

unbreakaball[®]
unbreakabase[®]

EX6~9 & EEX6~7 SERIES
EXC6~9/16~19 & EEXC6~7/16~17
EXU6~9/16~19 & EEXU6~7/16~17

**1/2" PRIME PERFORMANCE B/W AND COLOR DSP
CAMERAS, IN EXPLOSION AND VANDAL PROOF,
ALL WEATHER (INDOOR/OUTDOOR - IP66) BALL
CASE AND VAST ARRAY OF MOUNTS & HOLDERS**

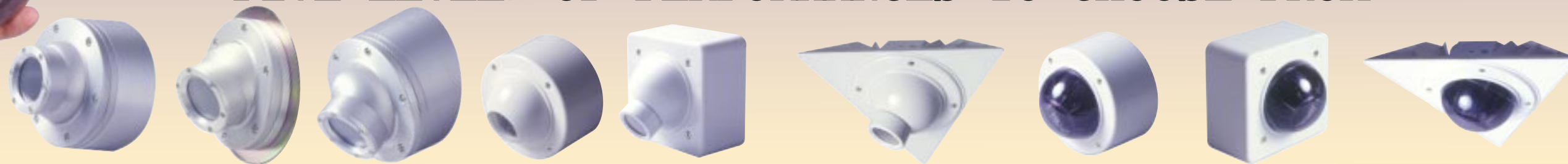


I-D-CODE[®] & FRAMELOCK[®]

ELBEX

SUPERIOR PERFORMING 1/2" CCD CAMERAS

PACKED IN MOST RIGIDLY CONSTRUCTED BALL CASES TO ENDURE EXPLOSIONS, FIRE, TERROR OR RIOTS AND VANDALISM - YET, PROVIDING THE HIGHEST PICTURE QUALITY AND PERFORMANCES EVER EXPERIENCED WITH - FIVE LEVELS OF PERFORMANCES TO CHOOSE FROM



Black, white and IR performances

430TVL/0.5LUX

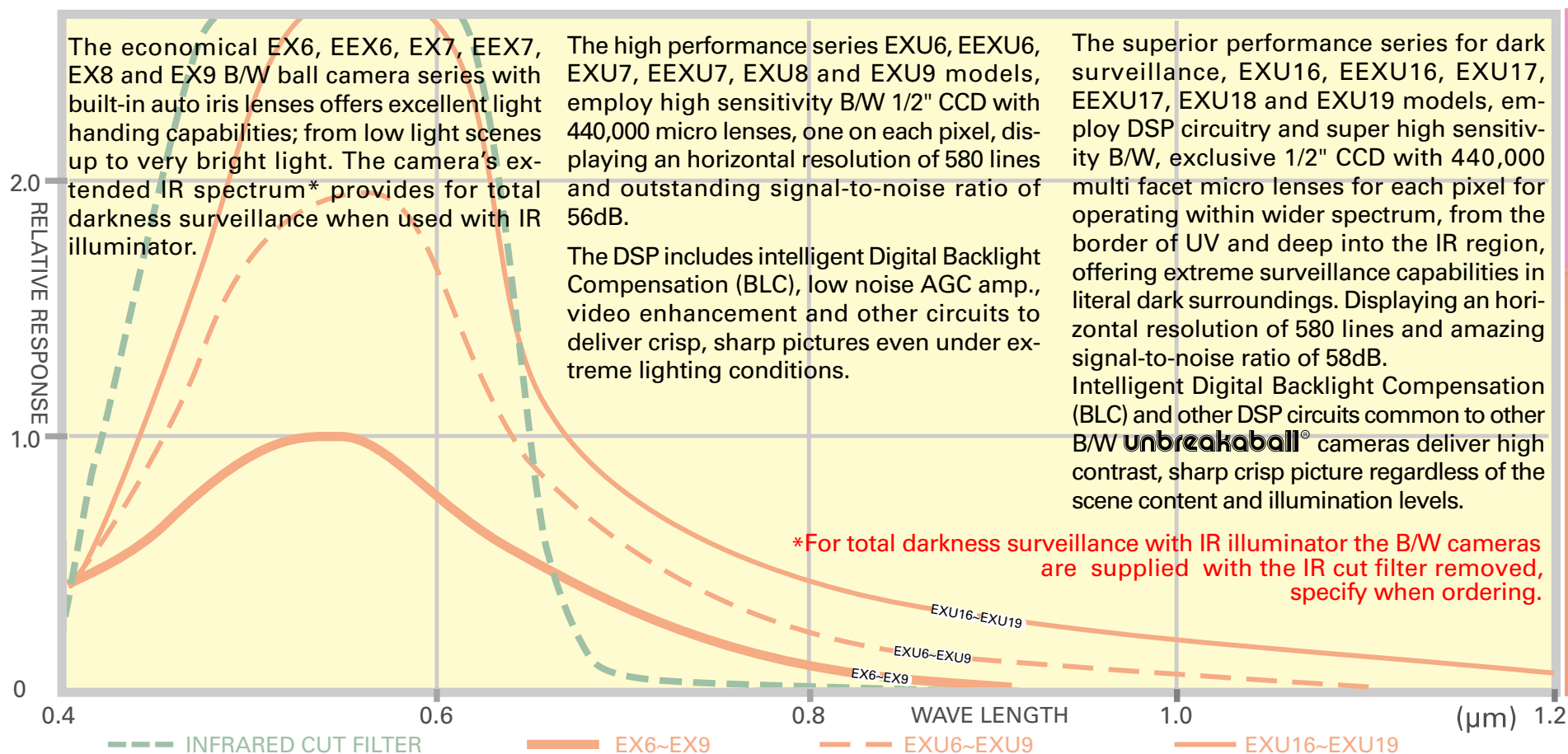
580TVL/0.1LUX

580TVL/0.03LUX

Color performances

460TVL/0.5LUX

460TVL/0.1LUX



The high performance, high sensitivity series, models EXC6, EEXC6, EXC7, EEXC7, EXC8 and EXC9, employ 1/2" CCD with 440,000 micro lenses, one on each pixel, displaying horizontal resolution of 460 lines and outstanding signal-to-noise ratio of 50dB.

The super high sensitivity series for color surveillance in the dark, models EXC16, EEXC16, EXC17, EEXC17, EXC18 and EXC19, employ DSP circuitry and an exclusive 1/2" CCD with 440,000 multi facet micro lenses, one on each multi facet pixel, displaying horizontal resolution of 460 lines and amazing signal-to-noise ratio of 52dB.

Digital Auto Tracing White Balance, intelligent Digital Backlight Compensation (BLC), video enhancement circuit, low noise efficient AGC amp. and color temperature sensor for correcting white balance errors along with other DSP circuit depict true white balance and natural colors against wide range of illuminator color temperatures.

Versatile, intelligent Digital Backlight Compensation (BLC) and advanced Digital Auto Tracing White Balance combined with video enhancement circuit, superior low noise efficient AGC amp. and color temperature sensor for correcting white balance errors caused by illuminators, such as fluorescent lamps or sodium vapor, deliver crisp, sharp pictures even under very dark conditions, offering exceptional natural colors regardless of the scene content and against wide range of illuminator color temperatures.

A CHOICE OF FLEXIBLE POWER SOURCES FOR THE ENTIRE unbreakaball® SERIES

EX6, EEX6, EXC6, EEXC6, EXU6, EEXU6, EX8, EXC8, EXU8, EXC16, EEXC16, EXU16, EEXU16, EXC18 and EXU18 models



Power through the coax cable.* Up to 300m (1000ft) with RG59U, 900m(3000ft) with RG11U.

EX7, EEX7, EXC7, EEXC7, EXU7, EEXU7, EX9, EXC9, EXU9, EXC17, EEXC17, EXU17, EEXU17, EXC19 and EXU19 models



Flexible 12V-24V AC/DC (non-polar) with low current, max. 150mA (2.5W) (without heater).

* Powered by EP100 or EP700 power supplies.

A CHOICE OF POWER SUPPLIES

EP700E/EP700U

150mA regulated current



EP100E/EP100U



EP15/05E;EP15/05U

15V DC 0.5A








EP24/04E;EP24/04U

24V AC 0.4A

E=230/240V AC; U=100/120V AC

A CHOICE OF BUILT - IN AUTO IRIS LENS

- Super wide angle (90°)  4.5mm, F2.6 with ND & IR cut or LPF filters
Focus ranges from macro to infinity.
- Very wide angle (68°)  6mm, F1.9 with ND & IR cut or LPF filters
Focus ranges from macro to infinity.
- Wide angle (52°)  8mm, F1.6 with ND & IR cut or LPF filters
Focus ranges from macro to infinity.
- Wide angle (45°)  10mm, F1.8 with ND & IR cut or LPF filters
Focus ranges from macro to infinity.
- Vari-focal wide to medium tele (38° - 22°)  13 - 20mm, F1.8 with ND & IR cut or LPF filters
Focus ranges from 1.5m to infinity.



4.5mm



6mm



8mm



10mm



13mm

Vari focal

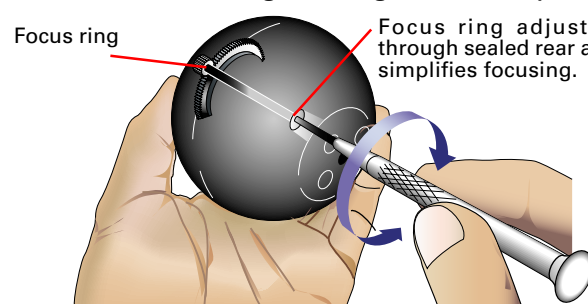


20mm

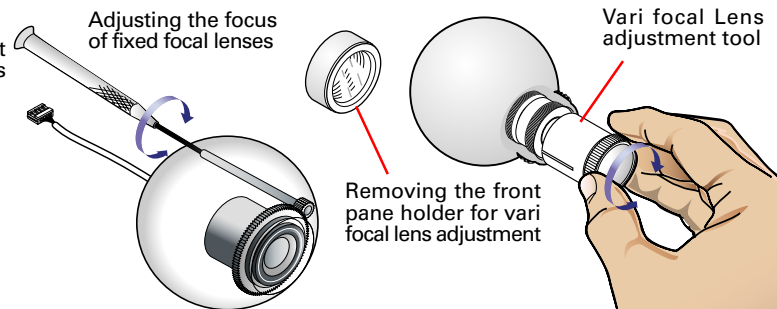
EFFICIENT, CONVENIENT FOCUS AND VARI FOCAL LENS ADJUSTMENT

FOCUS The focus ring of all models with fixed focal lenses comprises gear transfer assembly for adjustment of the lens focus ring through a sealed opening at the rear of the ball, simplifying the focus adjustment.

ZOOM EX6 ~ EXU17 models with vari focal lens are supplied with adjustment tool for adjusting the focus and the focal rings through the front pane.



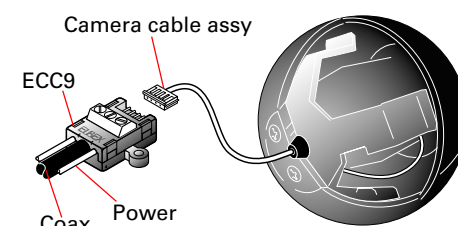
Lens adjustment for EX8 and EX9 series.



Lens adjustment for EX6 and EX7 series.

INNOVATIVE IN-LINE CONNECTOR/TERMINAL SIMPLIFIES THE unbreakaball® CONNECTIONS

In-line power and video connector assembly ECC8 and ECC9 simplifies the wiring and connections of the unbreakaball® cameras to provide snap-on connections between the camera and the connector and simple screw terminals for connecting the coax and the power wires. ECC8 is used for power via coax (coax only) and ECC9 for coax and non-polar (12V~24V AC/DC) power wires.



The ECC8 and ECC9 simplifies the wiring and connection of the coax and the power wires.

CHOICE OF EXTERNAL SYNC AND MODELS WITH I-D-CODE®



FRAMELOCK®

Patented ext. sync system, transmitting 25 Hz (PAL) or 29.97 Hz (NTSC) vertical sync pulses via the video coax cable in reverse direction to the video propagation. The camera will lock automatically to the ext. sync pulses for a perfect 2:1 interlace when the ext. sync detector in the camera detects the ext. sync pulses. In the absence of ext. sync the camera will operate on its internal 2:1 interlace sync. All the unbreakaball® models with power via coax and the non-polar AC/DC supply incorporate FRAMELOCK® PLL circuit.



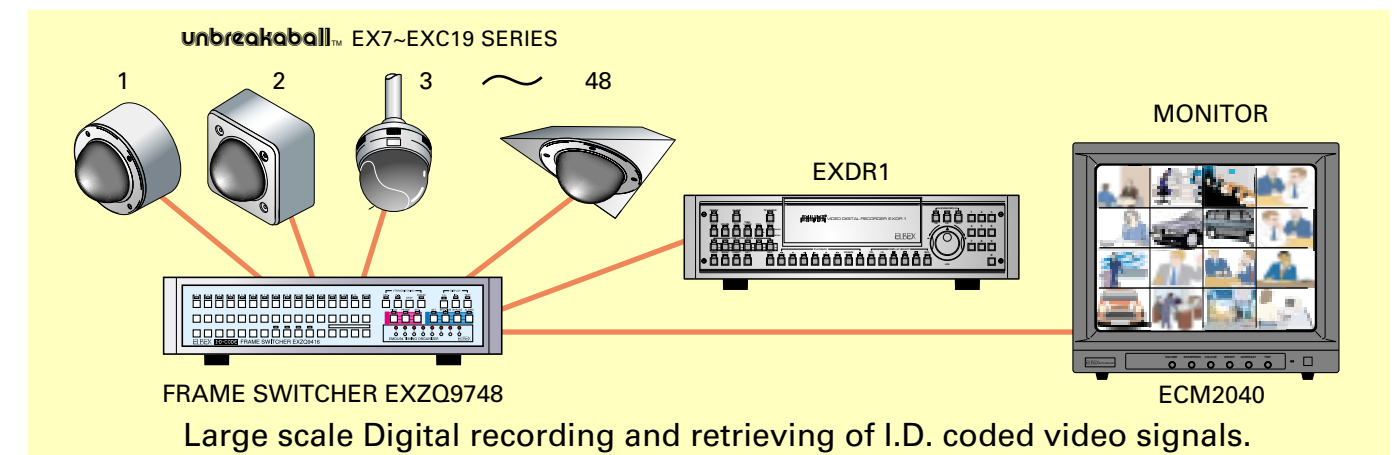
LINELOCK (refer to the selection chart for models with LINELOCK)

A given unbreakaball® series models are provided with PLL circuit to phase-lock the camera sync to the 50Hz/60Hz when the camera is connected to 12~24V AC, minimizing the vertical rolls experienced when sequencing the camera signals through a switcher or when recording the signals onto a time lapse VCR. Linelock models however are not provided with I-D-CODE®.



I-D-CODE® (refer to the selection chart for models with I-D-CODE®)

Patented I-D-CODE® system consists of an invisible 16 bit binary code injected into a single horizontal line (H12) within the vertical blanking period. The identification code is then extracted and decoded at a monitoring site using I-DECODER® and superimposing an I.D. number or a text onto the video display. The patented I-D-CODE® is primarily used for recording large number of cameras onto a VCR or DVR and for retrieving any individual or multiple recorded signals.



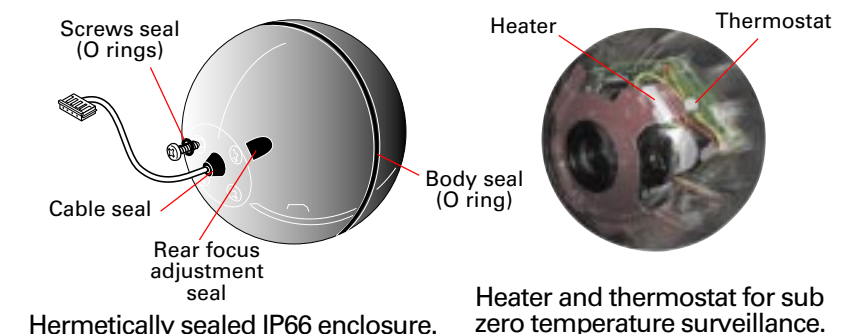
Models such as EXC6-ID or EXU9-ID incorporate a DIP switch for setting an I.D. number from 001 to 999, which effectively becomes an invisible video signal identification code that does not obstruct the display, yet, it is always there and can be retrieved and superimposed as desired.

I-D-CODE® Setting Switch



ALL WEATHER OUTDOOR ENCLOSURE (IP66), SEALED PASSAGES AND OPTIONAL HEATER

All the unbreakaball® covers, the cable passage, the screws and the rear focus ring adjustment access are hermetically sealed for all weather, outdoor installations and for direct exposure to rain or snow (IP66). An embedded optional built-in heater/thermostat assembly can be supplied for sub 0° C environment.



THE unbreakaball® ENCLOSURE FOR ALL ENVIRONMENTS

THE ELEGANT unbreakaball® CAMERA ENCLOSURE WITH OPTICALLY PERFECT FRONT PANE - A PERFECT ANSWER TO INTERIOR/EXTERIOR ARCHITECTURAL CONSTRAINTS

Enforced by structural internal ribs and heavy gauged internal steel frame, the all weather indoor/outdoor EX6 ~EXU17 series camera enclosures are moulded using non-transparent white, gray or charcoal gray (black), flame retardant polycarbonate resin, similar to the camera enclosure of other unbreakaball® models, for sustaining vandalism. However the front pane portion which is made of optical grade acryl (for fixed lens models) or polished glass with dew repellent film (for vari focal lens models) are not vandal proof and should not be used in vandal prone environment.

MODELS: EX6, EXC6, EXU6, EXC16, EXU16, EX7, EXC7, EXU7, EXC17 and EXU17

(FRONT VIEW) Ø80mm (SIDE VIEW) 78mm

Fixed focal enclosure

(SIDE VIEW) 90mm

Vari focal enclosure

unbreakaball® CAMERA ENCLOSURE

Enforced by structural internal ribs and heavy gauged internal steel frame and moulded using clear or smoked, flame retardant polycarbonate resin (PM2220) having very high tensile rating 530kgf/cm² and very high Izod impact strength of 294kg-cm/cm the unbreakaball® camera enclosure will sustain up to 4kg steel ball drop from height of 1.5m (from all sides) when the camera is supported by any of the fixed camera mounts.

EXPLOSION PROOF (EEX) unbreakaball®

Hermetically sealed (IP66), using nonflammable silicon gaskets and "o" rings, the explosion proof EEX cameras in heavy gauged solid aluminum enclosure (6mm ~15mm) and 6mm thick explosion proof glass, are ideal for use in coal mines, oil refineries, oil fields, chemical factories and any other gas filled environment. Tested to the specification of the Research Institute of Industrial Safety of the Labour Ministry of Japan for class I and class IIC de (T6), the explosion proof camera meets the international and the many different national standards for explosion protected electrical apparatus, such as EN50014 & EN50018.

MODELS: EX8, EXC8, EXU8, EXC18, EXU18, EX9, EXC9, EXU9, EXC19 and EXU19

(FRONT VIEW) Ø80mm (SIDE VIEW) 78mm

MODELS: EEX6, EEXC6, EEXU6, EEXC16, EEXU16, EEX7, EEXC7, EEXU7, EEXC17 and EEXU17

(FRONT VIEW) Ø92mm (SIDE VIEW) 93mm

MODELS, NUMBERS AND EASY SELECTION CHART

MODELS				POWER		BUILT-IN AUTO IRIS LENSES				EXT.SYNC		ENCLOSURE	COLOR: ENTER W, G OR B TO THE MODEL'S BOX			
BLACK/WHITE	DSP HIGH RESOLUTION 580 LINES & HIGH SENSITIVITY 0.1 LUX	DSP HIGH RESOLUTION 580 LINES & HIGH SENSITIVITY 0.03 LUX	DSP HIGH RESOLUTION 460 LINES & SUPER HIGH SENSITIVITY 0.1 LUX	12~24V AC/DC (NON-POLAR)	EP100 or EP700 power supply	4.5mm F2.6	6mm F1.9	8mm F1.6	10mm F1.8	FRAME LOCK	LINE LOCK		HEATER	BREAKABLE FRONT PANE	unbreakaball®	EXPLOSION PROOF
EX6/4	EXU6/4	EXU16/4	EXC6/4	•	•	•	•	•	•	•	•	•	W	W	G	ALUMINUM
EX6/6	EXU6/6	EXU16/6	EXC6/6	•	•	•	•	•	•	•	•	•	W	W	G	GRAY (BLACK)
EX6/8	EXU6/8	EXU16/8	EXC6/8	•	•	•	•	•	•	•	•	•	W	W	G	GRAY (BLACK)
EX6/10	EXU6/10	EXU16/10	EXC6/10	•	•	•	•	•	•	•	•	•	W	W	G	GRAY (BLACK)
EX6/13~20	EXU6/13~20	EXU16/13~20	EXC6/13~20	•	•	•	•	•	•	•	•	•	W	W	G	GRAY (BLACK)
EEX6/4	EEXU6/4	EEXU16/4	EEXC6/4	•	•	•	•	•	•	•	•	•	W	W	G	GRAY (BLACK)
EEX6/6	EEXU6/6	EEXU16/6	EEXC6/6	•	•	•	•	•	•	•	•	•	W	W	G	GRAY (BLACK)
EEX6/8	EEXU6/8	EEXU16/8	EEXC6/8	•	•	•	•	•	•	•	•	•	W	W	G	GRAY (BLACK)
EEX6/10	EEXU6/10	EEXU16/10	EEXC6/10	•	•	•	•	•	•	•	•	•	W	W	G	GRAY (BLACK)
EEX6/13~20	EEXU6/13~20	EEXU16/13~20	EEXC6/13~20	•	•	•	•	•	•	•	•	•	W	W	G	GRAY (BLACK)
EX7/4	EXU7/4	EXU17/4	EXC7/4	•	•	•	•	•	•	•	•	•	W	W	G	GRAY (BLACK)
EX7/6	EXU7/6	EXU17/6	EXC7/6	•	•	•	•	•	•	•	•	•	W	W	G	GRAY (BLACK)
EX7/8	EXU7/8	EXU17/8	EXC7/8	•	•	•	•	•	•	•	•	•	W	W	G	GRAY (BLACK)
EX7/10	EXU7/10	EXU17/10	EXC7/10	•	•	•	•	•	•	•	•	•	W	W	G	GRAY (BLACK)
EX7/13~20	EXU7/13~20	EXU17/13~20	EXC7/13~20	•	•	•	•	•	•	•	•	•	W	W	G	GRAY (BLACK)
EEX7/4	EEXU7/4	EEXU17/4	EEXC7/4	•	•	•	•	•	•	•	•	•	W	W	G	GRAY (BLACK)
EEX7/6	EEXU7/6	EEXU17/6	EEXC7/6	•	•	•	•	•	•	•	•	•	W	W	G	GRAY (BLACK)
EEX7/8	EEXU7/8	EEXU17/8	EEXC7/8	•	•	•	•	•	•	•	•	•	W	W	G	GRAY (BLACK)
EEX7/10	EEXU7/10	EEXU17/10	EEXC7/10	•	•	•	•	•	•	•	•	•	W	W	G	GRAY (BLACK)
EEX7/13~20	EEXU7/13~20	EEXU17/13~20	EEXC7/13~20	•	•	•	•	•	•	•	•	•	W	W	G	GRAY (BLACK)
EX7/14-L	EXU7/14-L	EXU17/14-L	EXC7/14-L	•	•	•	•	•	•	•	•	•	W	W	G	GRAY (BLACK)
EX7/16-L	EXU7/16-L	EXU17/16-L	EXC7/16-L	•	•	•	•	•	•	•	•	•	W	W	G	GRAY (BLACK)
EX7/18-L	EXU7/18-L	EXU17/18-L	EXC7/18-L	•	•	•	•	•	•	•	•	•	W	W	G	GRAY (BLACK)
EX7/10-L	EXU7/10-L	EXU17/10-L	EXC7/10-L	•	•	•	•	•	•	•	•	•	W	W	G	GRAY (BLACK)
EX7/13~20-L	EXU7/13~20-L	EXU17/13~20-L	EXC7/13~20-L	•	•	•	•	•	•	•	•	•	W	W	G	GRAY (BLACK)
EEX7/4-L	EEXU7/4-L	EEXU17/4-L	EEXC7/4-L	•	•	•	•	•	•	•	•	•	W	W	G	GRAY (BLACK)
EEX7/6-L	EEXU7/6-L	EEXU17/6-L	EEXC7/6-L	•	•	•	•	•	•	•	•	•	W	W	G	GRAY (BLACK)
EEX7/8-L	EEXU7/8-L	EEXU17/8-L	EEXC7/8-L	•	•	•	•	•	•	•	•	•	W	W	G	GRAY (BLACK)
EEX7/10-L	EEXU7/10-L	EEXU17/10-L	EEXC7/10-L	•	•	•	•	•	•	•	•	•	W	W	G	GRAY (BLACK)
EEX7/13~20-L	EEXU7/13~20-L	EEXU17/13~20-L	EEXC7/13~20-L	•	•	•	•	•	•	•	•	•	W	W	G	GRAY (BLACK)
EX8/4	EXU8/4	EXU18/4	EXC8/4	•	•	•	•	•	•	•	•	•	W	W	G	GRAY (BLACK)
EX8/6	EXU8/6	EXU18/6	EXC8/6	•	•	•	•	•	•	•	•	•	W	W	G	GRAY (BLACK)
EX8/8	EXU8/8	EXU18/8	EXC8/8	•	•	•	•	•	•	•	•	•	W	W	G	GRAY (BLACK)
EX8/10	EXU8/10	EXU18/10	EXC8/10	•	•	•	•	•	•	•	•	•	W	W	G	GRAY (BLACK)
EX9/4	EXU9/4	EXU19/4	EXC9/4	•	•	•	•	•	•	•	•	•	W	W	G	GRAY (BLACK)
EX9/6	EXU9/6	EXU19/6	EXC9/6	•	•	•	•	•	•	•	•	•	W	W	G	GRAY (BLACK)
EX9/8	EXU9/8	EXU19/8	EXC9/8	•	•	•	•	•	•	•	•	•	W	W	G	GRAY (BLACK)
EX9/10	EXU9/10	EXU19/10	EXC9/10	•	•	•	•	•	•	•	•	•	W	W	G	GRAY (BLACK)
EX9/4-L	EXU9/4-L	EXU19/4-L	EXC9/4-L	•	•	•	•	•	•	•	•	•	W	W	G	GRAY (BLACK)
EX9/6-L	EXU9/6-L	EXU19/6-L	EXC9/6-L	•	•	•	•	•	•	•	•	•	W	W	G	GRAY (BLACK)
EX9/8-L	EXU9/8-L	EXU19/8-L	EXC9/8-L	•	•	•	•	•	•	•	•	•	W	W	G	GRAY (BLACK)
EX9/10-L	EXU9/10-L	EXU19/10-L	EXC9/10-L	•	•	•	•	•	•	•	•	•	W	W	G	GRAY (BLACK)
													SMOKED			
													CLEAR			
													EX8 ~ EXU19 SERIES MODELS CAN BE SUPPLIED IN CLEAR, TRANSPARENT (ND) ENCLOSURE AS STANDARD ORDERING			

■ For models with I-D-CODE® add suffix ID such as EX6/13~20W-ID or such as EXC8/6-ID or such as EEXU17/8-ID.
▲ For models with heater add suffix H to the lens such as EX7/6H or such as EXC9/13~20H-ID or such as EEXU17/8H-ID.

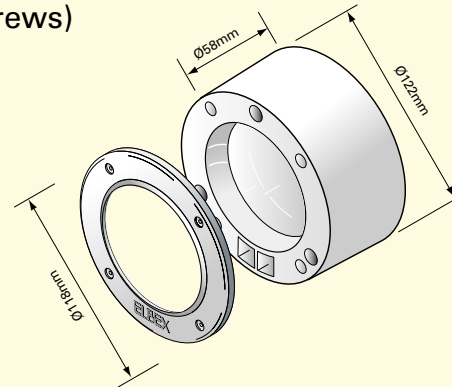
RIGID, HIGH IMPACT MOUNTS/HOLDERS SERIES

EMB9-RE- (M-3 Std. screws) / **EMB9-RU-** (#6/32 U.S. Std. screws)

ROUND MOUNTING BOX

Comprising rear and bottom entries for 3/4" standard pipe. Supplied with 3/4" close up plug, 3/4" to 1/2" reducing bushing, 3/4" to cable inlet 7.0mm (1/4") reducing bushing, 3 mounting screws (3.5mm), 4 security screws and plumber tape.

Enter color **W** (white), **G** (gray) or **B** (black) into the box.

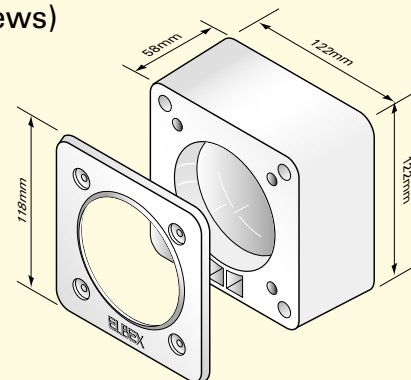


EMB9-QE- (M-3 Std. screws) / **EMB9-QU-** (#6/32 U.S. Std. screws)

SQUARE MOUNTING BOX

Comprising rear and bottom entries for 3/4" standard pipe. Supplied with 3/4" close up plug, 3/4" to 1/2" reducing bushing, 3/4" to cable inlet 7.0mm (1/4") reducing bushing, 4 mounting screws (3.5mm), 4 security screws and plumber tape.

Enter color **W** (white), **G** (gray) or **B** (black) into the box.

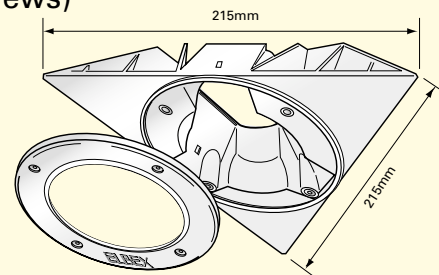


EMB9-CE- (M-3 Std. screws) / **EMB9-CU-** (#6/32 U.S. Std. screws)

CORNER MOUNTING BOX

For mounting the **unbreakaball®** cameras into elevators, jail cells and other small spaces prone to vandalism. Supplied with 3 mounting screws (3.5mm) and 4 security screws.

Enter color **W** (white), **G** (gray) or **B** (black) into the box.

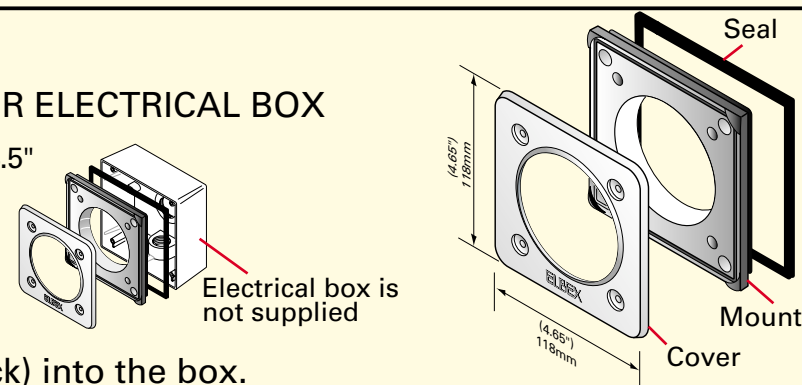


EME9- (#6/32 U.S. Std. screws)

MOUNT AND COVER FOR 4.5" OUTDOOR ELECTRICAL BOX

For mounting the **unbreakaball®** cameras onto 4.5" dual gang standard outdoor U.S. electrical box, surfaced or recessed. Supplied with surround seal, 4 self tapping screws (5/32") and 4 security screws.

Enter color **W** (white), **G** (gray) or **B** (black) into the box.

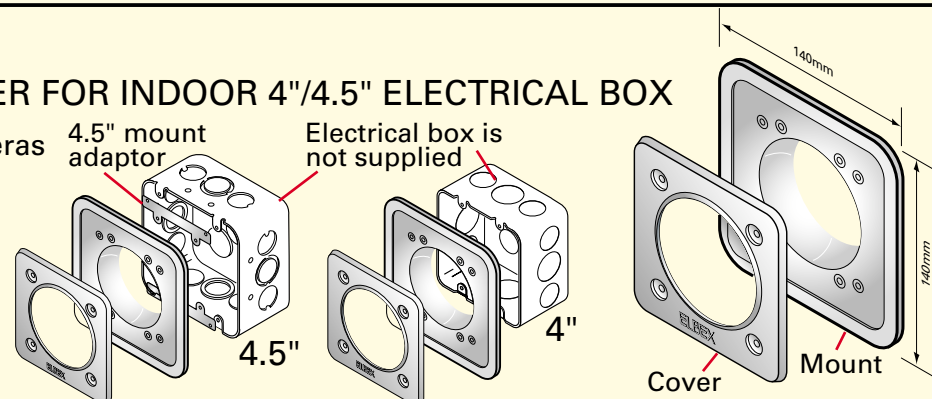


EME7- (#6/32 U.S. Std. screws)

OVER SIZED MOUNT AND COVER FOR INDOOR 4"/4.5" ELECTRICAL BOX

For mounting the **unbreakaball®** cameras onto 4" or 4.5" standard indoor recessed U.S. electrical box. Supplied with two 4.5" mounting adaptors, 4 self tapping screws (5/32") and 4 security screws.

Enter color **W** (white), **G** (gray) or **B** (black) into the box.



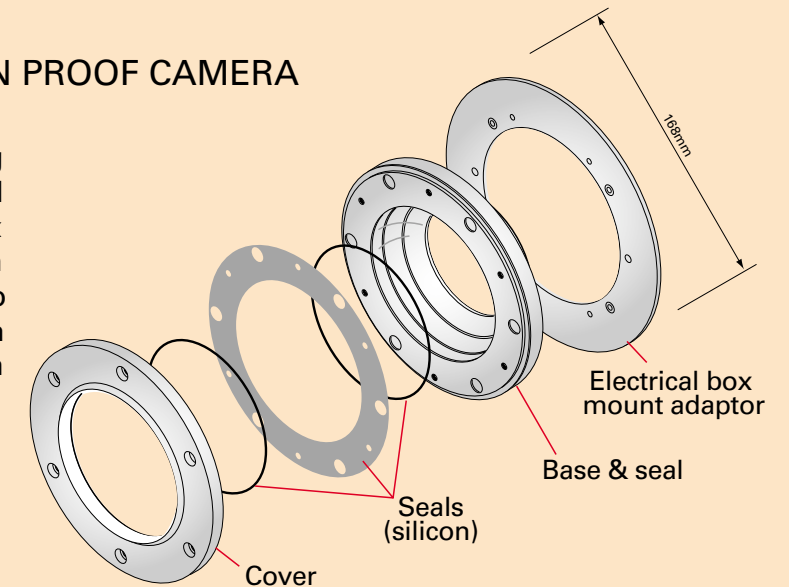
EXPLOSION PROOF MOUNTS/HOLDERS SERIES

EME2-EEX

MOUNT AND ADAPTOR FOR EXPLOSION PROOF CAMERA

The EME2-EEX explosion proof mount is designed for surface installation onto concrete wall or ceiling cutouts and/or recessed onto standard 4.5" U.S. dual gang electrical box using the supplied electrical box mounting adaptor. The mount made of 6 ~ 8mm anodized solid aluminum is easy and convenient to install, set and adjust, using six secured Helen screws to lock the ball camera into place through a gripping power of over 500kg.

Supplied with nonflammable gaskets, seals and all the screws and hardware for installing the mount and the camera.

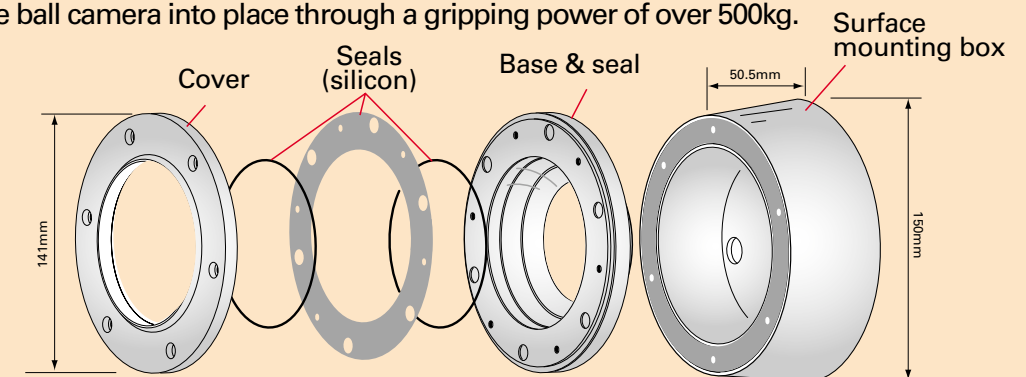


EMB2-EEX

SURFACE MOUNTING BOX FOR EXPLOSION PROOF CAMERA

The EMB2-EEX explosion proof surface mounting box is made for surface installation onto concrete wall and ceiling or onto poles, pipes and other rounded structures. The mount made of 6 ~ 8mm anodized solid aluminum is easy and convenient to install, set and adjust, using six secured Helen screws to lock the ball camera into place through a gripping power of over 500kg.

Supplied with nonflammable gaskets, seals and all the screws and hardware for installing the mount and the camera.

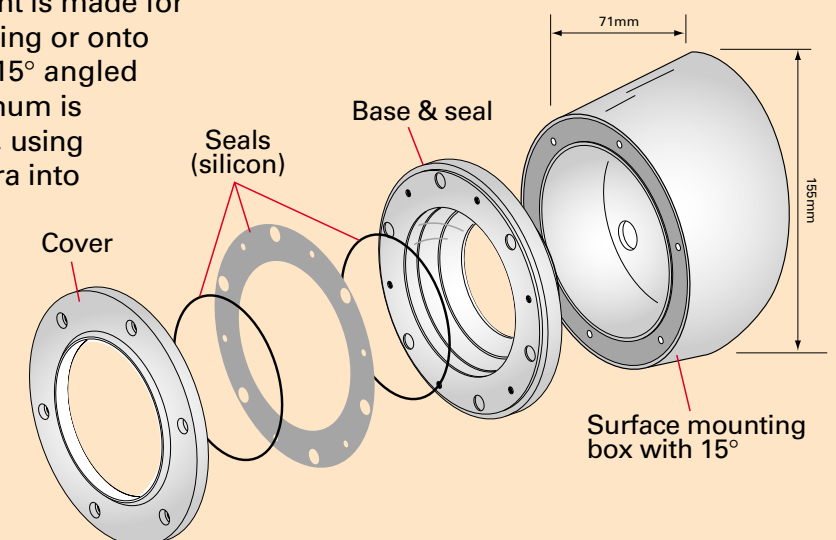


EMB2/15-EEX

SURFACE MOUNTING BOX FOR EXPLOSION PROOF CAMERA WITH 15° ANGLE

The EMB2/15-EEX explosion proof surface mount is made for surface installation onto concrete wall and ceiling or onto poles, pipes and other rounded structures. The 15° angled mount made of 6 ~ 8mm anodized solid aluminum is easy and convenient to install, set and adjust, using six secured Helen screws to lock the ball camera into place through a gripping power of over 500kg.

Supplied with nonflammable gaskets, seals and all the screws and hardware for installing the mount and the camera.

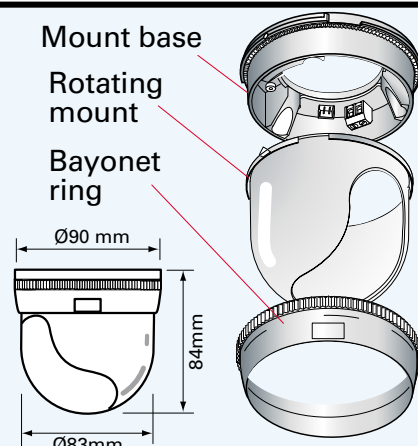


EMRS8-□ & EMRS9-□ ← Color (W or G)

ROTATING SURFACE MOUNT

Most versatile mount of its kind, for mounting the **unbreakaball®** on wall, ceiling or any other surface in any possible angle, enabling total flexibility in camera positioning. The EMRS8 is provided with connection terminals for the coax cable (including power) and a connector for directly connecting the EX6~EXU16 and EX8~EXU18 series, while the EMRS9 connection terminals for non-polar power (12~24V AC/DC) and for coax as well as a connector for directly connecting the EX7~EXU17 and EX9~EXU19 series.

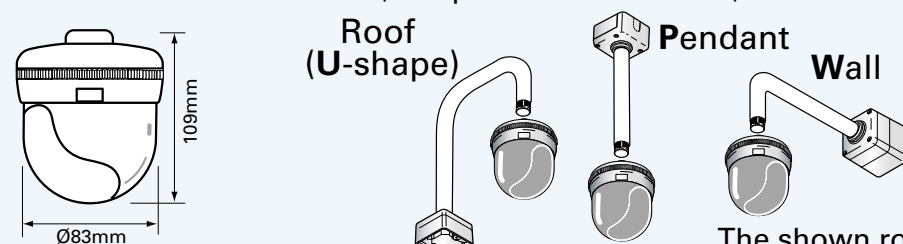
Enter color **W** (white) or **G** (gray) into the box.



EMRA8-□ & EMRA9-□ ← Color (W or G)

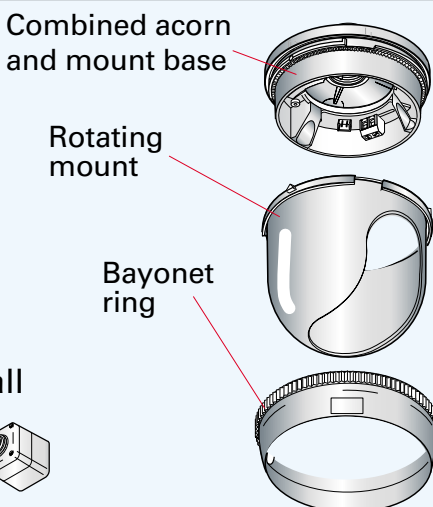
EXTENDED/SUSPENDED ACORN ROTATING COVER

The acorn rotating mount combines the surface rotating mount with an acorn cover for attachment to a standard 1/2" electrical pipe or to any of the EM9 mount models, for suspending the rotating cover from walls, ceilings or roof (U-shape). The EMRA8 is for use with EX6~EXU16 and EX8~EXU18 series (power via coax), while the EMRA9 is for use with EX7~EXU17 and EX9~EXU19 series (non-polar 12~24V AC/DC).



Enter color **W** (white) or **G** (gray) into the box.

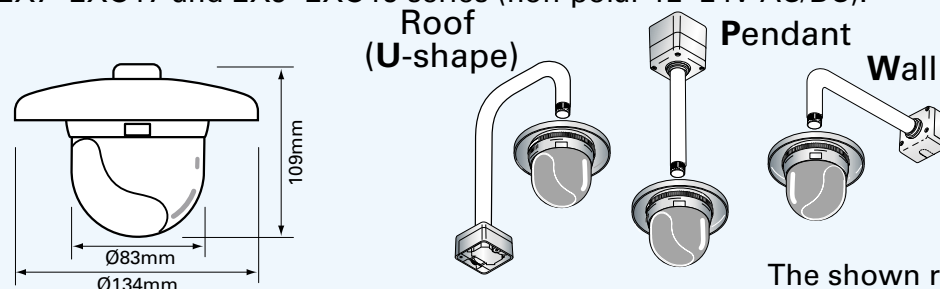
The shown roof, pendant and wall mounts are supplied separately, see EM5~EM9 series.



EMRH8-□ & EMRH9-□ ← Color (W or G)

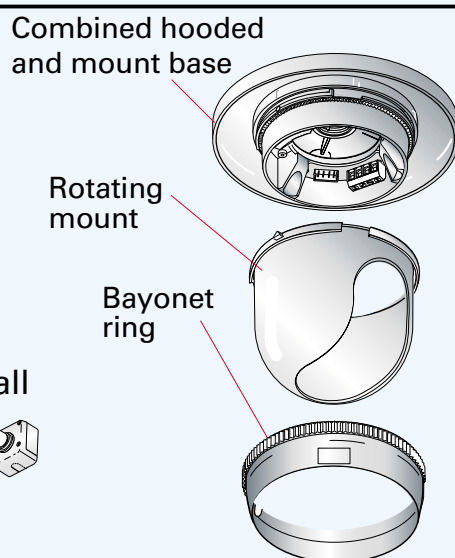
EXTENDED/SUSPENDED HOODED ROTATING COVER

The hooded rotating mount combines the surface rotating mount with an hooded cover for attachment to a standard 1/2" electrical pipe or to any of the EM9 mount models, for suspending the rotating cover from walls, ceilings or roof (U-shape). The EMRA8 is for use with EX6~EXU16 and EX8~EXU18 series (power via coax), while the EMRA9 is for use with EX7~EXU17 and EX9~EXU19 series (non-polar 12~24V AC/DC).



Enter color **W** (white) or **G** (gray) into the box.

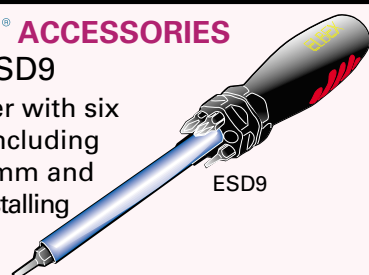
The shown roof, pendant and wall mounts are supplied separately, see EM5~EM9 series.



unbreakabase® ACCESSORIES

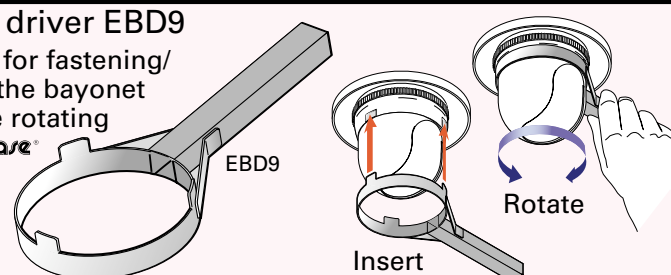
Screwdriver set ESD9

Telescopic screwdriver with six hardened steel bits, including secured hexagon 2.6mm and 1.5mm bits, used for installing the **unbreakaball®** and **unbreakabase®**.



Bayonet driver EBD9

Hand tool for fastening/releasing the bayonet ring of the rotating **unbreakabase®** mounts.

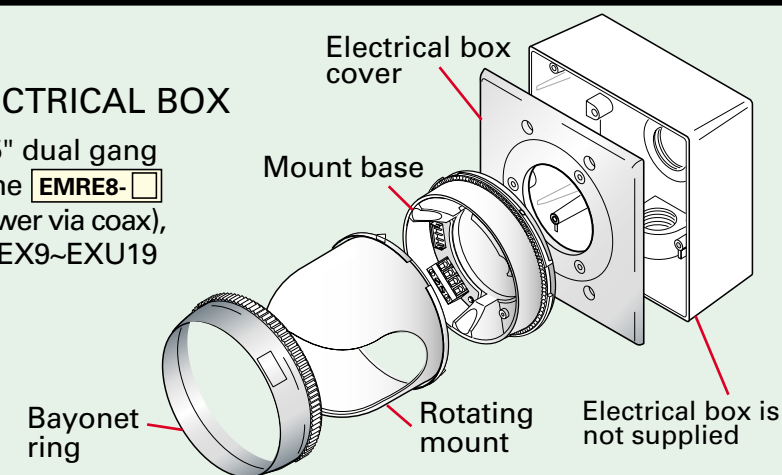


EMRE8-□ & EMRE9-□ ← Color (W, G or B)

ROTATING MOUNT AND COVER FOR ELECTRICAL BOX

For mounting the **unbreakaball®** cameras onto 4.5" dual gang standard U.S. electrical box, surfaced or recessed. The **EMRE8-□** is for use with EX6~EXU16 and EX8~EXU18 series (power via coax), while the **EMRE9-□** is for use with EX7~EXU17 and EX9~EXU19 series (non-polar 12~24V AC/DC). Supplied with 4 self tapping screws (5/32") and 3 mounting (#6/32) screws.

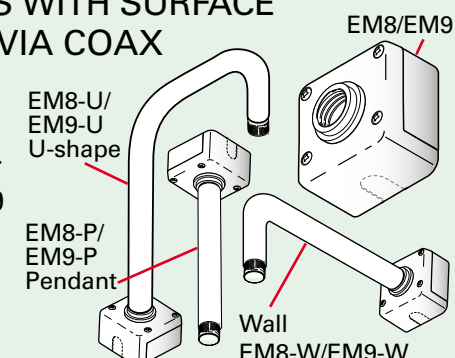
Enter color **W** (white), **G** (gray) or **B** (black) into the box.



EM8-W-□ & EM9-W-□ ; EM8-P-□ & EM9-P-□ ; EM8-U-□ & EM9-U-□ ← Color (W or G)

MOUNTING BOX AND PIPE FOR ACORN OR HOODED MOUNTS WITH SURFACE CABLE ENTRY FOR NON-POLAR 12~24V AC/DC AND POWER VIA COAX

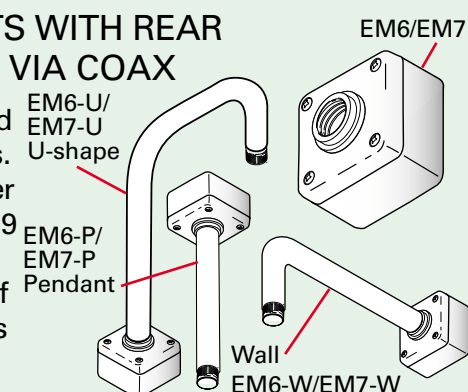
The EM8 and EM9 mount models provide for supporting acorn and hooded mount/camera assemblies as well as for connecting the camera and cables. The **EM8-W-□** series is for use with EX6~EXU16 and EX8~EXU18 series (power via coax), while the **EM9-P-□** series is for use with EX7~EXU17 and EX9~EXU19 series (non-polar 12~24V AC/DC). When ordering specify **W** for wall mount, **P** for pendant and **U** for u-shape (roof mount), and enter color **W** for white or **G** for gray into the box. The pipe color is white for white color models or anodized aluminum for gray color models.



EM6-W-□ & EM7-W-□ ; EM6-P-□ & EM7-P-□ ; EM6-U-□ & EM7-U-□ ← Color (W or G)

MOUNTING BOX AND PIPE FOR ACORN OR HOODED MOUNTS WITH REAR CABLE ENTRY FOR NON-POLAR 12~24V AC/DC AND POWER VIA COAX

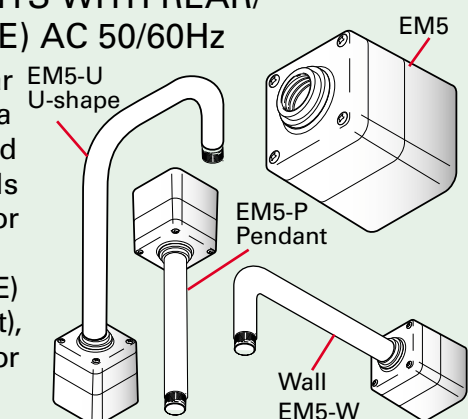
The EM6 and EM7 mount models provide for supporting acorn and hooded mount/camera assemblies as well as for connecting the camera and cables. The **EM6-W-□** series is for use with EX6~EXU16 and EX8~EXU18 series (power via coax), while the **EM7-P-□** series is for use with EX7~EXU17 and EX9~EXU19 series (non-polar 12~24V AC/DC). When ordering specify **W** for wall mount, **P** for pendant and **U** for u-shape (roof mount), and enter color **W** for white or **G** for gray into the box. The pipe color is white for white color models or anodized aluminum for gray color models.



EM5-W-□-U & EM5-W-□-E ; EM5-P-□-U & EM5-P-□-E ; EM5-U-□-U & EM5-U-□-E

MOUNTING BOX AND PIPE FOR ACORN OR HOODED MOUNTS WITH REAR/SURFACE CABLE ENTRY FOR AC POWER 120V (U) OR 230V (E) AC 50/60Hz

The EM5 mount models include AC transformer for powering the non-polar 12~24V AC/DC **unbreakaball®** EX7~EXU17 and EX9~EXU19 series camera models, for supporting an acorn or hooded mount/camera assemblies, and for connecting the camera and the power cables. The EM5 series models incorporate built-in primary thermal fuse and secondary (replaceable) fuse for total power protection. When ordering specify **EM5-W-□-U** (suffix U) for 120V AC or **EM5-P-□-E** (suffix E) for 230V AC and **W** for wall mount, **P** for pendant and **U** for u-shape (roof mount), and enter color **W** for white or **G** for gray into the box. The pipe color is white for white color models or anodized aluminum for gray color models.



SPECIFICATIONS

(COLOR HI. RES./HI. SENS.) EXC6~EXC9: EEXC6/7

Pick-up Device : 1/2" interline transfer CCD
Picture Elements (Pixels) : PAL 438K (752H x 582V)
: NTSC 380K (768H x 494V)
Horizontal Resolution : 460 TVL
Vertical Resolution : 440 (PAL); 375 (NTSC) TVL
Amplitude Resolution : Greater than 50% at 360 H.TVL
Bandwidth : 7MHz±3dB
S/N Ratio : Better than 50 dB (AGC off)
AGC Off Level : 10~30 Lux
Usable Sensitivity : Better than 0.5 Lux
Light Control Range : 0.5~100,000 Lux
White Balance : Automatic trace via image signal
Infra-red Suppression : Built-in optical quartz LPF filter
Infra-red Spectrum : N.A

(B/W HI. RES./HI. SENS.) EXU6~EXU9: EEXU6/7

Pick-up Device : 1/2" interline transfer CCD
Picture Elements (Pixels) : CCIR 438K (752H x 582V)
: EIA 380K (768H x 494V)
Horizontal Resolution : 580 TVL
Vertical Resolution : 440 (CCIR); 375 (EIA) TVL
Amplitude Resolution : Greater than 50% at 460 H.TVL
Bandwidth : 8MHz±3dB
S/N Ratio : Better than 56 dB (AGC off)
AGC Off Level : 2~3 Lux
Usable Sensitivity : Better than 0.1 Lux
Light Control Range : 1~100,000 Lux
White Balance : N.A
Infra-red Suppression : Built-in IR cut filter
Infra-red Spectrum : Up to 1100nm (IR cut filter removed)

(B/W STD. RES./STD. SENS.) EX6~EX9: EEX6/7

Pick-up Device : 1/2" interline transfer CCD
Picture Elements (Pixels) : CCIR 315K (582H x 542V)
: EIA 286K (582H x 492V)
Horizontal Resolution : 430 TVL
Vertical Resolution : 440 (CCIR); 375 (EIA) TVL
Amplitude Resolution : Greater than 50% at 300 H.TVL
Bandwidth : 8MHz±3dB (limiting trap at 5.2MHz)
S/N Ratio : Better than 52 dB (AGC off)
AGC Off Level : 3~4 Lux
Usable Sensitivity : Better than 0.5 Lux
Light Control Range : 0.5~100,000 Lux
White Balance : N.A
Infra-red Suppression : Built-in IR cut filter
Infra-red Spectrum : Up to 900nm (IR cut filter removed)

(COLOR HI. RES./SUPER HI. SENS.) EXC16~EXC19: EEXC16/17

Pick-up Device : 1/2" interline transfer CCD
Picture Elements (Pixels) : PAL 438K (752H x 582V)
: NTSC 380K (768H x 494V)
Horizontal Resolution : 460 TVL
Vertical Resolution : 440 (PAL); 375 (NTSC) TVL
Amplitude Resolution : Greater than 50% at 360 H.TVL
Bandwidth : 7MHz±3dB
S/N Ratio : Better than 52 dB (AGC off)
AGC Off Level : 3~10 Lux
Usable Sensitivity : Better than 0.1 Lux
Light Control Range : 0.1~100,000 Lux
White Balance : Automatic trace via image signal
Infra-red Suppression : Built-in optical quartz LPF filter
Infra-red Spectrum : N.A

(B/W HI. RES./SUPER HI. SENS.) EXU16~EXU19: EEXU16/17

Pick-up Device : 1/2" interline transfer CCD
Picture Elements (Pixels) : CCIR 438K (752H x 582V)
: EIA 380K (768H x 494V)
Horizontal Resolution : 580 TVL
Vertical Resolution : 440 (CCIR); 375 (EIA) TVL
Amplitude Resolution : Greater than 50% at 460 H.TVL
Bandwidth : 8MHz±3dB
S/N Ratio : Better than 58 dB (AGC off)
AGC Off Level : 1~2 Lux
Usable Sensitivity : Better than 0.03 Lux
Light Control Range : 0.03~100,000 Lux
White Balance : N.A
Infra-red Suppression : Built-in IR cut filter
Infra-red Spectrum : Over 1200nm (IR cut filter removed)

DSP CONTROL

DSP Signal : RS232 via setup port
DSP Commands : Shutter speed, white balance, AGC, Gamma, backlight compensation, Y, C and dynamic range
Fast Shutter Speed : 1/50 sec. ~ 1/10,000 sec.
White Balance : Auto, red ~ blue (color models only)
AGC : Off, min. ~ max.
Backlight Compensation : 5 zones setting, 0% ~ 100% weighed average.
Y. C & Dynamic Range : Setup process (by special key)

ENCLOSURE EX6~EX7 SERIES

Body material : Polycarbonate PM2220 or equivalent
Front pane : Acryl (fixed focal lens models)
Polished glass with dew repellent film (vari focal lens models)
Sealing rating : IP66
Impact energy endurance : More than 15J (15kgm²/s²) body; 0.2J (0.2kgm²/s²) pane
Heater and thermostat : 2~4W/12 ~24V AC/DC, on 5°C/off 15°C (optional)

ENCLOSURE EX8~EX9 SERIES

Body material : Polycarbonate PM2220 or equivalent
Sealing rating : IP66
Impact energy endurance : More than 60J (60kgm²/s²) body and pane
Heater and thermostat : 2~4W/12 ~24V AC/DC, on 5°C/off 15°C (optional)

ENCLOSURE EEX6~EEX7 EXPLOSION PROOF SERIES

Body material : Machined, solid cast aluminum
Sealing material : Nonflammable silicon compound
Sealing rating : IP66
Surface temperature : Maximum 85° C (T6)
Rating : Class I/class IIC
Type of protection : Flameproof (e)
Impact energy endurance : More than 120J (120kgm²/s²) body; 7J (7kgm²/s²) pane
Heater and thermostat : 2~4W/12 ~24V AC/DC, on 5°C/off 15°C (optional)

Specifications and dimensions subject to change without notice.

The **unbreakaball**®, **unbreakabare**®, **FRAMELOCK**®, **CCIR**™, **I-D-CODE**®, **I-DECODER**®, **SERIAL VIDEO**®, **EXPRESS AUDIO**®, **FIBEX**®, **VACTAX**®, **[ELBEX-PANELS]**®, **PERCEPT** and **MATRIX**™ are registered trademarks or pending registration and are covered by the following patents.
USA: 4.603.352, 4.943.864, 43989.085, 5.267.039 JP: 1.734.906, 1.854.233, 1.947.425, 2.617.151, EP: 0134008, CA: 1.230.413 and other pending patents.

SIGNALS, LENSES & GENERAL

Video Output : 1.0V p-p/75Ω
FRAMELOCK® Ext. Sync : 8V p-p via the video coax cable
I-D-CODE® : 16 bit code transmitted during single horizontal line (H12 ±1) of every field.
Lens System : 4.5mm; F2.6, 6mm; F1.9, 8mm; F1.6, 10mm; F1.8 auto iris with ND and IR cut or LPF filter: vari focal 13~20mm; F1.8 auto iris with ND and IR cut or LPF filter (EX6/7 & EEX6/7 only)
Auto Iris Delay Time : Less than 2 sec.
Power via coax : 150mA regulated current
Operating Voltage : 12V ~ 24V AC/DC (non-polar)
Current Consumption : 250mA (max.)
Video Connector : Terminals
DC Power Connector : Terminals
Ambient Temperature : -20°C to + 50°C (operating range)
Dimensions : Refer to the illustrations
Approx. Weight : 250gr. (EX6/7, 8/9); 800gr. (EEX6/7)

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MELBOURNE: Unit 2, 15, Shearson Crescent, Mentone, Vic. 3194, Australia Tel:(03) 9583 8122 Fax:(03) 9583 6447

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