

Industrial monitors with full flexibility

The NRN line monitors are manufactured by a leading European company with more than 12 years of experience in design and manufacturing of industrial and marine monitors. This ensures meeting the demands of today's professional applications. The most facilities for design and engineering are in-house.

Display- enhancement (optical bonding) and touch screen integration (lamination) are also part of the in-house activities. This brings full flexibility in the features needed for a given application. With business partners for industrial computing most projects with touch displays can be realized, even with integrated PC (Panel-PC).

With the new series of monitors, the NRN-Line, special attention has been taken regarding robustness in a stylish housing. All models within the NRN-line are based on the same concept chassis and can be configured to your needs and all options are available on each model. Below you can find some examples

- Switching between VGA, DVI-D, HDMI and PAL/NTSC inputs
- Metal bezel or Full-glass version
- Projected capacitive (PCAP) or Resistive touchscreen
- High brightness version (800 cd/m²)
- Transflective enhancement
- Deep dimming backlight with front or external control
- Optical Bonding
- Wide range DC input
- Stainless steel front on the Panelmount units
- Rugged desk stand for VESA mount units available
- Further customized version on request

The OSD standard is setup via rubber buttons at the rear side of the monitor. The extended versions however can have an additional source select button via capacitive sensor integrated in the glass. The versions with a decoder at the front surface, can have full control of source-select, dimming, on/off and OSD through just this one control.

If you have any question or special request, feel free to ask our experts!

IEC60945

As an option, the panel mount (extended) glass models can be supplied with IEC 60945 certification. In this configuration not all options are available.

23" Industrial LCD Displays
VESA-, panelmount, chassis
NRN230 Series



Glass Panel Mount



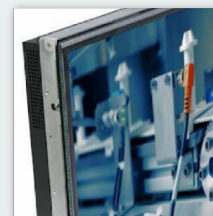
Metal Panel Mount



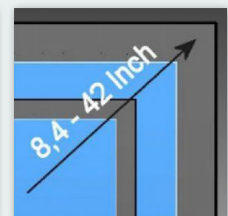
Glass Desktop



Metal Desktop



Rear Mount



Wide Range



Control



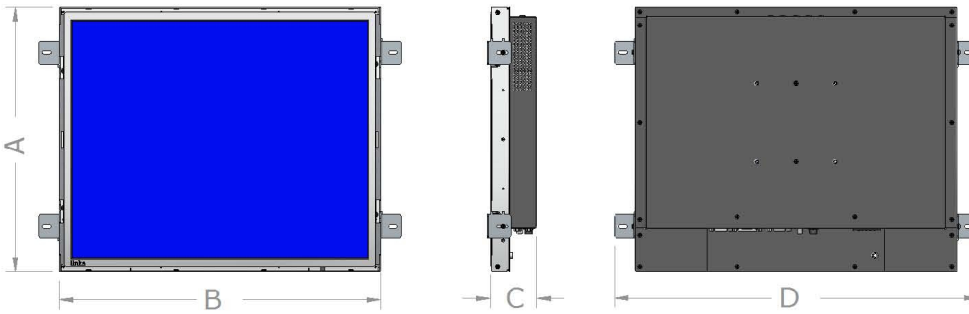
Flexible I/O

Specifications: see next pages

Chassis, VESA- and Panelmount versions

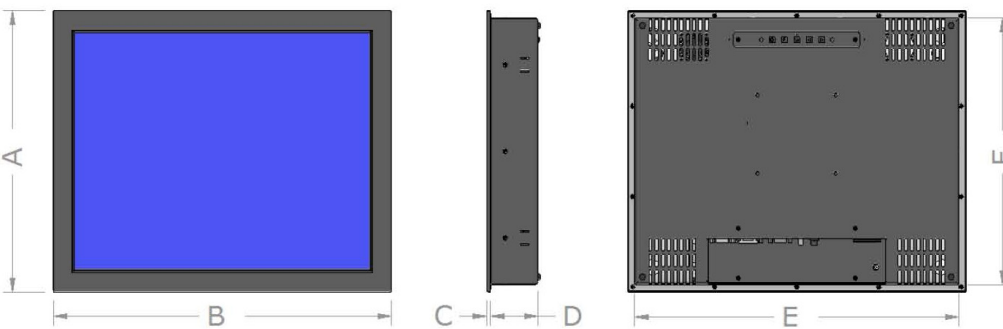


Rear Mount Chassis



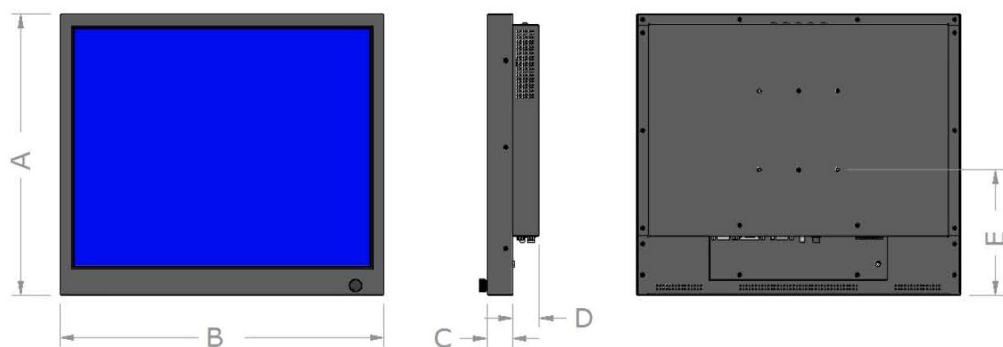
Dimensions	
A	324.6 mm
B	547.2 mm
C	59.0 mm
D	600.2 mm

Panel Mount



Dimensions	
A	363.6 mm on versions PE, PGE
B	569.8 mm
C	5.0 mm on versions P, PE
D	5.8 mm on versions PG, PGE
E	61.0 mm
F	551.8 mm
	345.6 mm on versions PE, PGE

VESA Mount



Dimensions	
A	343.6 mm on versions VE
B	549.8 mm
C	32.0 mm on versions V, VE
D	34.0 mm
E	151.8 mm
VESA	100 MIS-E

Specifications: see next page

Specifications		
Display	TFT Max. Resolution Video Pixel pitch Active Display Area Aspect Ratio Contrast Ratio Brightness Viewing Angles (at CR>10) Backlight life Number of Colours	a-Si TFT Active Matrix 1920 x 1080 pixels Full HD (1080) 0.265 mm 533 x 312 mm 16 : 9 1000 : 1 300 cd/m ² typical 178°H, 178°V 50.000 hours 16.7 Million
Enhancements	High Brightness * Transflective Enhancement * Optical Bonding * AR/AG Glass *	800 cd/m ² typical For sunlight readability To avoid dust and minimize reflections To minimize reflections
Power Supply	90 - 265VAC, 50/60Hz 12VDC 9 - 36VDC *	Separate Power Pack (50W) Standard DC jack Screw Connection
Signal Inputs	Analog Digital PAL/NTSC video	D-sub HD15 (VGA) DVI-D & HDMI Qinch, with optional BNC adapter
Dimming Backlight *	Integrated dimming External Dimming Central Dimming Auto dimming	Potmeter, Encoder Potmeter, Encoder, +/- Buttons External potmeter, Voltage 0-5VDC External light sensor
Touchscreen *	Technology Communication Connection	Projected Capacitive, Resistive USB, RS232 USB B-type, 9p D-sub
Environmental	Operating Temperature Storage Temperature	0 ~ 50 °C -20 ~ 65 °C
Mechanical	Chassis VESA and Panelmount IP-rating (front only) Weight	Aluminium Steel, Black powder coated RAL9005 IP65 (metal front versions) IP66 (full glass front versions) T.B.D.
* = <i>Optional</i>		

Specifications are subject to change without notice.

Part numbers		
Rear mount Chassis	NRN230C	
Panelmount with Metal front	NRN230P	
	NRN230PE	Extended front with front controls
Panelmount with Full Glass front	NRN230PG	
	NRN230PGE	Extended front with front controls
VESA mount with Metal front	NRN230V	
	NRN230VE	Extended front with front controls
VESA mount with Full Glass front	NRN230VG	
	NRN230VGE	Extended front with front controls

• Monitors

Desktop Monitors
Large screen Monitors
Custom-made Monitors
19" Rack Mount Monitors
Rear Mount Monitors
Monitors for Panel Mount
Monitors for VESA Mount
Kiosks
Accessories

• Monitors – Specific applications

Stainless Steel Monitors
Car Displays
Marine Monitors
Military Monitors
Replacement Monitors
Train Monitors

• Panel PC's

High Performance Systems
Custom made Panel PC's
Low Power Systems
Extreme environments

• Pointing devices

Accessories
Touchpads
Trackballs
Trackball Modules
Joysticks
Custom made Pointing Devices

• Keyboards

Desktop Keyboards with or without pointer
Built-in Keyboards with or without pointer
Cables & Connectors
Custom made Keyboards



Mulder-Hardenberg, est. 1927, is the answer to professional demands in the domain of electronic related environments. We don't just sell products. We use our multidiscipline knowledge to provide the best possible solution, designed to your specific interest.

Contact details:

The Netherlands
Mulder-Hardenberg B.V.
Westerhoutpark 1a
2012 JL Haarlem
Tel.: +31 23 531 91 84
infoNL@m-h.biz

Belgium, France, Luxemburg
Mulder-Hardenberg N.V.
Hoge Weg 129
B-2940 Stabroek
Belgium
Tel.: +32 3 660 13 20
infoBE@m-h.biz

Germany
Mulder-Hardenberg GmbH
Nordring 13
D-65719 Hofheim/Ts
Tel.: +49 6192 - 97 91 85
infoDE@m-h.biz