

Catalog

Video Systems for Military Vehicles



2015 / 12



Rear View Camera System
for Military Vehicles

type numbers: 00379 | 00378 | 00622

Cameras:



Monochrome Day & Night-Vehicle Mounted Camera
with Remote Controlled Wiper and Protective Door

type number 00896



Monochrome Day & Night Wide Angle Vehicle
Mounted Camera with Remote Controlled Wiper,
Protective Door and Iris

type number 00862



Monochrome Day & Night Wide Angle Vehicle
Mounted Camera with Remote Controlled Iris

type number 00993



Monochrome Day & Night-Vehicle Mounted Camera
with Washer Nozzle and Objective Window Heating

type number 00900



Monochrome Vehicle Mounted Camera
with Washer Nozzle and Objective Window Heating

type number 00879



Monochrome Vehicle Mounted Camera
with Objective Window Heating

type number 01012



Dual Sensor Monochrome Day & Night-Vehicle Mounted Camera
with Washer Nozzle and Objective Window Heating

type number 01133



Ruggedized B & W Ball Camera for Vehicles
and other Outdoor Military Applications

type number 00942



Ruggedized Colour Ball Camera for Vehicles
and other Outdoor Military Applications

type number 00980



Ruggedized Wide Angle B & W Ball Camera for Vehicles
and other Outdoor Military Applications

type number 01112



Ruggedized Wide Angle Colour Ball Camera for Vehicles
and other Outdoor Military Applications

type number 01014

Accessories:



Infra-Red Illuminator, Angles: 80° horizontal, 50° vertical

type number 01255



Infra-Red Illuminator, Angle: 120°

type number 01256



Displays:



Rugged 6.5" Flip-Down Video Display
for Overhead Mounting

type number 00843



Rugged 6.5" Video Display for Dashboard Mounting

type number 00645



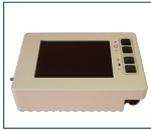
Rugged 10,4" Multi Function Display
with Picture In Picture Video Input

type number 00407



Rugged 12,1" Computer with Picture In Picture
Video Input

type number 01051



Ruggedized 6,5" Display Unit for Vehicle
Day & Night-Vision Application

type numbers: 00741 | 01077



Multisync Video-CRT-Micromonitor
for Use in Chain and Wheel Driven Vehicles

type number 00723



4,5" CRT Monitor for Chain Driven Vehicles

type number 00336

Video Distribution:



Single-Channel Digital Video- & Audio Recorder
(Option: Dual-Channel Recorder)

type number 00422



Video Server and VGA Switch

type number 00975



Video Splitter

type number 00898



Video Crosspoint-Switch with Picture In Picture

type number 00899

Rear View Camera System for Military Vehicles

Over thousand of units in operation since product introduction on 1995



type number
00379

type number
00378



type number
00622

Description:

This customized rear view camera system has a modular design and has been implemented in various types of vehicles by individual installation kits. Due to the high environmental requirements for the use in tracked vehicles, all components are adequately ruggedized.

Camera:

- very sensitive B & W high resolution camera
- remote controlled objective lens window cleaning
- Ruggedized and waterproof housing

Display & Control:

- B & W CRT or TFT / LCD-display
- Superimposed symbology showing the vehicle path at distances of 5 m, 10 m and 15 m behind the vehicle
- Control elements: on-off switch, contrast, brightness, objective lens window cleaning

Ask for further technical information!

Functional or interface modifications can be realized on request. Each configuration change causes a new type number.

Camera type number 00378

Sensor type:	1/3" B & W CCD
Active pixels:	752 x 582 (H x V)
Video standard:	CCIR / STANAG 3350B
Video output:	VBS 1 V _{ss} / 75 Ω
Exposure control:	Shutter iris and automatic gain control
Sensitivity:	1 Lux
Objective lens:	3,6 mm, F=2
Angle of View:	72 °H / 54 °V

CRT-Display & Control Unit type number 00379

Display type:	monochrome CRT
Active display:	125 x 90 mm
Resolution:	>500 TVL
Brightness:	300 cd/m ²
Power supply:	17 Vdc to 32 Vdc
Dimensions:	170 x 156 x 205 mm (W x H x D)

Optional

LCD-Display & Control Unit type number 00622

Display type:	5,5" TFT / LCD
Resolution:	320 x 240 pixels (H x V)
Brightness:	250 cd/m ²
grey scales:	256
Power supply:	17 Vdc to 32 Vdc
Dimension:	170 x 156 x 86 mm (W x H x D)

Environmental conditions:

Temperature:	-35 °C to +70 °C
EMC:	VG 95373
Shock / Vibration:	MIL 810 C for tactical vehicles

By courtesy of Krauss-Maffei-Wegmann GmbH & Co. KG

Monochrome Day & Night-Vehicle Mounted Camera with Remote Controlled Wiper and Protective Door

type number 00896



Main Features:

- Ultra low light camera produces clear images on both day and night conditions. The camera can automatically change between day and night modes of operation depending on the intensity illumination.
- No need for artificial illumination in the night mode
- Superior light sensitivity comparable to Image- Intensified CCD cameras is attained by forward looking video processing inside the CCD-Sensor.
- Main advantages over Image-Intensified CCD cameras are: excellent daylight performance and image sharpness, reliability, long lifetime and better price-performance ratio.
- applicable as rear view camera and for observation of vehicle surroundings
- Rugged, mud-proof, water-proof and extremely shock and vibration resistant camera housing for use under harsh environmental conditions as in armoured wheeled or tracked military vehicles
- Remote operated door protects the objective lens when camera is not in use.
- Objective lens window cleaning with durable brush on the back side of protective door

Optional Accessories:

- Various displays and video distribution units with integrated camera remote control
- Mounting adapters and wiring harnesses for various vehicles

Ask for further technical information!

Functional or interface modifications can be realized on request. Each configuration change causes a new type number.

Technical Data:

Sensor type:	1/3" EXview HAD B & W CCD
Active pixels:	752 x 582 (H x V)
Video standard:	CCIR / STANAG 3350B (EIA / STANAG 3350C version on request)
Video output:	VBS 1 Vss / 75 Ω
Horizontal resolution:	570 TVL
Exposure control:	Shuter iris and Automatic gain control
Sensitivity (day):	0,3 Lux for 48 dB SNR, 40 IRE
Sensitivity (night):	0,00025 Lux for 20dB SNR, 40 IRE
Standard lens:	f=3,6 mm; F=2
Angle of view:	72 °H / 54 °V (another angle of view on request)
Basic remote control:	Basic functions (camera on / off, lens cleaning and closing protective door) via discrete control input
Advanced remote control:	Full remote control and Built-In Test via CAN-Bus
CAN-Bus:	Version 2.0 B (SAE J1939) protocol CAN-Open or CUP
Connector:	VG95234A20A48PN
Power supply:	24 Vdc according to VG 96916-5
Power input:	< 25 W
Temperature:	-40 °C to +63 °C (operating) -40 °C to +90 °C (storage)
Dimensions:	178 x 90 x 141 mm (W x H x D)
Weight:	approx. 2,2 Kg
Colour:	RAL 6031 bronze green or TBD
EMC / EMI:	VG 95373 (MIL-STD-461E on request)
Protection:	IP 68 (immersion depth up to 2 m)
Shock / Vibration:	MIL-STD-810E

Picture of customized camera version published with permission of Rheinmetall Landsysteme GmbH

Monochrome Day & Night Wide Angle Vehicle Mounted Camera with Remote Controlled Wiper, Protective Door and Iris

type number 00862



Main Features:

- Ultra low light camera produces clear images on both day and night conditions. The camera can automatically change between day and night modes of operation depending on the intensity illumination.
- No need for artificial illumination in the night mode
- Superior light sensitivity comparable to Image-Intensified CCD cameras is attained by forward looking video processing inside the CCD-Sensor.
- Main advantages over Image-Intensified CCD cameras are:
excellent daylight performance and image sharpness, reliability, long lifetime and better price-performance ratio.
- applicable as rear view camera and for observation of vehicle surroundings
- Rugged, mud-proof, water-proof and extremely shock and vibration resistant camera housing for use under harsh environmental conditions as in armoured wheeled or tracked military vehicles
- Remote operated door protects the objective lens when camera is not in use.
- Objective lens window cleaning with durable wipe blade on the back side of protective door

Optional Accessories:

- Various displays and video distribution units with integrated camera remote control
- Mounting adapters and wiring harnesses for various vehicles

Ask for further technical information!

Functional or interface modifications can be realized on request. Each configuration change causes a new type number.

Technical Data:

Sensor type:	1/3" EXview HAD B & W CCD
Active pixels:	752 x 582 (H x V)
Video standard:	CCIR / STANAG 3350B (EIA / STANAG 3350C version on request)
Video output:	VBS 1 Vss / 75 Ω
Horizontal resolution:	570 TVL
Exposure control:	Shutter iris Automatic gain control Motorized, remote controlled iris
Sensitivity (day):	0,3 Lux for 48 dB SNR, 40 IRE
Sensitivity (night):	0,00025 Lux for 20dB SNR, 40 IRE
Standard lens:	f=2,3 mm; F=2 ~ 32
Angle of view:	114 °H / 86 °V (another angle of view on request)
Basic remote control:	Basic functions (camera on / off, lens cleaning and closing protective door) via discrete control input
Advanced remote control:	Full remote control and Built-In Test via CAN-Bus
CAN-Bus:	Version 2.0 B (SAE J1939) protocol CAN-Open or CUP
Connector:	VG95234A20A48PN
Power supply:	24 Vdc according to VG 96916-5
Power input:	< 25 W
Temperature:	-40 °C to +72 °C (operating) -40 °C to +90 °C (storage)
Dimensions:	178 x 90 x 141 mm (W x H x D)
Weight:	approx. 2,2 Kg
Colour:	RAL 6031 bronze green or TBD
EMC / EMI:	VG 95373 (MIL-STD-461E on request)
Protection:	IP 68 (immersion depth up to 4 m)
Shock / Vibration:	MIL-STD-810E

Picture of customized camera version published with permission of Rheinmetall Landsysteme GmbH

Monochrome Day & Night Wide Angle Vehicle Mounted Camera with Remote Controlled Iris

type number 00993



Main Features:

- Ultra low light camera produces clear images on both day and night conditions. The camera can automatically change between day and night modes of operation depending on the intensity illumination.
- No need for artificial illumination in the night mode
- Superior light sensitivity comparable to Image-Intensified CCD cameras is attained by forward looking video processing inside the CCD-Sensor.
- Main advantages over Image-Intensified CCD cameras are:
excellent daylight performance and image sharpness, reliability, long lifetime and better price-performance ratio.
- applicable as rear view camera and for observation of vehicle surroundings
- Rugged, waterproof and extremely shock and vibration resistant camera housing for use under harsh environmental conditions as in armoured wheeled or tracked military vehicles

Optional Accessories:

- Various displays and video distribution units with integrated camera remote control
- Mounting adapters and wiring harnesses for various vehicles
- Washer nozzle

Ask for further technical information!
Functional or interface modifications can be realized on request. Each configuration change causes a new type number.

Technical Data:

Sensor type:	1/3" EXview HAD B & W CCD
Active pixels:	752 x 582 (H x V)
Video standard:	CCIR / STANAG 3350B (EIA / STANAG 3350C version on request)
Video output:	VBS 1 Vss / 75 Ω
Horizontal resolution:	570 TVL
Exposure control:	Shutter iris Automatic gain control Motorized, remote controlled iris
Sensitivity (day):	0,3 Lux for 48 dB SNR, 40 IRE
Sensitivity (night):	0,00025 Lux for 20dB SNR, 40 IRE
Standard lens:	f=2,3 mm; F=2 ~ 32
Angle of view:	114 °H / 86 °V (another angle of view on request)
Remote control:	Full remote control and Built-In Test via CAN-Bus
CAN-Bus:	Version 2.0 B (SAE J1939) protocol CAN-Open or CUP
Connector:	VG95234A20A48PN
Power supply:	24 Vdc according to VG 96916-5
Power input:	< 25 W
Temperature:	-46 °C to +44 °C (operating) -46 °C to +69 °C (storage)
Dimensions:	178 x 90 x 128,5 mm (W x H x D)
Weight:	approx. 2,2 Kg
Colour:	RAL 6031 bronze green or TBD
EMC / EMI:	VG 95373 (MIL-STD-461E on request)
Protection:	IP 68 (immersion depth up to 4 m)
Shock / Vibration:	MIL-STD-810E

Picture of customized camera version published with permission of Rheinmetall Landsysteme GmbH

Monochrome Day & Night-Vehicle Mounted Camera with Washer Nozzle and Objective Window Heating

type number 00900



Main Features:

- Ultra low light camera produces clear images on both day and night conditions. The camera can automatically change between day and night modes of operation depending on the intensity illumination.
- No need for artificial illumination in the night mode
- Superior light sensitivity comparable to Image-Intensified CCD cameras is attained by forward looking video processing inside the CCD-Sensor.
- Main advantages over Image-Intensified CCD cameras are:
excellent daylight performance and image sharpness, reliability, long lifetime and better price-performance ratio.
- applicable as rear view camera and for observation of vehicle surroundings
- Rugged, water-proof and extremely shock and vibration resistant camera housing for use under harsh environmental conditions as in armoured wheeled or tracked military vehicles
- Lens window cleaned with high pressure water jet
- Cleaning nozzle and a check valve integrated at the camera housing
- Heating for quick de-icing of the objective lens window with a variety of configuration possibilities:
 - automatic heating at low temperature
In this case, heating can be inhibited to make the camera invisible for enemys infrared cameras.
 - Heating switchable by display with time function
 - Heater connected in parallel to the heating of outside rear view mirror or windscreen switched by mirror / windscreen de-ice timer relay or temperature sensor.

Technical Data:

Sensor type:	1/3" EXview HAD B & W CCD
Active pixels:	752 x 582 (H x V)
Video standard:	CCIR / STANAG 3350B (EIA / STANAG 3350C version on request)
Video output:	VBS 1 Vss / 75 Ω
Horizontal resolution:	570 TVL
Exposure control:	Shutter iris and AGC
Sensitivity (day):	0,3 Lux for 48 dB SNR, 40 IRE
Sensitivity (night):	0,00025 Lux for 20dB SNR, 40 IRE
Standard lens:	f=3,6 mm; F=2
Angle of view:	72 °H / 54 °V (another angle of view on request)
Connection:	Shielded cable with SJTG06RT08-35PN014 plug
Power supply:	12 Vdc +/-10 %; 2 W by drivers display (Versions with 24 Vdc or 12 Vdc automotive power supply conforming to VG 96916-5 or MIL on request)
Objective lens heating:	12 Vdc or 24 Vdc / 6 W
Fluid pressure:	>2,5 bar (as from headlamp wash pump)
Fluid connection:	inner diameter of hose=5 mm
Temperature:	-40 °C to +63 °C (operating) -40 °C to +90 °C (storage)
Dimensions:	146 x 85 x 100 mm (W x H x D)
Weight:	approx. 1,3 Kg
Colour:	RAL 6031 bronze green or TBD
EMC / EMI:	VG 95373 (MIL-STD-461E on request)
Protection:	IP 68 (immersion depth up to 2 m)
Shock / Vibration:	MIL-STD-810E

page 1 of 2



Monochrome Day & Night-Vehicle Mounted Camera with Washer Nozzle and Objective Window Heating

type number 00900

Optional Accessories:

- Displays with integrated camera power supply and remote control for wash pump and camera de-icing
- Mounting adapters and wiring harnesses for various vehicles
- Video distribution units

Ask for further technical information!
Functional or interface modifications can be realized on request. Each configuration change causes a new type number.

page 2 of 2

Monochrome Vehicle Mounted Camera with Washer Nozzle and Objective Window Heating

type number 00879



Main Features:

- applicable as rear view camera and for observation of vehicle surroundings
- Rugged, water-proof and extremely shock and vibration resistant camera housing for use under harsh environmental conditions as in armoured wheeled or tracked military vehicles
- Lens window cleaned with high pressure water jet
- Cleaning nozzle and a check valve integrated at the camera housing
- Heating for quick de-icing of the objective lens window with a variety of configuration possibilities:
 - automatic heating at low temperature
In this case, heating can be inhibited to make the camera invisible for enemies infrared cameras.
 - Heating switchable by display with time function
 - Heater connected in parallel to the heating of outside rear view mirror or windscreen switched by mirror / windscreen de-ice timer relay or temperature sensor.

Optional Accessories:

- Displays with integrated camera power supply and remote control for wash pump and camera de-icing
- Mounting adapters and wiring harnesses for various vehicles
- Video distribution units
- covert IR lighting (invisible to the human eye)

Ask for further technical information!

Functional or interface modifications can be realized on request. Each configuration change causes a new type number.

Technical Data:

Sensor type:	1/4" B & W Sony CCD
Active pixels:	752 x 582 (H x V)
Video standard:	CCIR / STANAG 3350B (EIA / STANAG 3350C version on request)
Video output:	VBS 1 Vss / 75 Ω
Horizontal resolution:	520 TVL
Exposure control:	Shutter iris and AGC
Sensitivity:	0,7 Lux for 48 dB SNR, 50 IRE
Standard lens:	f=3,0 mm; F=2
Angle of view:	71 °H / 50 °V (Another angle of view on request)
Connection:	Shielded cable with SJTG06RT08-35PN014 plug
Power supply:	12 Vdc +/-10 %; 2 W by drivers display (Versions with 24 Vdc or 12 Vdc automotive power supply conforming to VG 96916-5 or MIL on request)
Objective lens heating:	24 Vdc / 6 W
Fluid pressure:	>2,5 bar (as from headlamp wash pump)
Fluid connection:	inner diameter of hose=5 mm
Temperature:	-40 °C to +63 °C (operating) -40 °C to +90 °C (storage)
Dimensions:	146 x 85 x 105 (W x H x D)
Weight:	approx. 1,3 Kg
Colour:	RAL 6031 bronze green or TBD
EMC / EMI:	VG 95373 (MIL-STD-461E on request)
Protection:	IP 68 (immersion depth up to 2 m)
Shock / Vibration:	MIL-STD-810E

Monochrome Vehicle Mounted Camera with Objective Window Heating

type number 01012



Main Features:

- applicable as rear view camera and for observation of vehicle surroundings
- Rugged, water-proof and extremely shock and vibration resistant camera housing for use under harsh environmental conditions as in armoured wheeled or tracked military vehicles
- Superior light sensitivity and resolution
- Heating for quick de-icing of the objective lens window with a variety of configuration possibilities:
 - automatic heating at low temperature
In this case, heating can be inhibited to make the camera invisible for enemys infrared cameras.
 - Heating switchable by display with time function
 - Heater connected in parallel to the heating of outside rear view mirror or windscreen switched by mirror / windscreen de-ice timer relay or temperature sensor.

Optional Accessories:

- Displays with integrated camera power supply and remote control for camera de-icing
- Mounting adapters and wiring harnesses for various vehicles
- Video distribution units
- covert IR lighting (invisible to the human eye)

Ask for further technical information!

Functional or interface modifications can be realized on request. Each configuration change causes a new type number.

Technical Data:

Sensor type:	1/4" Sony B & W CCD
Active pixels:	752 x 582 (H x V)
Video standard:	CCIR / STANAG 3350B (EIA / STANAG 3350C version on request)
Video output:	VBS 1 Vss / 75 Ω
Horizontal resolution:	520 TVL
Exposure control:	Shutter iris and AGC
Sensitivity:	0,7 Lux for 48 dB SNR, 50 IRE
Standard lens:	f=3,0 mm; F=2
Angle of view:	71 °H / 50 °V (Another angle of view on request)
Connection:	Shielded cable with SJTG06RT08-35PN014 plug
Power supply:	12 Vdc +/-10 %; 2 W by drivers display (Versions with 24 Vdc or 12 Vdc automotive power supply conforming to VG 96916-5 or MIL on request)
Objective lens heating:	12 Vdc or 24 Vdc / 6 W
Temperature:	-40 °C to +63 °C (operating) -40 °C to +90 °C (storage)
Dimensions:	146 x 85 x 100 mm (W x H x D)
Weight:	approx. 1,3 Kg
Colour:	RAL 6031 bronze green or TBD
EMC / EMI:	VG 95373 (MIL-STD-461E on request)
Protection:	IP 68 (immersion depth up to 2 m)
Shock / Vibration:	MIL-STD-810E

Dual Sensor Monochrome Day & Night-Vehicle Mounted Camera with Washer Nozzle and Objective Window Heating

type number 01133



Preliminary

Main Features:

This camera joins the advantages of ultra low light monochrome CCD-camera technology (Visual Light Imager) and longwave thermal sensing technology (Thermal Imager). It is the best choice if you want to see all without being seen.

Features of the Ultra Low Light CCD-Camera:

- Produces clear images on both day and night conditions without artificial lighting. The camera can automatically change between day and night modes of operation depending on the intensity of illumination.
- No need for artificial illumination in the night mode
- Superior light sensitivity comparable to Image-Intensified CCD cameras is attained by forward looking video processing inside the CCD-Sensor
- Main advantages over Image-Intensified CCD cameras are: excellent daylight performance and image sharpness, reliability, long lifetime and better price-performance ratio.

Features of the Thermal Imager:

- helps to detect and recognize potential hazards in total darkness, smoke, rain, snow and fog
- sure detection and recognition of persons and animals

Technical Data Thermal imager:

Sensor type:	high resolution uncooled long-wave microbolometer array
Active pixels:	640 x 512 (H x V)
Spectral band:	7.5-13.5 nm
Sensitivity:	>50 mk
Angle of view:	69 °H / 56 °V (another angle of view on request)

Technical Data Visual Light Imager:

Sensor type:	1/3" EXview HAD B & W CCD
Active pixels:	752 x 582 (H x V)
Horizontal resolution:	570 TVL
Exposure control:	Shutter iris and AGC
Sensitivity (day):	0,3 Lux for 48 dB SNR, 40 IRE
Sensitivity (night):	0,00025 Lux for 20dB SNR,40 IRE
Angle of view:	matched to thermal Imager

Dual Sensor Monochrome Day & Night-Vehicle Mounted Camera with Washer Nozzle and Objective Window Heating

type number 01133

System Features

- Applicable as front or rear view camera and for observation of vehicle surroundings
- Rugged, water-proof and extremely shock and vibration resistant camera housing for use under harsh environmental conditions as in armoured wheeled or tracked military vehicles
- Lens windows cleaned with high pressure water jet
- Cleaning nozzles and a check valve integrated at the camera housing
- Heating for quick de-icing of the objective lens windows with a variety of configuration possibilities:
 - automatic heating at low temperature
In this case, heating can be inhibited to make the camera invisible for enemys infrared cameras.
 - Heating switchable by display with time function
 - Heater connected in parallel to the heating of outside rear view mirror or windscreen switched by mirror/windscreen de-ice timer relay or temperature sensor.

Optional Accessories:

- Displays with integrated camera power supply and remote control for wash pump and camera de-icing
- Mounting adapters and wiring harnesses for various vehicles
- Video distribution units

Technical Data System:

Video standard:	CCIR / STANAG 3350B (EIA / STANAG 3350C version on request)
Video output:	VBS 1 Vss / 75 Ω
Connection:	Shielded cable with SJT- plug
Power supply:	filtered 12 Vdc +/-10 %; 4 W by drivers display (Versions with 24 Vdc or 12 Vdc automotive power supply conforming to VG 96916-5 or MIL on request)
Objective lens heating:	12 Vdc or 24 Vdc / 6 W
Fluid pressure:	>2,5 bar (as from headlamp wash pump)
Fluid connection:	inner diameter of hose=5 mm
Temperature:	-40 °C to +63 °C (operating) -40 °C to +90 °C (storage)
Dimensions:	146 x 110 x 140 mm (W x H x D)
Weight:	approx. 2 Kg
Colour:	RAL 6031 bronze green or TBD
EMC / EMI:	VG 95373 (MIL-Std-461E on request)
Protection:	IP 68 (immersion depth up to 2 m)
Environmental specification:	MIL-Std-810E

Ask for further technical information!

Functional or interface modifications can be realized on request. Each configuration change causes a new type number.

page 2 of 2

Ruggedized B & W Ball Camera for Vehicles and other Outdoor Military Applications

type number 00942



Main Features:

- Rugged monochrome high resolution compact camera for operating under harsh environmental conditions as in armoured wheeled or tracked military vehicles
- Applicable for drivers rear, front or side view
- Extremely shock and vibration resistant waterproof housing
- Reinforced black plastic bracket allows flexible alignment of viewing direction
- For rear view, picture can be simply mirrored by reversing of the power supply polarity

- Heating for quick de-icing of the objective lens window with a variety of configuration possibilities:
 - automatic heating at low temperature
In this case, heating can be inhibited to make the camera invisible for enemys infrared cameras.
 - Heating switchable by display with time function
 - Heater connected in parallel to the heating of outside rear view mirror or windscreen switched by mirror / windscreen de-ice timer relay or temperature sensor.

Technical Data:

Sensor type:	1/4" Sony B&W CCD
Active pixels:	752 x 582 (H x V)
Video standard:	CCIR / STANAG 3350B (EIA / STANAG 3350C version on request)
Video output:	VBS 1 V _{ss} / 75 Ω
Horizontal resolution:	520 TVL
Exposure control:	Shutter Iris and automatic gain control
Sensitivity:	0,5 Lux / 50 IRE
Standard lens:	f=3,0 mm; F=2
Angle of view:	71° H / 50° V (Another angle of view on request)
Connection:	Shielded cable with SJTG06RT08-35PN014 plug
Power supply:	12 Vdc +/-10 % / 2 W
Temperature:	-40 °C to +71 °C (operating) -40 °C to +90 °C (storage)
Dimensions:	ball-diameter 55 mm center of sphere 40 mm about mounting surface
Weight:	ca. 500 g
Material / Surface:	anodized Aluminium
Colour:	Black
EMC / EMI:	according to VG 95373 (MIL-STD-461E on request)
Protection:	IP 69k according to EN 60529
Shock / Vibration:	MIL-STD-810E

Ruggedized B & W Ball Camera for Vehicles and other Outdoor Military Applications

type number 00942



Optional Accessories:

- Rain- and sun protection shed
- Tree protector
- Cleaning nozzle
- Displays with integrated camera power supply and remote control for wash pump and camera de-icing
- Camera power supply for land vehicle 24 Vdc Network conforming to standard VG96916-5
- Video distribution units
- covert IR lighting (invisible to the human eye)

Ask for further technical information!
Functional or interface modifications can be realized on request. Each configuration change causes a new type number.

page 2 of 2

Ruggedized Colour Ball Camera for Vehicles and other Outdoor Military Applications

type number 00980



Main Features:

- Rugged colour high resolution compact camera for operating under harsh environmental conditions as in armoured wheeled or tracked military vehicles
- Applicable for drivers rear, front or side view
- Extremely shock and vibration resistant waterproof housing
- Reinforced black plastic bracket allows flexible alignment of viewing direction
- For rear view, picture can be simply mirrored by reversing of the power supply polarity
- Heating for quick de-icing of the objective lens window with a variety of configuration possibilities:
 - automatic heating at low temperature
In this case, heating can be inhibited to make the camera invisible for enemys infrared cameras.
 - Heating switchable by display with time function
 - Heater connected in parallel to the heating of outside rear view mirror or windscreen switched by mirror / windscreen de-ice timer relay or temperature sensor.

Technical Data:

Sensor type:	1/4" Sony Colour CCD
Active pixels:	752 x 582 (H x V)
Video standard:	PAL (NTSC version on request)
Video output:	CVBS 1Vss / 75 Ω
Horizontal resolution:	460 TVL
Exposure control:	Shutter Iris and automatic gain control
Sensitivity:	1 Lux / 50 IRE
Standard lens:	f=3,0 mm; F=2
Angle of view:	71° H / 50° V (Another angle of view on request)
Connection:	Shielded cable with SJT-G06RT0835PN014 plug
Power supply:	12 Vdc +/-10 % / 2 W
Temperature:	-40 °C to +71 °C (operating) -40 °C to +90 °C (storage)
Dimensions:	ball-diameter 55 mm center of sphere 40 mm about mounting surface
Weight:	ca. 500 g
Material / Surface:	anodized Aluminium
Colour:	Black
EMC / EMI:	according to VG 95373 (MIL-STD-461E on request)
Protection:	IP 69k according to EN 60529
Shock / Vibration:	MIL-STD-810E

Ruggedized Colour Ball Camera for Vehicles and other Outdoor Military Applications

type number 00980



Optional Accessories:

- Rain- and sun protection shed
- Tree protector
- Cleaning nozzle
- Displays with integrated camera power supply and remote control for wash pump and camera de-icing
- Camera power supply for land vehicle 24 Vdc Network conforming to standard VG96916-5
- Video distribution units

Ask for further technical information!
Functional or interface modifications can be realized on request. Each configuration change causes a new type number.

page 2 of 2

Ruggedized Wide Angle B & W Ball Camera for Vehicles and other Outdoor Military Applications

type number 01112



Main Features:

- Rugged monochrome high resolution compact camera for operating under harsh environmental conditions as in armoured wheeled or tracked military vehicles
- Applicable for drivers rear, front or side view
- Helps to keep blind spots in sight
- Extremely shock and vibration resistant waterproof housing
- Reinforced black plastic bracket allows flexible alignment of viewing direction
- For rear view, picture can be simply mirrored by reversing of the power supply polarity
- Heating for quick de-icing of the objective lens window with a variety of configuration possibilities:
 - automatic heating at low temperature
In this case, heating can be inhibited to make the camera invisible for enemys infrared cameras.
 - Heating switchable by display with time function
 - Heater connected in parallel to the heating of outside rear view mirror or windscreen switched by mirror / windscreen de-ice timer relay or temperature sensor.

Technical Data:

Sensor type:	1/4" Sony B&W CCD
Active pixels:	752 x 582 (H x V)
Video standard:	CCIR / STANAG 3350B (EIA / STANAG 3350C version on request)
Video output:	VBS 1 Vss / 75 Ω
Horizontal resolution:	520 TVL
Exposure control:	Shutter Iris and automatic gain control
Sensitivity:	0,5 Lux / 50 IRE
Standard lens:	f=1,78 mm; F=2
Angle of view:	113° H / 84° V (Another angle of view on request)
Connection:	Shielded cable with SJTG06RT08-35PN014 plug
Power supply:	12 Vdc +/-10 % / 2 W
Temperature:	-40 °C to +71 °C (operating) -40 °C to +90 °C (storage)
Dimensions:	ball-diameter 55 mm center of sphere 40 mm about mounting surface
Weight:	ca. 500 g
Material / Surface:	anodized Aluminium
Colour:	Black
EMC / EMI:	according to VG 95373 (MIL-STD-461E on request)
Protection:	IP 69k according to EN 60529
Shock / Vibration:	MIL-STD-810E

Ask for further technical information!

Functional or interface modifications can be realized on request. Each configuration change causes a new type number.

page 1 of 2

Ruggedized Wide Angle B & W Ball Camera for Vehicles and other Outdoor Military Applications

type number 01112



Optional Accessories:

- Rain- and sun protection shed
- Tree protector
- Cleaning nozzle
- Displays with integrated camera power supply and remote control for wash pump and camera de-icing
- Camera power supply for land vehicle 24 Vdc Network conforming to standard VG96916-5
- Video distribution units
- covert IR lighting (invisible to the human eye)

Ask for further technical information!
Functional or interface modifications can be realized on request. Each configuration change causes a new type number.

page 2 of 2

Ruggedized Wide Angle Colour Ball Camera for Vehicles and other Outdoor Military Applications

type number 01014



Main Features:

- Rugged colour high resolution compact camera for operating under harsh environmental conditions as in armoured wheeled or tracked military vehicles
- Applicable for drivers rear, front or side view
- Helps to keep blind spots in sight
- Extremely shock and vibration resistant waterproof housing
- Reinforced black plastic bracket allows flexible alignment of viewing direction
- For rear view, picture can be simply mirrored by reversing of the power supply polarity
- Heating for quick de-icing of the objective lens window with a variety of configuration possibilities:
 - automatic heating at low temperature
In this case, heating can be inhibited to make the camera invisible for enemys infrared cameras.
 - Heating switchable by display with time function
 - Heater connected in parallel to the heating of outside rear view mirror or windscreen switched by mirror / windscreen de-ice timer relay or temperature sensor.

Technical Data:

Sensor type:	1/4" Sony Colour CCD
Active pixels:	752 x 582 (H x V)
Video standard:	PAL (NTSC version on request)
Video output:	CVBS 1Vss / 75 Ω
Horizontal resolution:	460 TVL
Exposure control:	Shutter Iris and automatic gain control
Sensitivity:	1 Lux / 50 IRE
Standard lens:	f=1,78 mm; F=2
Angle of view:	113° H / 84° V (Another angle of view on request)
Connection:	Shielded cable with SJTG06RT08-35PN014 plug
Power supply:	12 Vdc +/-10 % / 2 W
Temperature:	-40 °C to +71 °C (operating) -40 °C to +90 °C (storage)
Dimensions:	ball-diameter 55 mm center of sphere 40 mm about mounting surface
Weight:	ca. 500 g
Material / Surface:	anodized Aluminium
Colour:	Black
EMC / EMI:	according to VG 95373 (MIL-STD-461E on request)
Protection:	IP 69k according to EN 60529
Shock / Vibration:	MIL-STD-810E

Ask for further technical information!

Functional or interface modifications can be realized on request. Each configuration change causes a new type number.

page 1 of 2

Ruggedized Wide Angle Colour Ball Camera for Vehicles and other Outdoor Military Applications

type number 01014



Optional Accessories:

- Rain- and sun protection shed
- Tree protector
- Cleaning nozzle
- Displays with integrated camera power supply and remote control for wash pump and camera de-icing
- Camera power supply for land vehicle 24 Vdc Network conforming to standard VG96916-5
- Video distribution units

Ask for further technical information!
Functional or interface modifications can be realized on request. Each configuration change causes a new type number.

Infra-Red Illuminator, Angles: 80° horizontal, 50° vertical

type number 01255



Description:

This Infra-Red Illuminator has especially been developed for extreme harsh environmental conditions.

Applications:

- Industrial / military
- Wheel- or chain driven vehicles
- Trains
- Ships

Features:

- Ideal for illuminating scenes for IR- sensitive cameras
- Dimmable by PWM- Signal 0% to 100% or by CAN-Bus
- Status-Signal: logic level or by CAN-Bus
- Distances up to 30 m, dependent on sensitivity of camera
- Front with protection frame
- Top or bottom mountable, 4x M6

Technical Data:

Enclosure:	milled Al-alloy, passivated, Painting RAL 6031 HR
Weight:	approx. 1,9 kg
Dimensions:	170 x 93 x 119 mm (W x D x H)
Wavelength:	860 nm
Power supply:	18 Vdc to 32 Vdc, <15 W according to VG 96916 T5 or MIL-STD-1275

Connector:

Power / Control:	VG95234A14S-6PN
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Environmental Conditions:

according to MIL-STD-810

Temperature:	-40 °C to +70 °C (operating)
EMI:	VG95373:2008
MTBF:	100.000 h
Protection:	IP 67 acc. to EN 60529
Shock:	acc. DIN EN 60068-2-27
Vibration:	acc. MIL STD 810 E Table 514.4-AXII

Ask for further technical information!

Functional or interface modifications can be realized on request. Each configuration change causes a new type number.

Infra-Red Illuminator, Angle: 120°

type number 01256



Description:

This Infra-Red Illuminator has especially been developed for extreme harsh environmental conditions.

Applications:

- Industrial / military
- Wheel- or chain driven vehicles
- Trains
- Ships

Features:

- Ideal for illuminating scenes for IR- sensitive cameras
- Dimmable by PWM- Signal 0% to 100%
or by CAN-Bus
- Status-Signal: logic level or by CAN-Bus
- Distances up to 30 m, dependent on sensitivity of camera
- Front with protection frame
- Left or right side mountable, 2x M6

Ask for further technical information!

Functional or interface modifications can be realized on request. Each configuration change causes a new type number.

Technical Data:

Enclosure:	milled Al-alloy, passivated, Painting RAL 6031 HR
Weight:	approx. 1,4 kg
Dimensions:	109 x 76 x 154 mm (W x D x H)
Wavelength:	860 nm
Power supply:	18 Vdc to 32 Vdc, <25 W according to VG 96916 T5 or MIL-STD-1275

Connector:

Power / Control:	VG95234A14S-6PN
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Environmental Conditions:

according to MIL-STD-810

Temperature:	-40 °C to +70 °C (operating)
EMI:	VG95373:2008
MTBF:	100.000 h
Protection:	IP 67 acc. to EN 60529
Shock:	acc. DIN EN 60068-2-27
Vibration:	acc. MIL STD 810 E Table 514.4-AXII

Rugged 6.5" Flip-Down Video Display for Overhead Mounting

type number 00843



Main features:

- Rugged LCD-TFT colour video monitor for use under harsh environmental conditions as in wheeled or tracked armoured military vehicles
- Mirrored or normal display for drivers rear, front and side view
- Superimposed symbology showing the vehicle path at distances of 1 m, 2 m, 3 m and 4 m behind the vehicle
- Two video inputs for colour and monochrome cameras or thermal imaging devices

Options:

- Display brightness and intensity of control element illumination switchable for day or night ambient light
- Night vision goggles compatibility
- RS485 data link (can be delivered instead of discrete control inputs / outputs)
- CAN version 2.0B (SAE J1939), protocol CAN open or CUP for advanced camera control and build in test

Optional accessories:

- Various ruggedized cameras
- Wiring harness for various vehicles
- Video distribution box
- Digital video recorder

Ask for further technical information!
Functional or interface modifications can be realized on request. Each configuration change causes a new type number.

Technical Data:

Display type:	6,5" TFT LCD
Resolution:	1200 x 234 pixels (H x V)
Active display:	145 x 80 mm
Contrast ratio:	350:1
Brightness:	300 cd/m ²
Viewing angle:	50° horizontal / 35° vertical
Display windows:	Hardened, scratch resistant acrylic glass with anti-reflective and anti-fingerprint coating
Video inputs:	2 x CVBS according to CCIR / STANAG 3350B and NTSC / STANAG 3350C
Power inputs:	<ul style="list-style-type: none"> • 24 Vdc / 10 W for display itself and camera power supply • 24 Vdc / 12 W for camera heating both ref. to VG96916, (12 Vdc Version available on request)
Power outputs:	<ul style="list-style-type: none"> • 12 Vdc / 5 W for camera power supply • 24 Vdc / 12 W loop through for camera heating
Control inputs:	reverse gear video overlay marking enable display & illumination enable day / night switch
Control outputs:	relay drive signal for camera washer pump or brush cleaning
Controls:	contrast, brightness, camera selection, camera cleaning
Connectors:	VG 96912
EMC / EMI:	VG 95373 (MIL-STD-461E on request)
Protection:	IP 54
Temperature:	-32 °C to +85 °C (operating) -40 °C to +90 °C (storage)
Dimensions:	280 x 55 (160 if open) x 162 mm (W x H x D)
Weight:	approx. 2Kg
Colour:	titan silver

Rugged 6.5" Video Display for Dashboard Mounting

type number 00645



Main features:

- Rugged LCD-TFT colour video monitor for use under harsh environmental conditions as in wheeled or tracked armoured military vehicles
- Mirrored or normal display for drivers rear, front and side view
- Superimposed symbology showing the vehicle path at distances of 1 m, 2 m, 3 m and 4 m behind the vehicle
- Two video inputs for colour and monochrome cameras or thermal imaging devices

Options:

- Display brightness and intensity of control element illumination switchable for day or night ambient light
- Night vision goggles compatibility
- RS485 data link (can be delivered instead of discrete control inputs / outputs)
- CAN version 2.0B (SAE J1939), protocol CAN open or CUP for advanced camera control and build in test

Optional accessories:

- Various ruggedized cameras
- Mounting adapters and wiring harness for various vehicles
- Video distribution box
- Digital video recorder

Ask for further technical information!

Functional or interface modifications can be realized on request. Each configuration change causes a new type number.

Technical Data:

Display type:	6,5" TFT LCD
Resolution:	1200 x 234 pixels (H x V)
Active display:	145 x 80 mm
Contrast ratio:	350:1
Brightness:	300 cd/m ²
Viewing angle:	50° horizontal / 35° vertical
Display windows:	Hardened, scratch resistant acrylic glass with anti-reflective and anti-fingerprint coating
Video inputs:	2 x CVBS according to CCIR / STANAG 3350B and NTSC / STANAG 3350C
Power inputs:	<ul style="list-style-type: none"> • 24 Vdc / 10 W for display itself and camera power supply • 24 Vdc /12 W for camera heating both ref. to VG96916-5 (12 Vdc Version available on request)
Power outputs:	<ul style="list-style-type: none"> • 12 Vdc / 5 W for camera power supply • 24 Vdc /12 W loop through for camera heating
Control inputs:	reverse gear video overlay marking enable display & illumination enable day / night switch
Control outputs:	relay drive signal for camera washer pump or brush cleaning
Controls:	contrast, brightness, camera selection, camera cleaning
Connectors:	VG 96912
EMC / EMI:	VG 95373 (MIL-STD-461E on request)
Protection:	IP 65
Temperature:	-32 °C to +85 °C (operating) -40 °C to +90 °C (storage)
Dimensions:	248 x 119 x 49 mm (W x H x D)
Weight:	approx. 1,5 Kg
Colour:	RAL6031 HR bronze green or RAL 1013 oyster white

Rugged 10,4" Multi Function Display with Picture In Picture Video Input

type number 00407



Main features:

- Rugged MFD for use under harsh environmental conditions as in wheeled or tracked armoured military vehicles
- Integrated heating for temperatures below 0 °C
- Front panel controls are backlit foil keys. Keydimming depends on screen brightness.
- Resistive touch system with daylight readable circular polarizer
- USB-Keyboard function keys F1 - F13
- Two port USB hub for external keyboard / mouse
- RS232 interface for initialising size and position of the camera picture
- User programmable brightness for night-vision backlight

The CCIR-camera picture can be displayed as an overlay within the DVI or RGB-analogue screen.

Options:

- RS232 feature via USB upstream

Optional accessories:

- Mounting adapters and wiring harness for various vehicles
- Video distribution box
- Digital video recorder

Ask for further technical information!

Functional or interface modifications can be realized on request. Each configuration change causes a new type number.

Technical Data:

Display type:	10,4" XGA LED LCD
Resolution:	1024 x 768 pixels (H x V) 16,7 Mio. colours / 256 shades of grey
Display standards:	VGA, SVGA, XGA max. 60 Hz
Contrast ratio:	400:1 (typ.)
Brightness:	300 cd/m ² (typ.) at LCD-screen
Viewing angle:	170° horizontal / vertical
Response Time:	25 ms (typ.) ton+toff
Power supply:	24 Vdc (18 Vdc - 32 Vdc) according to VG 96916-5 without interruptions
Inputs:	<ul style="list-style-type: none"> ■ RGB analogue on 75 Ω ■ CVBS on 75 Ω ■ DVI 1.0 (cable length ≤4,5 m) ■ 2 x USB downstream port
Consumption:	<30 W (<80 W heated)
Controls:	<ul style="list-style-type: none"> ■ On / Off button ■ Brightness up / down ■ Backlight On / Off ■ Two Speaker Volume keys ■ Four On Screen Display keys
Connectors:	according to VG 96912
Shock:	25 g / 6 ms 100 g / 0,5 ms
EMI:	MIL-STD-461E
Protection:	IP 65 according to EN 60529
Temperature:	-32 °C to +55 °C (operating) -25 °C to +60 °C (storage)
Dimensions:	293 x 235 x 62 mm (W x H x D)
Weight:	approx. 3 Kg
Colour:	RAL6031 HR bronze green or TBD

By courtesy of our customer

Rugged 12,1" Computer with Picture In Picture Video Input

type number 01051



Main features:

- Ruggedized computer system for use under harsh environmental conditions as in wheeled or tracked armoured military vehicles
- Front panel controls are backlit foil keys. Keydimming depends on screen brightness.
- Eight-wire resistive touch system.
- Keyboard with 6 function keys

The CCIR-camera picture can be displayed as an overlay within the computer graphics.

Options:

- Flash Disk S-ATA instead of HDD
- WLAN, bluetooth, UMTS, modem, fiberoptical-LAN
- Joystick
- FDD and CD/DVD external
- Display with filter for use with night vision equipment
- Heating system for -30° C operating
- Camera module
- GPS module UBlox-5H
- SDIP 27 Level B
- MIL-STD 461E navy mobile & army
- 1 or 2 additional COM-Ports with DB9 or MIL connectors
- CANBUS
- Customised versions with other interfaces or connector types available on request

Ask for further technical information!

Functional or interface modifications can be realized on request. Each configuration change causes a new type number.

Technical Data:

Display:	12,1" XGA LED LCD with touchscreen Optional sunlight readable
CPU:	Intel Core 2 Duo ULV 1.06 GHz L2 cache 2 MB
Chipset:	North Bridge: Mobile Intel 945GM/GME Express South Bridge: Intel 82801GHM ICH7
Graphics:	224 MB SMA (max.) Intel Graphics Media Accelerator 950 (GMA 950), integrated 256 Bit, 400 MHz core 3D/2D, Dynamic Video Memory Technology (DVMT)
RAM:	1 GB up to 4 GB DDRII-RAM (The maximum RAM size availability depends on type & version of the installed operating system.)
Storage:	Removable 2.5" S-ATA HDD 120 GB
Interfaces:	2x USB 2.0, 1x serial, 2x 10/100 MBit LAN, 1x DC-In, 1x Docking Connector, 1x PCMCIA Type II, 1x Express Card
Sound:	AC97 Sound and integrated speakers
Controls:	On/Off, LCD brightness, up / down, 6 free programmable function keys
Power supply:	External vehicle converter type no: 01070 required 24 Vdc (18 Vdc - 32 Vdc) according to VG 96916-5 without interruptions
Environment:	IP 54, MIL-STD 810F, MIL-STD 461E, Navy Fixed & Air Force
Dimensions:	353 x 260 x 84 mm (W x H x D)
Weight:	approx. 4 Kg
Colour:	RAL6031 HR bronze green or TBD

By courtesy of our customer

Ruggedized 6,5" Display Unit for Vehicle Day & Night-Vision Application

type number 00741 | 01077



Description:

The video displays of the RDU06 series have been designed for rough military environment. Colour or monochrome cameras, compliant with PAL- or NTSC- standard, can be connected. Due to the high resolution, the RDU06 provides photo realistic picture quality of almost 16 million colours and excellent contrast with night vision pictures. The tight and extremely stable enclosure of the RDU06 series complies with IP 65 requirements. Improved thermal design guarantees operation at high ambient temperatures.

Technical Data:

Display type:	6,5" TFT W.LED backlight
Resolution:	XGA 1024 x 768 pixels
Standard:	PAL; NTSC
Colours:	16 millions
Grey scales:	256, 8 bit
Power supply:	24 Vdc (18 Vdc to 32 Vdc) according to VG 96916-5
Environmental conditions:	according to MIL-STD-810F
Protection:	IP 65 according to EN 60529
Operating temperature:	-20 °C to +55 °C
Dimensions:	226 x150 x 65 mm (W x H x D)
Controls:	brightness and contrast
Special features:	built for mobile ground applications



type number 01077 Option with:

- Internal heater for -32 °C operation
- Buffered video output
- On / off push button
- EMI front filter plate
- Pressure differential valve
- Paint finish RAL1013 or TBD.

Ask for further technical information!

Functional or interface modifications can be realized on request. Each configuration change causes a new type number.

Technical Data:

Display type:	6,5" TFT W.LED backlight
Resolution:	XGA 1024 x 768 pixels
Standard:	PAL; NTSC
Colours:	16 millions, 24 bit
Grey scales:	256, 8 bit
Power supply:	24 Vdc (18 Vdc to 32 Vdc) <15 W / <50 W with heating according to VG 96916-5
Environmental conditions:	according to MIL-STD-810F
Protection:	IP 65 according to EN 60529
Operating temperature:	-32 °C to +55 °C with integrated heating
Dimensions:	226 x150 x 65 mm (W x H x D)
Controls:	On/Off; brightness and contrast

Multisync Video-CRT-Micromonitor for Use in Chain and Wheel Driven Vehicles

type number 00723



Description:

This customer designed micromonitor was designed for the application in a chain-driven armoured vehicle. It offers a high quality image for video and night vision cameras. Thanks to the high stability of the image geometry the monitor is suitable for tactical sights, for target detection and engagement.

- Image observation by the operator with an eye-piece
- Integrated test image generator for functional check
- Stabilized HV- Voltage

Features for military use:

- High shock and vibration resistance 50 Hz - 2000 Hz
- Resistance against salt fog, water, humidity, chemicals.
- EMI performance



Micromonitor mounted on a tactical sight
(photo provided by Zeiss, Oberkochen / Germany)

Ask for further technical information!

Functional or interface modifications can be realized on request. Each configuration change causes a new type number.

Technical Data:

Image size:	14,2 mm x 10,6 mm
CRT:	2 cm diameter, P43 (monochrome, green) spot diameter < 18 µm at screen centre, with 60 cd/m ² brightness <300 cd/m ²
Deflection:	Multisync range Hor. 15 kHz to 45 kHz Ver. 50 Hz to 120 Hz
Interface:	3x Video, 75 Ω differential CCIR, Bandwidth 18 MHz
Adjustments:	Brightness, contrast, image position via CAN-Bus
Hours meter:	5 digits, with reset
Power supply:	18 Vdc - 34 Vdc, < 25 W, VG 95916
Temperature:	-40 °C to +63 °C (operating) -40 °C to +71 °C (storage)
Housing:	AlMg3, water protect. IP 65
Dimensions:	73 x 125 x 227mm (W x H x D)
Weight:	< 2,5 kg



4,5" CRT Monitor for Chain Driven Vehicles

type number 00336



Example of ruggedized CRT monochrome video monitors for special applications

Ask for further technical information!
Functional or interface modifications can be realized on request. Each configuration change causes a new type number.

Single-Channel Digital Video- & Audio Recorder

type number 00422



Description:

This compact rugged video and audio recorder used embedded processing IDE / ATA storage. It is equipped with programmable compression ratio for best quality storage combination. It allows simultaneous recording and playback for time shifted implementations.

Other Features:

- Direct playback through composite and S-Video / Audio.
- Fast download and direct stream from storage through USB to save review time.
- Standard MPEG-2 video / MPEG-1 audio for playback by commercial media players
- Direct archival to primary / secondary ATA / IDE storage device: HDD or solid state
- FAT 32 standard

Technical Data:

Video bit rate:	<ul style="list-style-type: none"> ■ 1 Mbps ■ 3 Mbps ■ 5 Mbps
Frame rate:	30 NTSC; PAL 25 frames per second
Video standard:	PAL, NTSC, SECAM, Anal. S-Video, C-Vid.
Option:	2 full bandwidth Video & Audio bands
Video signal level:	1.0 Vpp
Impedance:	75 Ω
Video bit rate:	1 Mbps to 16 Mbps (dual channel 1 Mbps to 8 Mbps)
Standards:	525/60 (NTSC), 625/50 (PAL); SECAM
Sampling rate:	44,1 kHz
Bit rates:	64 Kbps - 384 Kbps
Audio signal level:	3 Vpp max
Streaming:	Remote streaming via USB 2.0
Storage medium:	ATA / IDE 2.5" 44 pin, 3,5" 40 pin
Control:	RS-232; USB 2.0, IR – Remote Control
Dimensions:	195 x 170 x 64 mm (W x H x D)
Temp. range:	-20° C to +60° C (-40° C to +70° C – option)
Power input:	18 Vdc to 36 Vdc (9 Vdc to 36 Vdc – option)
Shock:	100 G

Ask for further technical information!

Functional or interface modifications can be realized on request. Each configuration change causes a new type number.

Video Server and VGA Switch

type number 00975



Main Feature:

This device consists of two independent parts, mounted in one box:

- video server

The video server part is a full motion video encoder, that uses the standard MJPEG/MPEG4 algorithm. The video server digitizes an NTSC/PAL analogue video source and distributes these digital images over an IP network. The distributed video stream is up to 30 frames/sec at a resolution of 720 x 480.

- 4 port VGA switch.

The VGA switch can feed one of four independent analogue VGA video input signals (up to UXGA) to one monitor output. The active input port is selected manually by push bottoms.

Technical Data:

Power supply:	24 Vdc according to VG 96916-5
Housing:	Aluminium, colour RAL 1013 HR white
Protection:	IP 65 according to EN 60529
EMC/EMI:	according to MIL-STD-461E
Temperature:	-40 °C to +63 °C (operation) -46 °C to +85 °C (storage) (Method 501.4 and 502.4)
Humidity:	95 % rel. (Method 507.4)
Salt Fog:	5 % NaCl (Method 509.4)
Vibration:	Wheeled Vehicles Fig 514.5C-3 (Method 514.5)
Shock:	10 g, 6 ms (Method 516.5)
Dimensions:	210 x 220 x 88 mm (W x D x H)

Ask for further technical information!

Functional or interface modifications can be realized on request. Each configuration change causes a new type number.

Video Splitter

type number 00898



Description:

- Drives two displays from 1 camera
- Designed to drive long cables
- Excellent video specifications
- Low power
- High speed and fast settling
- Low signal distortion
- High output drive

Technical Data:

according to MIL-STD-810 F for wheeled vehicles:

Video standard:	CCIR / STANAG 3350B (EIA / STANAG 3350C version on request)
Video output:	VBS 1 Vss / 75 Ω
Power supply:	24 Vdc according to VG 96916-5
Temperature:	-46 °C to +63 °C operating
Humidity:	95 % rel.
Salt fog:	5 % NaCl at 35 °C
Shock:	10g, 6 ms
Dimensions:	210 x 220 x 88 mm (W x D x H)
Weight:	2 kg
Protection:	IP 65
Material:	Aluminium

Ask for further technical information!
Functional or interface modifications can be realized on request. Each configuration change causes a new type number.

Video Crosspoint-Switch with Picture In Picture

type number 00899



Description:

- Enables up to six cameras with self-cleaning functions and up to four displays (CCIR) to be remotely monitored and controlled by CAN bus network
- Designed to drive long cables
- Excellent video specification
- Low power
- High speed and fast settling
- Low signal distortion
- High output drive
- Picture in picture function
- On screen display

Technical Data:

according to MIL-STD-810 F for wheeled vehicles:

Video standard:	CCIR / STANAG 3350B (EIA / STANAG 3350C version on request)
Video output:	VBS 1 Vss / 75 Ω
CAN-bus:	Version 2.0 B (SAE J1939) protocol CAN-Open or CUP
Power supply:	24 Vdc according to VG 96916-5
Temperature:	-46 °C to +63 °C (operating) -46 °C to +85 °C (storage) (Method 501.4 and 502.4)
Humidity:	95 % rel. (Method 507.4)
Salt fog:	5 % NaCl (Method 509.4)
Shock:	10g, 6 ms (Method 516.5)
Vibration:	Wheeled Vehicles Fig 514.5C-3 (Method 514.5):
Dimensions:	235 x 220 x 88 mm (W x D x H) over all
Weight:	2,5 kg
Protection:	IP 65 according to EN 60529
Material:	Aluminium, colour RAL 1013 HR white

Ask for further technical information!

Functional or interface modifications can be realized on request. Each configuration change causes a new type number.