Satchwell

MN 620

I/A SERIES® MICRONET MN 620 CONTROLLERS

Order Type:
MNN-62-100 - MicroNet NCP 620 Series Controller

The I/A Series MicroNet 620 Controllers are fully-programmable controllers designed for roof top, unit vent, air handling unit (AHU) and central heating and cooling applications. These controllers feature plug-in field wiring terminal blocks, twelve universal inputs, eight digital inputs, eight outputs (triac) and four (0-10V) outputs.

MN 620 controllers use programmable control strategies based on a set of control objects residing in controller memory. The controllers can function in standalone mode (after programming with the VisiSat Configuration Tool) or as part of a LONWORKS® FTT-10 Free Topology, an NCP (Native Communications Protocol), or an ARCNET® communications network. An optional Real Time Clock Card can be fitted to the MN 620 on an NCP network. Other options include a Touch Screen and an LCD Display which allows the user to view, query, and edit controller properties.

FEATURES

- **LONWORKS FTT-10, NCP, ARCNET Communications Options**
- **Fully programmable using graphical objects**
- **Intelligent multi-loop controller—up to 8 PID control loops**
- **Optimisation module**
- **Time schedules for plant and controller switching**
- **Proportional, integral and derivative control actions can be individually set using controller objects**
- **Wall or DIN rail mounting**
- **15Vdc supply output for humidity, pressure sensors, etc.**
- **Twelve easily configurable inputs, 8 digital inputs**
- **Eight Triac outputs, four 0-10Vdc outputs**
- **Especially suitable for boiler and air handling unit applications**
- **Optional LCD display for interrogation of local parameters**
- **Optional Real Time Clock (RTC) available for use on an NCP network or for stand-alone operation**
- **Plug-in field wiring terminal blocks**

Data Sheets
DS 10.050 - Touch Screen
DS 10.104A - Wiring and Commissioning Information
DS 10.201 - MicroNet View Software
DS 10.202 - VisiSat Configuration Tool
DS 10.210 - MicroNet Manager Interface

Multi-Lingual Instructions
MLI 10.104 - Installation Instructions

SPECIFICATIONS

Order Type	Description	Communications Protocol	Real Time Clock Available
MNN-62-100	MicroNet NCP 620 Series Programmable Controller	NCP[a, b]	Yes, with RTC Card[c]

a ARCNET communications protocol available for this model with optional ARCNET plug-in card (MNA-C).
b LonWorks communications available with optional LonWorks plug-in card (MNL-C).
c The RTC Card cannot be fitted to controllers on an ARCNET or LonWorks network.

HARDWARE SPECIFICATIONS

Dimensions: 244mm Height x 165mm Width x 55mm Depth

Enclosure: Moulded polycarbonate plastic case. Fire resistant to UL94
IP 40

Power Supply Input: 24Vac, 50/60Hz supplied from a transformer conforming to EN 60742.

Maximum Power Consumption: **MNN-62-100:** 15VA
MNN-62-100 with MNN-RTC: 16VA
MNN-62-100 with MNA-C: 16VA
MNN-62-100 with MNL-C: 18VA

Fuse: 2A (anti-surge)

EMC Compliance: EN50081-1 (Emissions)
EN50082-1 (Immunity)

Agency Listing: UL Listed: UL916
UL Listed to Canadian Safety Standards

Compliance: FCC Class A and CE Compliant

Mounting: Wall or 35mm DIN rail.

Ambient Limits: **Operating Temperature:** 0 to 40°C (also fitted with a plug-in Touch Screen Display)
Shipping and Storage Temperature: -20 to 55°C
Humidity: 5 to 95%rh, non-condensing

Wiring Terminals: Pluggable screw terminal blocks (low voltage only) max. conductor size Ø1.5mm (16 AWG)

Inputs: **Number and Type:**
12 Universal Inputs (digital, resistive, 0 to 10Vdc).
8 Digital Inputs.
User can make any of the 12 inputs analogue, resistive, or dry contact by configuring jumper pins located on the controller.
Current ratings 0 to 10Vdc.

Outputs: **Number and Type:**
8 Digital Outputs (Triac). Current Ratings 1A at 24Vac (24VA).
4 Analogue Outputs (0-10V).

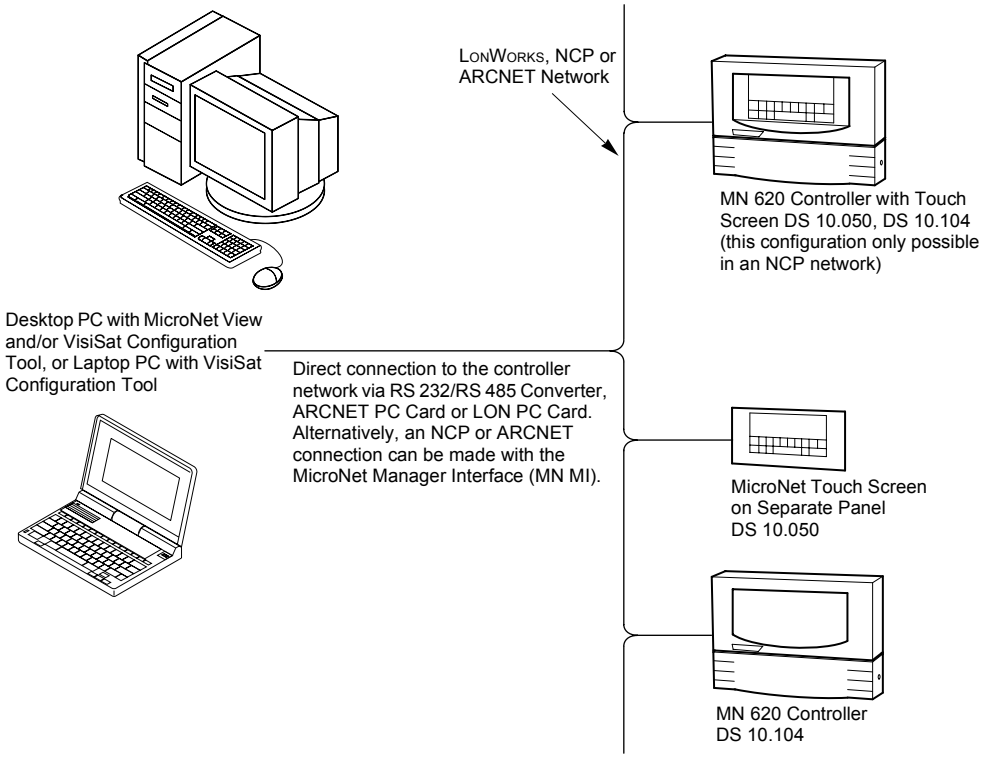
Power Failure Reserve: Controller EEPROM preserves memory for 10 years under normal conditions of use. The software clock will stop during a power failure. If the controller has an RTC card, then the time will not be lost.

ACCESSORIES

ECH-74401	PCLTA-20/FT-10 PCI (32-bit) Desktop Interface
LIB-4-485	RS 232/RS 485 Converter to connect PC to NCP network
LON-TERM1	Single LON® Terminator for Free Topologies
LON-TERM2	Double LON Terminator for Bus Topologies (two required)
MC-LCDP-100	MicroNet LCD Display (for panel mounting)
MN-DK	Display Wall Mounting Kit
MN-LCD-100	MicroNet LCD Display
MN-TK	Trunking Mounting Kit
MNA-C	ARCNET Communications Card
MNA-R10	ARCNET Router
MNL-C	LonWorks Communications Card
MNN-COM	NCP Plug-in card required for installation in MN 500 or MN 620, when connecting controller to NCP network
MNN-MI-100	MicroNet Manager Interface
MNN-RTC	Real Time Clock Card for MNN Series Controllers
MNN-TS-100	MicroNet Touch Screen Display
MNN-TSP-100	MicroNet Touch Screen Display (for panel mounting)
MN-VSCORE	VisiSat Configuration Tool (requires Visio 2000 software), core software (NCP & ARCNET)
MN-VSLON	VisiSat LON plug-in (requires MN-VSCORE), required for LON MN 300
PCI20-485	PCI card (DC coupled EIA-485 NIM) to connect PC/Laptop to ARCNET network
WPA-LON-1	PC ISA card (16-bit) to connect PCs to LonWorks FTT-10 network
WPA-LON-2	PC card (PCMCIA) to connect Laptop PCs to LonWorks FTT-10 network

TYPICAL SYSTEM DIAGRAM

I/A SERIES MICRONET MN 620 CONTROLLER



COMMUNICATIONS

NCP (Native Communications Protocol) In cases where an open communications standard is not required, an NCP network can be used. An NCP network can host up to 20 sub-networks with 63 devices each communicating in a polled-response fashion. Controllers on an NCP network connect to MicroNet View and the VisiSat Configuration Tool via a direct connection to the PC using an RS 232/RS 485 Converter. Alternatively, connection can be via a MicroNet Manager Interface (MNN-MI-100). An optional MicroNet Touch Screen Display (MNN-TS-100) can be mounted directly on the controller or on a self-contained panel. An NCP network has a communications speed of 9.6k baud.

ARCNET If an open communications standard is not necessary, but peer-to-peer communications is required, the high-performance ARCNET network option may be implemented. This network is created by fitting the optional ARCNET card on each controller and MicroNet Manager (MN MI) on an NCP network. An ARCNET communications network can host up to 95 devices per sub net, and up to 95 sub nets using ARCNET Routers. Controllers on an ARCNET network can communication with other controllers in a peer-to-peer fashion. The controllers connect to the MicroNet View software via an MN MI only and the VisiSat Configuration Tool software via an MN MI or an ARCNET PC card. An ARCNET network has a communications speed of 156k baud.

LONWORKS A LONWORKS FTT-10 Free Topology communications network can host up to 63 devices per segment. This can be increased to 128 using a repeater. Details of network design and wiring requirements can be found at www.echelon.com/Products. Controllers on this network communicate with other controllers in a peer-to-peer fashion and connect to MicroNet View and the VisiSat Configuration Tool via the standard LON FTT-10 cards. MicroNet View provides alarm management and dynamic trend logging. Applications can be prepared and downloaded to MicroNet controllers from the VisiSat Configuration Tool. A LONWORKS FTT-10 network has a communications speed of up to 78.8k baud.

APPLICATIONS

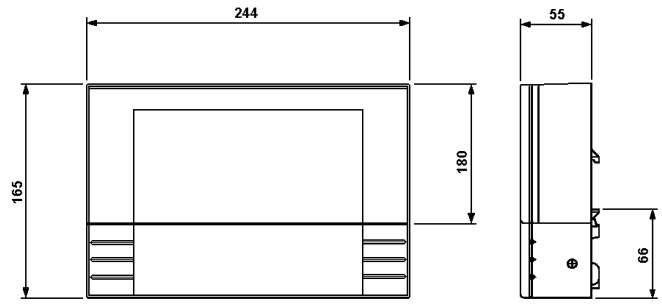
MicroNet MN 620 Controllers provide control for the following types of applications:

- Boiler Compensation and separate Hot Water Supply (HWS) system
- Boiler Sequence Control with a separate HWS system
- Full air conditioning including fan sequence control
- Central Air Handling Units

CONNECTIVITY

When used on an NCP or ARCNET communications network, MN 620 controllers connect to a PC running VisiSat Configuration Tool and MicroNet View software, either directly using the relevant PC card or via the MicroNet Manager Interface (MNN-MI-100). For a LONWORKS network, PC connection is direct (via LON PC card) only. To be used on a LONWORKS or an ARCNET network, the MN 620 controller must be fitted with the relevant LON or ARCNET plug-in card.

DIMENSION DRAWING



Dimensions in mm

Weights:

MN 620	1064.0g
ARCNET Card	18.4g
LonWorks Card	32.1g
RTC Card	35.4g

WARNING -

THE RTC BOARD CONTAINS A LITHIUM CHLORIDE BATTERY WHICH IS COMPLETELY SAFE WHILST IN NORMAL USE. THE BATTERY MUST BE DISPOSED OF IN AN AUTHORISED GROUND FILL SITE.

Cautions

- **Do not apply any voltages until a qualified technician has checked the system and the commissioning procedures have been completed.**
- **This is a 24Vac device. Do not exceed rated voltage. Local wiring regulations and usual safety precautions apply.**
- **24Vac must be supplied by a transformer conforming to EN 60742.**
- **Do not exceed the maximum ambient temperature.**
- **Interference with parts under sealed covers invalidates guarantee.**
- **The design and performance of Satchwell equipment is subject to continuous improvement and therefore liable to alteration without notice.**
- **Information is given for guidance only and Satchwell do not accept responsibility for the selection or installation of its products unless information is given by the company in writing relating to a specific application.**
- **A periodic check of the Building Management System is recommended. Please contact Satchwell Control Systems Limited Customer Care Centre for details.**

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