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Product Range

Display Solutions

2017 / 04

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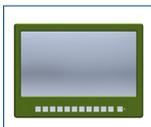|		
	7" Flip Down Video Monitor for Overhead Mounting	type number 01111
	7" Video Monitor for Dashboard Mounting	type number 01201
	7" Native Full HD Flip-Down Monitor for Overhead Mounting	type number 01304
	7" Native Full HD Monitor for Dashboard Mounting	type number 01303
	10" WUXGA / Native Full HD Monitor for Dashboard Mounting	type number 01284
	12" Native Full HD Monitor for Dashboard Mounting	type number 01288
	Ruggedized Customer Specific 6.5" XGA-TFT-Video-Display	type number 00774
	Ruggedized 6.5" Display Unit for Vehicle, Day- and Night-Vision Application	type numbers: 00741 | 01077
	6.5" TFT-Display for Use in Helicopters Custom Designed Flight Displays	type number 00715

Multi Functional 6.5" TFT-Display
for Landing – Navigation – Support

type number 00893

Ruggedized 10" Video-LCD-Display Rack Mounting

type number 00675

10.4" EL-Display with Computer, Milled Housing,
18 V DC - 36 V DC, Army Application

type number 00634

10.4" TFT-Display with Computer Power,
Milled Housing, Chain Vehicle

type number 00665

10.4" Multi Function Display
with Picture-in-Picture Video Input

type number 00407

Dual-Input 10.4" or 12.1" XGA Video-Display
for Wheel and Chain Driven Vehicles

type numbers: 00658 | 00659

15" TFT-Display with Picture-in-Picture Function

type number 00833

Display with Integrated Keyboard and 4x KVM Switch

type number 00731

Rugged 15" Multi-Functional Display
with Integrated Mouse Function

type number 00964

Ruggedized Customer Specific 15" XGA-TFT-Video-Display   type number 00761

HPC 2000 Ruggedized 15" XGA-Display   type number 00725

18" (46 cm) SXGA-TFT-Rack Mounting   type number 00156
Display Unit for Rough Industrial and Vehicle Applications

Rugged 19" Multifunctional Display   type number 00979
with Picture-in-Picture Function

Rugged 15.6" High- Brightness Full HD Monitor   type number 01305
for Dashboard Mounting

TFT-Controller:

TFT-Controller-Card AKV 03   type number 00711

TFT- Controller- Card AKV 06 serie for Connection   type number 46618
of LCD-Panels to DVI, RGB Analogue (CRT)
and PAL / NTSC Video Sources

Rugged 7" Flip Down Video Monitor for Overhead Mounting

type number 01111

Main Features:

- Rugged LCD-TFT color video monitor for use under harsh environmental conditions as in wheeled or tracked armoured military vehicles

- Mirrored or normal display for situational awareness imagers, driver vision enhancement imagers, gunner imagers

- Two video inputs useable for color- and monochrome cameras or thermal imaging cameras

- Milled aluminium housing

Options:

- Video overlay marking for approximate vehicle width at distances of 1 m, 2 m, 3 m and 4 m

- Display brightness and intensity of control element illumination switchable for day or night ambient light

- Night vision goggles compatibility

- CAN-Bus version 2.0B (SAE J1939), protocols CAN-Open or CAN-CUP for advanced camera control and build in test

- Version for 12 V DC board voltage available on request

Optional accessories:

- Various ruggedized cameras, thermal imagers

- driver vision enhancement imagers

- 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:

Display type:	7" TFT LCD with LED Backlight
Resolution:	800 x 480 pixels (H x V)
Colors:	16.7 M (8 bit / color)
Active display:	152 x 91 mm
Contrast ratio typ:	1000:1
Brightness typ:	350 cd / m²
Viewing angle:	±70° horizontal / ±70° vertical
Display windows:	Hardened, scratch resistant acrylic glass with anti-reflective and anti-fingerprint coating
Video inputs:	2 x CVBS according to PAL and NTSC
Power inputs:	24 V DC / 20 W ref. to VG96916 24 V DC / 12 W loop through for camera heating
Power outputs:	12 V DC / 5 W for camera power supply
Control inputs:	reverse gear video overlay marking enable display & illumination enable day / night switch
Control outputs:	relay drive signal for camera washer pump and camera windows cleaning
Control buttons:	contrast, brightness, backlight camera selection, camera cleaning
Connectors:	VG 96912
EMC / EMI:	VG 95373 (MIL-STD-461G on request)
Protection:	IP 54
Temperature:	-30 °C to +75 °C (operating) -30 °C to +80 °C (storage)
Dimensions:	280 x 55 (160 if open) x 162 mm (W x H x D) w/o connectors
Weight:	approx. 2 kg
Color:	titan silver

Rugged 7" Video Monitor for Dashboard Mounting

type number 01201

Main Features:

- Rugged LCD-TFT color video monitor for use under harsh environmental conditions as in wheeled or tracked armoured military vehicles
- Mirrored or normal display for situational awareness imagers, driver vision enhancement imagers, gunner imagers
- Two video inputs useable for color- and monochrome cameras or thermal imaging cameras
- CAN-Bus version 2.0B (SAE J1939), protocols CAN-Open or CAN-CUP for advanced camera control and build in test
- Milled aluminium housing

Options:

- Video overlay marking for approximate vehicle width at distances of 1 m, 2 m, 3 m and 4 m
- Display brightness and intensity of control element illumination switchable for day or night ambient light
- Night vision goggles compatibility
- Version for 12 V DC board voltage available on request

Optional accessories:

- Various ruggedized cameras and thermal imagers
- driver vision enhancement imagers
- 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:

Display type:	7" TFT LCD with LED backlight
Resolution:	800 x 480 pixels (H x V)
Colors:	16.7 M (8 bit / color)
Active display:	152 x 91 mm
Contrast ratio typ:	1000:1
Brightness typ:	350 cd / m²
Viewing angle:	± 70° horizontal / ± 70° vertical
Display windows:	Hardened, scratch resistant acrylic glass with anti-reflective and anti-fingerprint coating
Video inputs:	2 x CVBS according to PAL and NTSC
Power inputs:	24 V DC / 20 W ref. to VG96916 24 V DC / 12 W loop through for camera heating)
Power outputs:	12 V DC / 5 W for camera power supply
Control inputs:	reverse gear video overlay marking enable display & illumination enable day / night switch
Control outputs:	relay drive signal for camera washer pump and camera windows cleaning
Control buttons:	contrast, brightness, backlight, camera selection, camera cleaning
Connectors:	VG 96912
EMC / EMI:	VG 95373 (MIL-STD-461G on request)
Protection:	IP 65
Temperature:	-30 °C to +75 °C (operating) -30 °C to +80 °C (storage)
Dimensions:	236 x 135 x 50 mm (W x H x D) w/o connectors
Weight:	approx. 2 kg
Color:	RAL 1013 oyster white or TBD

Rugged 7" Native Full HD Flip-Down Monitor for Overhead Mounting

type number 01304

Main Features:

- Rugged LCD-TFT video monitor for use under harsh environmental conditions as in wheeled or tracked armoured military vehicles

- Mirrored or normal display for situational awareness imagers, driver vision enhancement imagers, gunner imagers

- 3G-SDI and CVBS video inputs useable for color- and monochrome cameras or thermal imaging cameras

- Video inputs galvanically isolated from the vehicle power supply

- Milled aluminium housing

Options:

- Video overlay marking for approximate vehicle width at distances of 1 m, 2 m, 3 m and 4 m

- Display brightness and intensity of control element illumination switchable for day or night ambient light

- additional SDI or CVBS inputs

- HDMI or DVI video inputs

- LCD-Glass heater

- Night vision goggles compatibility

- CAN-Bus version 2.0B (SAE J1939), protocols CAN-Open or CAN-CUP for advanced camera control and build in test

- Version for 12 V DC board voltage available on request

Technical Data:

Display type:	7" TFT LCD with LED Backlight
Resolution:	1920 x 1080 native pixels (H x V)
Aspect ratio:	16 : 9
Colors:	16.7 M (8 bit / color)
Supported resolutions:	SD 525i, 625i HD 720p 25, 30, 50 and 60 Hz HD 1080i 50, 60 Hz HD 1080p 25, 30, 50 and 60 Hz
Video inputs:	1 x 3G-SDI 1 x CVBS (PAL and NTSC)
Active display:	155 x 87 mm
Contrast ratio typ:	800 : 1
Brightness typ:	500 cd / m²
Viewing angle:	±85° horizontal / ±85° vertical
Display window:	Hardened, scratch resistant acrylic glass with anti-reflective and anti-fingerprint coating
Power inputs:	24 V DC / 20 W ref. to VG96916 24 V DC / 12 W loop through for camera heating
Power outputs:	12 V DC / 5 W for camera power supply
Control buttons:	contrast, brightness, backlight, camera selection, camera cleaning (all buttons illuminated)
Control inputs:	reverse gear video overlay marking enable display & illumination enable day / night switch
Control outputs:	relay drive signals for camera washer pump and camera windows cleaning
Connectors:	VG 96912 and triaxial

Rugged 7" Native Full HD Flip-Down Monitor for Overhead Mounting

type number 01304

Optional Accessories:

- Various ruggedized cameras and thermal imagers
- driver vision enhancement imagers
- Wiring harnesses for various vehicles

EMC / EMI:	VG 95373 (MIL-STD-461G on request)
Protection:	IP 54
Temperature:	-20 °C to +70 °C (operating) -30 °C to +80 °C (storage)
Dimensions:	280 x 55 (160 if open) x 162 mm (W x H x D) w/o connectors
Weight:	approx. 2 kg
Paint finish:	titan silver

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

Rugged 7" Native Full HD Monitor for Dashboard Mounting

type number 01303

Main Features:

- Rugged LCD-TFT video monitor for use under harsh environmental conditions as in wheeled or tracked armoured military vehicles

- Mirrored or normal display for situational awareness imagers, driver vision enhancement imagers, gunner imagers

- 3G-SDI and CVBS video inputs useable for color- and monochrome cameras or thermal imaging cameras

- Video inputs galvanically isolated from the vehicle power supply

- Milled aluminium housing

Options:

- Video overlay marking for approximate vehicle width at distances of 1 m, 2 m, 3 m and 4 m

- Display brightness and intensity of control element illumination switchable for day or night ambient light

- additional SDI or CVBS inputs

- HDMI or DVI video inputs

- LCD-Glass heater

- Night vision goggles compatibility

- CAN-Bus version 2.0B (SAE J1939), protocols CAN-Open or CAN-CUP for advanced camera control and build in test

- Version for 12 V DC board voltage available on request

Technical Data:

Display type:	7" TFT LCD with LED Backlight
Resolution:	1920 x 1080 native pixels (H x V)
Aspect ratio:	16 : 9
Colors:	16.7 M (8 bit / color)
Supported resolutions:	SD 525i and 625i HD 720p 25, 30, 50 and 60 Hz HD 1080i 50, 60 Hz HD 1080p 25, 30, 50 and 60 Hz
Video inputs:	1 x 3G-SDI 1 x CVBS (PAL and NTSC)
Active display:	155 x 87 mm
Contrast ratio typ:	800 : 1
Brightness typ:	500 cd / m²
Viewing angle:	±85° horizontal / ±85° vertical
Display window:	Hardened, scratch resistant acrylic glass with anti-reflective and anti-fingerprint coating
Power inputs:	24 V DC / 20 W ref. to VG96916 24 V DC / 12 W loop through for camera heating
Power outputs:	12 V DC / 5 W for camera power supply
Control buttons:	contrast, brightness, backlight, camera selection, camera cleaning (all buttons illuminated)
Control inputs:	reverse gear video overlay marking enable display & illumination enable day / night switch
Control outputs:	relay drive signals for camera washer pump and camera windows cleaning
Connectors:	VG 96912 and triaxial
EMC / EMI:	VG 95373 (MIL-STD-461G on request)

Rugged 7" Native Full HD Monitor for Dashboard Mounting

Optional Accessories:

- Various ruggedized cameras and thermal imagers
- driver vision enhancement imagers
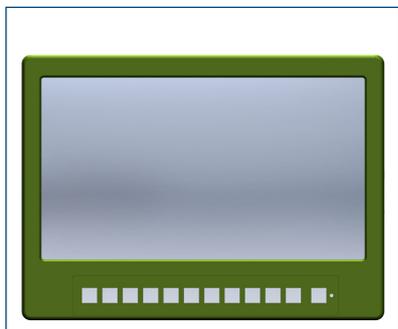- Wiring harnesses for various vehicles

Protection:	IP 65
Temperature:	-20 °C to +70 °C (operating) -30 °C to +80 °C (storage)
Dimensions:	236 x 135 x 50 mm (W x H x D) w/o connectors
Weight:	approx. 2 kg
Paint finish:	RAL 1013 oyster white or TBD

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

Rugged 10" WUXGA / Native Full HD Monitor for Dashboard Mounting

type number 01284

Main Features:

- Rugged LCD-TFT video monitor for use under harsh environmental conditions as in wheeled or tracked armoured military vehicles

- Mirrored or normal display for situational awareness imagers, driver vision enhancement imagers, gunner imagers

- 3G-SDI and CVBS video inputs useable for color- and monochrome cameras or thermal imaging cameras

- Video inputs galvanically isolated from the vehicle power supply

- Milled aluminium housing

Options:

- Video overlay marking for approximate vehicle width at distances of 1 m, 2 m, 3 m and 4 m

- Display brightness and intensity of control element illumination switchable for day or night ambient light

- Additional SDI or CVBS inputs

- HDMI or DVI video inputs

- LCD-Glass heater

- Night vision goggles compatibility

- CAN-Bus version 2.0B (SAE J1939), protocols CAN-Open or CAN-CUP for advanced camera control and build in test

- Version for 12 V DC board voltage available on request

Technical Data:

Display type:	10" TFT LCD with LED Backlight
Resolution:	1920 x 1200 native pixels (H x V)
Aspect ratio:	16 : 10
Colors:	16.7 M (8 bit / color)
Supported resolutions:	SD 525i and 625i HD 720p 25, 30, 50 and 60 Hz HD 1080i 50, 60 Hz HD 1080p 25, 30, 50 and 60 Hz
Video inputs:	1 x 3G-SDI 1 x CVBS (PAL and NTSC)
Active display:	217 x 136 mm
Contrast ratio typ:	800 : 1
Brightness typ:	700 cd / m²
Viewing angle:	±85° horizontal / ±85° vertical
Display window:	Hardened, scratch resistant acrylic glass with anti-reflective and anti-fingerprint coating
Power inputs:	24 V DC / 20 W ref. to VG96916 24 V DC / 12 W loop through for camera heating
Power outputs:	12 V DC / 5 W for camera power supply
Control buttons:	contrast, brightness, backlight, camera selection, camera cleaning (all buttons illuminated)
Control inputs:	reverse gear video overlay marking enable display & illumination enable day / night switch
Control outputs:	relay drive signals for camera washer pump and camera windows cleaning
Connectors:	VG 96912 and triaxial

Rugged 10" WUXGA / Native Full HD Monitor for Dashboard Mounting

type number 01284

Optional Accessories:

- Various ruggedized cameras and thermal imagers
- driver vision enhancement imagers
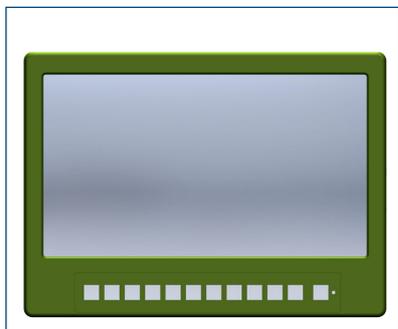- Wiring harnesses for various vehicles

EMC / EMI:	VG 95373 (MIL-STD-461G on request)
Protection:	IP 65
Temperature:	-30 °C to +80 °C (operating) -30 °C to +80 °C (storage)
Dimensions:	270 x 200 x 50 mm (W x H x D) w/o connectors
Weight:	approx. 3 kg
Paint finish:	RAL 1013 oyster white or TBD

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

Rugged 12" Native Full HD Monitor for Dashboard Mounting

type number 01288

Technical Data:

Main Features:

- Rugged LCD-TFT video monitor for use under harsh environmental conditions as in wheeled or tracked armoured military vehicles

- Mirrored or normal display for situational awareness imagers, driver vision enhancement imagers, gunner imagers

- 3G-SDI and CVBS video inputs useable for color- and monochrome cameras or thermal imaging cameras

- Video inputs galvanically isolated from the vehicle power supply

- Milled aluminium housing

Options:

- Video overlay marking for approximate vehicle width at distances of 1 m, 2 m, 3 m and 4 m

- Display brightness and intensity of control element illumination switchable for day or night ambient light

- Additional SDI or CVBS inputs

- HDMI or DVI video inputs

- Touchscreen

- LCD-Glass heater

- Night vision goggles compatibility

- CAN-Bus version 2.0B (SAE J1939), protocols CAN-Open or CAN-CUP for advanced camera control and build in test

- Version for 12 V DC board voltage available on request

Display type:	12" TFT LCD with LED Backlight
Resolution:	1920 x 1080 native pixels (H x V)
Aspect ratio:	16 : 9
Colors:	16.7 M (8 bit / color)
Supported resolutions:	SD 525i and 625i HD 720p 25, 30, 50 and 60 Hz HD 1080i 50, 60 Hz HD 1080p 25, 30, 50 and 60 Hz
Video inputs:	1 x 3G-SDI 1 x CVBS (PAL and NTSC)
Active display:	256 x 144 mm
Contrast ratio typ:	1000 : 1
Brightness typ:	400 cd / m²
Viewing angle:	±85° horizontal / ±85° vertical
Display window:	Hardened, scratch resistant acrylic glass with anti-reflective and anti-fingerprint coating
Power inputs:	24 V DC / 20 W ref. to VG96916 24 V DC / 12 W loop through for camera heating
Power outputs:	12 V DC / 5 W for camera power supply
Control buttons:	contrast, brightness, backlight, camera selection, camera cleaning (all buttons illuminated)
Control inputs:	reverse gear video overlay marking enable display & illumination enable day / night switch
Control outputs:	relay drive signals for camera washer pump and camera windows cleaning
Connectors:	VG 96912 and triaxial

Rugged 12" Native Full HD Monitor for Dashboard Mounting

type number 01288

Optional Accessories:

- Various ruggedized cameras and thermal imagers
- driver vision enhancement imagers
- Wiring harnesses for various vehicles

EMC / EMI:	VG 95373 (MIL-STD-461G on request)
Protection:	IP 65
Temperature:	-30 °C to +80 °C (operating) -30 °C to +80 °C (storage)
Dimensions:	346 x 270 x 50 mm (W x H x D) w/o connectors
Weight:	approx. 3 kg
Paint finish:	RAL 1013 oyster white or TBD

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

Ruggedized Customer Specific 6.5" XGA-TFT-Video-Display

type number 00774

- External display for thermal imager
- Water protected transportation and operational box for outdoor use, compliant to IP 65 requirements
- Option: Integrated batteries

Technical Data:

Display type:	6.5" TFT with LED backlight
Resolution:	XGA 1024 x 768 pixels
Standard:	CCIR
Colors:	16 million 24 bit
Grey scales:	256, 8 bit
Power supply:	24 V DC (18 V DC to 32 V DC) < 15 W according to VG 96916-5
Environmental conditions:	according to MIL-STD-810
Protection:	IP 65 according to EN 60529
Operating temperature:	-25 °C to +50 °C
Dimensions:	270 x 248 x 178 mm (W x H x D)
Controls:	On / Off / Battery; brightness and contrast
Special features:	mounted into Pelican® Case 1300 battery pack optional

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

Ruggedized 6.5" Display Unit
for Vehicle, Day- and Night-Vision Application

type number 00741 | 01077

Main Feature:

The video displays of the RDU06 series have been designed for rough military environment.

Color or monochrome cam | eras, 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 colors 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
Colors:	16 millions
Grey scales:	256, 8 bit
Power supply:	24 V DC (18 V DC to 32 V DC) 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 x 150 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
Colors:	16 millions, 24 bit
Grey scales:	256, 8 bit
Power supply:	24 V DC (18 V DC to 32 V DC) < 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 x 150 x 65 mm (W x H x D)
Controls:	On / Off; brightness and contrast

6.5" TFT-Display for Use in Helicopters
Custom Designed Flight Displays

Technical Data:

Display type:	6.5" TFT
Resolution:	VGA 640 x 480 pixels
Standard:	VGA
Colors:	256 k, 18 bit
Grey scales:	64, 6 bit
Power supply:	12 V DC 10 W (9 V DC to 18 V DC)
Environmental conditions:	TBD
Protection:	IP 54 according to EN 60529
Operating temperature:	-20 °C to +50 °C
Dimensions:	214 x 132 x 55 mm (W x H x D)
Controls:	On / Off; eight customer specific keys
Special features:	build for flight map data display

Main Feature:

- Provides flight map display
- Input Signal: RGB, VGA
- Mounting at rear side with VESA fixation
- Aluminium housing, milled front panel

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

Multi Functional 6.5" TFT-Display
for Landing – Navigation – Support

type number 00893

Main Features:

- Rugged LCD-TFT color video monitor for use under harsh environmental conditions as in small or medium aircraft for safe landing support on small airfields under bad weather and low visibility conditions. It displays information needed for approaching-, tunnelling- and runway phase.

- USB Keyboard controller with eight functional keys

- Two port USB HUB to connect external pointing devices and PC-Keyboards.

- LED illuminated keys on front bezel. Illumination depending on screen brightness.

Options:

- Touch screen

Accessories:

- External distribution box

Technical Data:

Display type:	6.5" TFT LCD W.LED backlight
Resolution:	1024 x 768 pixels
Active display:	132 x 99 mm
Contrast ratio:	500 : 1 typ.
Brightness:	600 cd / m² without protection glass
Viewing angle:	160° l / r, 80° / 60° up / down
Response time:	25 ms typ. (ton / toff)
Display standards:	VGA, SVGA, XGA max. 60Hz
Audio:	2.8 W stereo amplifier with two speakers
Power input:	24 V DC nominal (12 V DC to 32 V DC) < 25 W
Input:	DVI 1.0 on DVI connector USB 2.0, current ratio max. 500 mA per downstream port
Frontal control keys:	■ on / standby ■ brightness up / down ■ function keys F1 to F8
Humidity:	88 %, 40 °C, non condensing
Altitude:	15000 ft (4572 m)
Vibration:	2 g, 5 Hz to 100 Hz (non operating)
Shock:	55 g, 11 ms, 5 per direction (non operating)
EMI:	EN 55022 Class B
Protection:	IP 44 / EN 60529
Temperature:	-20 °C to +60 °C (operating) -30 °C to +80 °C (storage)
Dimensions:	200 x 146 x 37,5 mm (W x H x D)
Weight:	approx. 1kg
Color:	deep black, RAL 9005, half matt or TBD

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

Ruggedized 10" Video-LCD-Display Rack Mounting

type number 00675

Technical Data:

Resolution:	640 x 480 pixels VGA
Brightness:	max. 500 cd / m² (without anti-glare filter) Automatic Brightness Control
Timing:	CCIR / RS170
Signals:	PAL / NTSC 1 V PP, 75 R
Connectors:	1 x BNC, video in Power supply TBD
Power supply:	9 V DC to 36 V DC, other voltages on request
Temperature:	-40 °C until +85 °C (operation) -46 °C until +85 °C (storage)
Dimensions:	Front panel 330 x 240 x 8 mm (W x H x D)

Main Feature

This rack mounting video display has been designed for military environment. It is based on the Siemens ISFT 50 i.M LCD display module.

Color or monochrome cameras, compliant with PAL or NTSC- standard, are connected to a BNC video input connector.

All connectors are placed on the rear side.

Due to its tight and stable construction, the front panel of the video display complies with IP 65 requirements.

The use of an automotive LCD allows a lowest operating temperature without heater at -40 °C .

The maximum brightness of the display is 500 cd / m² for daylight applications (measured in front of the LCD without contrast enhancement glass).

This system has an internal brightness sensor for backlight reduction when the environmental light goes down.

Option:

Housing: dimensions 290 x 225 x 70 mm
(W x H x D)

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

10.4" EL-Display with Computer, Milled Housing, 18 V DC - 36 V DC, Army Application

type number 00634

Technical Data:

Display type:	10.4" EL monochrome
Resolution:	VGA 640 x 480 pixels
Standard:	VGA
Colors:	TBD
Grey scales:	TBD
Power supply:	24 V DC (18 V to 32 V) 45 W / 75 W with heating according to VG 96916-5
Environmental conditions:	according to MIL-STD-810
Protection:	IP 65 according to EN 60529
Operating temperature:	-30 °C to +55 °C with integrated heating below 0 °C
Dimensions:	320 x 245 x 70 mm (W x H x D) without overlaying parts
Controls:	On / Off; brightness
Special features:	built for mobile ground applications (tracked vehicles) customer specific computer system integrated PC / 104 slot

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

By courtesy of our customer

10.4" TFT-Display with Computer Power, Milled Housing, Chain Vehicle

type number 00665

Technical Data:

Display type:	10.4" TFT
Resolution:	800 x 600 pixels
Standard:	SVGA
Colors:	64 k
Grey scales:	--
Power supply:	24 V DC (18 V to 32 V) 30 W / 50 W with heating according to VG 96916-5
Environmental conditions:	according to MIL-STD-810
Protection:	IP according to MIL-STD-810
Operating temperature:	-20 °C to +50 °C with integrated heating below 0 °C
Dimensions:	320 x 250 x 85 mm (W x H x D) without overlaying parts
Controls:	On / Off; brightness; 22 illuminated keys, 2 push-buttons; key lock
Special features:	built for mobile ground applications customer specific computer system integrated 2 PC / 104 slots

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

10" 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 backlighted foil keys. Keydimming depends on display 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 harnesses 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. colors
Display standards:	VGA, SVGA, XGA max. 60 Hz
Contrast ratio:	400 : 1 (typ.)
Brightness:	300 cd / m² (typ.) at LCD-screen
Viewing angle:	±85° horizontal / ±85° vertical
Response Time:	25 ms (typ.) ton+toff
Power supply:	24 V DC (18 V DC - 32 V DC) according to VG 96916-5 without interruptions
Inputs:	■ 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:	■ 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
Color:	RAL6031 HR bronze green or TBD

By courtesy of our customer

Dual-Input 10.4" or 12.1" XGA Video-Display for Wheel and Chain Driven Vehicles

type number: 00658 | 00659

Main Feature:

This very rugged XGA automotive video monitor has especially been developed for operating under very harsh environmental conditions as in wheel and chain driven military vehicles.

The tight and very stable housing construction combines IP 65 water protection and operation at increased ambient temperatures.

It provides 2 TNC video-inputs with buffered outputs to connect color or monochrome cameras complying with PAL- or NTSC-standard. The video signal of the chosen camera is available at an additional TNC connector.

Optional the video information may be overlaid with customer defined positioning marks, symbols or cross hair sights.

The video-display can be mounted on a VESA Tripod via 4 shock mounts on upper and lower sides or on the rear.

All adjustments like contrast, brightness, signal sources, picture positions, etc. can be done by 4 keys located at the front or via RS232 interface.

Options:

- CVBS and / or Y / C signal input for PAL / NTSC compatible video signals
- Analogue RGB-input for standard PC signals from VGA to SXGA or
- Digital DVI input for direct connection of DVI TMDS transmitter compatible graphic cards
- Resistive touch screen
- Wire-Mesh front glass to fulfil higher EMI requirements
- Increased operating temperature range down up to -40 °C with internal heater.

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

Technical Data:

Timing:	CCIR / RS170
Display standards:	PAL, NTSC, VGA, SVGA, XGA, (SXGA downscaling)
Resolution:	XGA 1024 x 768; 8-Bit (16,7 mill. colors / 256 grey levels)
Power supply:	18 V DC - 36 V DC according to VG96916-5
Signals:	CVBS, Y / C, RGB, TDMS Rx up to 160 MHz
Synchronization:	up to 85 Hz at SXGA (analogue RGB- input)
Connectors:	5 x TNC: ■ camera1 IN; 1 OUT ■ camera 2 IN; 2 OUT ■ selected camera OUT ■ power supply TBD
Controls:	On / Off Camera 1 / 2 Brightness "+" and "-"
Protection:	IP 65 according to EN 60529
Temperature:	-10 °C to +55 °C (operating) -25 °C to +70 °C (storage)

10.4" XGA Display (Type number 00658):

Brightness:	1000 cd / m² max. (without anti-glare Filter)
Dimensions:	312 x 238 x 50 mm (W x H x D)

12.1" XGA Display (Type number 00659):

Brightness:	300 cd / m² (typ.)
Dimensions:	312 x 263 x 55 mm (W x H x D)

15" TFT-Display with Picture-in-Picture Function

type number 00833

Allows simultaneous view of two signal sources

Technical Data:

Display type:	15" TFT
Resolution:	XGA 1024 x 768 pixels
Standard:	CCIR
Colors:	16.7 millions (24 bit)
Grey scales:	256
Power supply:	24 V DC (18 V DC to 32 V DC) < 30 W / 90 W with heating according to VG 96916-5
Environmental conditions:	according to MIL-STD-810
Protection:	IP 54 according to EN 60529 (optional IP 65)
Operating temperature:	-32 °C to +55 °C with integrated heating below 0 °C)
Dimensions:	349 x 300 x 57 mm (W x H x D) without overlaying parts
Controls:	On / Off, brightness and 7 illuminated keys
Special features:	Picture-in-Picture multifunctional display with 2 input signals Resistive USB-Touch system build for mobile ground vehicle applications

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

Display with Integrated Keyboard and 4x KVM Switch

type number 00731

Options:

- desk top adaptation kit available
- housing finish: black anodized or TBD

Technical Data:

Display type:	15" TFT
Resolution:	XGA 1024 x 768 pixels
Standard:	VGA
Colors:	16.7 millions (24 bit)
Grey scales:	256
Power supply:	230 V AC < 30 VA
Protection:	IP 54 according to EN 60529 (optional IP 65)
Operating temperature:	-10 °C to +55 °C
Dimensions:	19" Rack mount (1 HE)
Special features:	integrated keyboard, mouse 4 x KVM-Switch to operate 4 PCs

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

Rugged 15" Multi Function Display with Integrated Mouse Function

type number 00964

Main Features:

- Rugged LCD-TFT color multi-function display for use under harsh environmental conditions as in wheeled or tracked armoured military vehicles
- USB Keyboard function keys F1 - F8
- Mouse pad with right and left mouse buttons
- Two integrated speakers
- Dimmable backlight down to 10 %
- Quick shutdown of backlight
- Two port USB hub for external keyboard / mouse

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

Options:

- Picture in picture video input
- RS232 interface for initialising size and position of the camera picture
- Night vision capability

Optional accessories:

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

Technical Data:

Display type:	15" XGA LCD with touchscreen
Resolution:	1024 x 768 pixels (H x V) 16.7 Mio colors / 256 shades of grey
Display standards:	VGA, SVGA, XGA max. 60 Hz
Contrast ratio:	700 : 1 (typ.)
Brightness:	260 cd / m² (typ.)
Viewing angle:	160° horizontal / vertical
Response time:	22 ms (typ.) ton + toff
Inputs:	■ RGB analogue on 75 Ω ■ DP DVI ■ 2 x USB 2.0
Power input:	14 V DC ± 32 V DC ≤ 30 W or 24 V DC (18 V DC - 32 V DC) ≤ 35 W according to VG 96916-5 with additional vehicle converter power supply
Controls:	■ On / Off button ■ Brightness up / down ■ Backlight On / Off ■ Mouse with two buttons ■ Two speaker volume keys ■ Four On Screen Display keys
Shock:	15 g / 11 ms operating 25 g / 6 ms non operating
EMI:	MIL-STD-461E
Protection:	IP 54
Temperature:	-31 °C to +60 °C (operating) -40 °C to +80 °C (storage)
Dimensions:	351 x 300 x 57 mm (W x H x D)
Weight:	approx. 3.4 kg without power supply unit
Color:	RAL6031 HR bronze green or TBD

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

By courtesy of our customer

Ruggedized Customer Specific 15" XGA-TFT-Video-Display

type number 00761

- External display for thermal imager
- Water protected transportation and operational box for outdoor use

Technical Data:

Display type:	15" TFT
Resolution:	XGA 1024 x 768 pixels
Standard:	PAL; NTSC
Colors:	16 millions 24 bit
Grey scales:	256, 8 bit
Power supply:	12 V DC or 230 V AC
Environmental conditions:	TBD
Protection:	IP 65 according to EN 60529
Operating temperature:	-20 °C to +50 °C
Dimensions:	480 x 366 x 70 mm (W x H x D) without overlaying parts
Controls:	On / Off; brightness and contrast by OSD
Special features:	mounted into Pelican® Case 1550

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

HPC 2000 Ruggedized 15" XGA-Display

type number 00725

Main Feature:

The external display has been designed as an extension for the HPC 2000-System.

Due to the larger screen size, the higher resolution and the sunlight readability, this „partner display" is the ideal, compatible choice to enhance the handheld PC to a military workstation.

The display is available in two versions:
1. Display only for visualization of the PC-data, built into a waterproof IP 65 housing.

2. The contrast enhancement filter in front of the LCD is replaced by a high sensitive resistive touch screen which can get operated with gloves. In this case this external LC Display becomes a complete user terminal.
The standard cable length is approx. 2.5 meter.

The dimensions of the housing are identical in both versions, only the protection degree and the temperature range values are different.
The „touch version" reaches IP 54 and 0 °C to +55 °C.

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

Technical Data:

Resolution:	XGA 1024 x 768 pixels
Display modes:	640 x 480 pixels 800 x 600 pixels 1024 x 768 pixels
Brightness:	max. 500 cd / m² (without anti-glare filter)
Connectors:	project specific (TBD)
Supply:	project specific (on request)
Temperature:	-10 °C to +62 °C (operating) -25 °C to +70 °C (storage)
Dimensions:	350 x 300 x 45 mm (W x H x D)

Options:

Display:	resistive touch screen
Temperature:	-32 °C to +62 °C with Internal heater

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18" (46 cm) SXGA-TFT-Rack Mounting
Display Unit for Rough Industrial and Vehicle Applications

type number 00156

Main Feature:

- The DAC18 display series has been designed for rough industrial applications. The display is available for rack mounting or as a stand alone desk top model. The very stable construction of these displays allows also the installation in wheel driven vehicles.

Benefits:

- Improved thermal design
- Improved vibration and shock resistance
- Front panel and controls: IP 65
- Anti-glare, contrast enhancement filter
- DVI-Input
- All adjustments via front panel controls or built in RS 232 Interface
- Automatic Input scanning
- VESA DDC2B™ and VESA DPMS™ power saving
- Linear Zoom in Still Picture
- Frame-rate-conversion

Options:

- Resistive touch screen
- Video input FBAS / YC
- Custom specific timings
- Built in DC converter for 18 V DC to 32 V DC input voltage
- Enhanced operating temp. range -20 °C to +56 °C
- Custom specific front designs
- Modified mounting techniques
- Modified mechanics for other environmental conditions

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:	18" TFT
Resolution:	SXGA 1280 x 1024
Display standards:	VGA to UXGA PAL / NTSC (optional)
Contrast ratio:	450 : 1 (typ.)
Colors:	16 Mio or 256 greyscales
Viewing angle:	r / l: 160°, u / d: 160° (typ.)
Response Time:	20 ms (typ.)
Power supply:	100 V AC - 230 V AC (18 V DC - 32 V DC opt.)
Connectors:	■ DVI Digital socket ■ 15 - pin HD VGA socket ■ SVHS Video socket ■ Composite Video socket ■ Power plug EN 60320
Consumption:	60 VA max.
Synchronization:	TTL high or low active C- Sync, Sync on Green
EMI:	EN 55022 Cl.B, MIL-STD 461D
Protection:	Front IP 65, EN 60529
Temperature:	-10 °C to +56 °C (operating) -20 °C to +70 °C (storage)
Dimensions:	483 x 354 x 100 mm (W x H x D)
Weight:	8.5 kg

Rugged 19" Multifunctional Display with Picture-in-Picture Function   type number 00979

Main Features:

- Rugged LCD-TFT color video monitor for use under harsh environmental conditions as in wheeled or tracked armoured military vehicles Front panel controls are illuminated with yellow LED's with separated dimming
- Build in mouse
- 2.8 W stereo amplifier with two speakers

Options:

- Touch screen
- Picture-in-Picture function

Optional accessories:

- Mounting adapters and wiring harness for various vehicles
- Car adaptation power supply
- 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:	19" TFT LCD
Resolution:	SXGA, 1280 x 1024 pixels (H x V), 16.7Mill. colors or 256 grey scales
Display standards:	VGA, SVGA, XGA, SXGA ≤ 60 Hz
Contrast ratio:	1000 : 1 (typ.)
Brightness:	300 cd / m² (typ.) without protection glass
Viewing angle:	170° (typ.) horizontal & vertical at contrast ratio 10:1
Response time:	20 ms (typ.) ton + toff
Inputs:	- DVI 1.0 (cable length ≤4m) - RGB analogue - USB 2.0 ≤ 500 mA per downstream port
Power supply:	19 V DC or 24 V DC (18 V DC - 32 V DC) according to VG 96916-5 with additional car adaptation power supply
Controls:	- On / Off - Brightness increasing / diminishing - Backlight On / Off - Key brightness - Two speaker volume keys - Four On Screen Display keys - Eight programmable functional keys - Mouse with two buttons
Consumption:	< 80 W
EMI:	MIL-STD-461E
Protection:	IP 54 according to EN 60529
Temperature:	-20 °C to +50 °C (operating) -30 °C to +80 °C (storage)
Dimensions:	444 x 385 x 94 mm (W x H x D)
Weight:	< 7.5 kg without car adaptation power supply
Color:	RAL9021 HR black matt or RAL6031 HR bronze green or TBD

By courtesy of our customer

Rugged 15.6" High- Brightness Full HD Monitor for Dashboard Mounting

type number 01305

Main Features:

- Rugged LCD-TFT video monitor for use under harsh environmental conditions as in wheeled or tracked armoured military vehicles

- Mirrored or normal display for situational awareness imagers, driver vision enhancement imagers, gunner imagers

- 3G-SDI and CVBS video inputs useable for color- and monochrome cameras or thermal imaging cameras

- Integrated galvanically insulated vehicle power supply

- Milled aluminium housing, anodized

- Display brightness and intensity of control element illumination switchable for day or night ambient light

- DVI and VGA-Analog input

- Multi Finger Touchscreen

- Night vision goggles compatibility

- Integrated USB Hub

Options:

- Additional SDI or CVBS inputs

- Video overlay marking for approximate vehicle width at distances of 1m, 2m, 3m, 4m

- CAN-Bus version 2.0B (SAE J1939), protocols CAN-Open or CAN-CUP for advanced camera control and build in test

- Standard PC Connectors in combination with Front USB-conn.

- Build in stereo Speakers

Technical Data:

Display type:	15.6" SFT- TFT LCD with LED Backlight
Resolution:	1920 x 1080 native pixels
Aspect ratio:	16 : 9
Colors:	16.7 M (8 bit / color)
Supported resolutions:	SD 525i and 625i HD 720p 25, 30, 50 and 60 Hz HD 1080i 50, 60 Hz HD 1080p 25, 30, 50 and 60 Hz
Video inputs:	1 x 3G-SDI Optional 1 x CVBS (PAL and NTSC) 1x VGA analog 1x DVI
Active display:	344 x 194 mm
Contrast ratio typ:	750 : 1
Brightness max:	1200 cd / m² (typ)
Brightness min:	0.37 cd/m² (typ)
Viewing angle:	±88° horizontal / ±88° vertical
Display window:	Hardened, scratch resistant
Power inputs:	18 V-32 V (24 V DC) / 35 W ref. To VG96916
Control outputs:	Backlight Brightness, USB Function Keys F1-F8 or tbd. OSD- Menue via Top Control
Connectors:	VG 96912 and coaxial
EMC / EMI:	VG 95373 (MIL-STD-461F/G on request)
Protection:	IP 65
Temperature:	-32 °C to +65 °C (operating) -32 °C to +80 °C (storage)
Dimensions:	435 x 314 x 66mm (W x H x D) w/o connectors
Weight:	approx. 6 kg
Paint finish:	RAL 6031 HR olive or TBD

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

TFT-Controller-Card AKV 03

type number 00711

The AKV 03 interface adapts analogue VGA-, SVGA-, XGA and SXGA information to digital LC- Displays. Standard timings such as VGA, SVGA, XGA and SXGA are scaled to the maximum pixel resolution of a connected display module. Downscaling is possible with loss of picture quality.

Options:

Model AKV 03 S is optimized for the SIEMENS I-SFT LCD series.
Model AKV 04 is optimized for video presentation

Technical Data:

All standard timings such as VGA, SVGA, XGA and Video (CVBS, PAL, NTSC) are scaled to the maximum pixel resolution of a connected display.
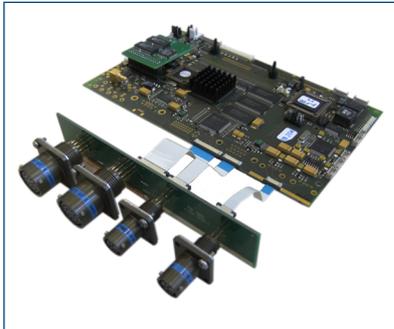
Interface:	via OSD menu
Adjustments:	possible via external keypad as an option
Color resolution:	Digitizing 8 bits each color, total 16 Mio.
Distance to signal sources:	up to 50 meters between computer and AKV 03 Special cables or cable adaptors for the different displays are available
Display logic voltages:	3.3 V DC or 5 V DC, selectable
Power supply:	9 V DC to 36 V DC, 2,5 W (without display)
Temperature range:	-20 °C to +80 °C

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

TFT- Controller- Card AKV 06 serie for Connection of LCD-Panels to DVI, RGB Analogue (CRT) and PAL/NTSC Video Sources

type number 46618

Features:

- Resolution up to SXGA (1280x1024) up / downscaling
- PAL / NTSC Video Input with Picture-in-Picture capability (optional)
- On Board 3x8 Bit Single LVDS Transmitter (optional)
- On Board 4-Port USB 2.0 Hub 2x ext. 2x int. (optional)
- On Board 2W Stereo Amplifier (optional)
- Flex Jumper Input for customized conn. Input PCB
- 6-Layer PCB for EMI Improvement

Technical Data:

Scaling:	All Resolutions from VGA to SXGA
Display standards:	Generally all VESA compatible modes are supported
DOS:	720x400, 640x350, 640x400 @70 Hz
VGA:	640x480 max. 85 Hz
SVGA:	800x600 max. 85 Hz
XGA:	1024x768 max. 85 Hz
SXGA:	1280x1024 max. 60 Hz
Analogue RGB:	Supports up to 140 MHz operation Sync on Green: (depending on PCB-version) Composite Sync: (depending on PCB-version)
DVI:	Supports up to 160 MHz operation, Single Link on Chip TMDS receiver
NTSC / PAL Input:	1x CVBS through Cinch connector, optional SMA conn.
USB-Hub (optional):	USB 2.0, 2x USB A conn. downstream (external), 2x internal e. g. for touchscreen etc. USB-Upstream / Audio-in vs. 9-pin Sub-D Conn.
Audio Amplifier (optional):	Integrated 2W-Stereo Audio-Amplifier
Colors:	16 million colors, 256 shades of grey
Display connectors:	6-Bit TTL Interface, 40 pin. ODU- Minifix Connector 8-Bit TTL Interface, 66 pin 2mm pitch double row 24-Bit LVDS Interface (LDI Mapping), Hirose DF-14 Connector (option)
Temperature:	Operating: –31 °C to +70 °C, 5-95 RH, non-condensing. Ask factory for conformal coating
Dimensions:	PCB: 180 x 110 mm

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