



The Starfisher 830, which has been fitted with the FLIR M364C thermal and low light camera

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Case Study: FLIR M364C thermal and low light camera brings increased all-weather performance to ground-breaking test boat

The FLIR M364C thermal and low light camera connects to TIMEZERO navigation software and a Furuno display allowing visual imaging of a vessel's surroundings presented directly as a Chart overlay.

Marine navigation software specialist TIMEZERO™ has equipped their new

Barcelona-based test boat with the latest in marine electronics. The Spanish-built Starfisher 830 OBS, powered by an 8.3 metre outboard motor, is certainly well-specified for its length. As well as the FLIR M364C thermal and low light camera the boat includes other state-of-the-art kit such as a high-performance multibeam fishfinder and Furuno™ displays. Indeed, TIMEZERO's Sales and Marketing Director Frédéric Algalarrondo confides that the complete electronics equipment package aboard represents nearly half of the boat's total value.

SMALL BOAT – BIG SPEC

While this testbed is a small fishing boat, chosen because the fishing industry represents a significant market share for TIMEZERO, the equipment package here would be perfectly at home aboard a coastguard search & rescue cutter, a super/megayacht, or a much larger commercial fishing vessel.

The addition of the FLIR M364C stabilised thermal imaging camera's input, augments the already impressive situational awareness available in the TIMEZERO software. It means that highly intuitive and rapidly understood information on the depth, tracked objects, route, waypoints, track, weather routing, and other mission-critical variables can be seen and understood from a glance at the Furuno multifunction display (MFD) screen at the helm. TIMEZERO provides the benefit of several AI-augmented functionalities to the helm, including customised, boat-specific polars for sailing vessels. It also features the ability to learn depths and create a detailed, real-time updated underwater 3D map which is popular with fishing operators, called Personal Bathymetry Generator (PBG).

The information provided by radar, AIS and multiple other sensors is overlaid onto the camera view, so, for example, an unknown vessel at night that has been set as an ARPA tracked target on the vessel's radar will show up on the MFD screen's camera view distinctly marked and tracked with a clear pointer showing its current speed and heading. The same vessel, if identified by AIS will provide more information such as the vessel name, type and callsign. In both instances, the camera is able to pan and follow the target accordingly. In the TIMEZERO chart view, the direction in which the camera is 'looking' at any time is shown as a shaded cone so there is no chance of the skipper losing track of where the camera is directed at any time, or when returning to the MFD after performing other tasks.

Because the FLIR thermal imaging camera also packs a high-resolution

daylight camera with a 30x optical zoom, this seamless level of integration is carried across whether it's full daylight, dusk, or total darkness. Providing confidence-inspiring visual confirmation of objects of interest, such as vessels, dangerous flotsam, shore features, a man overboard or nav aids, at a much earlier stage in the skipper's decision-making process. The M364C uses FLIR's new Colour Thermal Vision (CTV) technology to integrate the views from the daylight and thermal cameras displaying the two views side by side on the vessel's MFD.

The FLIR M364C is gyro stabilised, using integrated attitude heading reference system (AHRS) sensors. This two-axis mechanical stabilization system virtually eliminates the effects of pitch, heave, and yaw, further increasing the already excellent range, comfort, and usability.

If the camera is not following a selected target, it can be manually panned and adjusted at the helm, using simple arrow keys in the TIMEZERO software and on the Furuno MFD. On a moving vessel at sea however, not everyone likes a touchscreen and Frédéric prefers controlling the camera with the FLIR JCU1 joystick control, mounted next to the MFD.

Integrating the FLIR M364C with the TIMEZERO software running on the boat's Furuno MFD could not have been easier. It's true plug and play, taking about three minutes to select the FLIR product from a 'Connect a camera' dropdown in the TIMEZERO setup menu and to input the camera's IP address. The camera connects straight to the Furuno network, and the FLIR camera's dropdown menu incorporates a range of other FLIR cameras including the legacy M-Series (requires AXIS Converter), FLIR M200 series (232 only), FLIR M-300, FLIR M400 Series or FLIR M500 Series.

“We believe that the way FLIR's thermal imaging cameras integrate with TIMEZERO and FURUNO is a game-changer,” says Frédéric Algalarrondo. “This FLIR M364C integration onboard our test boat is more than an additional sensor to plug into our software. The data that the camera outputs becomes central to the safety of the boat at any times of navigational doubt and the integration is well designed so even when the skipper has been away from the helm it is easy for them to return and understand very quickly from the MFD screen what has changed and what's important.”

For more information, visit www.teledyneflir.com

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