



IP Infrared Imaging
(i³) Design

Black Diamond™
Infrared

NEMA4 Rated



This luminaire has been approved as dark-sky friendly by the International Dark-Sky Association.

DCRI Performance Parameters at 850nm

Detection	200ft (60m)
Classification	150ft (45m)
Recognition	100ft (30m)
Identification	50ft (15m)

EX80 IP Infrared Imager™

powered by **BLACKDIAMOND™** Technology

The EX80 is a patented dual-sensor Infrared Imager™ featuring IP Infrared Imaging (i³) design and detection-level night-time imaging up to 200ft for critical 24/7 surveillance applications.

Extreme's innovative i³ design harnesses the power of infrared illumination to deliver outstanding images day or night, integrating seamlessly with existing IP network infrastructure. For exceptional performance both day and night, the EX80-IP Infrared Imager™ incorporates dual-sensor design and combines it with award-winning Black Diamond™ infrared illumination. Together, they are jointly calibrated to provide High-Fidelity™ night vision imaging.

The NEMA4X-rated EX80 provides outstanding day and night imaging performance with lower band-width network impact than standard IP cameras for important applications in commercial, residential and industrial surveillance applications.

Performance Benefits

- **IP Infrared Imaging (i³)** harnesses the power of infrared illumination to deliver outstanding images day or night, integrating seamlessly with existing IP network infrastructure
- Award-winning Black Diamond™ technology combined with precision engineered optics for **High-Fidelity™ detection-level night-time imaging performance to 200ft (60m)** in total darkness
- Black Diamond™ reduces night-time image noise for improved compression performance and **low bit rates** while delivering the necessary details for **effective night-time function of video analytics**
- **Dual-stream IP connectivity** with MPEG-4 and MJPEG compression at 30fps for remote access, scalability and full compatibility with the world's most advanced surveillance networks
- Field-proven **NEMA4X all-weather design** for long-term reliable performance in harsh environments
- **Reduced total cost of ownership:** lower installation costs, IP scalability and flexibility

Key Attributes



Black Diamond™ High Fidelity™ Infrared Technology

- Award-winning Black Diamond™ technology eliminates “hotspot” foregrounds and under-exposed backgrounds
- Detection-level imaging at 200ft (60m)
- Reduces image noise and enables better compression, reducing bit rates and enhancing network stability
- Enables effective night-time performance of video

Precision Engineered Performance Optics

- 480 TVL 1/3” color SuperHAD CCD for outstanding daytime color
- 420 TVL 1/3” LXR CCD for award-winning night vision
- Infrared-corrected lens eliminates focus shift and infrared bleed

Rugged All-Weather Construction

- Field-proven NEMA4X weather-sealed housing
- Cable-managed wall bracket
- Sliding optical chassis for easy-optical adjustments

High Performance Video Encoder

- MPEG-4 and MJPEG at 30fps, full resolution
- Dual-stream video allows for simultaneous high resolution viewing with high efficiency storage (or vice versa)
- Supported by a wide range of VMS and NVR solutions

IP Infrared Imaging - i³

- Harnesses the power of infrared illumination to deliver outstanding images day or night
- Integrates seamlessly with IP network including video analytics
- Black Diamond™ infrared illumination improves encoder efficiency and bit rate, enhancing network stability



Performance images

Extreme CCTV Infrared Imagers™ are tested for performance to DCRI surveillance levels, a standard developed originally by John Johnson in his foundational work for the United States Army Night Vision lab. Johnson's Criteria provide a method of quantifying the night-time performance delivered by Extreme CCTV night vision cameras.



EX80 night-time imaging performance. The Image above shows Classification-level imaging at 150ft (45m).



Conventional IR Illumination
Background under-exposed.
Foreground over-exposed.

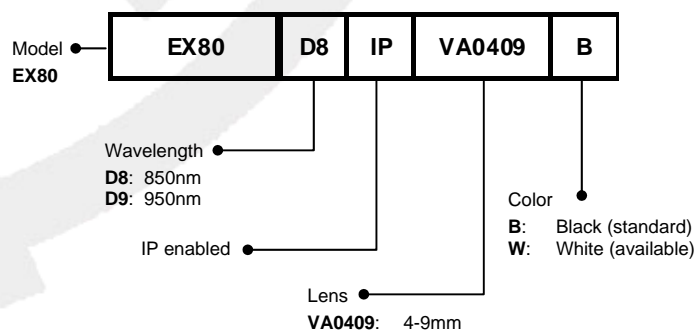


Black Diamond™ IR Illumination
High-Fidelity™ performance ensures a photonically balanced image.

Specifications

EX80 IP Infrared Imager [™] powered by Black Diamond [™] Technology		
Optics	C5 Daytime Sensor	SX3 Night-Time Sensor
CCD	1/3" Sony High Resolution CCD	1/3" LXR CCD
Effective Pixels	768 (H) x 494 (V)	510 (H) x 492 (V)
Resolution	480 TVL	420 TVL
S/N Ratio	Greater than 48 dB	Greater than 50 dB
Daytime Sensitivity	1 Lux @ F2	0.05 Lux @ F2
Night-time Sensitivity	0 Lux - works in total darkness	
Lens Options	4-9mm varifocal auto-iris	
Gamma	0.45	
Video Output	1 Vp-p, 75 Ohms	
Day-Night Switching	Photocell-controlled, automatic	
Infrared Illumination		
Photocell	Automatic, sensitivity adjustable	
LEDs	Black Diamond [™] High-Fidelity [™] Infrared, intensity adjustable	
Wavelength	850nm (semi-covert) or 950nm* (covert) [*For 950nm, 74% distance loss from stated distances at 850nm]	
Night Vision Ranges	Detection: 200ft (60m) Classification: 150ft (45m) Recognition: 100ft (30m) Identification: 50ft (15m)	
IP		
Interface	Ethernet 10/100Base-T	
Protocols	TCP/IP, RTP/IP, UDP/IP, DNS, NTP, HTTP, FTP, DHCP client	
Security	SSL-based authentication	
Compression	MPEG-4 SP and MJPEG, up to 30 frames per second, dual-stream selectable	
Dual Stream	4CIF, 30 FPS and CIF, 15 FPS programmable	
Frame Rate	1-30 FPS programmable (full motion)	
Bandwidth	Configurable from 30 Kbps to 6 Mbps	
Connector	RJ45	
Physical		
Operational Range	-50°C to +50°C -58°F to +122°F	
Weight	3.4 lbs 1.4 kg	
Bracket	Cable managed wall bracket included	
Construction	Robust aluminum casting	
Finish	Baked enamel finish, black standard	
Overall Dimensions	131mm (H) x 139mm (W) x 207mm (D) 5.2" (H) x 5.5" (W) x 8.2" (D)	
Environmental	NEMA4X	
Electrical		
Voltage Supply	12 VDC or 24 VAC	
Power Consumption	36 W max	

Part Numbers



Optional Accessories

EXPS.009	Power Supply, 120VAC / 24 VAC, 2.5A
EXMB.015	Pole Mount Adapter
EXMB.061	Pole Top Bracket
EXMB.033	Corner Mount Bracket
EXSH01B	Sunhood, black
EXMB.029B	Ceiling Mount Bracket