

# M100 / M200 Series

## Quick start guide

English (en-US)  
Date: 10-2017  
Document number: 76001-2  
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+110°/-90° tilt assembly

320 x 240 resolution thermal sensor, with H264-encoded IP digital video stream

Automatic window heater (de-ice / de-mist)

360° pan assembly\*

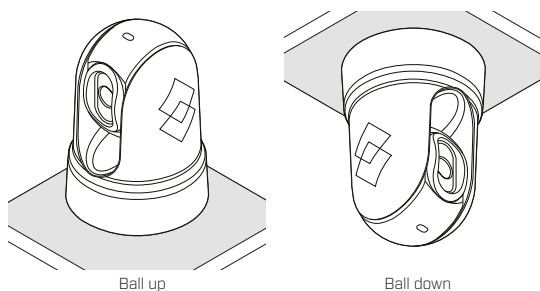
\*M200 Series cameras only



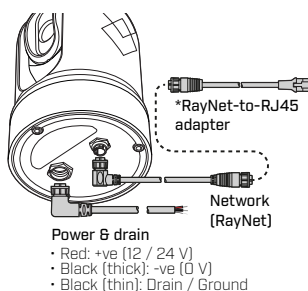
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## Mount the camera, and make power & network connections

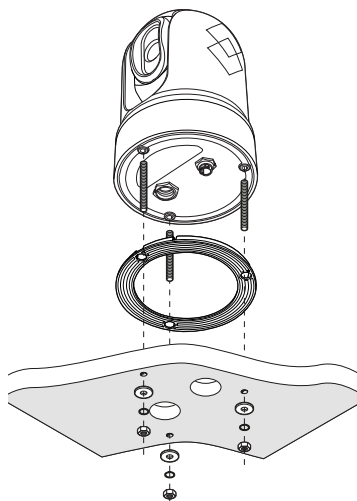
- 1** Choose a mounting orientation for the camera



- 3** Connect the power and network cables



- 2** Using the supplied mounting template, seal and fasteners, mount the camera to the vessel



## Make system connections

Your thermal camera has a single RayNet network connector. This connects the camera to your vessel's wider IP network. This could be an existing third-party Ethernet network, or a dedicated Raymarine® RayNet network. For more basic setups, the camera can be connected directly to a laptop or PC.

The details of the network connections between the camera, video display, control unit, and the rest of your installation depend on:

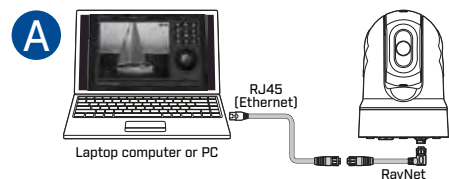
- how you want to control the camera (for example, with a web browser, a Raymarine® LightHouse™ multifunction display (MFD)†, a JCU controller, or a combination);
- how you want to view the camera's IP video feed (for example, with an analog video monitor (connected via an IP video decoder), a Raymarine® LightHouse™ multifunction display (MFD)†, a web browser, or a combination);
- the equipment already installed on your vessel (for example, network switches with free ports, analog video monitors, or other cameras).

The illustrations to the right show two examples of possible system layouts:

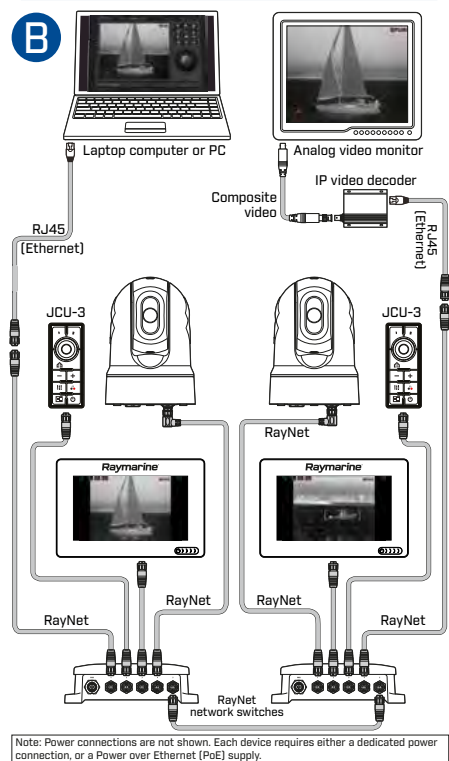
A — a basic system with a single camera directly connected to a web browser, via a laptop computer or PC.

B — a more complex multi-camera, multi-display, multi-JCU system.

† LightHouse™ 3, or LightHouse™ 2 Release 19



Note: Power connections are not shown. Each device requires its own power connection.



Thermal imaging (also known as infrared) cameras enable you to see clearly in low-light and no-light conditions. For example, a thermal camera can help you navigate at night or identify obstacles in areas of low visibility or even total darkness.

Your M100 / M200-Series thermal camera is a network device that communicates over an Ethernet network using Internet Protocol (IP).

You can use various types of IP-networked device to interact with the camera's web interface, such as a laptop, PC, tablet or smartphone.

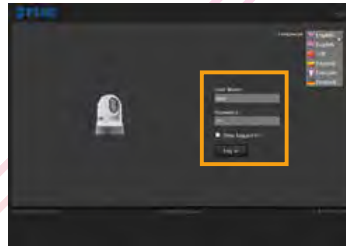
Using a Web browser, you can:

- Control the camera:
  - Pan\* and tilt the camera
  - Zoom the video image (digital)
  - Return the camera to its "home" (default) position
  - Set the camera "home" position
  - Activate and adjust surveillance scan
  - Manually control the de-ice/de-mist window heater
- Adjust the camera image:
  - Color palette
  - Scene presets.

\*M200-Series cameras only

## Connecting to the camera and controlling with a Web browser

- 1 Connect to the camera web page and log in

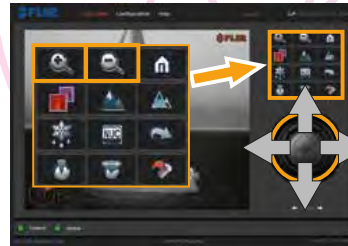


M100 / M200 Series cameras support DHCP and UPnP to simplify the process of finding the camera on your network, and connecting to it using a Web browser.

To access the camera web page from a Windows PC or laptop, double-click the camera in the Windows Explorer "Network" folder. Alternatively, type the camera's IP address into your Web browser's address bar. Then, log in with User Name "user", and the default Password, "user".

**Note:** See the documentation provided with your camera for more information.

- 2 Pan, tilt, and zoom the thermal image



On the **Live Video** page:

- Click and drag the virtual joystick up or down to tilt the camera.
- Click and drag the virtual joystick left or right to pan the camera (M200 Series only).
- Click and hold the zoom-in button to reduce the field of view.
- Click and hold the zoom-out button to increase the field of view.

The current zoom level (between x1.0 and x4.0) is shown at the bottom-right of the thermal image.

- 3 Adjust the thermal image



On the **Live Video** page:

- Click the **Toggle Palette** button to cycle through 4 different color palettes: **WhiteHot**, **RedHot**, **Fusion**, **FireIce**.
- Click the **Polarity** button to toggle the image polarity: **BlackHot**, **RedHot-Inverse**, **Fusion Inverse**, **FireIce Inverse**.
- Click the **Toggle Scene Preset** button to cycle through 4 presets: **Day**, **Night**, **Docking**, **High Contrast**.

Depending on the time of day, weather, and other conditions, one scene preset may produce a clearer thermal image than the others.



### IMPORTANT

This document is a subset of the complete documentation available for your product. Visit the FLIR website to download the complete and latest documentation available for your product, in your preferred language.

<http://www.flir.com/machine/support>



The JCU-3 keypad is included in camera system packs, and is also available to purchase as a separate accessory.

A JCU-3 keypad enables you to control the camera from additional locations on your vessel, separate from any Raymarine® LightHouse™ multifunction display or IP-capable device running a web browser.

You can install multiple JCU-3 keypads. Multiple JCU-3 keypads can control a single camera; a single JCU-3 keypad can control multiple cameras in more complex systems.

Note: A JCU-3 keypad or Raymarine® LightHouse™ multifunction display is not required to operate the camera; a web browser is sufficient.

A JCU-3 keypad enables you to:

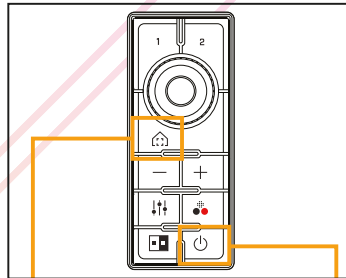
- Control the camera:
  - Pan\* and tilt the camera
  - Zoom the video image (digital)
  - Return the camera to its “home” (default) position
  - Set the camera “home” position
  - Define up to three user-configurable buttons
  - Park & stow the camera
- Adjust the thermal image: Color palette; scene presets; video polarity.

\*M200-Series cameras only

## Controlling the camera with a JCU-3 remote keypad

**1**

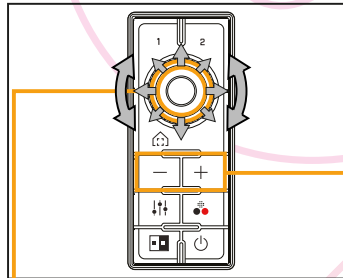
Set the camera “home” position; park & stow the camera; cycle through cameras (multi-camera systems only)



- Press *momentarily* to return the camera to its **home** position.
- Press *and hold* to set the current camera position as the **home** position.
- Press *and hold* to **park & stow** the camera. To reactivate: pan, tilt, or press the home key.
- Press *twice* to cycle through cameras (multi-camera systems only).

**2**

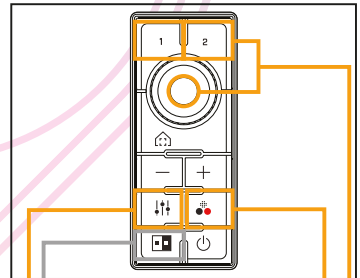
Pan, tilt, and zoom the thermal image



- Use the circular Uni-controller to:
  - Tilt the camera up and down, or pan it left and right (M200 Series only); press the inner-ring up, down, left, or right.
  - Continuously pan the camera; rotate the outer-ring of the Uni-controller in either direction; rotate more to increase pan rate.
- Zoom the thermal image in or out with the “-” or “+” buttons.

**3**

Adjust the thermal image; work with user-programmable buttons (UPBs)



- Press *momentarily* to cycle through four different **color palettes**.
- Press *and hold* to toggle the **polarity** of the current color palette.
- Press to cycle through four different **scene presets**.
- **User programmable buttons (UPBs)**—see *Installation and operation instructions*.
- **NOT USED** with M100/M200-Series cameras.

<sup>†</sup>The Camera application enables you to control a connected thermal camera and display its image on your Raymarine<sup>®</sup> LightHouse™ multifunction display (MFD). You can:

- Control the camera:
  - Pan\* and tilt the camera
  - Zoom the video image (digital)
  - Return the camera to its "home" (default) position
  - Set the camera "home" position
  - Adjust the camera alignment (height and forward position)
  - Park & stow the camera
  - Activate and adjust surveillance scan
  - Activate auto-tracking
  - Manually control the de-ice/de-mist window heater
- Adjust the thermal image:
  - Color palette
  - Scene mode
  - Video polarity (reverse video color)
  - Rotate the image 180° (for ball-down mode) or flip horizontally (rear-view mode)
  - Edit data overlays (for example, depth & heading)
- Record:
  - Live thermal image video
  - Capture still images from the thermal image video.

<sup>†</sup> LightHouse™ 3, or LightHouse™ 2 Release 19

\*M200-Series cameras only

## <sup>†</sup>Controlling the camera with a Raymarine<sup>®</sup> LightHouse™ MFD

### 1 Open the camera application



From the home screen, select the Camera application, or an icon that includes the Camera application.

Note: If the home screen does NOT include a page icon that features the Camera application you will need to create a new page icon. For further information, see the documentation supplied with your MFD.

The thermal camera provides a video image that is shown on your display. The video feed shows the:

- Thermal image
- Status icons / system information

### 2 Pan, tilt, and zoom the thermal image

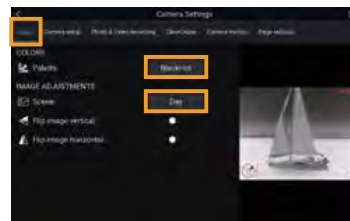


On a touchscreen MFD you can pan, tilt, and zoom the thermal camera image using the touchscreen:

- Move your finger up and down the screen to tilt the camera, or left and right to pan the camera (M200 Series only).
- Pinch two fingers together to zoom in; spread two fingers apart to zoom out (requires a compatible "multi-touch" MFD).

On an MFD with physical controls or when using a remote keypad such as the JCU-3, you can pan, tilt and zoom the thermal camera image using the Uni-controller. This provides for finer control over the camera and is particularly useful in rough sea conditions.

### 3 Adjust the thermal image



A range of color palettes and scene presets are available to help you distinguish objects on-screen in different conditions. With the thermal camera application displayed:

1. From the menu, select Camera Settings
2. Select the Image tab.
3. Use the Palette list to select a new color palette, and the Scene list to select a new scene preset.



A live preview of your chosen settings is shown on the right of the display.



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