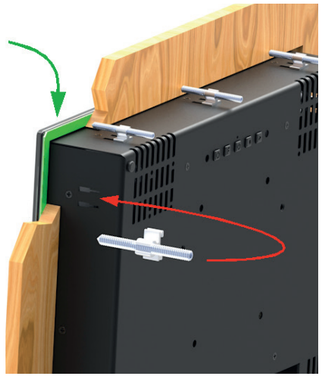
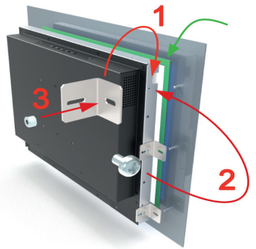
Mounting Hardware



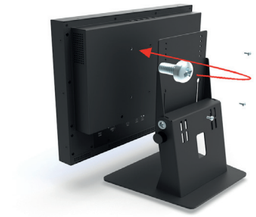
Panel mount models (K,KE,KG,KGE)

- Dimensional drawings can be downloaded from the website.
- Make the mounting cutout +1mm space outside chassis.
- Make sure there is sufficient airflow for cooling in the cabinet.
- Check the surface of the desk. It should be perfectly flat without warping or any material remains.
- Make all OSD-settings before mounting the unit in place. Afterwards it might be difficult to get to the OSD buttons. With optional encoder knob for dimming or with NCOM-RS485 connection it is still possible to change settings after installation.
- Sealing: for indoor use apply rubber self adhesive foam tape to the back of the front bezel (see green arrow). Sealing: to ensure a 100% watertight construction for outdoor use, use silicone adhesive to make a sealing between monitor bezel and the desk.
- Insert the mounting brackets as indicated. Maximum torque for hex screws is 0.7Nm.
- Use all mounting positions.
- If the monitor is mounted in the ceiling (facing down), the screws must be secured with an extra hex nut (M5).



Rearmount model

- The rearmount monitor is supplied with brackets and M3 screws).
- For mounting. 1) position the mounting bracket to chassis, 2) loosely install the screw in the chassis, 3) and place the mounting hardware to the front. When all positions are in place, ensure the allignment of the active area is correct and secure all screws and hex nuts. The application dependent screws and/or hex nuts for mounting to the desk or frame are not included. The maximum diameter of the screw (2) is 4mm.
- Without cover glass: make a cutout in the front plate. For dimensions, please refer to the dimensional drawing on our website.
- Including cover glass: use the dimensions of the cover glass. Attach foam tape between glass and front bezel (see green arrow).
- Allow 0.5mm margin between active area and bezel



Desktop model (DE)

- Use included M4x8 screws to secure the monitor to a stand (optional) or arm. To avoid damage: do not use screws longer than 8mm.
- Use the following stands
  - *N-stand* for VESA 100 (N150DE – N190DE)
  - *N-stand small* for VESA 75 (N084DE – N121DE)
  - V-stand for VESA 100 / MIS-E (N150DE – N241DE)
- To use a NxxxKG/ KGE model with VESA, order optional VESA bracket which will be integrated in the monitor.
- We recommend to use a V-stand for use with a touchscreen.

Fragile, glass

Excessive water can interfere touch

Read the manual before use

Keep out of direct sunlight

Options

External Dimming Knob

Local and intersystem dimming
Local OSD control

- Mount the knob to the desk. Thickness of desk is 1-4 mm, drilling hole 10mm.
- Disconnect monitor from the power source.
- Connect the knob to the NCOM-IN port of the monitor with a UTP cable (max 10mtr).
- When the monitor is used in a daisy chain, use a splitter to connect both NCOM (RS485) and knob.
- Connect the monitor to the power source.
- Make the settings by using the NCOM-App.
- Functionality:

Encoder	Potentiometer
Rotate for dimming	
Local and intersystem dimming	Local, central (zero config) and intersystem dimming
Push shortly for power	
Push&hold for 3sec for source select	
Push&hold for >5sec to activate OSD menu. Please refere to back side of this sheet	

NControl

Control dimming and functions for up to 12 monitors

- Connect the NControl to a power source.
- Connect the NCOM-OUT to the first monitor and make a chain to the last monitor. This can be done with the monitors powered. Do NOT apply a termination resistor at the end of the chain. Connect the NCOM-IN to the PC and start the NCOM-App.
- Make the settings for addresses and dimming sources in each monitor in the chain.
- Basically monitor 1 is set to 21-1 (ID-Source), monitor 2 is set to 21-2, then respectively 21-3- 21-4, 22-1/4 and 23-1/4.
- All units in the chain will be detected automatically. Wait for the 'Connecting' icon to disappear.
- Select units to control in the Monitor Control page or start making presets right away (switch to program mode).
- There are 6 pages of 4 presets available which can be activate from the NControl or remotely using NCOM (RS485) commands from you PC or PLC.

NCOM (RS485)

Control dimming and all functions for upto 20 monitors

NCOM protocol for external dimming and control

- Protocol settings: 115200 bps / 8 bits / no parity / 1 stop bit
- Connect the units using standard UTP cables. Create a chain by connecting NCOM-OUT to the NCOM-IN of the next monitor.
- Connect maximum 20 units in the chain.
- Make the correct source settings in the monitor by using the NCOM App.
- You can use commands for power, dimming, OSD functions and set/enable/disable several other monitor functions. Please refere to the manual. For your convenience there are command string generators (XLS) available too.

Quick Reference Guide

HPS INDUSTRIAL

N-Line

NxxxKGE, NxxxDE and Nxxx

Controls and indicators

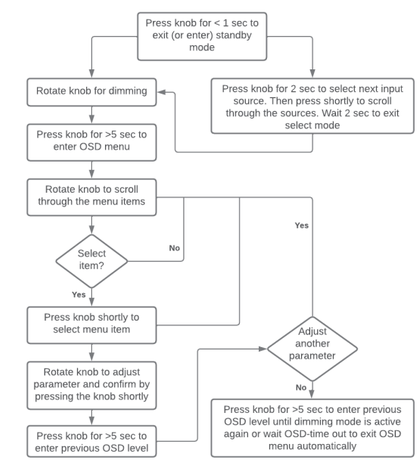
OSD Keys

N-Line User Manual

Key	Description
	OSD Enter OSD menu Exit OSD-menu Return to previous level. Any modifications will not be stored
	Funtion select, hotkey input source select
	Sleep mode ON/OFF
	Left, Decrease
	Right, Increase
	Capacitive switch for input source select. Just touch to activate and toggle through the enabled input sources. The sources can be enabled or disabled in the OSD-menu [Option>Source Setting]. If only one input is enabled, this switch will not result in any action. The LED follows the OSD Status LED at the back of the monitor.
	With the multi function knob the brightness can be adjusted by turning the knob. By pushing the knob shortly a switch is activated. The default function for this switch is standby-mode. When using an encoder knob, the OSD settings can be controlled. Please refer to the figure at the right. This knob can also be used for intersystem dimming or central dimming. • Rotate for dimming • Press shortly for power (stand-by) • Press & hold 2 seconds for source select → backlit of the knob is flashing shortly. • Press & hold 5 seconds to enter the OSD-menu. Rotate the knob to scroll, press shortly to select menu item. • Press & hold 5 seconds to go back one menu level. Repeat to exit OSD. • The action for Press and Press & hold function can be changed in the NCOM-App. (Power ON/OFF, Source select, Function-key-up or -down, Power ON)

OSD status LED

Stage		Led status	Source searching	Backlight
A.	Initialization	RED ON	N/A	ON
B1.	Sleep	AMBER ON	Waiting valid signal from last input.	OFF
B2.	Sleep with AutoSource	AMBER ON	Searching for any valid input	OFF
C1.	Awake but No Signal	AMBER BLINK	Waiting valid signal from last input	ON
C2.	Awake during Auto Source	AMBER ON	Searching for any valid input	ON
C3.	Awake with stable video	GREEN ON	Not required	ON
D.	Power Off	RED ON	No video input searching in progress	OFF
E.	USB Updating	Red/Green Toggle	Not available	N/A



OSD Menu structure

Picture

Signal source RGB (VGA) / DVI / HDMI / CVBS:

Picture Mode	Standard / Dynamic / User / Mild
Contrast	0 ~ 100
Brightness	0 ~ 100
Colour	0 ~ 100
Sharpness	0 ~ 100
Tint	0 ~ 100
Colour Temp	Color Mode: Warm / Medium / Cool / User
Backlight	0 ~ 100 • Not effective when using a dimming knob or buttons • Do not set to zero, because the screen will be 100% black)
Auto Colour (VGA-only)	There must be a clear black and white image as background, like a MS-Word or Excel file.

Option

Menu language	English / Русский / Italiano / Nederlands / Deutsch / Español / Française
Transparency	0 ~ 5
OSD Time Out	OFF, 5, 10, 15 (Sec)
OSD Info	ON/OFF
Source Setting	CVBS / HDMI / DVI / RGB : “ON” or “OFF”
Mute	ON/OFF
Volume	0 ~ 100
Restore Default	YES / NO

Notes:
- Enabled sources from Source Setting can be searched via “Auto Source” mode. Source Setting does NOT affect Manual Source Selection.
- “OSD Info” suppresses all OSD output when an application requires silent operation.

Setup

Serial Port (Do not change)	Baud Rate	38400
	Data	8 bit
	Parity	None
	Stop	1 bit
User Assign	KeyPad >	Backlight, Volume,
	Keypad <	Contrast, Flip / Flop,
	F1	Image Flip, Image
	F2	Mirror, Mute, Mono,
	F3	Colour Channel, Red
	F4	Only, Green Only, Blue Only, Zoom
Red mode		ON / OFF

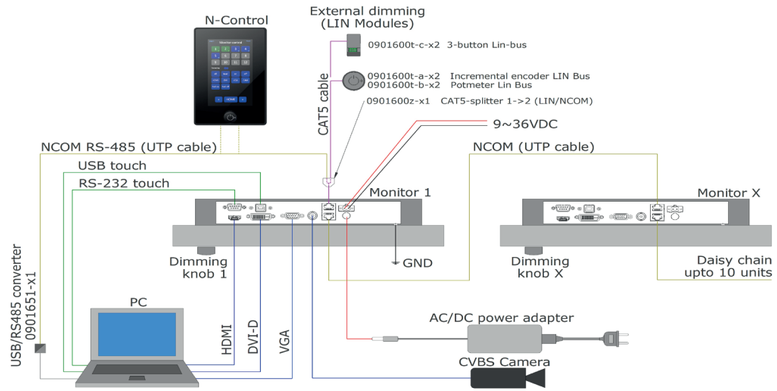
Function

Power Save	OFF ~ 120 min. (OFF, 0.5, 1, 2, 5, 10, 30,60, 120)	
Zoom Mode	Normal / OverScan / Zoom (CVBS & HDMI)	
Aspect	Auto / 16 : 9 / 4 : 3 / Fill	
Image Flip	ON / OFF	
Image Mirror	ON / OFF	
Auto Source	ON / OFF (check enable sources)	
3DNR	Off / Strong / Standard / Weak	
Advanced (VGA-only)	H-pos	0 ~ 100
	V-pos	0 ~ 100
	Clock	0 ~ 100
	Phase	0 ~ 100
	Auto	Auto Adjust

Touch screen

- PCAP touch screen: For USB, do NOT install any driver on Windows XP and above. For RS232 install an OS specific driver.
- Resistive touch screen: For USB and RS232 install an OS specific driver.
- To assign a touch screen to a specific display in Windows 10, (Search) Control panel → Hardware and Sound → Tablet PC settings → Display tab → Setup. Now select touch (not pen). A message is asking if it is the right display to assign. If it is, just touch (& hold) until the window disappears. If it is not, press enter to go to the next screen.
- The use of extenders and boosters may cause the touchscreen to malfunction. When experiencing issues, please first test the touch screen with connection directly to the PC. For USB the realistic maximum cable length is 5mtr.

Connection diagram



Item	Specification	Comment
Power input 9~36VDC	100W (N150 - N270) 30W (N084 - N121)	This is a galvanic isolated input. Always connect the GND-lug to a common GND
Power DC plug 12VDC	12VDC 65 Watt adapter	Including 1,5 mtr power cord.
Power 12VDC internal filtered	EMC suppression filter	Including power adapter and 1,5 mtr power cord.
HDMI	HDMI 1.4	STD 3 mtr.
VGA	Analog RGB (D-SUB 15 Pin)	STD 3 mtr.
DVI	DVI-D type	STD 3 mtr.
CVBS	BNC Type Composite Connector	Cable not included.
USB touch	USB A/B	STD 3 mtr, max 5 mtr.
RS-232 touch	DB9M/F cable	1.8 mtr.
NCOM, RS485	RJ45 UTP cable	STD 3 mtr, max 100 mtr.
NCOM, RS485	RJ45 UTP cable	STD 3 mtr, max 100 mtr
Dimensions and spec sheets	Downloads	

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