



# Technical Specifications

## MOBOTIX MOVE 5MP Varifocal IR Vandal Turret

The MOBOTIX MOVE 5MP Varifocal IR Vandal Turret is designed to bring clarity and vigilance to your surveillance needs. This state-of-the-art turret camera with DNN-based video analytics combines advanced features with a compact and sleek design, making it an ideal choice for various indoor and outdoor applications. The Vari-Focal Turret Camera allows you to easily remote adjust the field of view and focus by a motorized lens, ensuring optimal positioning and alignment to meet the specific requirements of your surveillance scenario. The camera's weather-resistant design IP67 and IK10 ensures reliable operation even in challenging environmental conditions. Its compact turret form factor, combined with easy installation options, makes it a hassle-free choice.

- High Low-Light sensitivity
- 1/2.8" Progressive CMOS
- Motorized Vari-Focal Lens 2.7mm to 13.5mm
- WDR up to 120 dB
- Integrated adaptive IR Illumination, working distance up to 30 m/98 ft
- Triple Streaming H.264/H.265/MJPEG
- 2D & 3D Motion Compensated Noise Reduction (MCTF)
- ONVIF Profile S/G/T/M support
- Micro SD Card supports up to 512 GB.
- Integrated Microphone
- NDAA compliant
- DNN-based object detection with filtering (people/vehicles, etc.)
- Dual power Supply IEEE802.3af Class 3 / DC 12 V
- Temp. Range -30°C to 60°C/-22°F to 140 °F with integrated heater ON
- Protection Rate IP67 / IK10
- Intelligent Encoding, Smart Low Bitrate Control is same as Smart compression offering optimally useable bandwidth and storage.



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## Product Information

Product Name	5MP Varifocal IR Vandal Turret
Order Code	Mx-VT1A-503-IR

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## Hardware Design

Processor	Novatec NT98560 (Single-core ARM® Cortex®-A9, 960 MHz)
Memory	RAM: 512 MBytes FLASH: 256 MBytes
Image Sensor	5MP, 1/2.8" Progressive CMOS
Effective (Used) Pixels	2688x1944 (5MP)

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## Lens

Minimum Illumination	Color: 0.18 lux B/W: 0.09 lux, (0 lux, IR on) F1.6, AGC=on, 30 IRE, 1/1 s
Lens Characteristics	Vari-Focal Lens Focal Length: 2.7mm to 13.5mm Aperture: F1.4-2.8 H x V FOV: 103°-31°(H) 76°-23°(V)

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## Camera

Day/Night	Automatically switchable IR-cut filter
Shutter Speed	Auto / Manual / WDR: 1 to 1/10000 s
Shutter Priority Mode	Up to 1/7.5 s
Frame Rate (maximum)	<b>WDR on/off:</b> H.265/H.264: 5MP@30 fps MJPEG: 1080p@30 fps
Auto Gain	Min. gain: 0 dB, max. gain: 36 dB, step size: 3
WDR	Up to 120 dB

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Zoom	Motorized optical: 2.67x
Image Settings	Color, Brightness, Sharpness, Contrast, White Balance, Gain Control, 2DNR, 3DNR, BLC, EV, Gamma corection, Saturation, Hue
Image Rotation	90°, 180°, 270°
Camera Body Adjust	Pan/Tilt/Rotation

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## Video Codec

Compression/Encoding	H.265/H.264/MJPEG
Streaming	Up to 3 individually configurable streams in H.264/H.265/MJPEG. Configurable resolution, frame rate, bandwidth CVBR/CBR/istream in H.265/H.264

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## Audio Codec

Compression/Encoding	G.711a/u
Streaming	One-way
Audio Input	Integrated Microphone

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## Network

Interface	10/100 Mbps Ethernet
Supported Protocols	ARP, DHCP, DNS, FTP, HTTP, HTTPS, ICMP, IGMP, IPv4/6, NTP, RTSP/RTCP/RTP, RTMP, QoS, SMTP, SNMP v1/2c/3, TCP, TLS/TTLS, UDP, UPnP, 802.1X, Bonjour, DDNS, PPPoE
ONVIF conformance	Supports profiles S/G/T/M
Supported Browsers	Microsoft Edge, Firefox, Google Chrome

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## System Integration

#### Event Actions

- Schedule Recording (JPG/MP4)
- DNN-based video analytics (line counting, border line, object classification/filtering for people, vehicles, etc.)
- Video and audio recording to edge storage
- File upload: FTP and email
- Notification: Email (JPG)
- OSD indication
- SD Card recording (\*JPG/MP4)

## General

#### Housing Material

Metal

#### Housing Color

RAL 9003

#### Adaptive IR Illumination

850 nm; up to 30 m/98 ft distance depending on reflection of scenery

#### Video Storage

Micro SD card support up to 512 GB.  
Support for recording to MOVE NVR, MOBOTIX Cloud (via MOBOTIX Bridge), MOBOTIX HUB, MxMC (via MOBOTIX NAS)

#### Remotely Upgradable

Yes

#### Power Requirements

IEEE802.3af, class 3, max 10 watt  
DC12V, max 10 watt

#### Connectors

- RJ45
- 1 x DC 12V Jack Socket
- 1 x Reset / Default Button

#### Environmental Protection Class

IP67/IK10

#### Operating Temperature

-30°C to 60°C/-22°F to 140 °F with integrated heater ON

#### Relative Humidity

95 % non-condensing

#### Storage Conditions

-40 to 60 °C/-4 to 158 °F

#### Approvals

EMC: CE, FCC, BIS

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Safety: LVD

Warranty	5 years; mechanically wearable parts (motor, gears, belts, etc.) excluded
Dimensions	ø 120 x 104 mm (overall)
Weight	715 g

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**NOTE!** Observe the [MOBOTIX MOVE Installation Hints](#) document to ensure optimum performance of the camera features.

# DORI Specifications

In the video surveillance context, “DORI” stands for Detection, Observation, Recognition and Identification and is based on IEC EN62676-4: 2015. These levels define the minimum pixels that a face of a person must have to provide proper identification, for example.

- **Detection:** Up to this distance, you can reliably determine if a person or vehicle is present.
- **Observation:** Up to this distance, you can see characteristic details of an individual, such as distinctive clothing.
- **Recognition:** Up to this distance, you can determine with a high degree of certainty whether an individual is the same as someone that has been seen before.
- **Identification:** Up to this distance, you can determine the identity of an individual beyond reasonable doubt.

DORI Level Order Code	Focal Length	Detection	Observation	Recognition	Identification
Mx-VT1A-503-IR	2.7 mm (Wide)	23 m/ 75.66 ft	12 m/ 39.47 ft	9.8 m/ 32.24 ft	4 m/ 13.16 ft
	13.5 mm (Tele)	52 m/ 171.05 ft	31.6 m/ 103.95 ft	25.8 m/ 84.87 ft	10.9 m/ 35.86 ft

## Dimensions

**NOTE!** Download the drilling template from the section or on the MOBOTIX website: [www.mobotix.com](http://www.mobotix.com) > [Support](#) > [Download Center](#) > [Marketing & Documentation](#) > [Drilling Templates](#).

**CAUTION!** Always print or copy the drilling template at 100% of the original size!

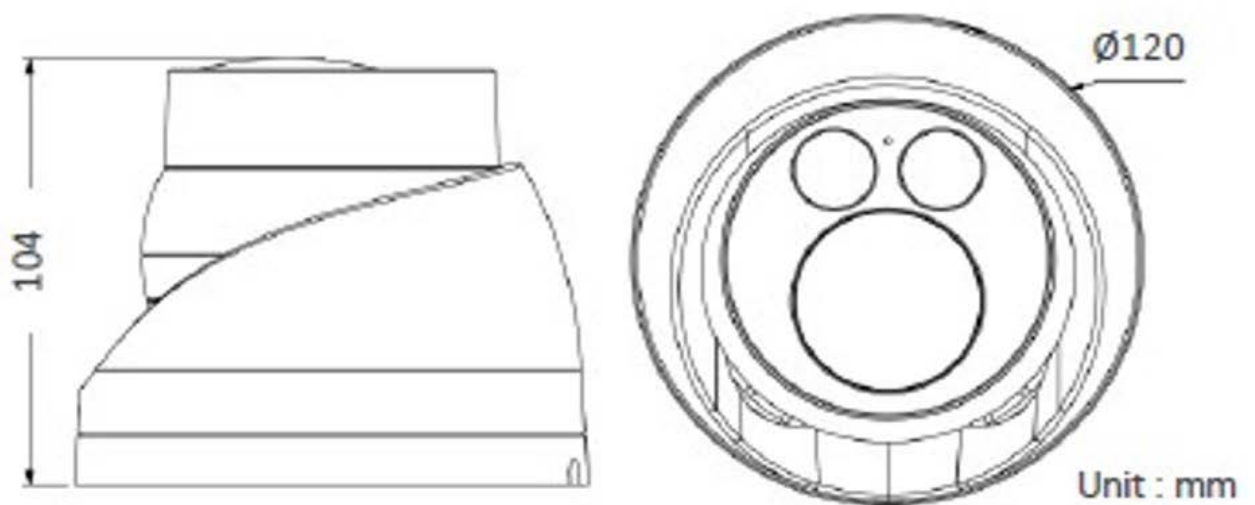




Fig. 1: Mx-VT1A-503-IR: All measurements in mm

# Accessories for Vandal Turret Cameras




Picture/ Order Code	Description	Compatible Products	Material/ Color	Weight
 <p data-bbox="245 965 384 992">Mx-M-SD-C</p>	<p>Weatherproof corner mount for MOVE Speed Dome/Vandal Turret cameras.</p>	<p>All MOVE Speed Dome/Vandal Turret cameras. Requires Mx-M-SD-W or Mx-M-SD-WL.</p>	<p>SPCC steel, hammer-blow painted RAL9003</p>	<p>2.17 kg</p>
 <p data-bbox="245 1615 384 1641">Mx-M-SD-P</p>	<p>Weatherproof pole mount for MOVE Speed Dome/Vandal Turret cameras.</p>	<p>All MOVE Speed Dome/Vandal Turret cameras. Requires Mx-M-SD-W or Mx-M-SD-WL.</p>	<p>Zinc-galvanized SECC steel, powder-coated RAL9003</p>	<p>1.58 kg</p>

**CAUTION!** Cannot be used with MX-M-SD-WM!

**CAUTION!** Cannot be used with MX-M-SD-WM!





MOBOTIX MOVE 5MP Varifocal IR Vandal Turret

Picture/ Order Code	Description	Compatible Products	Material/ Color	Weight
	<p>Weatherproof pole mount for MOVE Speed Dome/Vandal Turret cameras <b>for extreme conditions.</b></p>	<p>All MOVE Speed Dome/Vandal Turret cameras. Requires Mx-M-SD-W or Mx-M-SD-WL.</p>	<p>Stainless steel 3 mm, white</p>	<p>1.23 kg</p>
<p>MX-MH-SecureFlex-ESWS</p>		<p><b>CAUTION!</b> Cannot be used with MX-M-SD-WM!</p>		
	<p>Weatherproof wall mount for MOVE Speed Dome/Vandal Turret cameras.</p>	<p>All MOVE Speed Dome/Vandal Turret cameras. Can be combined with Mx-M-SD-C or Mx-M-SD-P.</p>	<p>Die-cast ADC12 aluminium alloy, hammer-blow painted RAL9003</p>	<p>0.84 kg</p>
<p>Mx-M-SD-W</p>				
	<p>Extended weatherproof wall mount for MOVE Speed Dome/Vandal Turret cameras.</p>	<p>All MOVE Speed Dome/Vandal Turret cameras. Can be combined with Mx-M-SD-C or Mx-M-SD-P.</p>	<p>Die-cast ADC12 aluminium alloy, hammer-blow painted RAL9003</p>	<p>1.5 kg</p>
<p>Mx-M-SD-WL</p>				

## Technical Specifications


### MOBOTIX MOVE 5MP Varifocal IR Vandal Turret

Picture/ Order Code	Description	Compatible Products	Material/ Color	Weight
	<p>Weatherproof wall mount for MOVE Speed Dome/Vandal Turret cameras. Can also be mounted on top of wall mount junction box MX-M-SD-WMJB.</p>	<p>All MOVE Speed Dome/Vandal Turret cameras.</p>	<p>Die-cast ADC12 aluminium alloy, RAL9003</p>	<p>1.3 kg</p>
<p>MX-M-SD-WM</p>		<p>All MOVE Speed Dome/Vandal Turret cameras.</p>	<p>Bracket: Steel, powder-coated RAL9003 Junction box: Die-cast ADC12 aluminium alloy, RAL9003</p>	<p>4.8 kg</p>
<p>MX-M-SD-WMJB</p>	<p>Weatherproof wall mount junction box (IP67) for MOVE Speed Dome/Vandal Turret cameras. Allows for comfortable cabling and installation of additional HW equipment such as PoE Injectors, lightning protection, etc.</p>	<p><b>CAUTION!</b> Only to be used as base for Mx-M-SD-WM (wall mount is mounted on top of junction box).</p>		

MOBOTIX MOVE 5MP Varifocal IR Vandal Turret

Picture/ Order Code	Description	Compatible Products	Material/ Color	Weight
	Pendant mount kit incl. base mount, 25 cm/10 in pendant pipe, installation materials and safety wires 50 cm/20 in & 1 m/39 in.	All MOVE Speed Dome/Vandal Turret cameras.	Die-cast ADC10 aluminium alloy, powder-coated RAL9003	1.58 kg



MX-M-SD-PM

	Extension pipe 25 cm/10 in for MX-M-SD-PM.	Extends MX-M-SD-PM; max. extended total length is 1 m/39 in (3 extensions).	Die-cast ADC10 aluminium alloy, powder-coated RAL9003	0.8 kg
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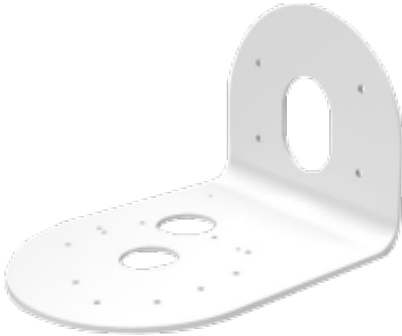

MX-M-SD-PMEXT

## Technical Specifications

### MOBOTIX MOVE 5MP Varifocal IR Vandal Turret

Picture/ Order Code	Description	Compatible Products	Material/ Color	Weight
	<p>Weatherproof parapet mount (goose neck; IP67) with integrated junction box for MOVE Speed Dome/Vandal Turret cameras.</p> <p>Integrated junction box allows for comfortable cabling and installation of additional hardware equipment such as PoE Injectors, lightning protection, etc.</p>	<p>All MOVE Speed Dome/Vandal Turret cameras.</p>	<p>Bracket and goose neck: Steel, powder-coated RAL9003</p> <p>Junction box: Die-cast ADC12 aluminium alloy, RAL9003</p>	<p>14.8 kg</p>
<p>MX-M-SD-GN</p>				
	<p>Adapter mounting plate for MOVE Vandal Turret cameras.</p>	<p>All MOVE Vandal Turret (VT) cameras.</p>	<p>Bracket: Die-cast ADC12 aluminium alloy, stove-enamel finish RAL9003</p> <p>Mounting plate: A1050P aluminium alloy, stove-enamel finish RAL9003</p>	<p>0.3 kg</p>
<p>Mx-M-VT-AP</p>				

MOBOTIX MOVE 5MP Varifocal IR Vandal Turret

Picture/ Order Code	Description	Compatible Products	Material/ Color	Weight
	<p>Wall mount for MOVE Vandal Turret cameras.</p>	<p>All MOVE Vandal Turret (VT) cameras.</p>	<p>A1050P aluminium alloy, stove-enamel finish RAL9003</p>	<p>0.3 kg</p>
<p>Mx-M-VT-WM</p>	<div data-bbox="188 808 592 1088">  </div>			
<p>Mx-M-VT-JB</p>	<p>Junction box for MOVE Vandal Turret cameras.</p>	<p>All MOVE Vandal Turret (VT) cameras.</p>	<p>Top/bottom covers: Die-cast ADC12 aluminium alloy, stove-enamel finish RAL9003</p>	<p>0.85 kg</p>



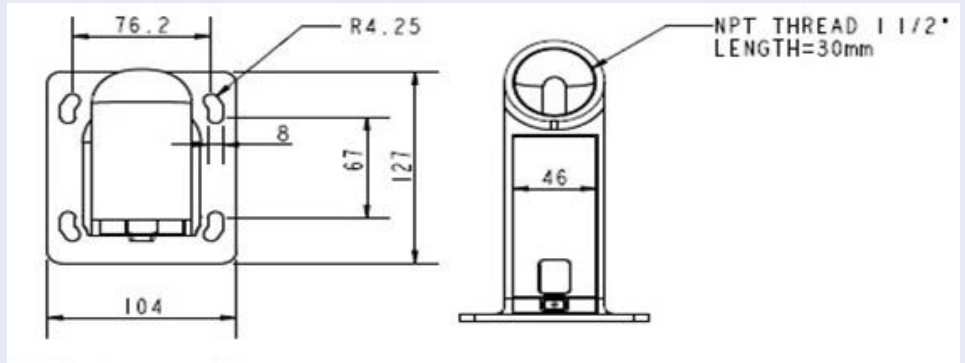
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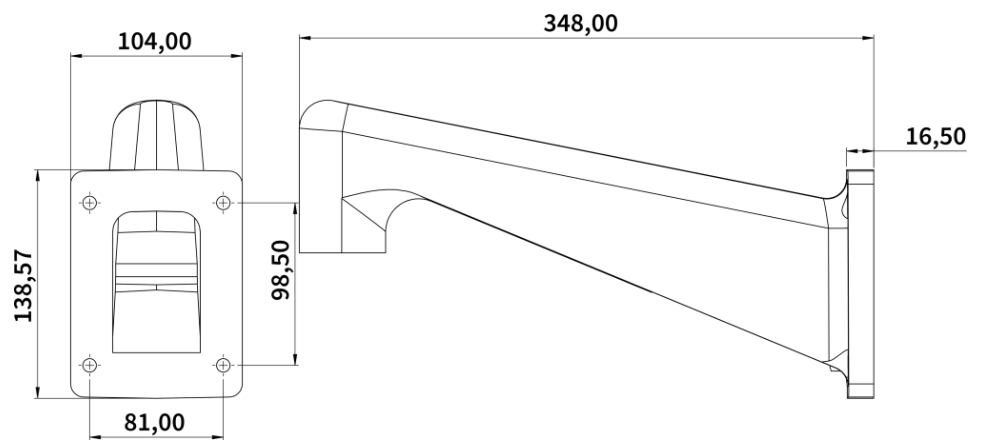
### Order Code

### Dimensions

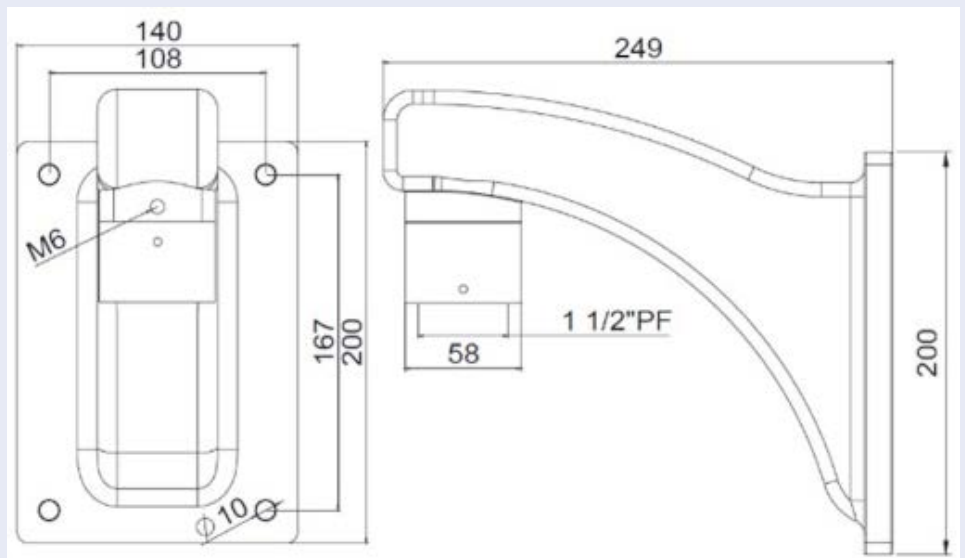
Mx-M-SD-W



Mx-M-SD-WL



MX-M-SD-WM



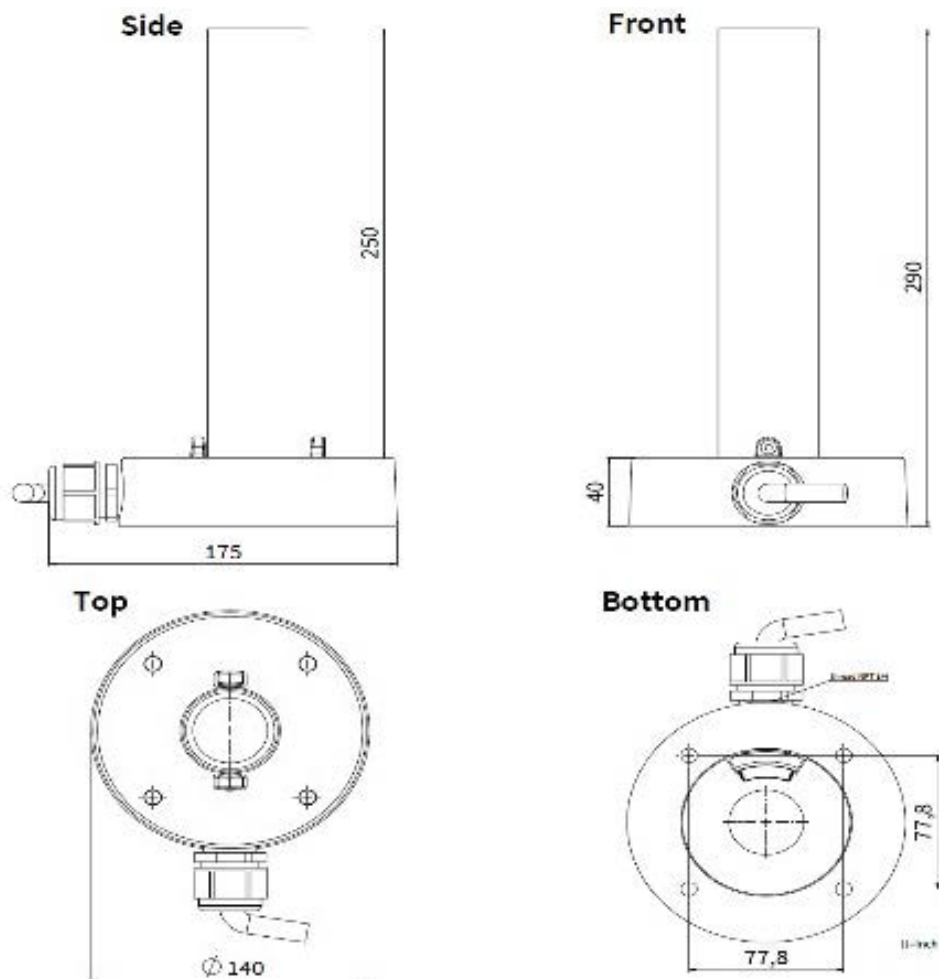
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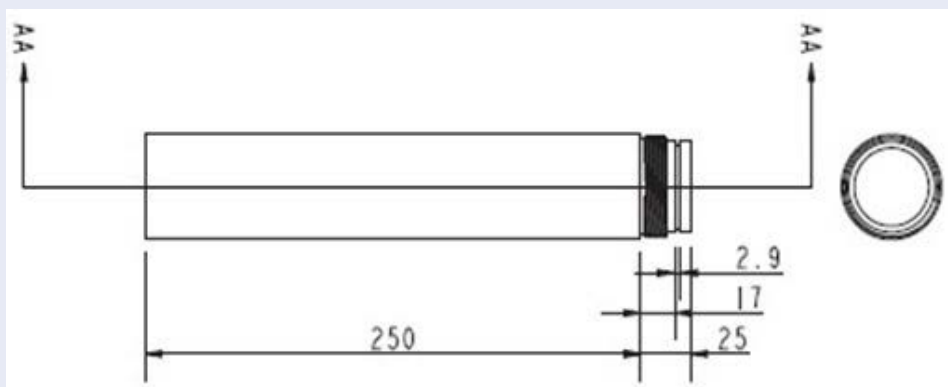
#### Order Code

MX-M-SD-PM

#### Dimensions



MX-M-SD-PMEXT

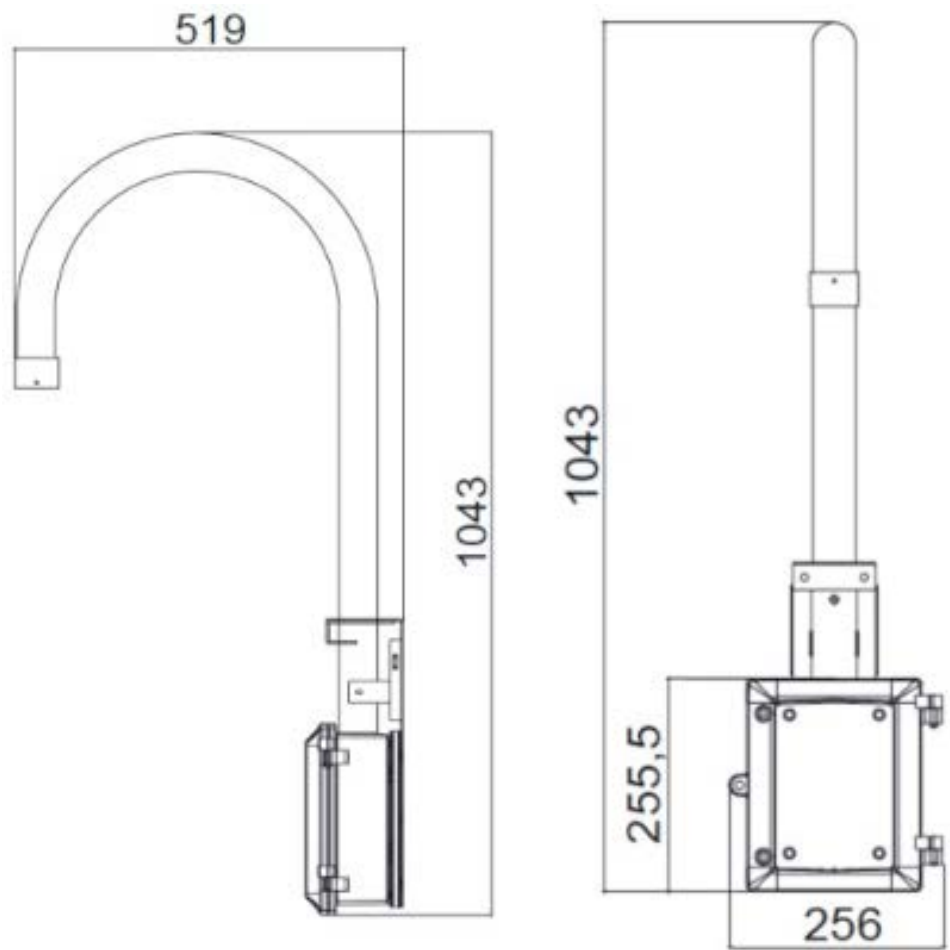




Order Code

MX-M-SD-GN

Dimensions



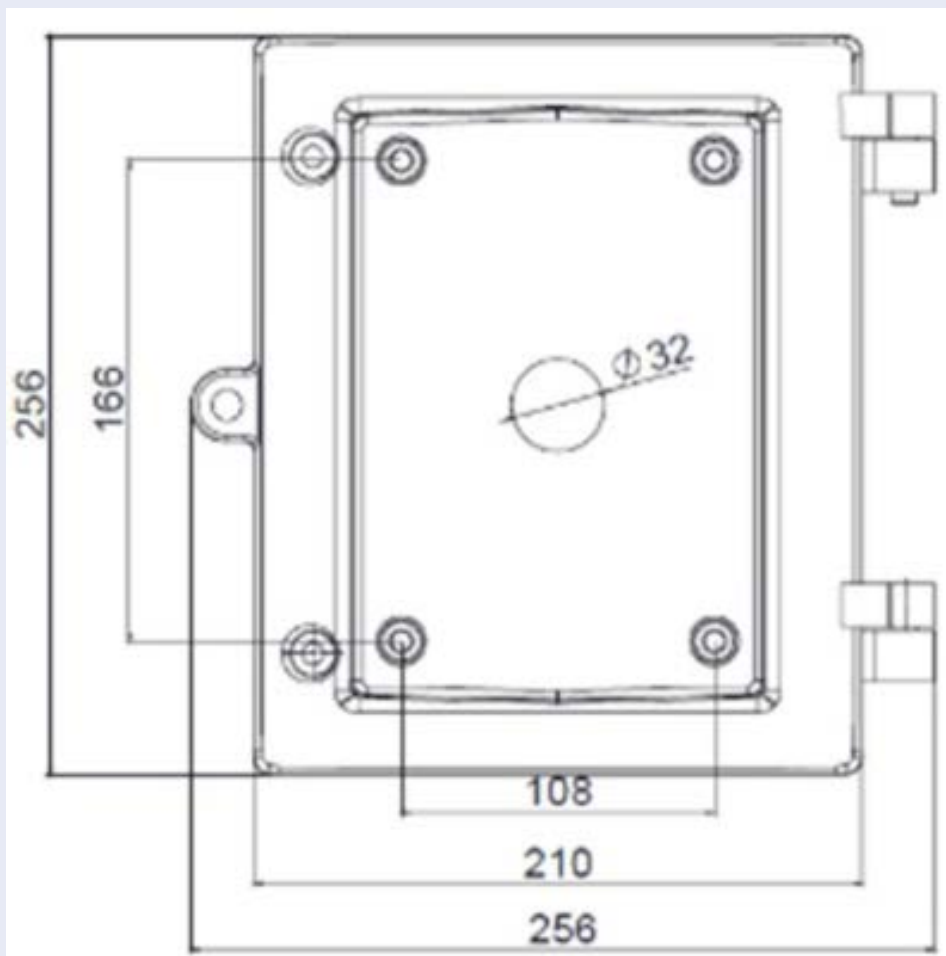
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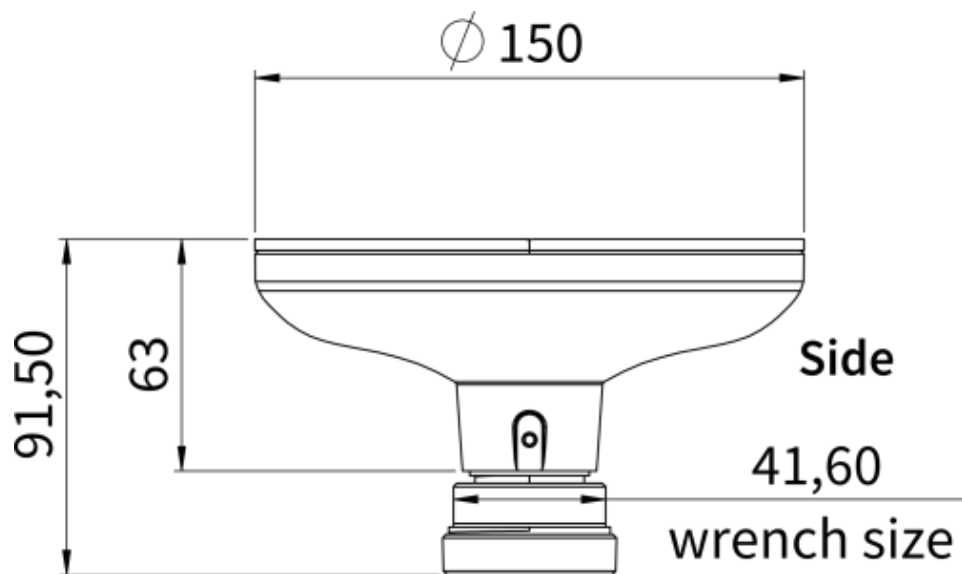
#### Order Code

MX-M-SD-WMJB

#### Dimensions



Mx-M-VT-AP



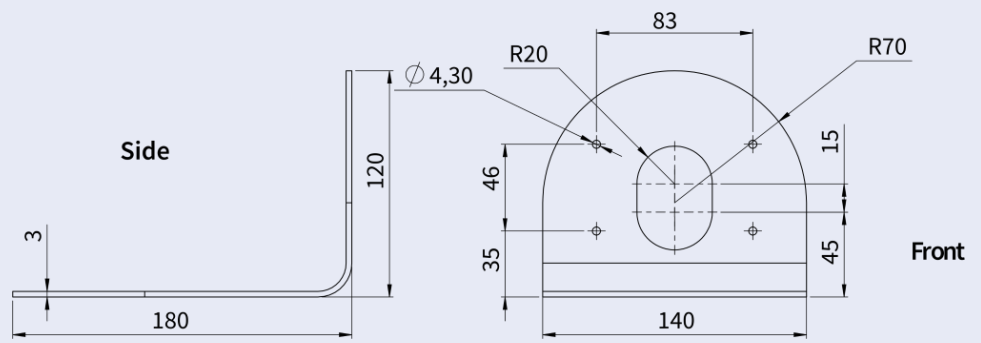
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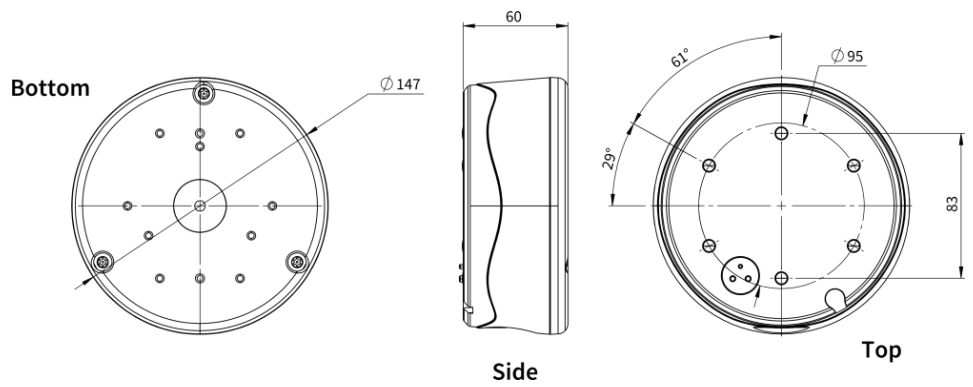
### Order Code

Mx-M-VT-WM

### Dimensions



Mx-M-VT-JB



## Accessories for All Cameras

Picture/ Order Code	Description	Compatible Products	Material/ Color	Weight
 <p data-bbox="169 1070 440 1099">MX-NPA-UPOE1A-60W</p>	<p data-bbox="533 517 911 1283">UPoE Power Injector 60W. PoE++ 60W Network Power injector • AC Input Voltage: 100 to 240 VAC (50 to 60Hz) • AC Input Current: 1.5A @100-240 VAC • Operating Ambient Temperature: • -10° to 40°C @60W • -10° to 50°C, humidity 10 to 90% @30W • IEEE 802.3bt compliant • Output power of 60W over 4-pairs • Supports 10/100/1000Base-T applications • Plug-and-play installation • Full Protection OVP, OCP• Supports 10/100/1000Base-T applications.</p>	All cameras.	Plastic hous- ing, black	0.45 kg
 <p data-bbox="169 1733 440 1762">Mx-A-ETP1A-2601-SET</p>	<p data-bbox="533 1317 911 1948">Media converter set Ethernet (PoE+) – Twisted-Pair. Complete set consisting of two two-wire transmit/receive units for establishing an Ethernet transmission path via twisted-pair cables. • Transmission of Ethernet and PoE+ power supply via two-wire line according to IEEE1901. • Simple connection of 10/100 Mbps Ethernet end devices • Max. 95 Mbps transmission bandwidth, range up to</p>	All cameras. Requires Mx-A-ETP1A-2601-POW.	Plastic hous- ing, black	0.368 kg


**MOBOTIX MOVE 5MP Varifocal IR Vandal Turret**

Picture/ Order Code	Description	Compatible Products	Material/ Color	Weight
	<p>600 m/656 yd for data only, 300 m/328 yd for PoE depend- ing on the quality of the twis- ted-pair link • 128 bit AES network data encryption • Power supply 2-wire trans- mitter (Tx) and receiver (Rx) as well as end device via PoE+ network switch or external power supply 56VDC / 1.2A (not included!) • Connected end devices are supplied via PoE switch IEEE802.3af(PoE), IEEE802.3at (PoE+), UPoE up to 60W (requires ext. power supply unit). • Status LEDs (data, power supply, data link, PoE) • Integrated Over- voltage protection (IEC 61000- 4-5 4kV(1.2 / 50us), 2kA(8 / 20us)) • Power Supply: TX: T- Linx or DC12V~57V, RX: PoE Switch or DC48V~57V • Oper- ational temperature: -20 to 60°C • Dimensions: 80.4(L) x 61.6(W) x 24(H)mm • Weight: RX/TX: 102g • Warranty: 2 years</p>			

## Technical Specifications

### MOBOTIX MOVE 5MP Varifocal IR Vandal Turret

Picture/ Order Code	Description	Compatible Products	Material/ Color	Weight
 Mx-A-ETP1A-2601-POW	<p>Plug-type power supply for Mx-A-ETP1A-2601-SET.</p> <p>Output: 57V DC +/-3% / 1.2 A • Input: 90-260V AC (47-63Hz) • 68,4 Watt • Operating Temperature: 0-40°C/32-122°F</p>	Mx-A-ETP1A-2601-SET	Plastic housing, black	0.49 kg
 Mx-A-KBD1A-PTZ-JOG	<p>MOBOTIX USB Keyboard with PTZ Joystick &amp; Jog-Shuttle.</p> <p>USB control panel for operating MOBOTIX MxMC 2.6 and higher and MOBOTIX HUB incl. Control of software PTZ and motorized PTZ cameras and pan/tilt devices • Integrated 3-axis joystick • Integrated jog shuttle • 38 control keys with backlight predefined for MxMC functions or freely definable for MOBOTIX HUB • Integrated alarm buzzer • Suitable for operation as HID device on MOBOTIX VMS with Windows and MAC based operating systems via USB 2.0 • Suitable for right- and left-handed users • Power supply: USB, max. 350 mA • Operating temperature: 0°-45°C/32-113 °F.</p>	All cameras. Requires Windows or macOS computer with USB 2.0 or better.	Plastic housing, black	1.9 kg

Picture/ Order Code	Description	Compatible Products	Material/ Color	Weight
	<p>MOBOTIX network switch for DIN (top-hat) rail mounting. 5x RJ45 port with 100 MBit/s (1x uplink, 4x PoE+ with max. 75 W). Supply: 48 V DC, max. 75 W. Simplified cabling for door stations due to available connectivity for anti-theft protection, door opener and MxBus. MxBus, anti-theft protection, door and lock contact can be connected via separate wires of Ethernet cable.</p>	<p>All cameras.</p>	<p>Plastic housing, gray</p>	<p>0.31 kg</p>
<p>MX-SWITCH1</p>				

## Further Reading

[Manuals and Quick Installation documents](#)



[Technical Specifications](#)



[MOBOTIX MOVE Installation Hints](#)



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