

Installation Instruction for Ernitec Motorised Zoom Lenses Series Q

General

The Ernitec Motorised Zoom Lenses Series Q is designed for use with most C or CS mount CCTV cameras. The lenses are equipped with DC-motors to operate the zoom and focus functions. The iris is galvanometric controlled. Lenses including a "S" in the type reference; e.g. QxZxxSx, have a Neutral Density spot filter suiting both indoor and outdoor use. Lenses including a "P" in the type reference; e.g. QxZxxxP, are fitted with feedback potentiometers for preset operation.

To operate the zoom and focus functions a power supply of DC8V max 30mA is required.

When used in conjunction with a Telemetry Receiver the power is normally supplied from the telemetry receiver.

The Video Auto Iris versions (QxZxxxA) requires a DC8V max 30mA power supply and a video reference signal. These are usually available from a socket on the camera.

The iris on the Direct Drive versions (DC iris) (QxZxxx-NA) requires a 4-pin DC control signal from the camera.

Most cameras can control both types. Note, that the camera should be configured for the lens type used; refer to the User Manual for the actual camera.

Installation

Installation is carried out in 3 steps:

1. Mounting the lens
2. Cable connections
3. Adjustments

1. Mounting the lens

The lens is fitted to the camera C or CS-mount by turning it clockwise until it reaches a stop, then rotate it counterclockwise until the lens stays in its proper position. Rotation is possible 330 degrees in the counterclockwise direction. The lenses contain a mechanism by which the lens position can be freely changed after mounting to the camera. To remove the lens from the camera, continue to turn the lens in the counterclockwise direction.

*) C-mount lenses can be used on CS-mount cameras by using a C/CS adapter. CSmount lenses can be used on CS-mount cameras only.

2. Cable Connection

Zoom/Focus and optional potentiometer connections

Lead	Video iris Connection
Yellow:	Zoom in: Wide>Tele: +
Red:	Zoom out: Tele>Wide: GND
Green:	Focus near: Far>Near:+
Black:	Focus far: Far>Near: GND
Orange:	Focus potentiometer Supply
Grey:	Focus potentiometer Zoom
Purple:	Focus potentiometer GND
Blue:	Focus potentiometer Focus
White:	Video Iris Close>Open
Brown:	Video Iris Open>Close

Lead	DC iris Connection
Yellow:	Zoom in: Wide>Tele: +
Red:	Zoom out: Tele>Wide: GND
Green:	Focus near: Far>Near:+
Black:	Focus far: Far>Near: GND
Brown:	Focus potentiometer Supply
Grey:	Focus potentiometer Zoom
White:	Focus potentiometer GND
Blue:	Focus potentiometer Focus
Purple:	-
Orange:	-

Note: The above connections are stated for guidance only. To avoid malfunction, or even damage to the lens and/or the Telemetry Receiver, always refer to the Telemetry Receiver manual, which may state connections differing from the above.

3.1 Adjustments for Video Auto Iris versions

To achieve optimum lens performance, the video camera must be adjusted in accordance with the Camera User Manual. As a general rule the Automatic Gain Control (AGC) on the camera must be switched OFF while adjusting the lens.

The two holes in the lens cover give access to the potentiometers for:

Level adjustment

Peak/Average sensing

Level adjustment

This feature adjusts the brightness of the image. By turning the "LEVEL" potentiometer clockwise (towards "H"), the picture will be brighter. Turning the "LEVEL" potentiometer counterclockwise (towards "L") the picture will be darker.

Peak/Average sensing (ALC)

This adjustment alters the lens response to the scene illumination. By turning the "ALC" potentiometer clockwise (towards "A"), details in low contrast scenes will be improved. Conversely, high brightness areas, which normally saturate the picture thereby reducing background details, can be improved by turning the "ALC" potentiometer counterclockwise (towards "P"). For most applications the ALC potentiometer is left in center position.

3.2 Adjustments for Direct Drive (DC) iris versions

No adjustments are available on the lens. The LEVEL and ALC adjustments may be present on the camera and should be adjusted as described above.

Note: When combining certain cameras with high-magnitude zoom lenses such as the Q10Z25 the picture in the extreme tele position may be darker than in wide position. This is NOT a lens fault and the phenomenon may be improved by adjusting the camera LEVEL function slightly towards LOW. Alternatively, an Ernitec E-CON Auto-iris Converter may be inserted between the lens and the camera enabling the Direct Drive lens to be operated as a Video Auto Iris lens.

3.3 Back Focus Adjustment

A proper Back Focus setting ensure the picture to remain focused throughout the complete zoom range.

1. Point the camera towards an object or test pattern 30 meters, or more, from the camera.
2. **Important:** Make sure the iris is fully open. If the scene is too bright reduce illumination, or fit a grey (ND) filter on the lens to reduce the amount of light entering the lens. Also, on the camera make sure AGC etc. is switched off. If the iris is not fully open during the back focus adjustment, objects in focus at day time may become de-focused at night time.
3. Set the lens focus to the extreme far position.
4. Set the lens zoom at the extreme wide position.
5. Adjust the camera imaging device (CCD) screw ("focus screw") to obtain a sharp, focused picture. Refer to the camera manual for details.
6. Set the lens zoom to extreme tele position.
7. Adjust the lens focus, using the lens controller, to obtain a sharp picture. Do not adjust the camera!
8. Set the lens zoom to extreme wide position.
9. Readjust the camera to obtain a sharp image.
10. If needed, repeat steps 6-9 until the picture remains in focus throughout the full zoom range.
11. Secure/lock the camera focus adjustment, to ensure it doesn't change position due to vibrations or equivalent. Refer to the camera manual for details.

Calculating the horizontal view

The horizontal view at a given distance can be derived from the horizontal angle of view using the formula below:

$$HV=2*d*\tan(y/2)$$

HV=horizontal view in meters.

d=distance to object in meters.

y=horizontal angle of

view in degrees.

4. Specifications

First part of type name

QxZy

:

x=focal length at wide position.

y=zoom factor

Second part of type name

S=Spotfilter (optional).

A=with iris amplifier, i.e. video driven autoiris

NA=without amplifier; i.e. Direct Drive (DC) autoiris.

P=Potentiometers (optional).

Note: Not all combinations are available.

Temperature range -10°C to +50°C

Feed-back potentiometers 5KW

Zoom/Focus supply current < 60 mA

All versions: Zoom/focus supply voltage 8 VDC

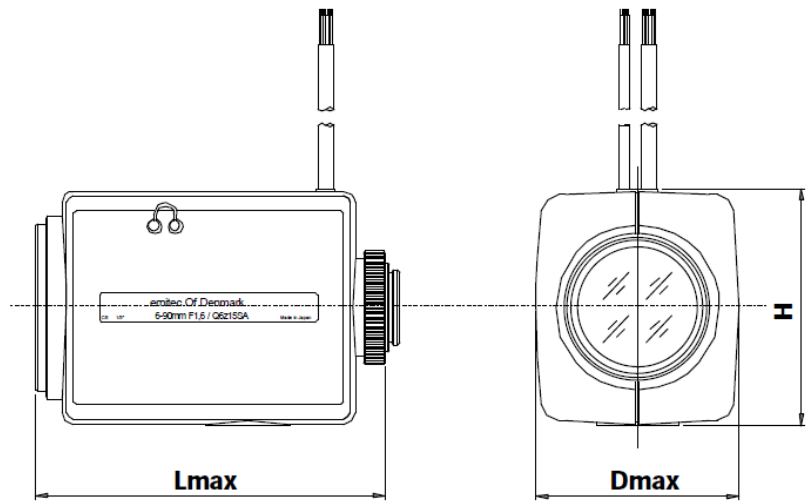
Damp coil 1150 W

Direct Drive versions: Drive coil 190 W

Iris supply current < 30 mA

Auto Iris versions: Iris supply voltage 8 VDC

Electrical Specifications



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