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MRX.ControlBox, marine

Rugged central unit for MRX.marine system

x Central control and supply unit for marine camera systems

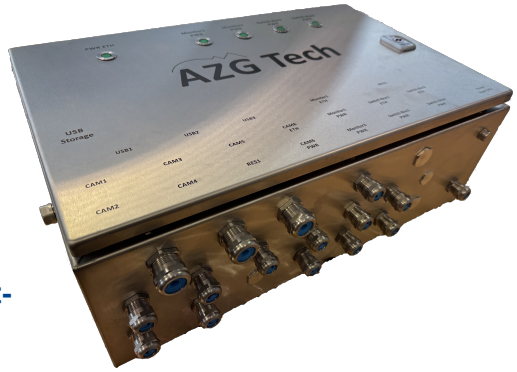
x PoE Ethernet switch, video recorder and central processing unit in one device

x Up to 6 cameras can be connected directly

x Up to 2 screens

x Additional cameras can be connected using remote switching units

x rugged, designed for offshore and port



MRX.marine is a video transmission and camera control system for the maritime sector. Three different types of marine-grade cameras are available to enable a wide range of applications. The system offers the option of connecting up to 20 cameras. A modular approach has been designed to enable tailor-made solutions to be implemented. The operator has a complete overview of the work equipment and environment on up to two monitors. The comprehensive view of the work area and what is happening on board increases safety and productivity. The operator can control the cameras to make their work easier.

The video images are stored internally for several days so that processes can be analyzed retrospectively.

Introduction

The MRX.marine system is a modular solution for use in port and offshore environments. It consists of:

- One or more camera modules,
- one or two touch monitors,
- one or more distribution boxes, which carry all the electronics and offer connection to clients.

Central unit is MRX.ControlBox. MRX.ControlBox houses a powerful PC with an integrated video recorder and an Ethernet switch to establish the data connection to the cameras.

Equipped with a 230VAC connection, MRX.ControlBox generates all the necessary secondary voltages from this. This has the advantage that no additional dangerous high voltage needs to be installed on the crane. This makes installation and subsequent operation safe.

Two monitors can be connected to MRX.ControlBox to display the connected cameras. One of these is a touch monitor, as some controls are provided via touch operation. This makes operation very convenient.

However, the daily operation of zoom and PTZ cameras is not carried out via the touch display but in the operator's hand using a joystick (MRX.ptzController). Mounted in the armrest of the work chair, the hand can always remain close to the other crane controls.

A GPS receiver ensures that the video recorder always knows the correct time (UTC) and that events in the videos can be correctly correlated with other events.

Up to 6 cameras can be connected directly to MRX.ControlBox. 5 of these with PoE power supply and one with PoE or external power supply.

To connect additional cameras that may be located far away from the MRX.ControlBox, two expansion boxes (‘MRX.SwitchBox’) can be used. Each expansion box offers the option of connecting 4-8 cameras with PoE power supply or external power supply.

The expansion boxes only require a data cable (Ethernet) and a power cable (48VDC) for connection. This significantly reduces the amount of wiring required for cameras located far away. Furthermore, distances of over 100 metres are possible, which would otherwise not be easily achievable via Ethernet.

Technical Specifikations

General

- Marine-grade central unit for MRX.marine
- PC, video recorder, PoE switch and power supply for the entire system

PC & video recorder

- PC
  - MIPS: 1000MHz
  - RAM: MB
  - SSD: MB
  - Decoder H.265, H.264, MJPEG
  - Processing of up to 14 video streams, latency: 100ms
- NTP server
  - Synchronised to MRX.gpsReceiver
- DHCP server
- Video recorder
  - Storage: 2TB
  - All video streams UTC synchronised

Connections

- external
  - 19x cable glands
  - 1x USB3 for video data from the recorder
- internal
  - 1x AC in
  - 1x HDMI (Monitor1)
  - 1x DisplayPort (Monitor2)
  - 2x power for monitors
  - 1x USB for touch monitor1
  - 6x PoE-ETH for (local) cameras
  - 1x add. power (30W) for one local camera
  - 1x ETH for remote access (service)
  - 1x USB3 for GPS receiver
  - 1x USB3 for PTZ controller
  - 1x USB3 for video data from the recorder
  - 3x USB3 (further use)
  - 2x IF to remote unit MRX.SwitchBox
- Ethernet (internal)
  - 10x 10/100/1000BaseT (IEEE 802.3)
  - 8x PoE+ (IEEE 802.3at), max. 30W
  - Auto-MDIX, auto-negotiation
  - Connector: RJ45
- IF to MRX.SwitchBox
  - 1x ETH (1000BT), plus
  - 1x Power (48VDC, max. 5A)

Indicator lights

- 5x LED (green) for monitoring the internal voltage converters

Physics

- Thermal design: fanless
- Housing: V4A stainless steel
- Weight: 21 kg
- Dimensions: 660x380x240mm
- Mounting: Wall or pole mounting
- Lock: Rittal key

Power supply

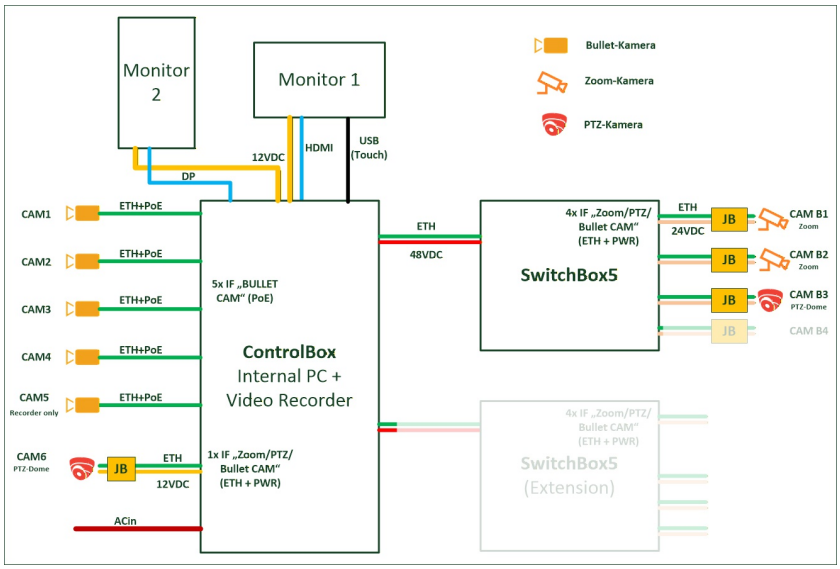
- 1x 110/230 VAC; 50/60Hz
  - 5A internal fuse
- Max. 600W, typ. 350W

Environment

- Ambient conditions
  - outdoor, offshore
  - Operation: -40..+60°C
  - Storage: -10 .. +40 °C
  - Rel. humidity: 20-95%, non-cond.

Certifications

- CE, eMark regulations
- RoHS, REACH



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