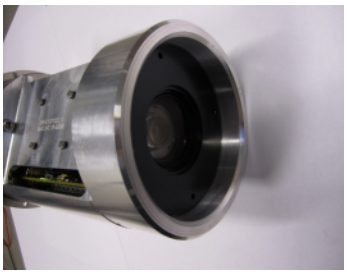
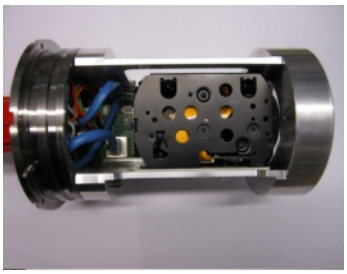
Panasonic
BUSINESS

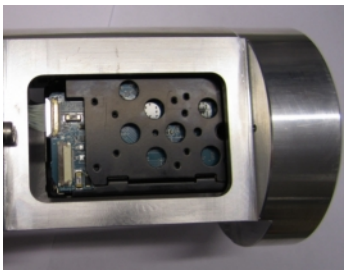
A HD WORLD UNDER THE WAVES

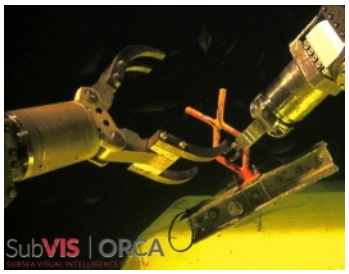
IMENCO USES PANASONIC'S INDUSTRIAL MEDICAL VISION MODULE CAMERA SOLUTIONS TO DELIVER FULLY DIGITAL SUBSEA VIDEOS

imenco
SMART SOLUTIONS









Imenco has over 40 years of experience in subsea technology engineering and is now a major global player in the manufacturing of subsea cameras. Imenco's latest SubVIS Orca camera is changing the way underwater video is transmitted.

Subsea remotely operated vehicles (ROV) are used for operations such as checking underwater pipelines for leaks, machinery inspection and maintenance. It's vital to have as little latency as possible from camera to monitor, so ROV pilots have better control of the vehicle and its operations.

Most consumer and professional cameras capture and transmit images digitally, which is recognised as the standard format. However, in the subsea industry, traditionally analogue camera signals are sent to the surface via an umbilical from the ROV or fixed camera.

Reducing the latency

Imenco has improved their subsea camera solution by overhauling the hardware and platform in order to have a product which can run digital transmissions over an ethernet-based system. This ensures accuracy for real-time operations as well as a faster transmission of images, which are captured by the camera to apprear on a ROV pilot's monitor.

For the design of the SubVIS Orca, Imenco considered a number of options. Firstly an off-the-shelf computer board and camera inserted into a large subsea pressure canister could have been used. Also they could have enclosed an Ethernet CCTV camera in subsea housing. However these options did not offer the level of control or the desired method of transmitting video signals required by Imenco.

Instead, for the SubVIS Orca, Imenco uses a Panasonic IMV module camera, the GP-MH322, to reduce latency to as little as 100 milliseconds.

"The vision is that subsea camera systems will evolve from analogue SD quality video to High Definition TCP / IP over Ethernet within three years; this is why we are developing the SubVIS Orca with the full HD Panasonic module camera that offers us very low latency," said Jan Wulfsberg, Technical Manager, Imenco Subsea Electronics.

The Panasonic Module camera offers the Imenco SubVIS Orca HD video with a 1/2. type megapixel MOS sensor. This allows operation in low light conditions with a minimum illumination of 0.4 lx (colour) and 0.03 lx (black and white). 22x optical zoom and 20x digital zoom can be achieved. The module camera is equipped with auto focus digital video via HD-LVDS and analogue via Y/Pb/Pr.

The module camera has a compact size (50x60x94mm), helping the SubVIS Orca keep a low form factor. The GP-MH322 has an operating temperature of -10°C to 60°C and can correct hazy or foggy images so they are clear and sharp.

High level of technical Support

Panasonic's Industrial Medical Vision team supported Imenco throughout the design and development process of the SubVIS Orca.

"As a Lead Development Engineer, I am very satisfied with the technical support from Panasonic during the development of the SubVIS system. We have been given an unusually high level of direct access and been supported by highly qualified people," said John Arne Birkeland, Lead Development Engineer, Imenco Subsea Electronics.

Imenco's SubVIS Orca camera is already making waves in the industry with one ROV Operator who tested the first commercial camera commenting to Imenco, "By way of feedback, we would like to inform you that we are extremely satisfied with the performance, build quality and function flexibility of the Orca Camera, furthermore, a first class product in every respect."

The camera has also been successfully installed on an offshore vessel and configured through a satellite for video streaming from the contractor's main office.

Switching to a software driven, digital system has also been of benefit to users of the subsea camera - making features like image recognition possible. This is when the system recognises an object by reducing the risk of losing critical visual observations.

Panasonic module camera solutions

The Panasonic module camera products are compatible with a large range of applications and feature models with HD resolution and up to a 30x optical zoom. The compact size of the module cameras ensures simple integration into customer applications such as industrial inspection, security, automotive or medical care.

For more information please visit:

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