



## Options / Partnumber breakdown

All models within the NRN-line are based on the same concept chassis and can be configured to your needs. Most options are available on each model.

Also combinations of options are possible, but with restrictions. Some combinations are technically impossible, e.g. full glass in combination with stainless steel front. Please always ask for availability of the requested combinations. If you have any question or special request, feel free to ask our experts!

NRN104 xx - yyy - zzzz		
Mechanical construction <sup>xx</sup>	C CR CV P PE PG PGE V VE	Rear mount, metal chassis with no front Rackmount, with metal bezel Panelmount, with legacy metal VISION front Panelmount, with metal bezel Panelmount, with extended metal bezel Panelmount, with full glass front Panelmount, with extended full glass front VESA mount, with metal bezel VESA mount, with extended metal bezel
High brightness <sup>yyy</sup>	1K0 1K5	1000 cd/m <sup>2</sup> typical 1500 cd/m <sup>2</sup> typical
Touch screen <sup>zzzz</sup>	R Q R-RS232 Q-RS232	Resistive touchscreen, USB interface, not available on PG and PGE versions Projected Capacitive touch, USB interface Resistive touchscreen, RS232 interface, not available on PG and PGE versions Projected Capacitive touch, RS232 interface
Dimming backlights <sup>zzzz</sup>	P PF	External or front mounted potmeter, illuminated, for on/off and dimming External or front mounted full control encoder, illuminated, for on/off dimming and osd
DC Power <sup>zzzz</sup>	I	Galvanic isolated DC input, 9-34Vdc, screw connection (instead of external adapter)
Glass <sup>zzzz</sup>	E G	Anti-Glare (etched) protection glass Anti-Reflective (coated) protection glass
Bonding <sup>zzzz</sup>	O	Optical bonding, to avoid dust and condensation, to minimize reflections and parallax
Stainless steel front <sup>zzzz</sup>	S	Stainless steel front, only available on P en PE versions

## Controls / NRN-Control unit

There are different possibilities to setup and control the NRN monitors:

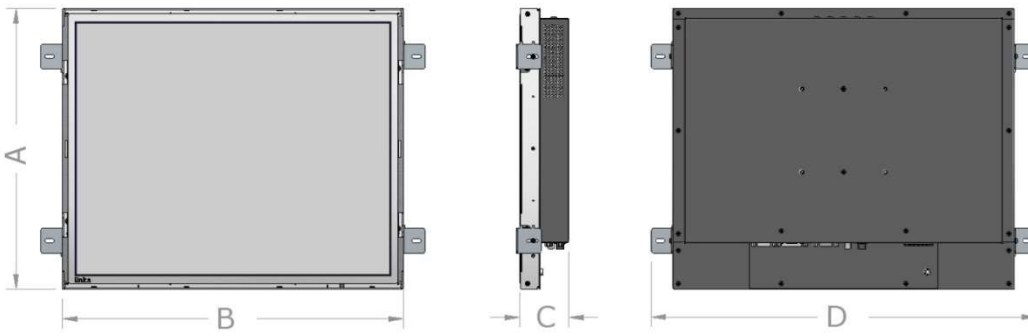
- OSD buttons
- Internal/external (illuminated) potmeter
- Internal/external (illuminated) encoder



In some applications however, it is preferred to control all monitors in console, bridge or control room by just one action. This can be done by the encoder option. For applications where the user needs more flexible control over each individual monitor, the NRN-CONTROL is on the market. The NRN-CONTROL is designed as an optional remote control for the NRN-Line monitors. It has a 4.3 inch TFT with PCAP touch screen. With the NRN-CONTROL you can select an input source and adjust the brightness remotely by pressing buttons or making presets.

Interested? Please call for further details.

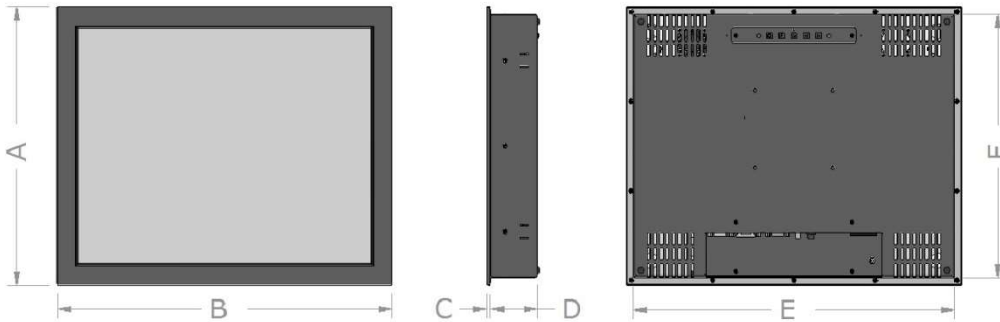
**Rear mount Chassis NRN104C**



Dimensions	
A	188.8 mm
B	239.8 mm
C	59.0 mm
D	292.8 mm

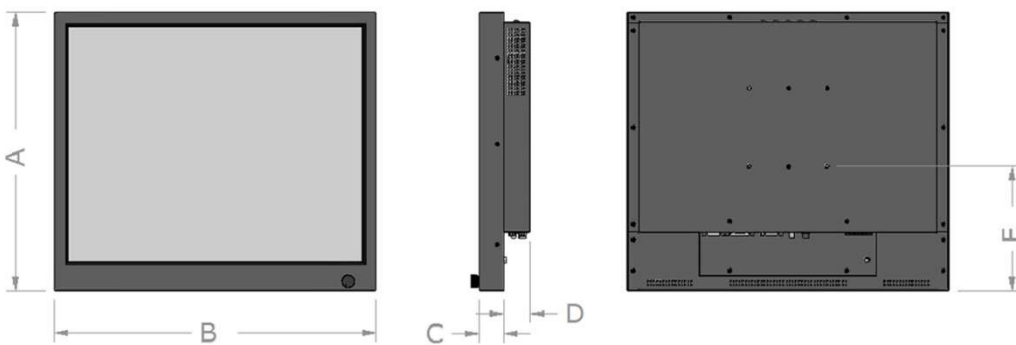
Without protective glass or touch sensor

**Panelmount NRN104P, PE, PG, PGE**



Dimensions	
A	211.4 mm on versions P, PG 227.4 mm on versions PE, PGE
B	262.4 mm
C	5.0 mm on versions P, PE 5.8 mm on versions PG, PGE
D	61.0 mm
E	244.4 mm
F	193.4 mm on versions P, PG 209.4 mm on versions PE, PGE

**VESA mount NRN104VE**



Dimensions	
A	207.7 mm on versions VE
B	242.4 mm
C	32.0 mm on versions VE
D	34.0 mm
E	86.2 mm
VESA	75 mm

Detailed dimensional drawings on request.

Specifications		
Display	TFT Max. Resolution Video Pixel pitch Active Display Area Aspect Ratio Brightness Contrast Ratio Viewing Angles (at CR>10) Backlight life Number of Colours	10.4", a-SI TFT Active Matrix TFT 1024 x 768 pixels XGA 0.205 mm 211 x 158 mm 4 : 3 500 cd/m <sup>2</sup> typical 1200 : 1 178°H, 178°V 50.000 hours 16.7 Million
Enhancements	High brightness * Optical Bonding *  AR/AG Glass *	1200 cd/m <sup>2</sup> typical To avoid dust and to minimize reflections and parallax To minimize reflections
Power Supply	90 – 265VAC, 50/60 Hz 12VDC 9 - 36VDC	Separate Power Adapter Standard DC Jack Screw connection
Signal Inputs	Analog Digital PAL/NTSC video	D-sub HD15 (VGA) DVI-D & HDMI BNC
Dimming Backlight *	Integrated dimming External Dimming Central Dimming Auto dimming	Potmeter, Encoder Potmeter, Encoder, +/- Buttons External encoder, N-control Light sensor
Touchscreen *	Technology Communication Connection	Resistive, Projected Capacitive USB USB B-type
Environmental	Storage Temperature Operating Temperature Operating Temperature TFT	-20 ~ 65 °C 0 ~ 50 °C -20 ~ 70 °C, high brightness enhanced
Mechanical	Chassis VESA and Panelmount IP-rating (front only)  Weight	Aluminium Steel, Black powder coated RAL 9005 IP65 (metal front versions) IP66 (full glass front versions) Appr. 5 kg.
* = Optional. See partnumber breakdown table		
Part numbers		
Rear mount Chassis	NRN104C	Standard available
Panelmount with Metal front	NRN104P NRN104PE	Standard available Standard available, Extended front
Panelmount with Full Glass front	NRN104PG NRN104PGE	Standard available Standard available, Extended front
VESA mount with Metal Front	NRN104V NRN104VE	Not available yet Standard available, Extended front
Marine approved	-	Not available

Specifications are subject to change without notice

version G104X1-L04 220217



## • 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  
Train Monitors  
Marine Monitors  
Military Monitors  
ATEX Monitors  
Replacement 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  
ATEX Pointing Devices  
Custom made Pointing Devices

## • Keyboards

Desktop Keyboards with or without pointer  
Built-in Keyboards with or without pointer  
ATEX keyboards  
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 solutions, designed to your interest.

Contact details:

### The Netherlands

Mulder-Hardenberg B.V.  
H.N. Werkmanweg 17  
2031 BA Haarlem  
Tel.: +31 (0)85 800 3700  
infol@mh.biz

### Germany

Mulder-Hardenberg GmbH  
Nordring 13  
D-65719 Hofheim/Ts  
Tel.: +49 (0)6192 979185  
infode@mh.biz