Integration Layer Device

NVPxxxPE

BACnet Touch screen & Building Controller (BAAC)

【Description】

NVPxxxPE is a LED backlight touch screen standalone building controller with BACnet Ethernet / IP and BACnet MS/TP ports as well as an Airtek propriety EIM port (supports up to 24 IO expansion modules). The HMI interface allows the user to operate graphic screens without the need for a computer and can carry out typical functionality expected for complete network operations such as Setpoint Adjustments, A-O-M control, overrides, Time Clock scheduling, monitor, store Alarm history and display trend-logs. The Screen includes the Airtek HMIkit software to allow the user to custom create, edit and upload graphic files, it is also possible to remotely update screen pages via the Ethernet / internet. Optional Wall mount or Panel mount kits are available to simplify installation.

NVPxxxPE comply with international BACnet communication protocol standard and are fully compatible with any BTL listed BACnet products.

Wall Mount   With Stand

Panel Mount

【Features】

- In accordance with the ASHRAE BACnet protocol. Compliance with the standard B-BC class specifications.
- 10/100M Ethernet interface can be either BACnet Ethernet or the BACnet/IP communication protocol.
- MS/TP (Master-Slave/Token-Passing) port can connect 32 DDC controllers, (2,500Vrms isolation protection).
- One EIMnet port, for EIM expansion modules, communication speed 38,400 BPS, maximum length 1,200 meters.
- Peer to Peer data transmission, programmable, standalone, alarm notification, schedules, trend-logs, devices and network management functions.
- LED touch screen, high-definition true color 16.2M. Includes AIRTEK free HMIkit software to edit and design the screen page. The user can use Airtek prebuilt graphics or users existing graphics.
- Supports on-line firmware updates, DDC program editing (upload / down load), control logic programs, animation graphics, monitor and modify point values.
- Able to read any BACnet device property on network. The property can be logic, value, object, time, date, bit string individual status etc.
- Supports online editor, download control logic program, real-time program debugging and firmware update functions.
- Supports advanced logic such as enthalpy, dew point temperature, PID control and all HVAC common program functions such as logarithmic, trigonometric functions, roots and other advanced math function.
- Supports reading and modifying schedules, alarm notification, trend-logs, standard BACnet object. Support external object access function.
- Contains 1,000 binary value (BV) points and 1,000 analog value (AV) points. The BV points have 16 level priority arrays. It be used to calculate values, set points and timer or alarm points.
- Supports local or networked (Global) alarm notification messages and display functions and switch to a designated graphic page as well as store the alarm notification.
- Supports 10 levels of password protection, maximum of 20 sets of passwords to avoid unauthorized operation.
- Time synchronizes function. Can enabled or disabled network broadcast.
- Uses a gold capacitor for memory backup, time and date.

【Specification】

Model	Size	Viewing area(mm)	Resolution	Max.contrast	Brighness	DDC QTY	EIM QTY	Schedule	Alarm	Trend-logs	AV/BV
NVP215PE	21.5"	476.64^H*268.11^V	1920*1080	3000:1	250cd/m$_2$	32	24	100	100	100	1,000
NVP156PE	15.6"	344.23^H*193.53^V	1366*768	500:1	300cd/m$_2$	16	12	50	50	50	500
NVP121PE	12.1"	245.76^H*184.32^V	1024*768	700:1	500cd/m$_2$	8	6	20	20	20	200

Power Supply : 100~240VAC, 1.6A.

Touch Screen : LED backlight, resistive touch mode.

Microprocessor : 32-bit 400MHz high performance microprocessor with 256K FRAM, 64MB SRAM and 128MB Flash memory.

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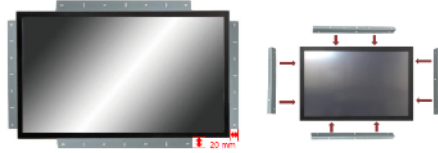|		
Ethernet Port	:	10/100M Ethernet interface can be either BACnet Ethernet or BACnet IP communication protocol.
MS/TP Port	:	RS-485 interface, standard BACnet MS/TP, communication speed 9,600~76,800 BPS, maximum length 1,200 m.
EIM Port	:	RS-485 interface, communication speed 38,400 BPS, maximum transmission distances 1,200 meters.
H a r d w a r e Clock	:	Real-time Clock (365 day), with gold capacitor for memory retention.
Speaker	:	2W * 2, audio used during operation and alarm notification.
Environment	:	0 ~ 50℃, 20 ~ 90% RH non-condensing.
IP Rating	:	Front pane IP65, NEMA4
Certificate	:	CE, FCC, IBM certification. Meets BTL (B-BC) and RoHS standards
Accessories	:	Open-frame bracket set (optional).

【Network Architecture】

AIRTEK® Building Management & Control System Architecture

【Installation】

- Ethernet uses the Category 6 cabling network cable.
- RS-485 network uses AWG18#2C shield cable. All network wire must have independent EMT and must keep a distance from power cable to avoid electrical interference and to maintain quality communications.
- Use daisy chain for RS- 485 networks, star topology configuration are not accepted. Add 120Ω EOL resistor at both end of the networks cable. Maximum length 1,200 meters.
- For panel mounting cut a 197.6 ±0.5mm (height) * 137.1 ±0.5mm (width) opening for the panel, Ensure there is enough wiring space for power and network cabling.
- Installation (Fig 1) Use the accessory if provided to hook on the panel and screw tight.
- Avoid dusty, condensation environmental elements to prevent product damage.
- Use a PC with HMIkit software to setup parameters, update firmware, and download screen pages to the NVP panel.

【Screen Bottom View】

FIG.1 Installation illustration-1   FIG.2 Installation illustration-2   FIG.3 NVPxxxPE Wiring
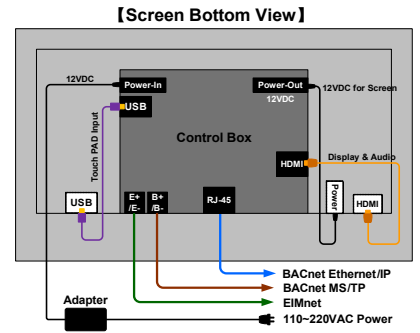
【Dimension】 Unit: mm

【Front】   【Back】   【Side】
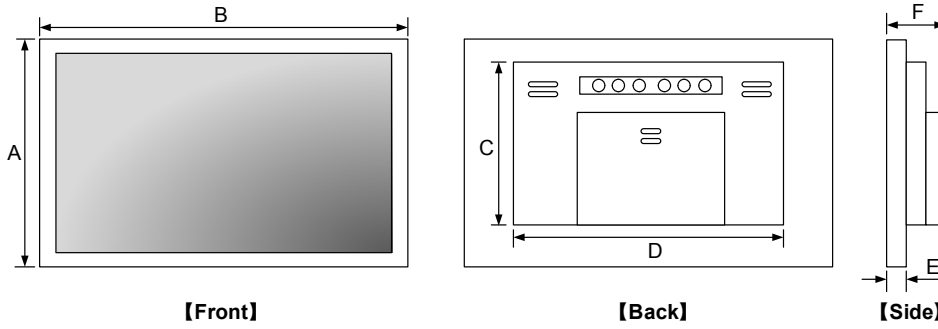
Model	A	B	C	D	E	F
NVP215PE	299.5	502.0	215.5	445.0	27.1	78.1
NVP156PE	221.0	369.0	151.4	334.4	29.0	77.0
NVP121PE	212.9	270.0	147.5	209.0	20.9	70.9