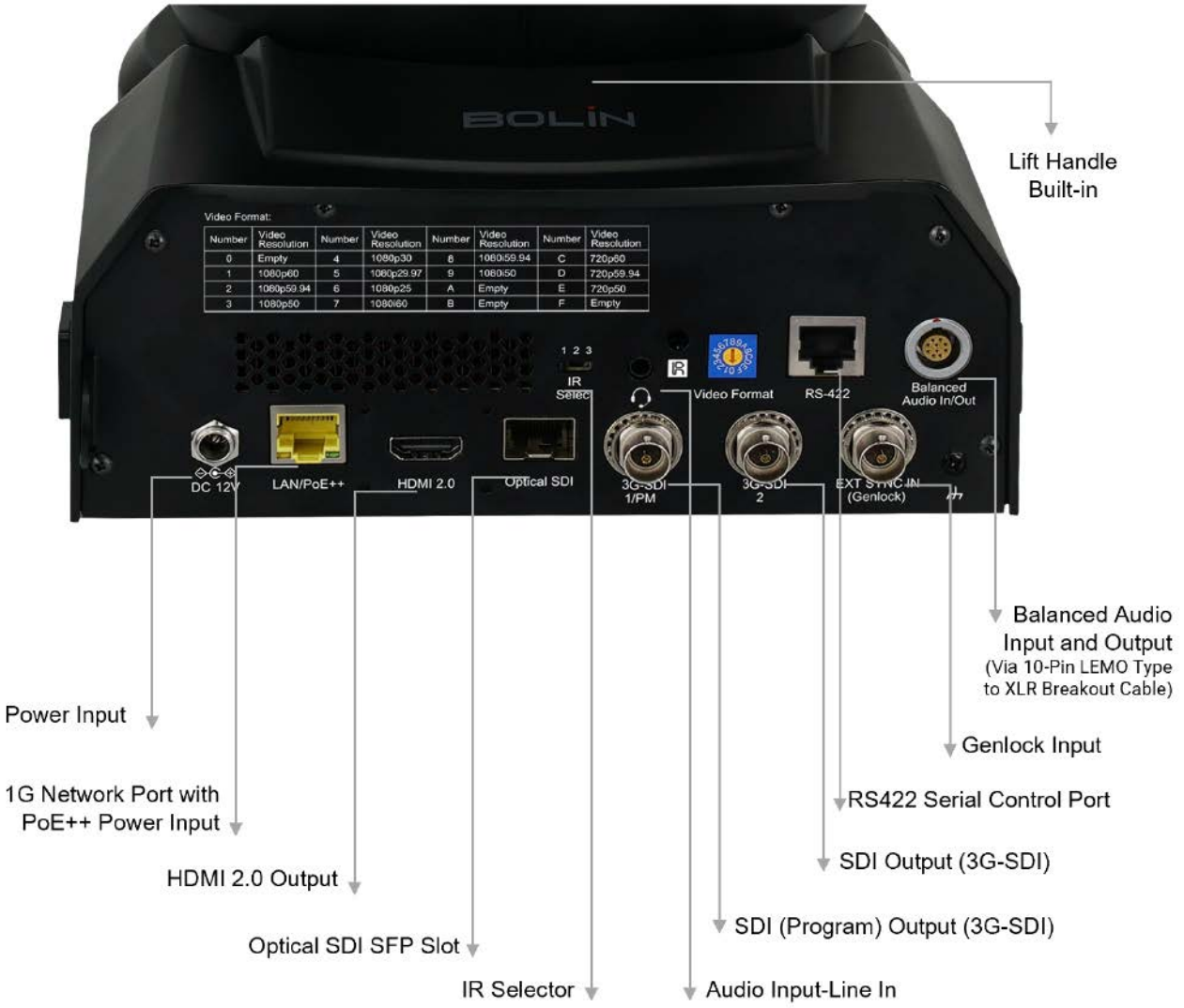
Various Control Methods

- IP Control, Serial Control, IR Remote Control, Rest API-Software Control
- Protocol Supported: NDI Control, VISCA Over IP, ONVIF, VISCA, PELCO P/D, FreeD
- NDI Control is fully compatible with NDI Ecosystem, Tricaster, vMix, OBS, ProPresenter, etc.

NDAA Compliant

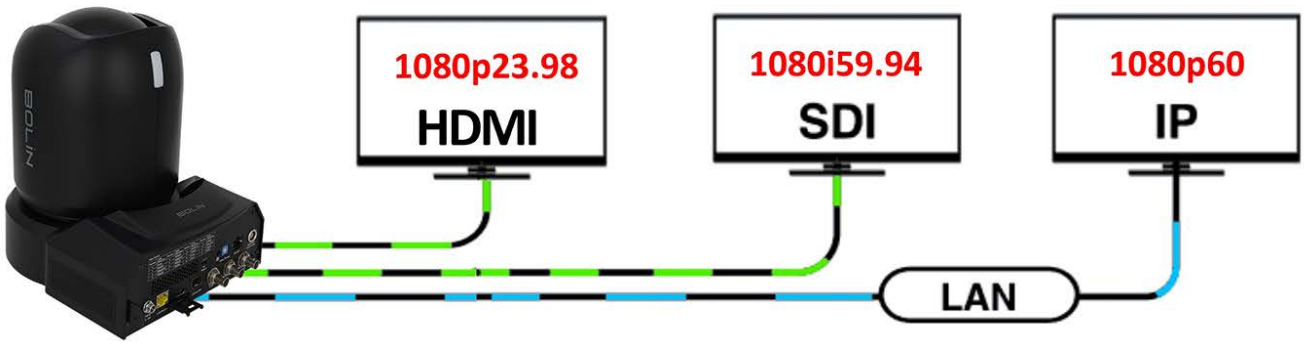


OUTPUT



True Tri-Output

Simultaneously output SDI, HDMI, and IP, which can be set to independent formats for different application use. (The image shows video format model specific)



MOVEMENT

Smooth and Accurate Movement

- PAN: 340° (-170° to +170°); Fully proportional speed 0.01° to 100°/s
- TILT: 120° (-30° to +90°); Fully proportional speed 0.01° to 50°/s
- Preset: 255 positions, Speed 100°/s,
  0~5 Level Adjustable, Accuracy: 0.03°
- Picture Profile Preset
- Motionless Preset
- PTZ Trace Memory
- Quiet - Less than NC35

FEATURES

- On-screen character generator
- All firmware upgrade via IP
- Front and Rear Tally Light
- POE++ and 12VDC/AC
- Built-in handle
- Genlock
- HDMI cable secure mount
- Available Color: Black

Move, with you

- Industry-First unique portable body design
- Facilitates your video production installation.

Move • With You

SPECIFICATIONS

Model Number	**R9-230NX**
Codec	**NDI HX3, Standard AVC/HEVC**
Camera Image	**30X Full HD**
Image Maker	Sony
Image Sensor	CMOS image sensor 1/1.18 type STARVIS 2 sensor
Number of effective pixels	2712 x 1538, 4.17MP
Picture elements	2688 x 1520, 4.09MP
Lens	Enhanced optical zoom 30X
Digital Zoom	12X
Horizontal Angle of View	58.1˚ (Wide) - 2.3˚ (Tele),
Vertical Angle of View	34.9˚ (Wide) - 1.7˚ (Tele),
Focal Length	f= 6.5 mm (WIDE) to 162.5 mm (TELE)
Min. object distance	100mm (Wide), 1200mm (Tele)
Aperture	F1.6 (Wide) to F4.8 (Tele), 16 steps
Min. Illumination	ICR-Off, 0.009 lx (1/30 sec, 50%, High Sensitivity On); ICR-On, 0.00008 lx (1/30 sec, 50%, High Sensitivity On)
Shutter Speed	1/1 sec to 1/10000 sec (22 steps)
Focus	Spot Focus, Auto / Manual / One Push Trigger /Full Scan one push trigger / Near Limit / Spot Light Avoidance
White Balance	Auto / ATW / Indoor / Outdoor / One Push WB / Manual / One push Triger / Outdoor Auto / Sodium Vapor Lamp Auto / Sodium Vapor Lamp / Sodium Vapor Lamp Outdoor Auto
Exposure	Full Auto / Gain Limit Setting / Shutter Priority / Iris Priority / Manual / EV compensation
Features	High Sensitivity, Backlight Compensation, HLC, E-FLIP, Mirror, Day/Night
WDR	Yes
Image Stabilizer	Yes, Super, Super+
Color Gain	Yes (15 step)
Color Hue	Yes (15 step)
Gamma	Standard / Straight gamma
Color Matrix	Yes
Noise Reduction	On/Off (level 5 to 1 / Off, 6 steps), 3D / 2D
S/N Ratio	≥50db
HLC	Yes
E-Flip	Yes
Privacy Zone Masking	Yes
Defog	Yes, (off, low, mid, high)
High Sensitivity	Yes
Slow AE Response	Yes
Day/Night	Yes
Backlight Compensation	Yes
Low Latency Mode	Yes
Mechanical	
Pan Movement	PAN: 340° (-170° to +170°); Fully proportional 0.05° to 100°/s
Tilt Movement	TILT: 120° (-30° to +90°); Fully proportional 0.05° to 75°/s
Speed Proportional	Pan/Tilt Speed proportional to zoom range
Preset Position	255 positions, Speed 100°/s, 0~5 Level Adjustable, Accuracy: 0.1°
Preset Memory	Picture Profile Preset-Preset Memory for image parameters: Backlight Compensation, White Balance, R-Gain/B-Gain, Auto Exposure, Bright, Iris, Shutter, Gain, Aperture, Effect, Noise Reduction, Mirror, Gamma, Ex-COMP, Color Hue, Contrast etc.)
Motionless Preset	YES, ON/OFF
PTZ Trace Memory	YES, 12
Cruise	YES, 4
Quietness	NC35 Compliant
Home Position	Yes
FreeD	Yes, FreeD protocol for AR/VR camera tracking, via serial control/IP (Via fw upgrade)
Environmental	Indoor, IP50
Interface	
HDMI Video Output	HDMI 2.0 Type A
SDI Video Output	3G-SDI, SMPTE424M /SMPTE292M /SMPTE 296M standards, 75Ω BNC x 2，SDI/PM for output to has OSD display
SDI Optical Fiber Output	Optical 12G-SDI (Module Excluded). Detachable slot, Connector: Duplex LC (optional via ST, LC or SMPTE)
	Laser Unit: Single-mode 1,310nm DFB-LD transmitter and PIN receiver Complaint with MSA SFP+ Specification SFF-8402.
Network LAN Port	RJ45X1, Standard 10M/100M/1000M Base-TX Ethernet, LAN connector for IP control/video output/audio output/System FW Upgrade
Synchronization System	Internal/External synchronization (BBS/Tri-level sync)
External Sync Input	Genlock, BNC connector, BBS (Black Burst Sync), tri-level sync supported
Audio Input	Balanced XLR (Hirose Connectorvia Atomos 10-Pin LEMO Type to XLR Breakout Cable) with 48V Phantom power
	3.5mm TRRS for bidirection audio intercom
Audio Output	Balanced XLR (via Atomos 10-Pin LEMO Type to XLR Breakout Cable), embedded with HDMI, SDI, USB and IP
	3.5mm TRRS for bidirection audio intercom
Tally Light	Red, Green Color/Front and Rear
Dip Switch	Video Resolution Dip Switch x1
System Firmware Upgrade	Upgrade via IP for camera system MCU, Driver, FPGA and Encoder
Power Connector Type	INPUT: DC12V, connect with screw secure (Type - 5.5mm×2.1mm Male DC Power Plug Connector & Screw Lock Female Panel Socket
	INPUT: RJ45, PoE++ (IEEE802.3bt)
Control Interface	RJ45X1-RS422, RJ45X1-IP Control, IR Remote Control
Control Protocol	Serial: VISCA, PELCO P/D; IP: VISCA Over IP, ONVIF; FreeD

SPECIFICATIONS

Model Number	**R9-230NX**
Codec	**NDI HX3, Standard AVC/HEVC**
HDMI Video Signal System	
HDMI Video Format	1920 x 1080p/59.94/60/50/29.97/30/25/23.98/24 1920 x 1080i/59.94/60/50 1280 x 720p/59.94/60/50
Color Precision	12bit(HDMI), YUV4:2:2, YUV4:2:0
Color Space	YUV、RGB
OSD Menu Display	Yes, with image insert
On-Screen Title	Yes, video embedded On-Screen title character generator
SDI Signal Format	
SDI Video Format	1920 x 1080p/59.94/60/50/29.97/30/25/23.98/24 1920 x 1080i/59.94/60/50 1280 x 720p/59.94/60/50
Color Precision	10bit(SDI), YUV 4:2:2
Color Space	YUV
Standard	SMPTE 292M，SMPTE 296M (1.5Gb/s), SMPTE 424M, SMPTE 274M，SMPTE 425-A (3Gb/s), SMPTE 2081(6Gb/s), SMPTE 2082-1（12Gb/s）standard / 75 Ω (BNC x 1)，With SMPTE352 SDI Metadata Supported
True Dual Output	HDMI and SDI signal can be output with different format
OSD Menu Display	Yes
On-Screen Title	Yes, video embedded On-Screen title character generator
Network	
Video Compression (Codec)	NDI HX3, MJPEG,H.264/H.265 by SoC
IP Resolution/Frame Rate	1920x1080p60/50/30/25, 1280x720p60/50
True Dual Output	IP, HDMI, and SDI signal can be set with different format
IP Protocols	TCP/IP, ICMP, ARP, RTP，UDP，HTTP，DNS, DHCP，FTP，NTP，SRT, NDI
Application Protocols	RTMP(S)、RTSP、RTSP Encryption、SRT、MP2TS over UDP (Unicast, Multicast) , NDI
Color Format	-
Multi-stream	3 stream
Audio Compression	AAC-LC,G.711A/G.711U Broadband Audio Encoding(Duplex Communicate Supported, Audio/Video synchronization)
OSD	Customized OSD
Compatible Integration	ONVIF2.4 (Profile S), VISCA Over IP
Bandwidth (results may vary depending on network configuration and management settings.)	50-60Mbps, 1080p60
Latency (Overall latency may increase depending on network configurations)	NDI HX3 certified, <100ms
Browser Support	Cross Browser Compatibility - HTML5 support for Microsoft Edge, Google Chrome, Firefox, and Safari
General	
Operating Temperature	–10 °C to 50 °C（14°F to 122°F)
Operating Humidity	≤80% Suitable for Use (no condensation)
Power Input	DC12V, PoE++(Compatible with IEEE802.3bt, Type 4 Class8)
Power Consumption	Min: 29W (Static state with no movement) Max: 40W（Fully loaded operation）
Installation Method	Stand-alone (Upright) or suspended (Pendent) or Tripod
Mount	Ceiling mount, Wall mount, Tripod
Handle	Built-in for portable use application
Size of Tripod Screw Hole	1 x 1/4" safety bond point
Body Color	Black, White
Dimension-Camera	201*253*249mm(W*D*H), 201*253*256(with feet mats)
Net Weight	3.8kg (8.36lb)
Accessories Included	IR Remote controller x1, Power adapter and power cord (US, EU, UK), Mounting screws x3, RJ45 to RS422 Extension cable

ACCESSORIES

Items marked * are optional to purchase

VCC-RC-2
IR Remote Controller

VCC-P12-4
12VDC 4A Power Adapter

EG40N
*NDI Decoder

C-PMSB
*Pendant Mount for Drop Ceiling
/Hard Surface Ceiling

C-WM3B
*Wall Mount Bracket-Size 3

C-WM2B-CV
*Wall Mount Cover-Size 3

C-WPLB
*Wall Mount Plate

BL-CM-01
*Ceiling Mount Bracket

BL-PP97
*97W POE POWER INJECTOR

BLA-10
*LEMO connector
10Pin Mini to XLR L/R In/Out

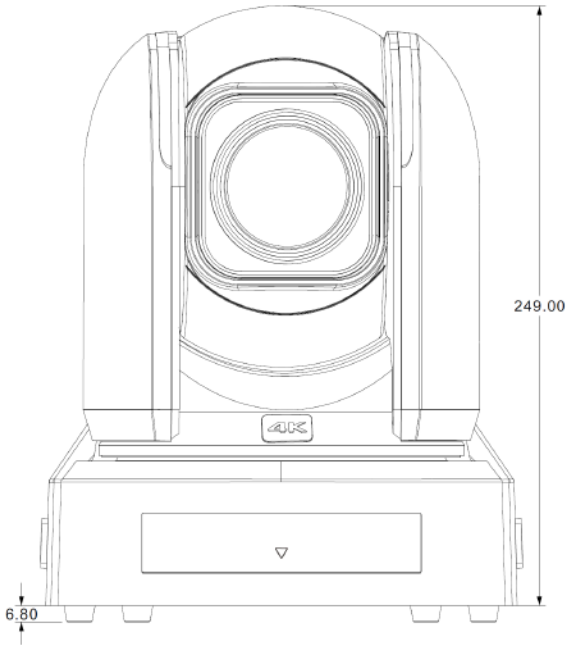
B-OSM-12
*Optical SFP Module Transceiver
12G-SDI

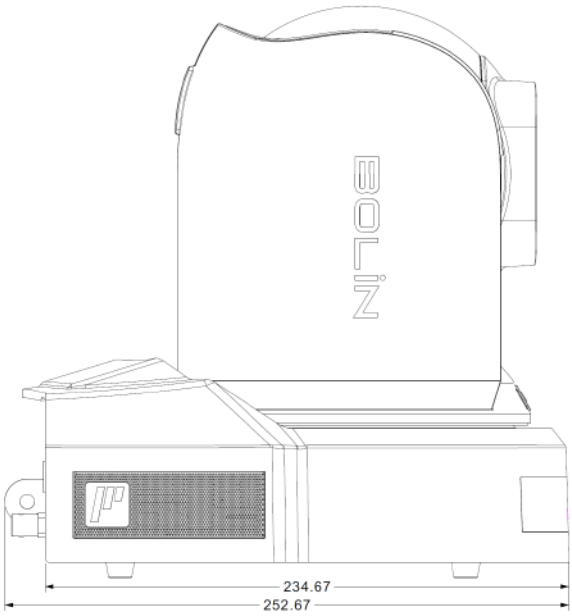
ORDER INFORMATION

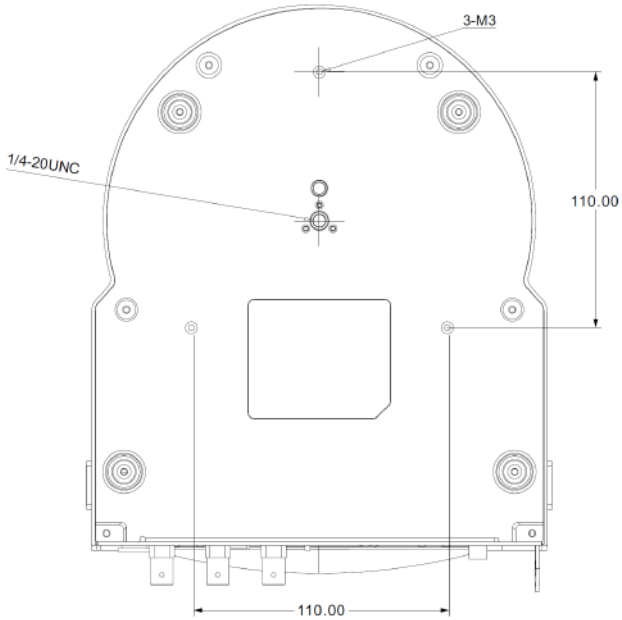
- R9-230NX (4K60, 20X, NDI HX3, Black)

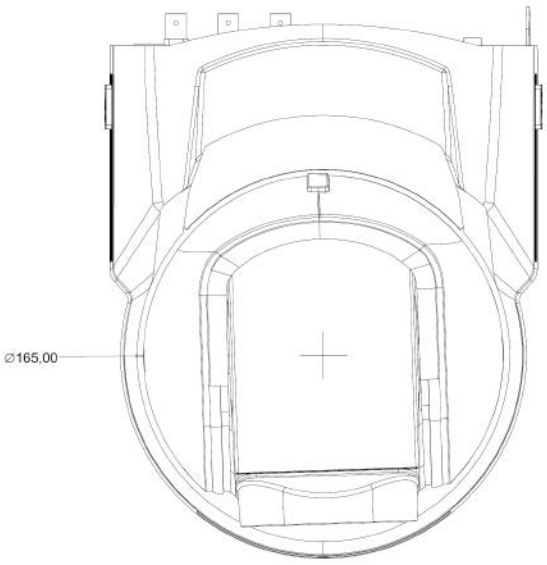
DIMENSIONS

Unit: mm









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