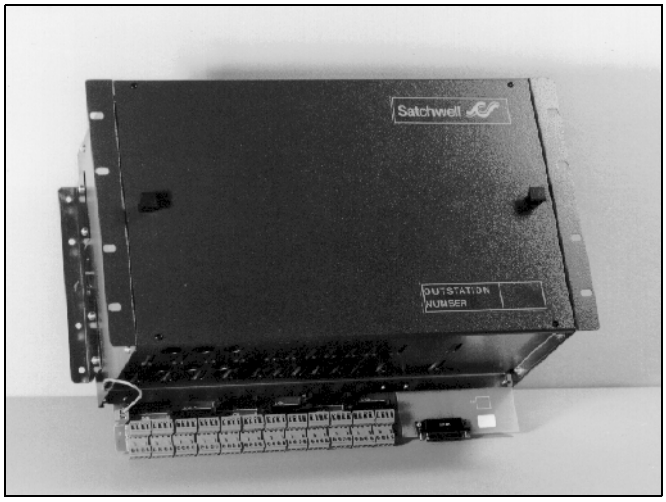
Satchwell

DS 13.321
BAS 2800+ 06/99

UNC 596

BUILDING AUTOMATION SYSTEM
UNIVERSAL NETWORK CONTROLLER



Specification no. 579-1-904

The Universal Network Controller (UNC 596) is fully intelligent and incorporates its own 16-bit microprocessor providing Direct Digital Control of plant. It scans and monitors dedicated functions and will automatically decide on any control action necessary. After initial programming from the terminal it can operate independently of other system components and communicates with any selected terminal only when necessary to down-load data such as alarms or logging information or on demand by the operator.

Each controller can monitor and control up to 96 items of plant and/or sensors. Plant monitoring and control requirements are met by the appropriate selection of input and output cards. Further flexibility is achieved by the ability of analogue points to be used in a digital mode (on/off).

FEATURES

- **Intelligent Microprocessor based Outstation**
- **16-bit microprocessor technology**
- **Up to 96 configurable input/output points and up to 250 points including software points**
- **Local display and overrides from optional keypad**
- **Two communication ports as standard**
- **Extra communications board available to give two further communications ports**
- **Flexible and configurable application software**
- **1.5 hour or optional 15 hour (typical) full function battery support**
- **19" Rack or Panel mounting**
- **Door tamper switch monitored**
- **Mains/battery status monitored**

CE

DS 13.41/13.341 - Analogue, Status & Pulse Input Boards
DS 13.51/13.351 - Analogue Output, Command Interface and Command Board

SPECIFICATION

Type:	**UNC 596** - Specification no. 579-1-904
Power Supply:	220V (-15%) to 240V (+10%), 50Hz (-10%) to 60Hz (+10%)
Consumption:	0.16A max @ 240V 50Hz
Heat Dissipation:	25W max, 10W typical
Fuse:	An external 3A fuse should be fitted to the mains power lead.
*** Power Failure Reserve:**	Nickel Cadmium rechargeable (continuously trickle charged) battery giving a typical 1.5 hour power failure back-up. An optional battery provides a typical 15 hour power failure back-up (578-3-367). Full monitoring control and communication are maintained during battery operation. Typical 90 day memory retention at the end of normal battery reserve using NiMH battery. Battery backup times are typical and assume a fully charged battery that is in good condition.
Ambient Temperature Limits:	Operating: 0 to 50ºC*. Storage & Transit: -10 to +55ºC
Relative Humidity Limits:	Storage: 5 to 95% rh non-condensing. Operating: 10 to 90% rh non-condensing.
Maximum Number of Points:	Up to 96 physical points and up to 250 points including software points (dependent on point configuration).
CPU Board:	Microprocessor: NEC V53A, 16-bit running at 20MHz RAM: 512k bytes EPROM: 1M bytes E²PROM: 1M bytes (allows permanent storage of site communications configuration data and telephone numbers if applicable) fitted as standard
Ports:	1 - RS 232 1 - RS 485 (opto-isolation available - see page 2 for details)
Spec Nos.:	579-1-367 non opto-isolated 579-1-368 opto-isolated

* To maintain efficient operation of the battery, the outstation should not normally be operated for long periods outside the 10 to 40ºC range.

INPUTS

Analogue
0-10KΩ (span of at least 1k Ohm should be used for adequate resolution), 0-10 Volts, 0-20mA. See DS 13.41/13.341 for further information. If an external input module is used see DS 13.55/13.355 also.

Digital
Volt-free Make/Break contacts. See DS 13.41/13.341 for further information.

OUTPUTS

Analogue
0-10Vdc Output Signals (1mA). See DS 13.51/13.351 for further information.

Digital
SPST Voltage Free Relay Contacts (rated 1A, 250V) located in a separate panel. See DS 13.51/13.351 for further information. If an external output module is used see DS 13.55/13.355 also.

APPLICATION AND ENERGY MANAGEMENT FEATURES

- Provides Distributed Direct Digital Control
- Multi Password Access (from the central terminal)
- Energy Management Programmes
- Time Schedules
- Holiday Schedules
- Optimum start/stop of plant
- Automatic Power up of plant
- System and Plant Alarms
- Real Time System Logs
- Calculation Points
- Rotation Points
- Programmable points for user-defined control strategies
- Degree Day Calculations
- Maximum Demand Control

STANDARD CONTROL BOARDS

Boards already contained in the Outstation:

- Power Supply Board

OPTIONAL FUNCTION BOARDS

Boards that can be plugged into the Outstation to give Monitoring and/or Control facilities:

- Optional Communications plus keypad expansion board 579-1-369 - 2 - RS232 Port
- Analogue Input Board - DS 13.41/13.341
- Analogue Output Board - DS 13.51/13.351
- Status and Pulse Totalisation Input Board - DS 13.41/13.341
- Command Board - DS 13.51/13.351
- Command Interface (External mounting only) - DS 13.51/13.351

EQUIPMENT

Autodial/Autoanswer Modem:	See DS 13.61/13.401
External Input/Output Modules:	When required externally mounted input/output modules are available as an alternative method of installation. These modules are then connected to the UNC Outstation via ribbon cables - see DS 13.55/13.355.
Battery:	Optional 15 hour (typical) battery pack - Specification no. 578-3-367. Battery backup times are typical and assume a fully charged battery that is in good condition.
Keypad:	Allows local communications with the outstation - see DS 13.380.
Network Interface Unit:	NIU to allow convenient connection to local area networks and remote modems - see DS 13.71/13.410.

CONSTRUCTION

Case:	Steel 19" rack mounting style case, fully compatible with DIN 41494, Part 5 IEC 297, Section 2 and IEC Sub Committee SC48D.
Protection:	IP 20
Terminals:	Hard wire to pluggable screw terminal blocks. Accept 0.5 to 1.3mm² conductor diameter, or IDC plug and socket connection to external input/output modules, see DS 13.55/13.355.

INSTALLATION

LOCATION

The UNC 596 should be mounted in a panel or a 19" rack system. Ensure this location is reasonably clean and free from damp and condensation. The panel or rack should be capable of supporting the weight of the outstation. Ensure that the heat generated by the outstation can be dissipated without raising the ambient temperature of the space above the maximum ambient temperature limit.

PANEL MOUNTING

1. Drill fixing holes in the rear of the panel to the dimensions given in fig.1 below.
2. Mount the outstation securely to the rear of the panel.
3. Connect power supply cable.

RACK MOUNTING

1. Remove the four panel mounting brackets.
2. Slide the UNC 596 into the rack system.
3. Fasten outstation into the rack system using standard screw fixing method.

DO NOT SWITCH ON POWER SUPPLY UNTIL COMMISSIONING HAS BEEN CARRIED OUT BY A COMPETENT SATCHWELL ENGINEER OR AN APPROVED SATCHWELL AGENT.

COMMISSIONING

This unit is commissioned as part of a BAS System.

WIRING PRECAUTIONS

The power supply wiring should be screened. The screen should be earthed at the outstation only.

The outstation must have a verified good earth.

All wiring to the outstation input and output (I/O) terminals or input/ output module terminals must be twisted pair screened wiring with the screen earthed at the outstation earth terminals only.

A full wiring specification is available from Satchwell Control Systems Ltd or your local Satchwell agent on request.

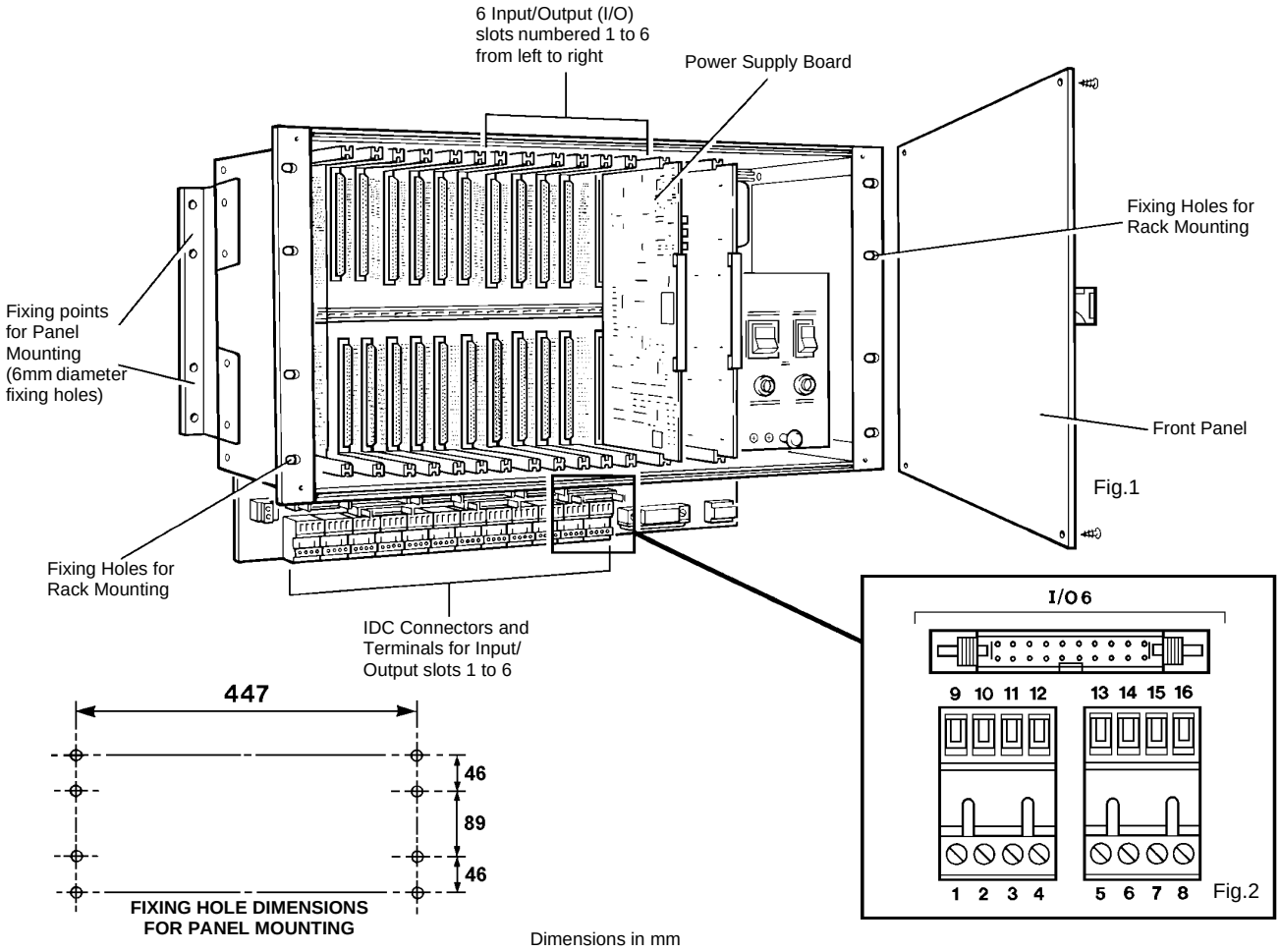


Fig.1

Fig.2

FIXING HOLE DIMENSIONS FOR PANEL MOUNTING

Dimensions in mm

CONNECTION DIAGRAMS

BASIC HARDWIRED SYSTEM

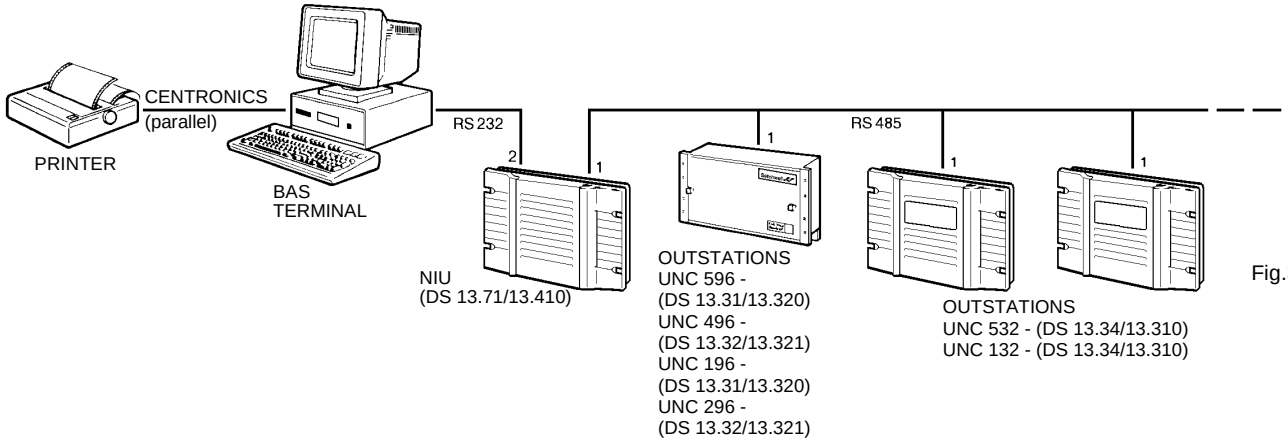


Fig.3

SMALL HARDWIRED SYSTEM WITH MODEM CONNECTION

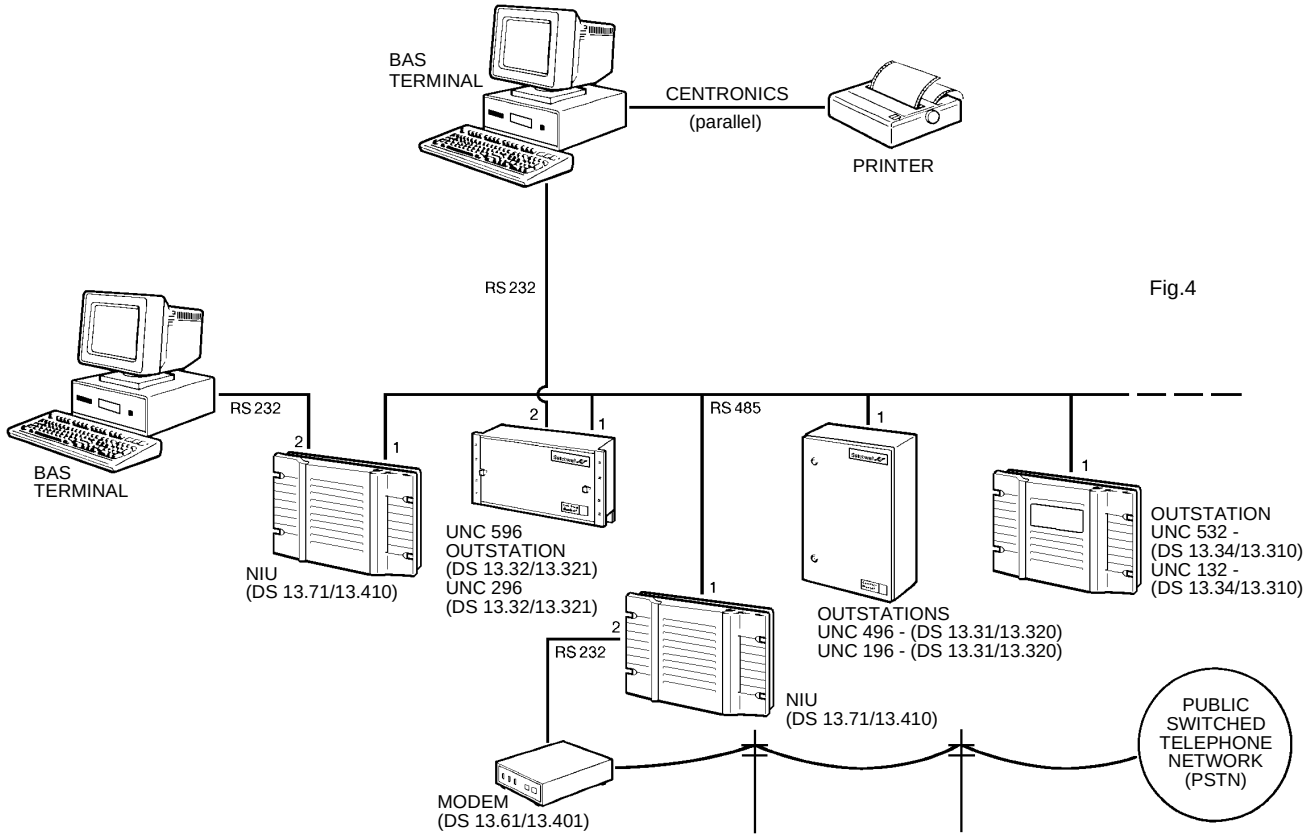
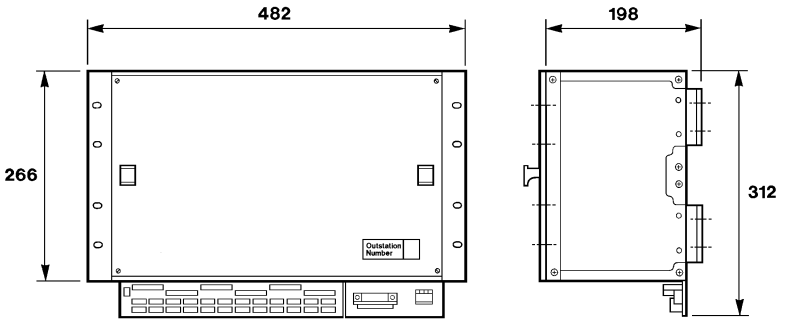


Fig.4

DIMENSION DRAWINGS



Dimensions in mm

Typical Weight: nett 9 Kg
packed 11 Kg

CAUTION

- **This is a mains operated device. Local wiring regulations and usual safety precautions must be observed. Note earthing requirements - see page 3.**
- **The UNC should be installed, commissioned and serviced by a competent Satchwell engineer or an approved Satchwell agent.**
- **Observe wiring precautions on page 3.**
- **This product contains Nickel Cadmium and Nickel Hydride batteries which are completely safe whilst in normal operation. Batteries must be disposed of in an authorised landfill site.**
- **Observe maximum ambient temperature.**
- Interference with those parts under sealed covers renders the guarantee void.
- Design and performance of Satchwell equipment are subject to continual 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 has been given by the company in writing relating to a specific application.
- A periodic system check of the management system is recommended. Please contact your local Satchwell service office for details.

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