Main specifications of the long range multi-purpose camera, SX Series

	SX800 / SX801	SX1600
Optical zoom	40x	
Digital zoom	1.25x, 1.5x, 1.75x, 2x	
Focal length	20mm – 800mm	40mm – 1600mm
Maximum aperture ratio	1:4 (20mm), 1:7.4 (800mm)	1:8 (40mm), 1:14.8 (1600mm)
Minimum object distance (M.O.D) from the front lens	10m (20 – 400mm in focal length) 20m (401 – 800mm in focal length)	10m (40 – 800mm in 1/1.8" equivalent focal length) 20m (801 – 1600mm in 1/1.8" equivalent focal length)
Angle of view [16:9 (H x V)]	20mm 21.0° x 11.8° 800mm 0.55° x 0.31°	20mm 21.0° x 11.9° [at 1.1" (φ17.26mm) capture] 1600mm 0.27° x 0.15° [at 1/1.8" (φ8.63mm) capture]
Effective sensor size	1/1.8"	1/1.8" - 1.1"
Minimum illumination	Color 0.00015 lux (at F1.2) / 0.0017 lux (at F4.0) B/W 0.0001 lux (at F1.2) / 0.0011 lux (at F4.0)	Color 0.00014 lux (at F1.2) / 0.0064 lux (at F8.0) B/W 0.0001 lux (at F1.2) / 0.0042 lux (at F8.0)
Focus settings	Continuous AF, Quick AF, Manual	
Iris	Auto, Manual (Aperture range : F4 – F16)	Auto, Manual (Aperture range : F8 – F32)
Shutter speed	Auto (with minimum speed selection of 1/8 – 1/125s), Manual (1 – 1/32000s)	
Gain	AGC, HYPER-AGC, Manual (Setting range : ISO400 – 819200)	
Optical filter	Visible Light Cut filter (ON / OFF)	
Day / Night selection	Auto, Scheduled, Manual	
Wavelengths selection	950nm, 940nm, 850nm, 808nm, Visible light	
Image stabilization	Auto, OIS, EIS, OFF	Auto (OIS+EIS), OIS, EIS, OFF
Wide dynamic range	Selectable (2 levels)	
Back light correction	Selectable (2 levels)	
Heat haze reduction	Selectable (3 levels)	
Fog reduction	Selectable (3 levels)	
Noise reduction	Selectable (3 levels)	
Brightness / Contrast / Saturation / Sharpness	Selectable (100 levels)	
White balance	AWB, AWB-W, Custom 1 – 2, Fine, Shade, Color Temperature (3000K, 5000K, 9000K)	
Video format	NTSC : 1080p, 720p, 480p / PAL : 1080p, 720p, 576p	
Video output systems	HDMI, HD-SDI, Composite(BNC)	
Audio input / output	Input impedance : 40kΩ / Output impedance : 200Ω	
External interfaces	Ethernet (10Base -T, 100Base-TX, RJ45 connector), RS-485 (Half duplex), External trigger (Day / Night)	Ethernet (10Base -T, 100Base-TX, RJ45 connector), RS-485 (Half duplex, Full duplex), External trigger (Day / Night)
RS-485 compatible protocol	Pelco-D / Pelco-P (including extended commands)	
Power source	DC12V	
Power consumption	SX800 : 9.5W / SX801 : 15W	15W
Supported SD card (SDHC / SDXC)	UHS-1-compatible 8GB+, SD Speed Class 10 or above	
File recording format	MOV (Video encoding : H.264 compliant, Motion JPEG)	
Network protocols	ICMP, ARP, TCP / IP, UDP / IP, HTTP, RTSP, RTP, DHCP, DNS, RTP/RTCP, SNTP	
Supported OS	Windows 10	
Supported browser	Google Chrome 71+ (Only SX800)	Google Chrome 99+ / Windows Edge 99+
ONVIF support	Yes (Profile S)	
Number of videos delivered	SX800 : 1 / SX801 : 3	1
Size (H x W x L)	139mm x 156mm x 410mm	139mm x 156mm x 450mm
Weight	6.4kg	7.4kg
Filter thread size	M112 x 1mm	
Operating environment	Temperature : −10°C – +50°C / Humidity : 10% – 80% (no condensation)	
Tilt limit	45 degrees upward – 45 degrees downward	

FUJIFILM
Value from Innovation

FUJINON

Long Range Multi-Purpose Camera **FUJIFILM SX Series**

FUJIFILM
FUJIFILM Corporation
Imaging Solutions Division

⚠ Warning **For Your Safety**
Be certain to read the instruction for use before using any equipment.

*Product specifications, appearance, price, etc. are subject to change without advance notice.
*Product colors in this catalog may dif fer in appearance from the actual product due to photography and printing conditions.
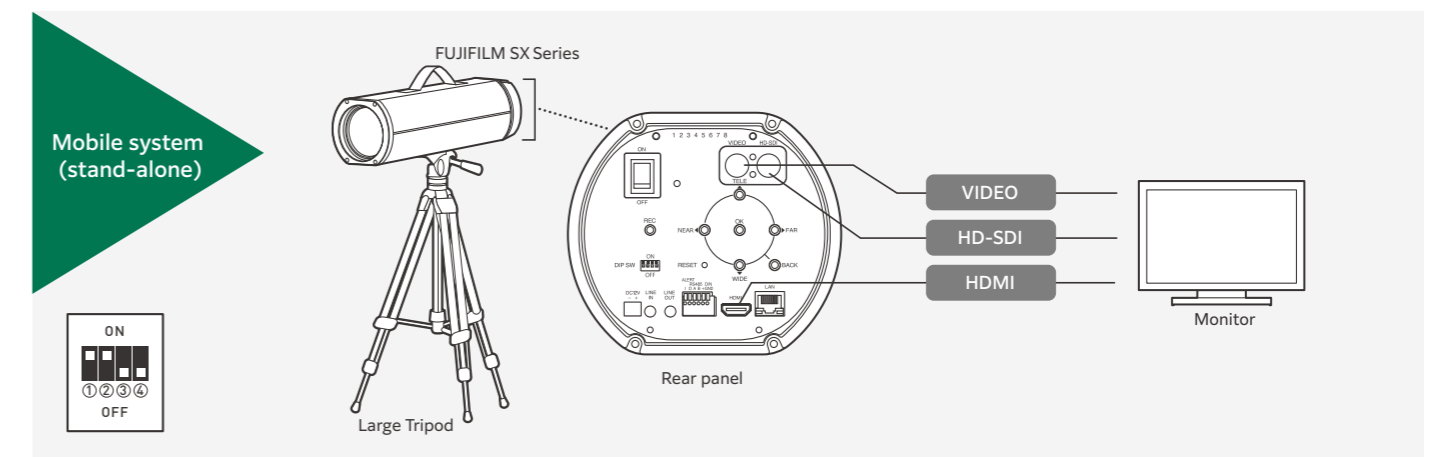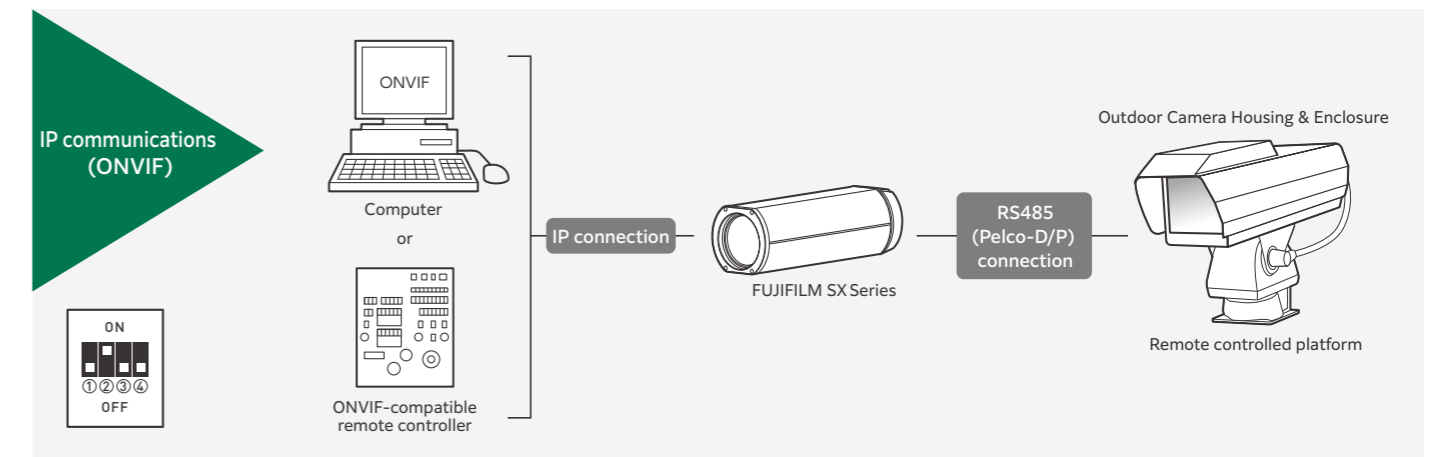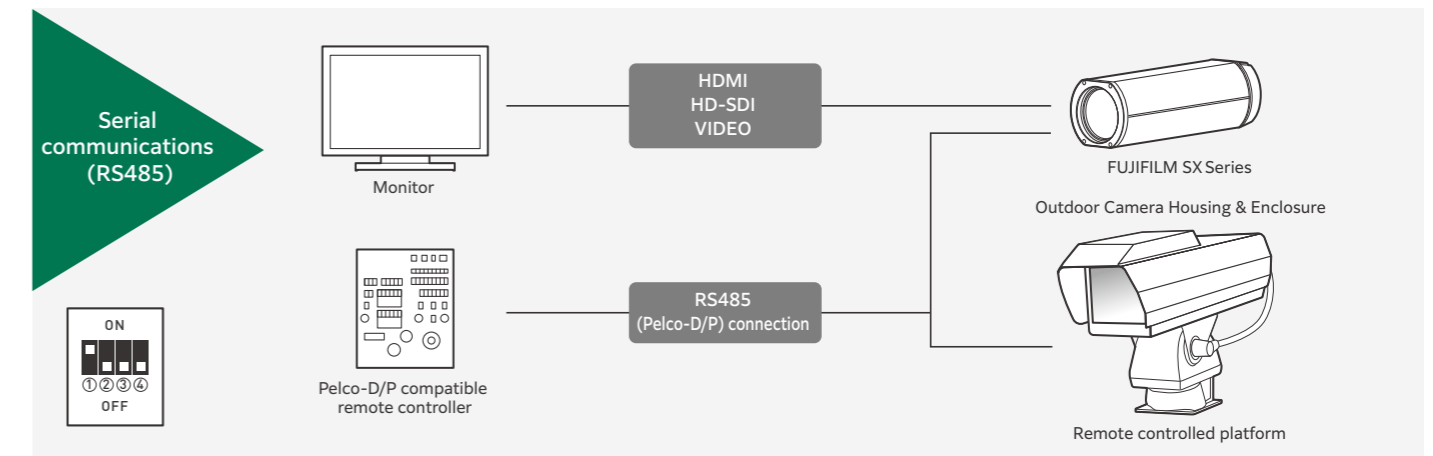
Advanced Safety, Security and Quality

The fusion of our high performance and quality lens manufacturing technology and our cutting edge image processing technology has resulted in our new SX camera series.

Supporting various interfaces to enable diverse system administration

The SX800 supports both serial communications [RS485] and IP communications [ONVIF] so that it can be incorporated into customers' existing systems in place. The RS485 protocol supports Pelco-D / Pelco-P* and can be downloaded from the FUJIFILM website.


Serial communications (RS485)

Monitor — HDMI HD-SDI VIDEO — FUJIFILM SX Series

Outdoor Camera Housing & Enclosure

Pelco-D/P compatible remote controller — RS485 (Pelco-D/P) connection — Remote controlled platform

IP communications (ONVIF)

Computer (ONVIF) or ONVIF-compatible remote controller — IP connection — FUJIFILM SX Series — RS485 (Pelco-D/P) connection — Outdoor Camera Housing & Enclosure / Remote controlled platform

Mobile system (stand-alone)

FUJIFILM SX Series — Large Tripod — Rear panel — VIDEO / HD-SDI / HDMI — Monitor

Note: This product is NOT waterproof. For outdoor use, please install in an outdoor housing.

Developing Systems & Technologies SX800/SX801

01 Long-range surveillance

Optical telephoto range 800mm (with digital zoom up to 1600mm, 80x zoom)

The SX800 is equipped with a 40x optical zoom lens that covers a broad range of focal lengths from 20mm on the wide angle end to 800mm on the telephoto end. It is complemented up to 2x digital zoom to achieve long-range surveillance equivalent to 1600mm in focal length.

20mm

800mm

1600㎜ Equivalent (with 2x digital zoom)
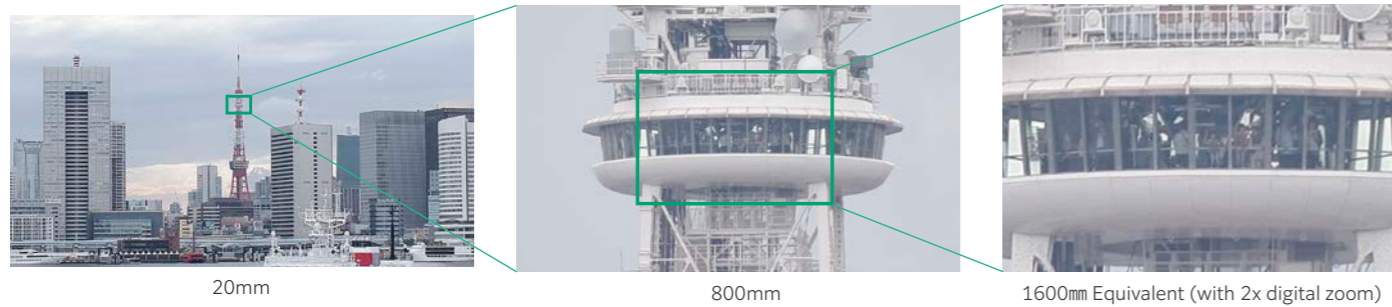
02 High-performance image stabilization

New image stabilization system

The SX800 combines optical image stabilization (OIS) and electronic image stabilization (EIS) to accurately compensate for camera shake, typically caused by gusts and footing vibrations at the site of camera installation. The system is particularly effective when shooting in the ultra-telephoto range, which is susceptible to even the slightest of shakes.

Without image stabilization

With image stabilization

New ceramic bead roller system

The SX800's OIS uses a unique "ceramic bead roller" system. Ceramic beads, processed in ultimate precision, minimizes friction and resistance to achieve advanced responsiveness and excellent durability in image stabilization.
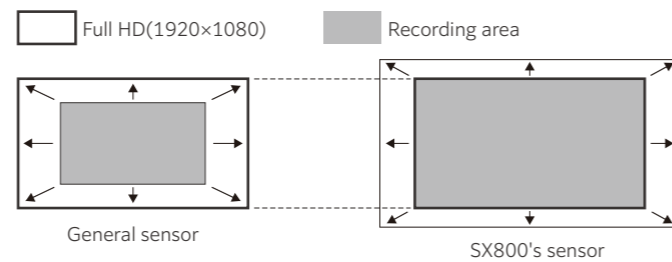
Use of new devices

The SX800 sports high-precision gyro sensors to accurately detect minute vibrations that could not be detected previously. The use of newly-developed high-thrust linear motor delivers an advanced level of accuracy and tracking performance.

High-performance EIS

In the EIS mode, the SX800 uses a sensor large enough for its lens's effective diameter to secure full HD resolution (1920 x 1080), thereby delivering footage of premium quality. The combined use with OIS also improves the durability of the image stabilization system substantially.

☐ Full HD(1920×1080)   ▢ Recording area

General sensor

SX800's sensor

Link to the product introduction video.
https://youtu.be/KHOtewwMMRU ►

03 High-speed AF system

On-sensor phase detection AF

The on-sensor phase detection AF uses phase detection pixels across the sensor to instantaneously measure distance according to the displacement of incident lights. The SX800 also offers "contrast AF," which detects areas of high contrast in images at high accuracy, and automatically switches to the optimum AF setting.

1
2
3
4
5

1. Micro lens
2. Color filter
3. Phase detection filter
4. Phase detection pixels
5. Photo diode
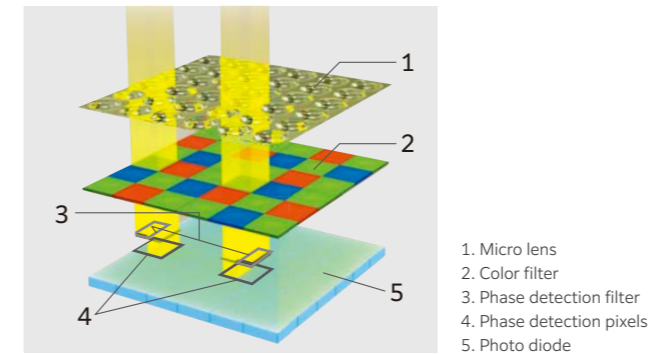
Rear Focus mechanism

The use of the Rear Focus mechanism has significantly reduced the weight of the focusing lens group. This has also dramatically increased the focus drive speed to enable "continuous AF." Users can choose between "Continuous AF," "Quick AF" and "Manual Focus" according to the conditions where the camera is used.

Continuous AF: Auto focus continues to operate and keeps adjusting the focus.
Quick AF: Automatically focuses on a subject once after zoom operation.
MF: Manually focus on the subject.

05 Simplified setup

Cameras with built-in lens

Conventional surveillance systems require the adjustment of optical axis and flange focal length when mounting a lens on a camera. The SX800, which carries a built-in lens, is shipped with such settings optimally adjusted to bring out maximum performance. The design also eliminates the need for complicated wiring, thereby significantly reducing man-hours at the time of installation.

04 Image processing technology

Low light conditions

The use of the highly sensitive sensor and the effect of advanced noise reduction mean the SX800 can shoot clear footage with minimal noise even in low light conditions.

ISO 400

ISO 204800
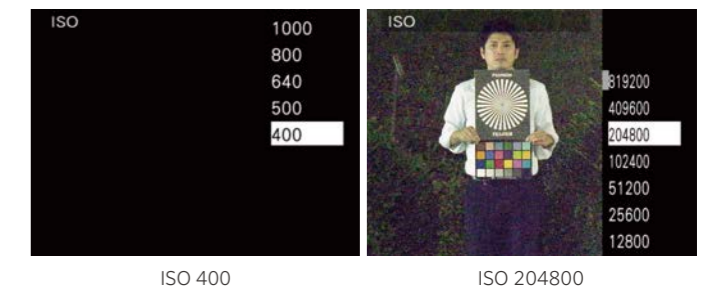
Fog reduction

The SX800 uses a unique imaging technology to bring vivid clarity to hazy images caused by light diffusion with airborne mist droplets and dust.

Fog reduction OFF

Fog reduction ON

Heat haze reduction

The SX800 uses a unique image processing technology to reduce the shimmering effect of heat haze, caused by large difference in atmospheric temperatures, to make the entire images easier to see.

06 Robustness

New design with advanced rigidity and portability

The SX800's aluminum extrusion body is highly rigid and exceptionally robust. A carrying handle* may be attached to the body, using screw holes at the top, for transporting convenience.

* FUJIFILM does not offer a carrying handle.
* This product is NOT waterproof.

Developing Systems & Technologies SX1600

01 Super long-range surveillance

Optical telephoto range 1600mm (with digital zoom up to 3200mm, 160x zoom)

The SX1600 is equipped with a 40x optical zoom lens that covers a broad range of focal lengths from 40mm on the wide angle end to 1600mm on the super-telephoto end. The effective area of the image on the sensor can be extended to 1.1" and widened to 20mm, a focal length similar to that of the SX800. Combined with a digital zoom of up to 2x, this enables a zoom range from a wide angle of 20mm to a telephoto of 3200mm equivalent* (160x zoom). When the effective area is extended, higher resolution images over Full HD (1920x1080) can be resized and processed to provide higher quality, clearer images.

* 1/1.8" equivalent focal length

1/1.8" equivalent focal length

20mm 40mm   800mm   1600mm 3200mm
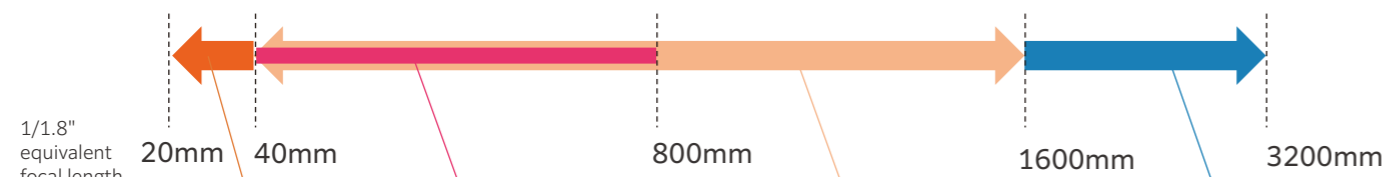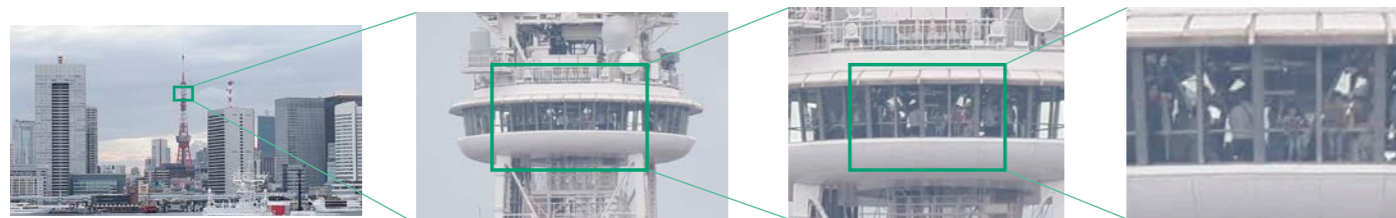
The effective area of the image on the sensor can be extended to 1.1" which allows for a wider 20mm focal length.

Effective area 1.1" provides clearer images by resizing the video signal.

40x optical zoom covering a wide range of focal lengths up to a super-telephoto 1600mm.

Up to 2x digital zoom functionality allows for a zoom range of 3200 mm.

02 Optical & Electronic capable image stabilization system

Stabilization correction angle 1.5x greater than SX800

The SX1600 offers a new developed image stabilization system with independent control of the optical stabilization (OIS) and electronic stabilization (EIS). The angle at which stabilization can be performed is increased by 1.5x which enables the stabilizer to compensate for greater vibration.

03 High-speed and high-precision AF

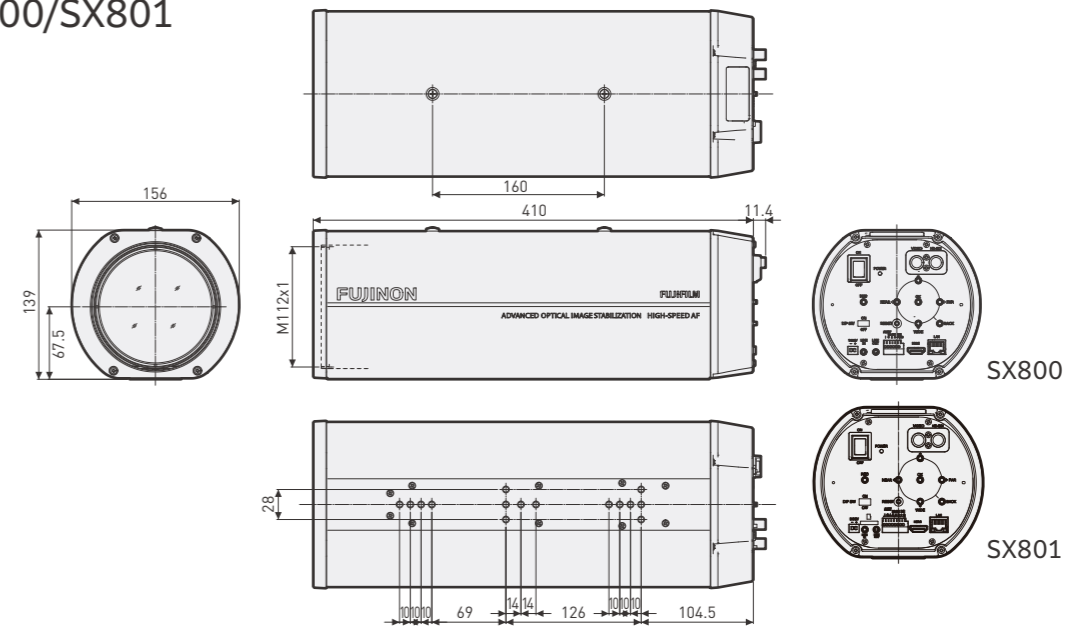### Minimum 0.1 second high-speed and high-precision AF

The SX1600 combines on-sensor phase detection AF, which instantly measures distance using phase detection pixels across on-sensor, and contrast AF, which detects areas of high contrast in images at high accuracy, to achieve an AF time with a minimum of 0.1 second.
The AF area for focusing can now be set more precisely, from 9 to 45 segments.
It can be freely customised to suit the size and position of the objects.
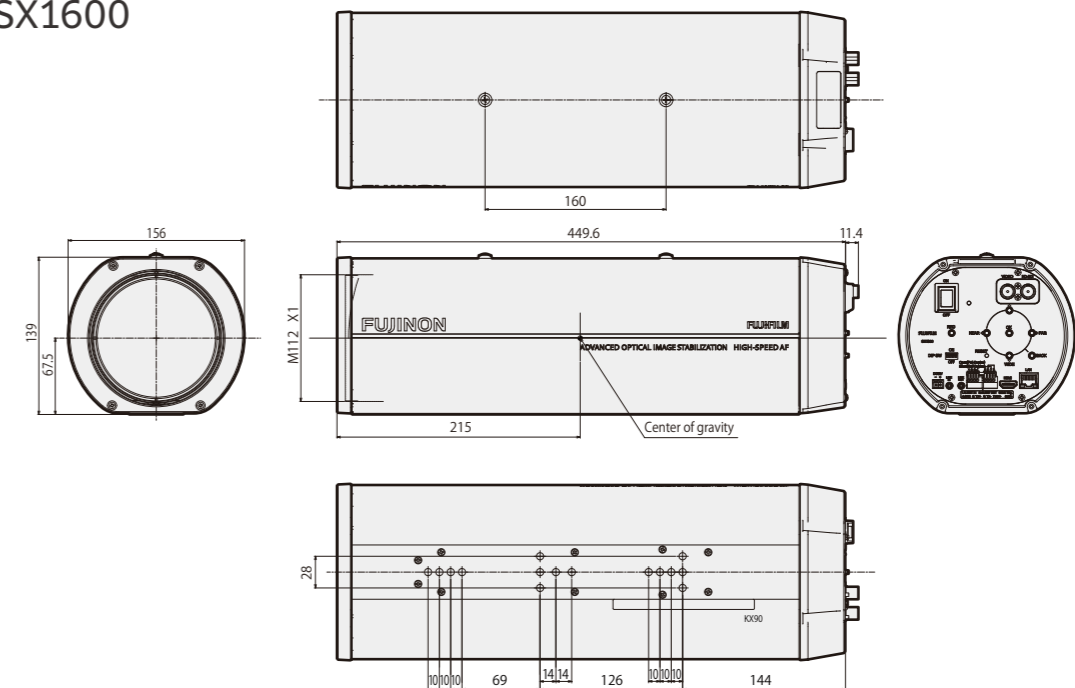
Link to the product introduction video.
https://youtu.be/OsoT4c5GI-4

Exterior view

SX800/SX801

156
139
67.5
410
160
11.4
M112x1
FUJINON FUJIFILM
ADVANCED OPTICAL IMAGE STABILIZATION   HIGH-SPEED AF
SX800
28
69 14 14 126 104.5
SX801

SX1600

156
139
67.5
449.6
160
11.4
M112 X1
FUJINON   FUJIFILM
ADVANCED OPTICAL IMAGE STABILIZATION   HIGH-SPEED AF
215
Center of gravity
28
69 14 14 126 144

⚠ CAUTIONS
· Use M4 screws with a thread engagement length of at least 4 mm and a protrusion of no more than 6 mm.
· Do not use the screw holes on top of the camera for any other purpose.

Handle thickness
4mm
Max.6mm

Screw Hole Specifications The specifications for the screw holes on the top and base of the camera are as follows:

	Type	Quantity	Depth	Tightening torque
Top	M4	2	Pass through (threaded depth 4 mm)	80–100 N·cm
Base	1/4", UNC 20 thread	15	10 mm	240–300 N·cm