



Network Camera

Appendix – Specifications



VB-R11VE (H2)/VB-R11VE/VB-R11

VB-R10VE (H2)/VB-R10VE

VB-M641VE/VB-M641V

VB-M640VE/VB-M640V

VB-M741LE (H2)/VB-M741LE-H/VB-M741LE

VB-M740E (H2)/VB-M740E

Specifications

Explanations that differ depending on the camera model are indicated by the camera name and the following symbols.

R11 VB-R11VE (H2), VB-R11VE, VB-R11 **R10** VB-R10VE (H2), VB-R10VE
M641 VB-M641VE, VB-M641V **M640** VB-M640VE, VB-M640V
M741 VB-M741LE (H2), VB-M741LE-H, VB-M741LE **M740** VB-M740E (H2), VB-M740E

The cameras described in this manual may include models not available in your country and/or region.

ONVIF® is a trademark of Onvif, Inc.

Brands or product names in this guide are trademarks or registered trademarks of their respective companies.

■ Camera

Image Sensor	1/3 type CMOS (primary color filter)
Number of Effective Pixels	Approx. 1.3 million pixels
Scanning Method	Progressive
Lens	R11 R10 30x optical zoom (20x digital zoom) lens with auto focus M641 M640 M741 M740 2.4x optical zoom (4x digital zoom) lens (electric drive)
Focal Length	R11 R10 4.4 (W) – 132 mm (T) *1 M641 M640 M741 M740 2.55 (W) – 6.12 mm (T)
35mm Equivalent Focal Length (approx.) *2	R11 R10 31.3 (W) – 939 mm (T) M641 M640 M741 M740 18.1 (W) – 43.4 mm (T)
F-number	R11 R10 F1.4 (W) – F4.6 (T) M641 M640 M741 M740 F1.2 (W) – F1.8 (T)
Viewing Angle For 16:9 aspect ratios	R11 R10 Horizontal: 58.4° (W) – 2.1° (T) Vertical: 34.1° (W) – 1.2° (T) M641 M640 Horizontal: 111.5° (W) – 46.2° (T) Vertical: 60.5° (W) – 25.9° (T) M741 M740 Horizontal: 113.4° (W) – 46.5° (T) Vertical: 61.4° (W) – 26.2° (T)
For 4:3 aspect ratios	R11 R10 Horizontal: 58.4° (W) – 2.1° (T) Vertical: 45.0° (W) – 1.6° (T) M641 M640 Horizontal: 111.5° (W) – 46.2° (T) Vertical: 81.7° (W) – 34.6° (T) M741 M740 Horizontal: 113.4° (W) – 46.5° (T) Vertical: 83.0° (W) – 34.9° (T)
Day/Night Switch	Auto/Day Mode/Night Mode

Min. Subject Illumination Day Mode (color)	R11 R10 0.03 lux (F1.4, shutter speed 1/30 sec., when smart shade control is off, 50IRE) When using the Dome Unit (Smoked) (sold separately): 0.06 lux (F1.4, shutter speed 1/30 sec., when smart shade control is off, 50IRE) M641 M640 0.02 lux (F1.2, shutter speed 1/30 sec., when smart shade control is off, 50IRE) When using the Dome Unit (Smoked) (sold separately): 0.04 lux (F1.2, shutter speed 1/30 sec., when smart shade control is off, 50IRE) M741 M740 0.02 lux (F1.2, shutter speed 1/30 sec., when smart shade control is off, 50IRE)
Night Mode (monochrome)	R11 R10 0.002 lux (F1.4, shutter speed 1/30 sec., when smart shade control is off, 50IRE) When using the Dome Unit (Smoked) (sold separately): 0.004 lux (F1.4, shutter speed 1/30 sec., when smart shade control is off, 50IRE) M641 M640 0.001 lux (F1.2, shutter speed 1/30 sec., when smart shade control is off, 50IRE) When using the Dome Unit (Smoked) (sold separately): 0.002 lux (F1.2, shutter speed 1/30 sec., when smart shade control is off, 50IRE) M741 0 lux (F1.2, shutter speed 1/30 sec., when smart shade control is off, 50IRE with IR light on) 0.001 lux (F1.2, shutter speed 1/30 sec., when smart shade control is off, 50IRE) M740 0.001 lux (F1.2, shutter speed 1/30 sec., when smart shade control is off, 50IRE)
Focus	Auto/One-shot AF/Manual/Fixed at infinity
Shooting Distance (from front of lens)	R11 R10 Day Mode: 0.3 m (12 in.) – infinity (W), 2.0 m (6.6 ft.) – infinity (T) Night Mode: 1.0 m (3.3 ft.) – infinity (W), 2.0 m (6.6 ft.) – infinity (T) M641 M640 M741 M740 Day Mode/Night Mode: 0.3 m (12 in.) – infinity
Shutter Speed	1, 1/2, 1/4, 1/8, 1/15, 1/30, 1/50, 1/60, 1/100, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/8000, 1/10000, 1/16000 sec.
Exposure	Auto/Auto (Flickerless)/Auto (Shutter-priority AE)/Auto (Aperture-priority AE)/Manual (Shutter Speed, Aperture, Gain)
White Balance	Auto/Manual Daylight Fluorescent/White Fluorescent/Warm Fluorescent/Mercury Lamp/Sodium Lamp/Halogen Lamp Manual: One-shot WB/R Gain/B Gain
Metering Mode	Center-Weighted/Average/Spot
Exposure Compensation	9 levels
Smart Shade Control ^{*3}	Auto/Manual/Disable Auto: 3 levels Manual: 7 levels
Haze Compensation	Auto/Manual/Disable Auto: 3 levels Manual: 7 levels
AGC Limit	6 levels
Image Stabilizer	2 levels (digital)
Motion-Adaptive NR (Noise Reduction)	Available
IR Illumination Range	M741 (T) 30 m (98.4 ft.) (When using 24 V AC, PoE+) 20 m (65.6 ft.) (When using 12 V DC, PoE)
Pan Angle Range	R11 R10 360° continuous panning M641 M640 350° (±175°) M741 M740 344° (±172°)
Tilt Angle Range	R11 R10 180° (ceiling-mounted position: 0° – 180°) ^{*4 *5} M641 M640 150° (±75°) M741 M740 93° (-3° – +90°) ^{*6}

Rotation Angle Range	M641 M640 350° (±175°) M741 M740 344° (±172°)
Moving Speed	R11 R10 Pan: Max. 450°/sec. Tilt: Max. 450°/sec. M641 M640 (When using the camera angle in the Setting Page) Pan: 20.1°/sec. Tilt: 20.7°/sec. Rotation: 40.0°/sec.

- *1 (W): maximum wide angle, (T): maximum telephoto
- *2 35mm equivalent focal length is derived by using the proportional calculation based on the diameter of the image circle. As a result, actual viewing angle may differ from the imagined angle of a 35mm equivalent focal length, depending on the properties of the lens.
- *3 Brightens shaded areas of a video.
- *4 When the horizontal direction of the camera is 0°
- *5 When the tilt angle is between angles below, the dome cover can cause a line to appear in the video, as well as a decline in the video quality.
0° – 12° (168° – 180°) (W)
0° – 5° (175° – 180°) (T)
- *6 Camera is at 0° when attached to the ceiling and facing straight down, and 90° when at a horizontal position.

Server

Video Compression Method	JPEG, H.264
Video Size	JPEG, H.264: 1280 x 720, 640 x 360, 320 x 180 1280 x 960, 640 x 480, 320 x 240
Video Quality	JPEG, H.264: 10 levels
Frame Rate ^{*7}	JPEG: 0.1 – 30 fps H.264: 1/2/3/5/6/10/15/30 fps Maximum frame rate when used in the following combinations: When streaming H.264(1) (1280 x 960) and H.264(2) (1280 x 960) simultaneously: 15 fps When streaming H.264(1) (1280 x 720) and H.264(2) (1280 x 720) simultaneously: 15 fps
I-Frame Interval	0.5/1/1.5/2/3/4/5 sec.
Simultaneous Client Access	Max. 30 Clients + 1 Admin Client H.264: Max. 10 clients
Bit Rate Control	Target bit rate: 64/128/256/384/512/768/1024/1536/2048/3072/4096/6144/8192/10240/12288/14336/ 16384 kbps
ADSR ^{*8}	Number of Specified Areas: Max. 8 areas Data Size Reduction Level: 3 levels
Security	Camera Control: Administrator, Authorized user, Guest user (level of control varies depending on user) Access Control: User authority (user name and password), Host Access Restrictions (IPv4, IPv6) IEEE802.1X: EAP-MD5, EAP-TLS, EAP-TTLS, EAP-PEAP Encrypted Communications: SSL/TLS, IPsec
Protocol	IPv4, IPv6, TCP/IP, UDP, HTTP, FTP, SNMPv1/v2c/v3 (MIB2), DHCP, DNS, AutoIP, mDNS, ARP, ICMP, POP3, NTP, SMTP, RTP/RTCP, RTSP, SSL/TLS, IPsec, ONVIF, WV-HTTP (Canon proprietary)
Audio Compression Method	R11 M641 M741 G.711 μ -law (64 kbps)
Audio Communication Method	R11 M641 M741 Full-duplex (two-way)/half-duplex – Echo cancellation function compliant RTP, Sound Transfer Protocol by Canon

Audio File Playback	R11 M641 M741 Available (audio files can be played back when an event is triggered by the intelligent function or external device input) A third-party amplifier speaker is necessary.
Privacy Mask	Number of registration: Max. 8 places, Number of mask colors: 1 (select from 9 colors)
Panorama	R11 R10 Available
View Restriction	R11 R10 Available
Preset	R11 R10 Number of registers: Max. 256 positions (+Home Position) Number of Preset Tour Route: Max. 5 M641 M640 M741 M740 Number of registers: Max. 20 positions (+Home Position) Number of Preset Tour Route: Max. 1
Intelligent Function (Video)	Detection Types: Moving Object Detection, Abandoned Object Detection, Removed Object Detection, Camera Tampering Detection, Passing Detection, and Intrusion Detection Detection Settings: Max. 15 Non-detection Area Settings: Available R11 R10 Auto Tracking
Intelligent Function (Audio)	R11 M641 M741 Volume Detection, Scream Detection
Event Trigger Type	Intelligent Function (Video), Timer, Day/Night Mode Switching R11 M641 M741 External Device Input, Intelligent Function (Audio) Number of Linked Events: 2 Linked Event Conditions: OR, AND (whether or not there is a sequence to events)
Image Upload	FTP/HTTP/SMTP (e-mail)
Event Notification	HTTP/SMTP (e-mail)
Log Notification	SMTP (e-mail)
Image Cropping Function	M641 M640 M741 M740 Digital PTZ Cropping sizes: 640 x 360/512 x 288/384 x 216/256 x 144/128 x 72 640 x 480/512 x 384/384 x 288/256 x 192/128 x 96
Enhanced Digital Zoom	R11 R10 Available
Maximum Digital Zoom Magnification Selection	R11 R10 5x/10x/15x/20x
On-Screen Display	Available German/English/Spanish/French/Italian/Polish/Russian/Turkish/Korean/ Chinese (Simplified)/Japanese
Daylight Saving Time	Available
Language	German/English/Spanish/French/Italian/Polish/Russian/Turkish/Thai/Korean/ Chinese (Simplified)/Japanese

*7 Values represent streaming performance from the camera. The frame rate may be reduced due to Viewer computer's specs, the number of clients accessing at the same time, network loads, video quality setting, type or movement of the subject or other reasons.

*8 Area-specific Data Size Reduction

■ Interface

Network Terminal	LAN x 1 (RJ45, 100Base-TX (auto/full-duplex/half-duplex))
Audio Input Terminal (common for LINE IN & MIC IN)	R11 M641 M741 φ3.5 mm (φ0.14 in.) mini-jack connector (monaural) LINE IN (connect to an amplifier microphone) or MIC IN (connect to a microphone w/o amplifier) Switch LINE IN/MIC IN in the setting page.
Audio Output Terminal (LINE OUT)	R11 M641 M741 φ3.5 mm (φ0.14 in.) mini-jack connector (monaural) LINE OUT (connect to an amplifier speaker)
External Device I/O Terminal	R11 M641 M741 Input x 2, Output x 2
Memory Card ^{*9}	Recorded Content: Log, Video (Event, Manual, ONVIF, Timer, Upload) Frame Rate: Max. 1 fps (JPEG) Max. 30 fps (H.264) R11 R10 M741 M740 SD Memory Card, SDHC Memory Card, SDXC Memory Card Compatible M641 M640 microSD Memory Card, microSDHC Memory Card, microSDXC Memory Card Compatible

^{*9} To insure reliability in the recording speed, it is recommended to use CLASS 10 rated products. Even when using CLASS 10 products, reliability cannot be guaranteed during heavy access loads (e.g., when recording and deleting data at the same time).

Others

Operating Environment Temperature:	R11 R10 VB-R11VE (H2)/VB-R11VE/VB-R10VE (H2)/VB-R10VE: Operating Temperature Range (including direct sun exposure) AC: -50°C – +55°C (-58°F – +131°F) PoE+: -35°C – +55°C (-31°F – +131°F) DC, PoE: -10°C – +55°C (+14°F – +131°F) Start-up Temperature Range (including direct sun exposure) AC, PoE+: -30°C – +55°C (-22°F – +131°F) DC, PoE: -10°C – +55°C (+14°F – +131°F) VB-R11: AC, DC, PoE: -10°C – +50°C (+14°F – +122°F) M641 VB-M641VE: – Sunshade cover (sold separately) necessary when under direct sun exposure When the heater unit (sold separately) is installed Operating Temperature Range AC: -40°C – +55°C (-40°F – +131°F) DC, PoE: -10°C – +55°C (+14°F – +131°F) Start-up Temperature Range AC: -30°C – +55°C (-22°F – +131°F) DC, PoE: -10°C – +55°C (+14°F – +131°F) When the heater unit (sold separately) is not installed AC, DC, PoE: -10°C – +55°C (+14°F – +131°F) VB-M641V: AC, DC, PoE: -10°C – +50°C (+14°F – +122°F) M640 VB-M640VE: PoE: -10°C – +55°C (+14°F – +131°F) – Sunshade cover (sold separately) necessary when under direct sun exposure VB-M640V: PoE: -10°C – +50°C (+14°F – +122°F) M741 Operating Temperature Range (including direct sun exposure) AC, PoE+: -50°C – +55°C (-58°F – +131°F) DC, PoE: -10°C – +55°C (+14°F – +131°F) Start-up Temperature Range (including direct sun exposure): AC, PoE+: -30°C – +55°C (-22°F – +131°F) DC, PoE: -10°C – +55°C (+14°F – +131°F) M740 Operating Temperature Range (including direct sun exposure) PoE: -10°C – +55°C (+14°F – +131°F)
Humidity:	5% – 85% (without condensation)
Storage Environment Temperature:	R11 R10 VB-R11VE (H2)/VB-R10VE (H2): -30°C – +50°C (-22°F – +122°F) VB-R11VE/VB-R11/VB-R10VE: -30°C – +60°C (-22°F – +140°F) M641 M640 -30°C – +60°C (-22°F – +140°F) M741 M740 VB-M741LE (H2)/VB-M740E (H2): -30°C – +50°C (-22°F – +122°F) VB-M741LE-H/VB-M741LE/VB-M740E: -30°C – +60°C (-22°F – +140°F)
Humidity:	5% – 90% (without condensation)

Installation Method	Ceiling mount Surface mount (except for VB-R11) R11 R10 VB-R11VE (H2)/VB-R11VE/VB-R10VE (H2)/VB-R10VE: Canon will not guarantee proper operation if the cameras are installed on surfaces where the angle is more than $\pm 5^\circ$ from horizontal, because this will put a heavy load onto sliding mechanical parts and may affect durability. VB-R11: Canon will not guarantee proper operation if the cameras are installed on surfaces where the angle is more than $\pm 5^\circ$ from horizontal or on walls, because this will put a heavy load onto sliding mechanical parts and may affect durability.
Power Supply	PoE: PoE power supply via LAN connector R11 R10 VB-R11VE (H2)/VB-R11VE/VB-R10VE (H2)/VB-R10VE: IEEE802.3at Type1/Type2 compliant VB-R11: IEEE802.3at Type1 compliant M641 M640 M740 IEEE802.3at Type1 compliant M741 IEEE802.3at Type1/Type2 compliant R11 R10 M641 M741 AC Adapter: PA-V18 (100 – 240 V AC) (sold separately) External power source: 24 V AC/12 V DC
Power Consumption	R11 R10 VB-R11VE (H2)/VB-R11VE/VB-R10VE (H2)/VB-R10VE: PoE+: Max. approx. 20.8 W *10 PoE: Max. approx. 10.1 W *11 AC Adapter PA-V18: Max. approx. 12.7 W (100 V AC) Max. approx. 12.8 W (240 V AC) DC: Max. approx. 11.0 W AC: Max. approx. 33.2 W VB-R11: PoE: Max. approx. 9.5 W *11 AC Adapter PA-V18: Max. approx. 9.6 W (100 V AC) Max. approx. 9.8 W (240 V AC) DC: Max. approx. 8.8 W AC: Max. approx. 9.2 W M641 VB-M641VE: PoE: Max. approx. 8.9 W *11 AC Adapter PA-V18: Max. approx. 10.5 W (100 V AC) Max. approx. 10.6 W (240 V AC) DC: Max. approx. 9.5 W AC: Max. approx. 9.1 W Max. approx. 21.7 W *12 VB-M641V: PoE: Max. approx. 8.4 W *11 AC Adapter PA-V18: Max. approx. 9.8 W (100 V AC) Max. approx. 9.8 W (240 V AC) DC: Max. approx. 8.7 W AC: Max. approx. 8.1 W

	M640 VB-M640VE: PoE: Max. approx. 8.9 W *11 VB-M640V: PoE: Max. approx. 8.4 W *11 M741 PoE+: Max. approx. 21.2 W *10 PoE: Max. approx. 10.1 W *11 AC Adapter PA-V18: Max. approx. 12.8 W (100 V AC) Max. approx. 12.8 W (240 V AC) DC: Max. approx. 11.1 W AC: Max. approx. 22.2 W M740 PoE: Max. approx. 7.4 W *11
Dimensions	R11 VB-R11VE (H2)/VB-R11VE: (φ x H) φ229 x 324 mm (φ9.02 x 12.76 in.) (Camera only) VB-R11: (φ x H) φ199 x 199 mm (φ7.83 x 7.83 in.) (Camera only. Excluding ceiling plate) R10 (φ x H) φ229 x 324 mm (φ9.02 x 12.76 in.) (Camera only. Excluding connector height) M641 VB-M641VE: (φ x H) φ180 x 131 mm (φ7.09 x 5.16 in.) (Camera only. Excluding ceiling plate) VB-M641V: (φ x H) φ150 x 129 mm (φ5.91 x 5.08 in.) (Camera only. Excluding ceiling plate) M640 VB-M640VE: (φ x H) φ180 x 131 mm (φ7.09 x 5.16 in.) (Camera only. Excluding ceiling plate) VB-M640V: (φ x H) φ150 x 129 mm (φ5.91 x 5.08 in.) (Camera only. Excluding ceiling plate) M741 M740 (H x W x D) 111 x 102 x 214 mm (4.37 x 4.02 x 8.43 in.) (Camera body only) Length when joint fully extended (D): 384 mm (15.12 in.)
Weight	R11 VB-R11VE (H2)/VB-R11VE: Approx. 3530 g (7.79 lb.) VB-R11: Approx. 1990 g (4.39 lb.) R10 Approx. 3420 g (7.54 lb.) M641 VB-M641VE: Approx. 1620 g (3.58 lb.) VB-M641V: Approx. 890 g (1.97 lb.) M640 VB-M640VE: Approx. 1590 g (3.51 lb.) VB-M640V: Approx. 880 g (1.95 lb.) M741 Approx. 2120 g (4.68 lb.) M740 Approx. 2040 g (4.50 lb.) Weather Shield: Approx. 90 g (3.2 oz.) *13
Impact Resistance	R11 (VB-R11VE (H2)/VB-R11VE) R10 M641 M640 IK10 (20J)
Dust-resistant/Waterproof Specification	R11 (VB-R11VE (H2)/VB-R11VE) R10 (VB-R10VE (H2)/VB-R10VE) M641 (VB-M641VE) M640 (VB-M640VE) M741 M740 IP66
Hydrophilic Coating	VB-R11VE (H2)/VB-R10VE (H2)/VB-M741LE (H2)/VB-M741LE-H/VB-M740E (H2) Available

*10 Class 4 power sourcing equipment (requests 30.0 W)

*11 Class 0 power sourcing equipment (requests 15.4 W)

*12 When the heater unit (sold separately) is installed

*13 Only for VB-M741LE (H2)/VB-M741LE-H/VB-M740E (H2)

