



46" Outdoor Single-Sided VMS Transit Monitor



Model: NBSSM-460LC-125-MSP, Single-sided

- ✓ Sunlight readable, exterior weather proof monitor
- ✓ Tamper-proof, anti-reflection, tempered glass over 46" screen
- ✓ Embedded Intel i5 processor, 4G LTE networking
- ✓ HVAC - Heater, ventilation, and air circulation
- ✓ UL872, Sign controller – IoT sensors, Remote computer power reset
- ✓ UL48 Outdoor signs compliant – Dielectric voltage withstand test, Bond impedance test, Leakage current test and Glass impact test
- ✓ Hardware health monitoring system – Temperature, Brightness



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LCD Screen

Parameter	Specification
Video Orientation	Landscape
Screen Dimensions	1020mm (width) x 575mm (height); (40.2 inches x 22.6 inches)
Enclosure Dimensions	1200mm (width) x 765mm (height) x 245mm (depth); (47.2 inches x 30.1 inches x 9.7 inches)
Resolution	1920 x 1080 pixels
Color	1.07 billion colors (10-bit)
Dimming	50-100% automatic dimming
Calibrated Intensity	2500 Cd/m ²
Color Temperature Modes	Warm / Medium / Cool
Refresh Rate	120 Hz
Contrast Ratio	2,000:1 (Typical); 10,000:1 (Dynamic)
Viewing Angle	178 degrees (side/side) 178 degrees (up/down)
Burn Time (one static image)	30 min

Power, Computer Specification

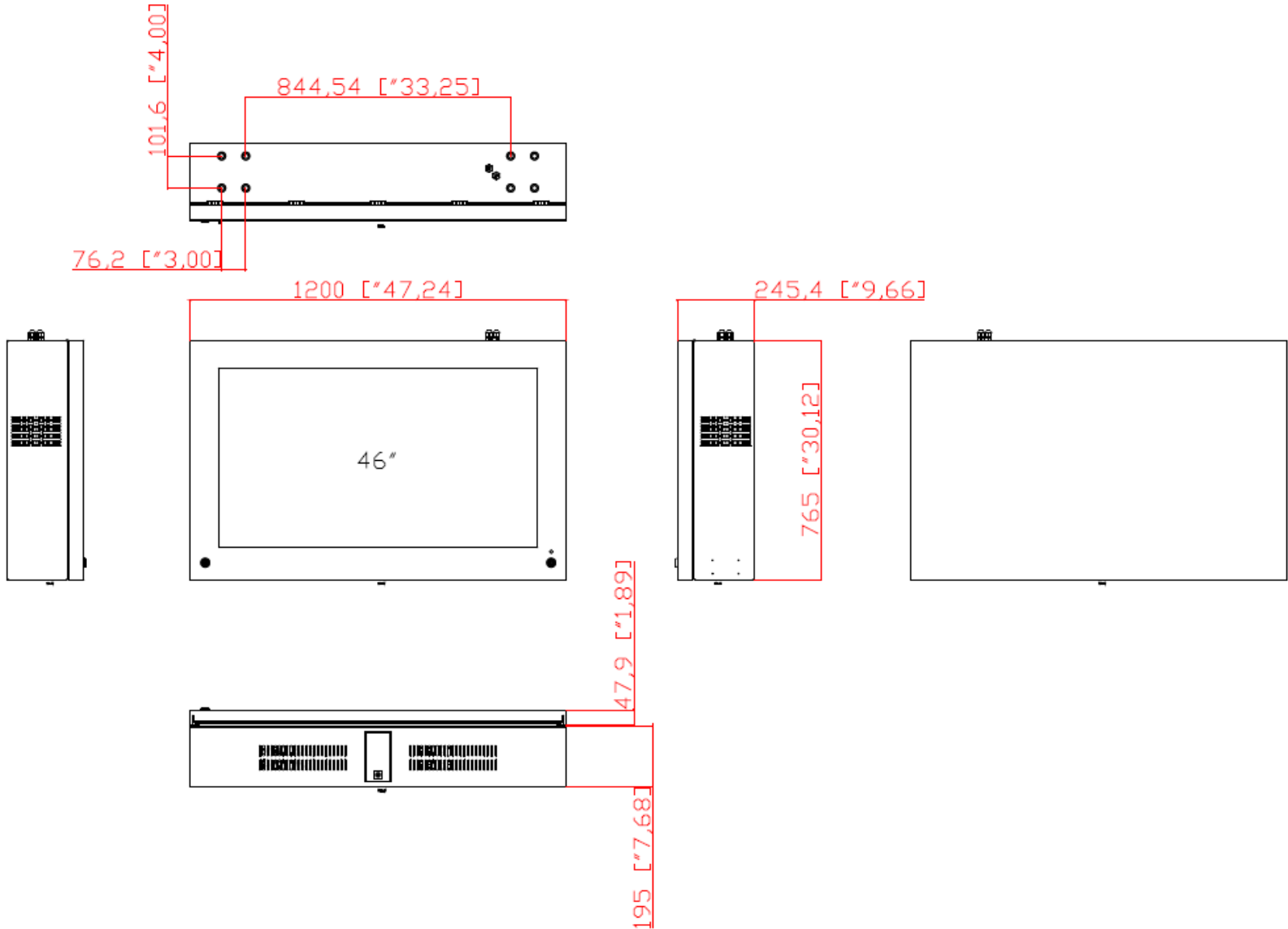
Parameter	Specification	
Power Consumption	Max 800W	
Embedded computer (1)	CPU	Intel NUC i5 Processor
	RAM	8 GB
	Storage	128 GB
	OS	Windows 10
Inputs / Outputs	1) HDMI (2) 2) Four USB 2.0 3) PC Input via 15-pin 4) LAN (RJ45, Cat 6),	
Single dedicated receptacle power outlet	8A rated	

Electronic Specification

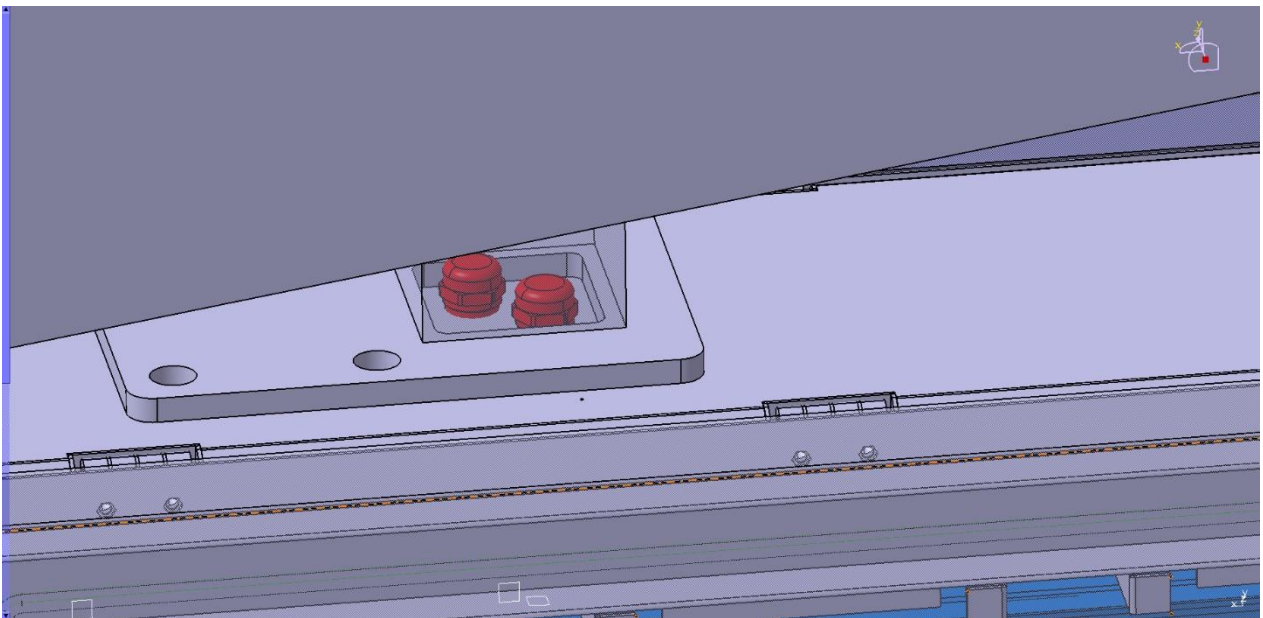
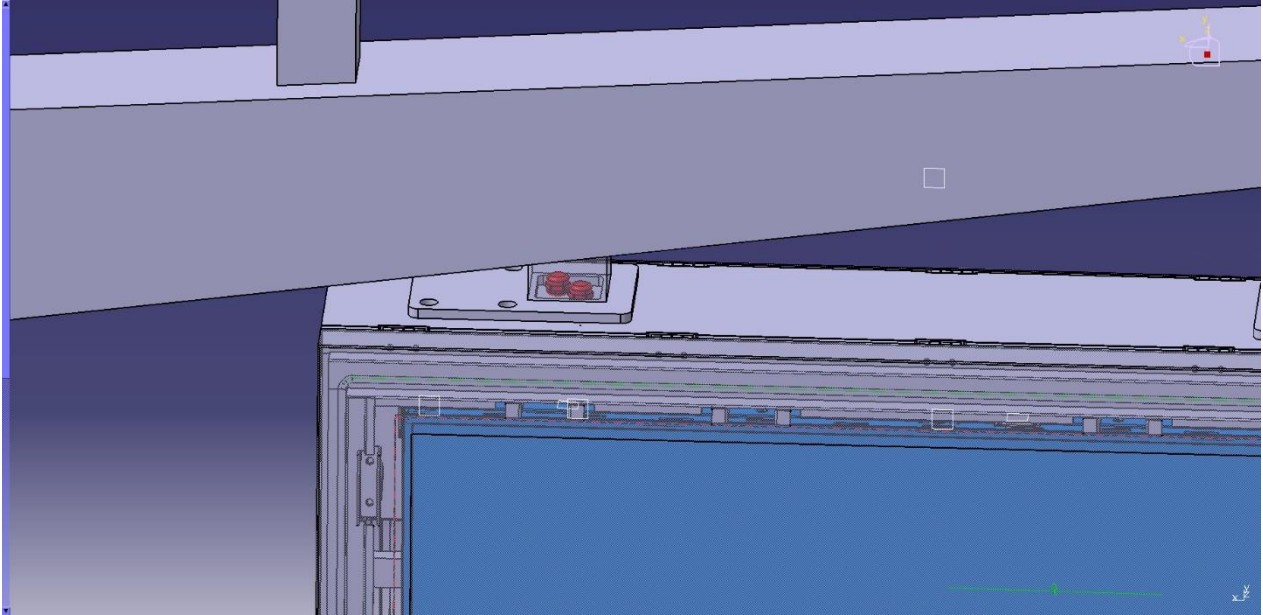
Parameter	Specification
Rated Operating Conditions	Temperature: -30°C to +45°C Humidity: 20% to 80%
Heating, Ventilation & Air Circulation (HVAC)	Automated system for heating & cooling with active air inflow & exhaust
External Housing	Fully-sealed, weather-proof enclosure Powder coated surface treatment
Enclosure sealing / weather proofing	Enclosures shall comply with UL 48 including outdoor rain test
Glass	Tampered thickness approximately 0.25inches IR900 Solar heat reduction film coated IK08 glass
Certification	FCC, UL48, UL879, UL 60695, IK08 Rating
Warranty	36 Months, Depot Warranty
Mean Time Between Failure	50,000 hours
Electric Sign Controller Health Monitoring System [Model: NRMCB-300]	Controller interface: - Environmental control via IoT sensors <ul style="list-style-type: none"> • (2) Temperature sensors • (1) Ambience sensor • (1) Moisture sensor • (1) Pixel moving sensor to detect screen activity • (1) Door sensor for enhanced security - Sequential power booting program <ul style="list-style-type: none"> • Computer power reset • LCD panel reset • Heater and fans on/off

Physical Dimensions

Total System Weight: 90 kg (200 lb.) per unit



Cable Grand Connections (Power/Data)



Nanov Sign Controller

General Description

Nanov Sign Controller is the critical component of the LCD signs. The controller consists of two boards: the main board and power board. The hardware controlling capacity are as follows:

- Brightness sensor- Auto brightness control vs environment sensor
- Temperature sensors- Auto fan speed control vs internal temperature
- Power reset: Modem, Computer, Panel
- Detect when a sign is non-operational via AD board signal
- Detect when a sign is not communication via modem -auto ping/reset
- Alarm via email or text

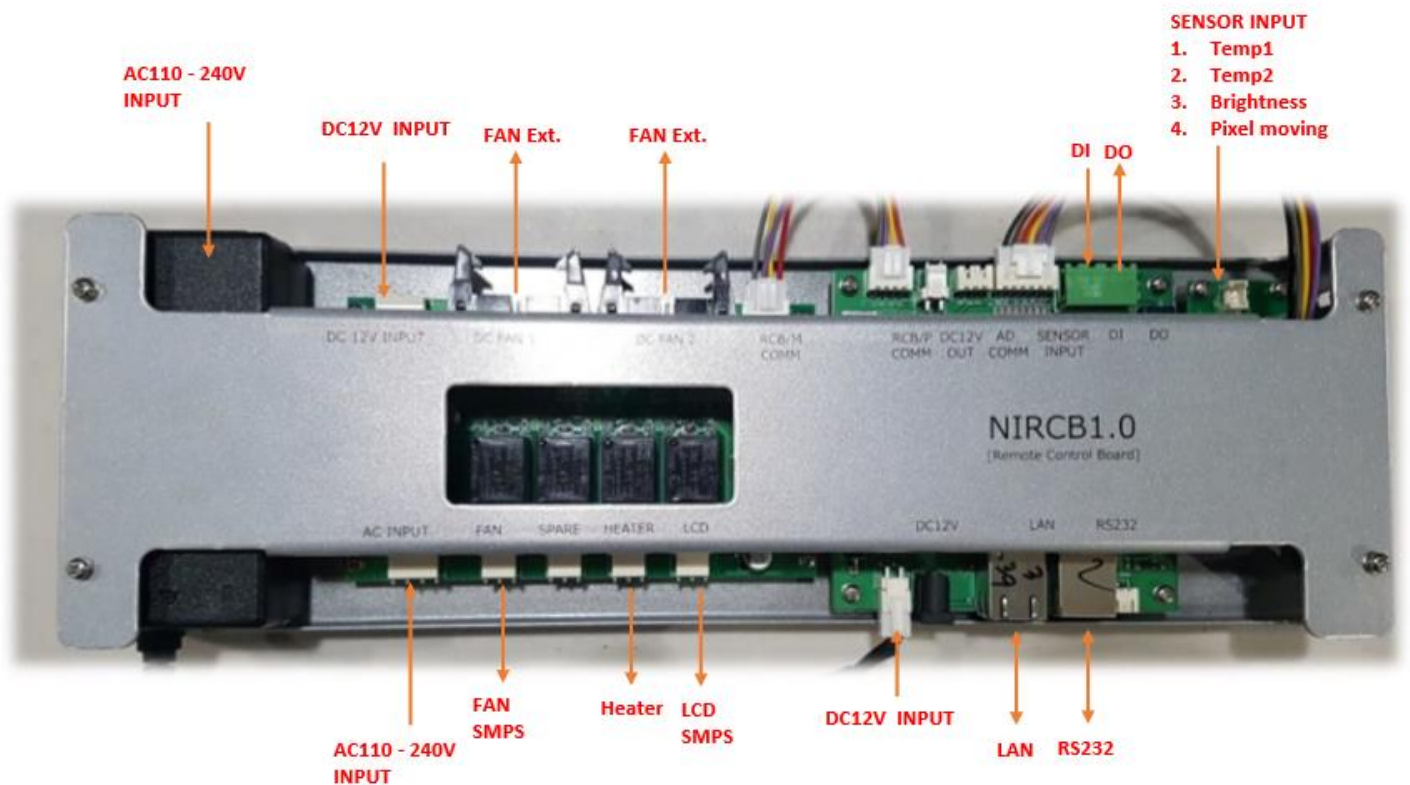


Fig. 1- NIRC1.0 Nanov Sign Controller

Remote Health Monitoring System Dashboard

Keywords

delete

	Name	Type	Group	IP	MAC	Status
<ul style="list-style-type: none"> Groups unassigned Deployed Lab Ready SI Status <ul style="list-style-type: none"> ON-LINE OFF-LINE Operation Mode <ul style="list-style-type: none"> Auto Manual LCD Color <ul style="list-style-type: none"> LT LF Door <ul style="list-style-type: none"> Opened Closed 	<input type="checkbox"/> SouthGarland-11-025-1946-132A	G3	Deployed	192.168.32.3	70:B3:D5:2D:04:D4	ON-LINE
	<input type="checkbox"/> MLK-12-007-1945-063A-F	G3	Deployed	192.168.32.3	70:B3:D5:2D:04:C9	ON-LINE
	<input type="checkbox"/> MLK-12-007-1945-063B-F	G3	Deployed	192.168.32.4	70:B3:D5:2D:04:CA	ON-LINE
	<input type="checkbox"/> LakeRayHubbard-09-033-1945-075A	G3	Deployed	192.168.32.3	70:B3:D5:2D:05:12	ON-LINE
	<input type="checkbox"/> LakeRayHubbard-09-033-1945-075B	G3	Deployed	192.168.32.4	70:B3:D5:2D:05:15	ON-LINE
	<input type="checkbox"/> MLK-12-006-1945-066A-F	G3	Deployed	192.168.32.3	70:B3:D5:2D:05:58	ON-LINE
	<input type="checkbox"/> MLK-12-006-1945-066B-F	G3	Deployed	192.168.32.4	70:B3:D5:2D:05:66	ON-LINE
	<input type="checkbox"/> SouthGarland-11-023-1946-097A	G3	Deployed	192.168.32.3	70:B3:D5:2D:05:72	ON-LINE
	<input type="checkbox"/> SouthGarland-11-023-1946-097B	G3	Deployed	192.168.32.4	70:B3:D5:2D:05:73	ON-LINE
	<input type="checkbox"/> JackHatchell-08-019-1946-089B	G3	Deployed	192.168.32.4	70:B3:D5:2D:05:78	ON-LINE
	<input type="checkbox"/> JackHatchell-08-019-1946-089A	G3	Deployed	192.168.32.3	70:B3:D5:2D:05:74	ON-LINE
	<input type="checkbox"/> JackHatchell-08-020-1946-084A	G3	Deployed	192.168.32.3	70:B3:D5:2D:05:84	ON-LINE
	<input type="checkbox"/> JackHatchell-08-020-1946-084B	G3	Deployed	192.168.32.4	70:B3:D5:2D:05:82	ON-LINE
	<input type="checkbox"/> SouthGarland-11-024-1946-082A	G3	Deployed	192.168.32.3	70:B3:D5:2D:05:79	ON-LINE

LCD Signs Control

Home / Equipment

Equip Info
Condition
Control Set
Control Power
History

Modified setting (Follow the control settings for the default setting or you can modify for each equipment.)

Equipment Value ■ User Control Value

Operation Mode: Auto

LCD Display ON/OFF: ON

Brightness: 70%

Volume: 50%

Input Source: HDMI

Modified setting (Follow the control settings for the default setting or you can modify for each equipment.)

Equipment Value ■ User Control Value

LED R: 255

LED G: 255

LED B: 0

Archive History

Equip Info
Condition
Control Set
Control Power
History

Equipment SouthGarland-11-025-1946-132A
* Only one selected device will display history.

Period 1 Day 1 Week 1 Month Excel

Show Result

Brightness

Temp. 1,2,3

FAN Speed

Heater Operating Humidity

LCD POWER

FAN POWER

HEATER POWER

LCD Display ON/OFF

Pixel Moving Sensor

Door Status

Keywords delete

	Name	Type	Group	IP	MAC	Status
<input checked="" type="checkbox"/>	SouthGarland-11-025-1946-132A	G3	Deployed	192.168.32.3	70:B3:D5:2D:04:D4	ON-LINE
<input type="checkbox"/>	1046 116A	G3		102.169.32.151	70:B3:D5:2D:05:00	ON-LINE

Groups

- Groups
- unassigned
- Deleted

Remote Access Disclaimer

Remote access of Nanov Sign controller (NRMCB-300)

It is the customer's decision to connect sign controllers via the internet. At any point, the customer can pull the internet line out. The customer can always request to send IoT data to their own server but developing an API or Amazon server user fee is paid for by the customer.

Nanov controllers are connected to the following sensors to monitor hardware health system – heater, computer, fan, temperature sensor, pixel moving sensor, door sensor, LCD panel. The controllers are registered with the MAC address. When the internet is connected to the controller for the first time, the controller searches for the Nanov Amazon server connection and registers the IP address automatically. When the customer designates their own server, Nanov re-routes the sign controller to the customer server. Nanov provides a confidential ID and PW to the customer when they are connected into the Nanov server. Nanov provides three months of complimentary server access to the customer. For the first three months, Nanov can use the IoT sensor data to monitor the hardware health of the LCD signs and recommend default set up value to customer. After three months, Nanov has a right to request disconnecting the internet from the controller. The customer will then pull the internet line out from the controller.

Safety Compliance

LCD Panel: UL 60695

LCD Sign Controller: UL 879

Computer: UL E216813

For electric message signs compliant, the following certification and test report shall be provided.

- Dielectric voltage withstand test
- Glass impact test, IK 08
- Rain test
- Leakage current test
- Bond impedance test
- Input test
- Lock rotor test
- Abnormal operation test
- Maximum output voltage test
- Maximum output current and power test

Application



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