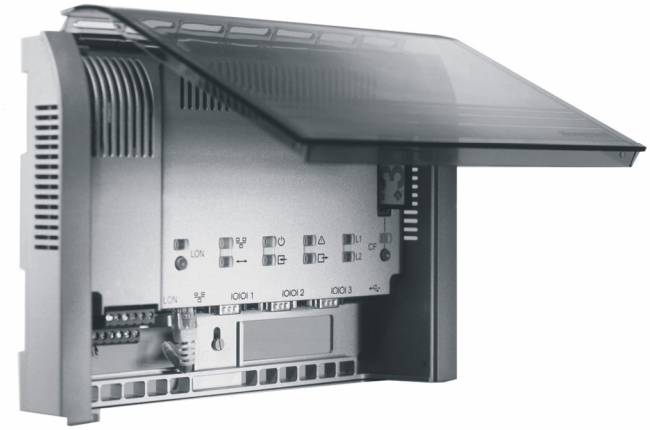
Honeywell

Excel Web® Control System

HONEYWELL EXCEL 5000 OPEN SYSTEM

PRODUCT DATA



General

The Excel Web® is Honeywell's new Ethernet-based, freely-programmable Building Automation controller.

It demonstrates Honeywell's full commitment to reducing total installed cost and total building lifecycle cost for building investors and building operators.

Excel Web® incorporates the two major open standards in today's building industry: BACnet® and LONWORKS®.

As a native BACnet® Building Controller (B-BC), Excel Web® integrates into any 3rd-party BACnet® system with low and predictable effort.

Furthermore, Excel Web® is a full LONWORKS® controller. This gives the benefit of making use of Honeywell's complete LONWORKS® product portfolio, which is unique in the Building Industry.

The Excel Web® can host a huge variety of Building Management applications, be it traditional heating, ventilation, and air conditioning (HVAC) applications, energy management functions, including optimum start/stop, night purge, and maximum load demand, supervisory functions for lighting, sun-blind, heat and energy metering and many other applications.

By virtue of its "peer-to-peer" concept, Excel Web® is not dependent upon the availability of superordinate centrals or application network controllers.

Excel Web® seamlessly integrates into Honeywell's Enterprise Buildings Integrator™ (EBI) and SymmetrE® front-ends.

Features

- **Reduced the total installed cost:**
  Existing standard Ethernet/LAN infrastructure is used for communication between Excel Web® controllers, 3rd-party BACnet® controllers and BACnet® front-ends.
- **Universal operation:**
  Operate the Excel Web® from any place, from any integrated PC! An integrated web-server allows local and remote operation by standard browsers.
- **Reduced cost for service, operation and maintenance:**
  Maintenance or upgrade of Operator Interface Software is superfluous because it resides in the Excel Web®, itself (single-source principle).
- **Vendor independence:**
  Communication is based on the international ISO 16484-5 BACnet® standard, and on LONWORKS®.
  Interoperability with 3rd-party BACnet® controllers (peer-to-peer) and front-ends is ensured and based on the BACnet® Building Controller (B-BC) profile of the Excel Web®.
  Interoperability with room and zone controls, field equipment, and field I/Os is based on LONWORKS®.
- **Expandable trend buffer:**
  The onboard trend buffer can store 64,000 trend entries, and can be expanded using standard Compact Flash Cards (type 1 or 2).
- **Fast application control:**
  Four selectable control loop priorities (multitasking), selectable control loop cycle times, and event-driven switching tables allow for tailored and highly effective applications control.
- **Reliable control performance:**
  Embedded LINUX ensures reliable, independent, and secure operation, especially for systems with Internet access.
- **Honeywell CARE tool:**
  Allows re-use of existing applications and application macros, enables highly effective application generation, and supports online and offline debugging and application simulation.
- **Network security:**
  Based on its design as an IP device, Excel Web® can easily be integrated into any existing network security mechanism.
- **Flexible mounting options:**
  DIN-rail, wall, or panel front door mounting.

® E.C. Registered Trademark
Copyright © 2007 Honeywell Inc. • All Rights Reserved

Operator Interface

The Excel Web is operated via a standard browser.

By default, an integrated web-server provides all operation pages for a full browser-based operation.

Through the consequent use of software standards, any PC platform can be used as an operator interface (client), including laptops, desktops PCs, or touch screen PCs for direct flush mounting into electrical panel doors (IP65).

Alternatively, the 5.7" touch-panel operator unit (order number: XI882) can be used. In this case, 320x240 pixel web-pages will be displayed.

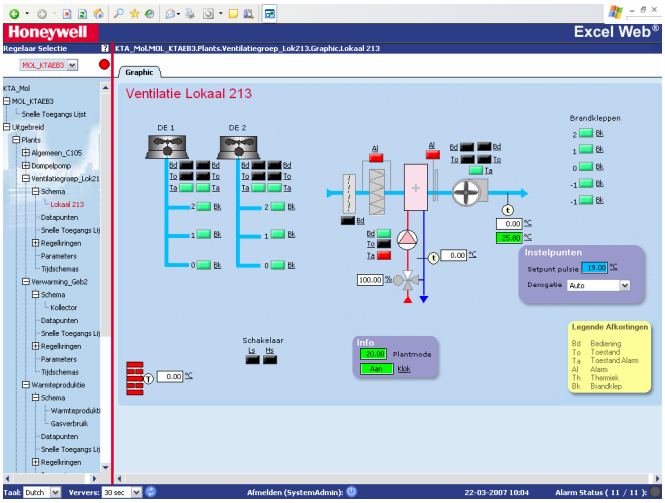


Fig. 1. Excel Web "Homepage" Example

Specifications

Communication Protocols

BACnet/IP - ISO 16484-5 – ENV 13321-1

Communication with other Excel Web controllers, with 3rd-party BACnet devices, with Honeywell Enterprise Buildings Integrator™ and SymmetrE front-ends, and with 3rd-party BACnet front-ends is based on the international BACnet Protocol.

Excel Web conforms to the BACnet Building Controller (B-BC) profile.

For details on the BACnet Interoperability, see the Excel Web Protocol Implementation Conformance Statement (PICS).

LonTalk®

Communication with physical I/O modules, with room and zone controllers, and with Excel 50/500/800 controllers is based on LonTalk.

A Free Topology Transceiver (FTT-10A or FT-X1) allows a communication speed of 78 Kbaud.

In typical cases, field devices are controlled via Honeywell Distributed I/O (XFL52xB, XFL82x) or Smart I/O (XFCxxx or XFCLxxx) modules. Max. cable lengths: 320 m to 2,200 m.

By default, the Excel Web XIF comprises the LonMark® node object, plus application-specific LONWORKS objects.

HTTP

Excel Web provides two operating options:

- Internet browsers having a resolution of 800x600 pixels or higher. Operation has been optimized for I.E. 5.5 or higher, but Netscape (6.2.1 or higher) and Mozilla Firefox® are likewise suitable.
- Internet Explorer for WIN CE with resolution of 320x240 pixels.

For Internet Browser settings, please consult the Software Release Bulletin.

FTP

The firmware and application are downloaded using CARE via the standard FTP (File Transfer Protocol). Via FTP, product or plant-related literature can be downloaded (without special tools) into Excel Web for later use.

Hardware Interfaces

Ethernet

- 10/100 Mbit/s, RJ45
- 1 LED “link”, 1 LED “activity”

LONWORKS®

- 78 Kbit/s
- FTT10A, FT-X1
- 2x screw terminal, removable
- 1x RJ45
- LONWORKS® Service button
- 1 service LED

RS232C Port 1

- Service interface (root terminal = LINUX console)
- data transmission rate: 9.6, 19.2, 76.8, or 115.2 Kbaud (depending upon configuration)
- 9-pin Sub-D

RS232C Port 2

- Browser interface
- data transmission rate: 9.6, 19.2, 76.8, or 115.2 Kbaud (depending upon configuration)
- 9-pin sub-D

RS232C Port 3

- Modem Interface for analog modems, ISDN Adapters, or GSM Adapters
- data transmission rate: 9.6, 19.2, 76.8, or 115.2 Kbaud (depending upon configuration)
- 9-pin sub-D

Compact Flash Type 1 or Type 2

- Standard Compact Flash card (not included)
- 1 "active" LED

USB

- USB Spec. 2.0, full-speed (12 Mbit/s)
- application download using CARE 7

Reset Button

Electrical Data

Operating Voltage

- 24 Vac ± 20% or 24...38 Vdc, electrically isolated
- Excel Web and 24 Vac field devices can obtain their power from the same transformer
- 1 "power" LED

Power Consumption: Max. 8 VA

Overvoltage Protection: The binary input is protected against 24 Vac and 40 Vdc overvoltage as well as against short-circuiting.

Mechanical Data

Housing Dimensions (L x B x T): 278 x 190 x 61 mm

Housing Material: ABS blend; flame retardant V0

Weight: 1 kg (without packaging)

Protection Class: IP 20

Mounting

- DIN rail
- Wall mounting
- Cabinet front-door mounting

Calculated Lifetime of Weakest Components

- MTBF ≥ 13.7 years

CPU

Processor

XL1000B:	32-Bit Motorola Power PC MPC 855T
XL1000C:	32-Bit Motorola Power PC MPC 859

Watchdog

- Alarm relay indicates watchdog (SPDT, normally closed, 24 Vac ± 20%, max. 2 A permanent load)
- 1 "watchdog" LED

Operating System: LINUX

Memory

- 128 MB SDRAM
- 128 kB RAM, buffered 72 h by gold capacitor
- 2 MB Boot Flash Memory
- 64 MB (XL1000B) or 256 MB (XL1000C) Flash Memory (application)
- Onboard trend memory: 64,000 trend entries

Real-Time Clock

- accuracy: ± 20 ppm
- buffered 72 h by gold capacitor

Integrated Binary Output

- potential-free relay, SPST, normally open, 24 Vac ±20%, max. 2 A permanent load
- application-driven
- 1 "active" LED, illuminated when contacts closed

Integrated Binary Input

- potential-free contact, max. 36 Vdc
- application-driven
- 1 "active" LED, illuminated when contact closed

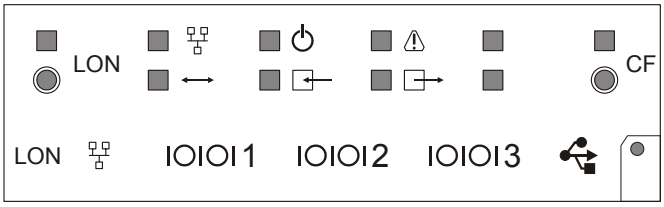


Fig. 2. LEDs and interfaces

Environmental

- operation: 0...50 °C; storage: -20...+70 °C
- 5 to 93% r.h. (operating and storage), non-condensing

Certifications

- CE
- Meets FCC Part 15, Subpart J for Class A equipment
- BTL (BACnet® Testing Laboratories)
- LonMark® compliant – under preparation
- UL 916
- DIN EN60730-1:2005-12, DIN EN60730-2-9:2005-10

Programming

The Excel Web is freely programmable using the graphic CARE Engineering Tool and is thus ideal for all Building Control and Building Management tasks.

An existing, large Application Library or existing Application Macros (Honeywell XFM's) from the Excel 5000 System can be re-used. This allows the use of standard, pre-tested and pre-documented application and control strategies.

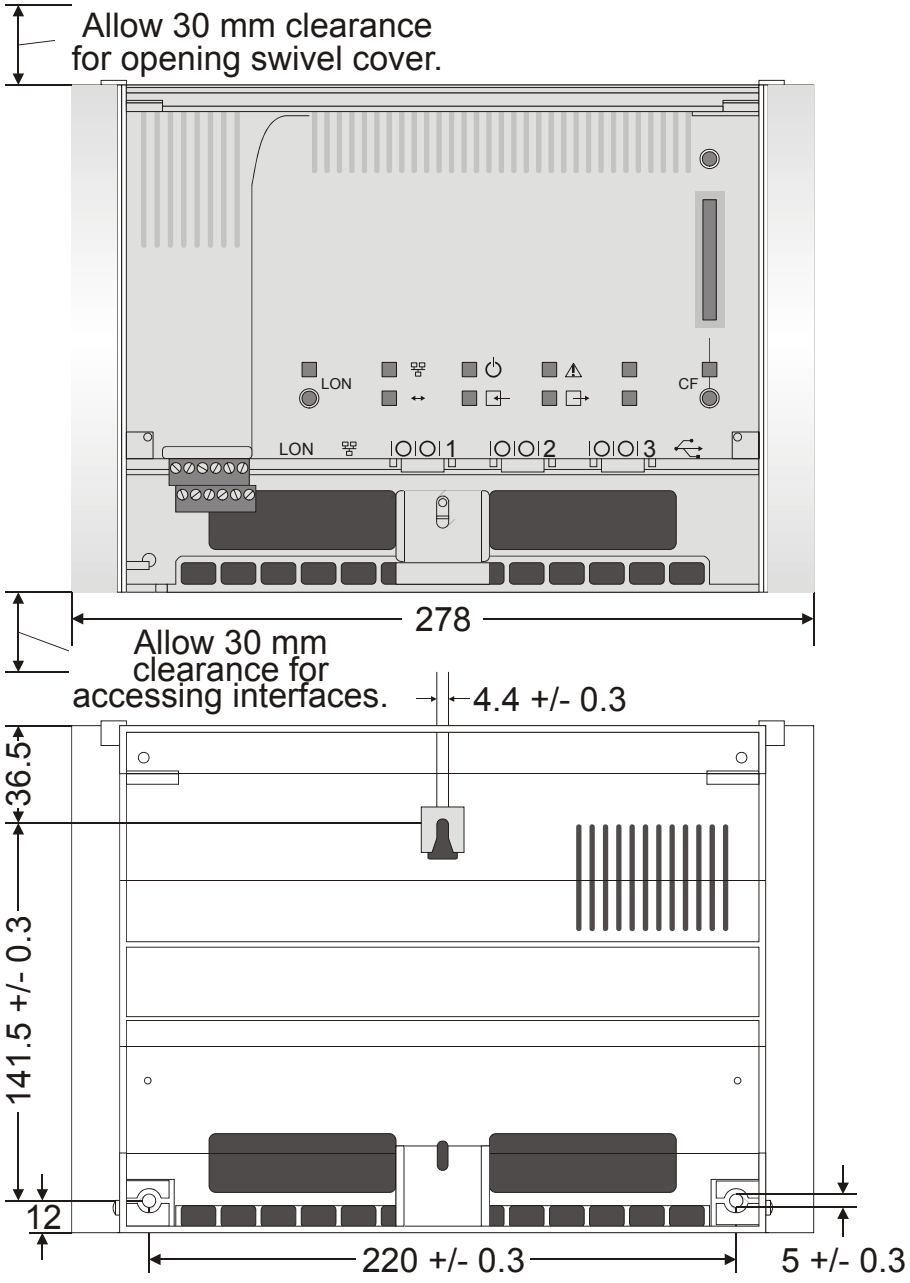
Password Protection

Excel Web allows the definition of up to 6 user levels. Each user level can be assigned different read and write rights. Several users with individual passwords can be defined for each user level.

Models

- XL1000B50 / XL1000C50: 52 physical datapoints, 50 Schedule Objects, and 128 trend objects
- XL1000B100 / XL1000C100: 104 physical datapoints, 50 Schedule Objects, and 128 trend objects
- XL1000B500 / XL1000C500: 300 physical datapoints, 50 Schedule Objects, and 128 trend objects
- XL1000B1000 / XL1000C1000: 600 physical datapoints, 100 Schedule Objects, and 128 trend objects

Dimensions



Honeywell

Manufactured for and on behalf of the Environmental and Combustion Controls Division of Honeywell Technologies Sàrl, Ecublens, Route du Bois 37, Switzerland by its Authorized Representative:

Automation and Control Solutions
Honeywell GmbH
Böblinger Straße 17
D-71101 Schönaich
Phone: (49) 7031 63701
Fax: (49) 7031 637493
http://ecc.emea.honeywell.com
Subject to change without notice. Printed in Germany
EN0B-0443GE51 R0707