

EMV-gehärtete Video-, Audio- und Daten-Systeme

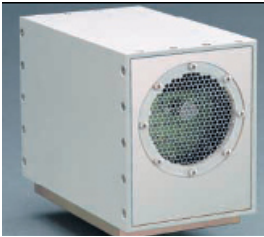
ASAT: for Audio Satelites

CAM: for Cameras

CON: for Controllers

FOI: for Fibre Optic Interface





ASAT 1

Audio satellite

The EMC hardened audio satellite ASAT1 is applied with an audio controller series 3 or a combined video/audio controller series 5 and 7.

It serves to assemble an intercom system for applications in EMC critical area.

The ASAT1 is equipped with an automatic gain control which ensure a constant loudness, independent from the distance and the level of the sound source.



CAM 2 Series

Minimized, EMC hardened camera

The series 2 is designed for special applications. These miniature cameras include a video/fibre optic converter and a power supply in a very small case. The compact dimensions minimize the influence of the RF-field. So it is possible to place the camera at a minimal distance to the EUT.

The cameras Cam 2 are cut out for all applications with limited space.

The build-in accumulator power supply of the series 2 guarantees 10 hours of continuous operation. The tracking of a power supply cable is not necessary.

- available in PAL or NTSC version
- available as colour or b/w camera
- lenses with different fixed focuses are available
- immunity 200V/m up to 18GHz



CAM 3 Series

Minimized, EMC hardened camera

The miniature cameras of the series 3 are equipped with manual lenses. The high-quality camera module, the video/fibre optic converter and the accumulator power supply are integrated within a compact housing.

The Cam 3 is suitable for mobile applications and observation of EUT's at a close distance.

- available in PAL or NTSC version
- available as colour or b/w camera
- customized lenses possible
- supports lenses with auto-iris
- immunity 200V/m up to 18GHz



CAM 6 Series

Manual, EMC hardened camera

Cameras of the series 6 are suitable for all applications where manual operation is sufficient.

Equipped with wide-angle lenses or fixed focus lenses these cameras are often used to observe the overall picture of an EMC chamber.

Focus, zoom and aperture are adjusted manual. Mounting on a tripod allows a mobile use of the Cam 6.

To purchase a well-tryed closed-circuit TV for the EMC chamber at an attractive price/performance ratio the Cam6 is the right choice.

- available in PAL or NTSC version
- available as colour or b/w camera
- large range of available lenses
- close-up lenses for minimal object distance 30cm, 50cm, 100cm available
- immunity 200V/m up to 18GHz

CAM 7 Series

Remote controlled EMC hardened camera

The cameras of series 7 are proven and multi-application standard cameras for EMC critical area. All important functions such as zoom, focus and pan/tilt movements can be remote controlled. The aperture of the camera lens is set automatically, suitable to the lighting conditions (auto iris). By using close-up lenses the cameras are able to monitor the equipment under test (EUT) at a minimal object distance (MOD).

- available in PAL and NTSC version
- available with 6-times and 10-times lenses
- close-up lenses for MOD 30cm, 50cm, 100cm available
- immunity 70xxxx series: 200V/m up to 18GHz

71xxxx series: 60V/m up to 18GHz



CAM 9 Series

Remote controlled EMC hardened camera

The cameras of the series 9 are professional high-end cameras for the utilization in extremely critical EMC area. The extremely solid camera housing guarantees immunity from interference up to 18 GHz. The high light-sensitivity of the Cam9 series makes it ideal to monitor small details under adverse lighting conditions. Under normal conditions, the automatic aperture-control supplies an optimal picture quality. In special case (e.g. observing monitors or displays) it is possible to adjust the aperture manually via remote control. So the particular picture elements are shown at optimum quality. As standard, regular functions such as zoom, focus and pan/tilt movements are remote controllable.

The camera becomes even more versatile by using optional close-up lenses. A few additional easy steps allow the minimum object distance to be reduced to 30cm. Ideal for use in limited space (e.g. to monitor devices in motor vehicles).

- available in PAL and NTSC version
- available with 6-times, 10-times or customized lenses
- close-up lenses for minimal object distance 30cm, 50cm, 100cm available
- immunity 200V/m from 20MHz up to 1GHz in accordance with ISO11452-2, 200V/m from 1GHz up to 18GHz in accordance with MIL-STD462D





CON 3 Series **Audio controller**

The controller series 3 is designed for stand-alone audio systems. These controllers serve to realize one or multichannel intercom systems. The transmission direction can be selected from the controller (push-to-talk-button).

- intercom system
- various versions for 1–6 channels available
- additional audio outputs per channel possible



CON 4 Series

Video controller for cameras series 7 and 9 without aperture control

The camera controllers of this series serve to operate cameras of the series 7 and 9 without aperture control. The functions, zoom, focus and pan/tilt movements are remote controlled. To reduce the power consumption by the camera during longer breaks, the camera can be switched into a stand-by mode. Therefore operating time of camera systems supplied by an accumulator pack can be noticeable extended.

- various versions for operating 1–6 cameras available
- additional video outputs per camera input are possible (video splitter)



CON 5 Series

Video/Audio controller for cameras series 7 and 9 without aperture control

The controllers of the series 5 are designed for combined video-/audio systems. All cameras without remote controllable aperture (Cam 7 and Cam 9) fit to these controllers. Additionally the controllers series 5 contain an audio system for connection of an EMCshilded audio-satellite ASAT1. The camera functions zoom, focus, pan/tilt movements and the audio function (Push-to-talk) can be remote controlled. During longer breaks it is possible to switch the camera into a stand-by-mode (compare Con 4 series).

- integrated intercom system
- various versions for operating 1–6 cameras available
- additional video outputs per camera input possible (video splitter)



CON 6 Series

Video controller for cameras series 9 with aperture control

The camera controllers Con 6 series are designed for the operation of the professional camera series 9 with aperture control. Zoom, focus and the motion of the pan/tilt are remote controlled. Additionally it is possible to remote control the functions auto tracing white balance (ATW), back light compensation (BLC) and sharpness (DEF). During a longer break it is possible to switch the camera into a stand-by-mode (compare Con 4 series).

There are two modes to operate the camera's iris:

auto-iris: The camera controls the aperture automatically according to the lighting conditions.
manual: The user can adjust the aperture from the controller to obtain an optimal and correct image of the relevant picture elements. At difficult lighting conditions the picture quality increases significant. The actual setting of the iris is shown on the wide multi functional display.

- background illuminated LCD-display
- various version for operating 1–6 cameras available
- additional video outputs per camera input possible (video splitter)



CON 7 Series

Video/audio controller with aperture control

The technical specification of the camera controllers series 7 are identical with the series 6 but are equipped with an audio system additionally. The transmission direction can be selected from the controller (push-to-talk-button).

- integrated intercom system



Fibre Optic Interface (FOI)- Devices

During EMC tests it is not allowed to carry signals via wire connection, because the unavoidable emission of these cables influences the measuring results. Also the shielding of the chamber degrades by the galvanic connection generated by these wires.

That is why the FIBO product family was developed. The FIBO devices are especially designed for the transmission of electrical signals from the EMC chambers to the control room and vice versa. The basic function of these units is similar. The information is converted into an optical signal and transmitted galvanic isolated via an optical fibre. Finally the optical signal is converted back into the original electrical signal. The converter and all other components are integrated in completely shielded cases, to avoid negative effects on the measuring.

Two FIBO-device series are available:

FOI-devices for signal transmission

FOI-01 fibre optic interface RS232 version 1

FOI for transmission of RS232 signal without handshake (bidirectional)

FOI-02 fibre optic interface RS232 version 1

FOI for transmission of RS232 signal with handshake (bidirectional)

FOI-03 fibre optic interface ethernet

FOI for transmission of ethernet-signals (bidirectional)

FOI-04 fibre optic interface VGA version 2

FOI for transmission of VGA video-signals (unidirectional)

FOI-05 fibre optic interface GPIB

FOI for transmission of GPIB-signals (bidirectional)

FOI-06 fibre optic interface 8 x TTL

FOI for transmission of TTL-signals, 8 Bit (unidirectional)

FOI-07 fibre optic interface 4 input 4 output

FOI for transmission of TTL-signals, 4 Bit (bidirectional)

FOI-08 fibre optic interface 8 input 8 output

FOI for transmission of TTL-signals, 8 Bit (bidirectional)

FOI-09 fibre optic interface 4 optocoupler / 4 relay

FOI for transmission of general signals

(e.g. vehicle-control voltage) 4 channels (bidirectional)

FOI-10 fibre optic interface FBAS

FOI for transmission of composite video-signals (unidirectional)

FOI-devices for controlling and monitoring resp. measuring automation:

FOI-20 fibre optic interface control and monitoring unit version 1

Controls 4 TTL outputs, monitors 4 TTL and 2 analog inputs.

FOI-21 fibre optic interface control and monitoring unit version 2

Controls 4 relays, monitors 4 optocouplers and 2 analog inputs.

FOI-22 fibre optic interface control and monitoring unit version 3

Controls 4 relays, monitors 2 TTL and 4 analog inputs.

FOI-23 fibre optic multimeter version 4

Measuring instrument for direct and alternating voltage with 4 inputs.

FOI-24 fibre optic multimeter version 6

Measuring instrument for direct and alternating voltage with 6 inputs.

FOI-25 fibre optic multimeter version 8

Measuring instrument for direct and alternating voltage with 8 inputs.

FOI-26 fibre optic interface for line impedance stabilization network version M

Remote control for LISNs of the companies R&S or Schwarzbeck. Allows to operate the LISN from the controller manually, e.g. capable to be controlled by the user interface of a receiver.

FOI-27 fibre optic interface for line impedance stabilization network version G

Remote control for LISNs of the companies R&S or Schwarzbeck. Allows to operate the LISN from the controller manually, e.g. capable to be controlled by the user interface of a receiver or a GPIB interface.