Honeywell

Excel Web II Control System

HONEYWELL EXCEL 5000 OPEN SYSTEM

PRODUCT DATA

GENERAL

Excel Web II is Honeywell's Ethernet-based, freely-programmable Building Automation controller offering a combination of BACnet IP, BACnet MS/TP, and LONWORKS® communication.

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

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

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

Furthermore, Excel Web II (in combination with the IF-LON) is a full LONWORKS® controller. This gives the benefit of making use of the LONWORKS® product portfolios of Honeywell and 3rd-party manufacturers.

Excel Web II 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 II is not dependent upon the availability of superordinate centrals or application network controllers.

Excel Web II seamlessly integrates into Honeywell's EBI and SymmetrE® front-ends.

3RD-PARTY SOFTWARE LICENSES

This product contains software provided by third parties. See also Excel Web II Controller – Third-Party Software Licenses (Product Literature No.: EN2B-0393GE51).

FEATURES

- **Reduced the total installed cost:**
  Existing standard Ethernet/LAN infrastructure is used for communication between Excel Web II controllers, 3rd-party BACnet® controllers, and BACnet® front-ends. Costs are further reduced by the flexible and optional use of onboard I/Os and Panel Bus I/Os.
- **Universal operation:**
  Via Internet browser, Excel Web II can be operated from any place, from any PC connected to the (Excel Web II) network! An integrated web-server allows local and remote operation by standard browsers.

  NETWORK SECURITY
  When operating Excel Web II in IP networks, either private (e.g., VPN) networks must be used or protection against the open Internet (e.g., with external firewalls) must be ensured. See "Network Security" on pg. 6.
- **Reduced cost for service, operation and maintenance:**
  Maintenance or upgrade of Operator Interface Software is superfluous because it resides in Excel Web II, itself (single-source principle).
- **Vendor independence:**
  Communication is based on the following international standards: BACnet/IP (ISO 16484-5); BACnet MS/TP (ISO 16484-5); LONWORKS (ISO 14908); Modbus RTU Master; M-Bus (EN 1434-3).
- **Trending:** 100 datapoints can be trended.
- **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.
- **Embedded e-mail/SMS alarming:**
  Configurable e-mail alarming options allow alarms to be sent (via network or Internet-DSL connection) to e-mail accounts and thus also to mobile phones.
- **Honeywell CARE tool:**
  Allows re-use of existing applications and application macros, enables highly effective application generation, and supports online application debugging.
- **Flexible mounting options:** Mounting onto wall or onto panel back wall, into panel door, onto panel rail, and into sub-panels (fuse boxes).

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OPERATOR INTERFACE

Excel Web II 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).

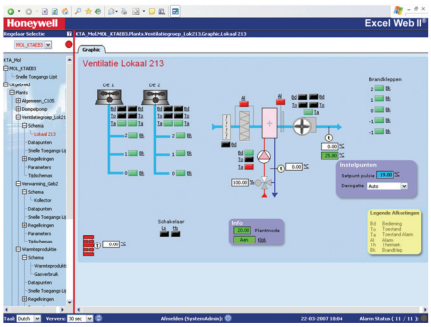

Fig. 1. Excel Web II "Homepage" Example

Programming

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

Password Protection

Excel Web II 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.

COMMUNICATION PROTOCOLS

BACnet/IP - ISO 16484-5 – EN 13321-1

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

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

For details on BACnet Interoperability, see the Excel Web II Protocol Implementation Conformance Statement (PICS) (Product Literature No.: EN0B-0699GE51).

BACnet MS/TP – ISO 16484-5 and EN 13321-1

Communication with other BACnet controllers (Honeywell and 3rd-party) is based on the international BACnet Protocol.

Optionally, one or both of the onboard RS485 interfaces can be used for communication via BACnet MS/TP.

LonTalk® - ISO 14908

Optionally, communication with physical I/O modules, with room and zone controllers, and with Honeywell Excel 50 and Excel 800 controllers can utilize LonTalk.

With the IF-LON, a Free Topology Transceiver (FTT-10A or FT-X1) allows a communication speed of 78 Kbaud. Max. cable lengths are 320 m to 2,200 m, depending upon the given wiring topology.

By default, the IF-LON comprises the LonMark® node object, plus application-specific LONWORKS objects.

Modbus RTU Master

Optionally, either of the two onboard RS485 interfaces (but not both simultaneously) can be used for communication via Modbus RTU. Please refer to the Excel Web II – Installation & Commissioning Instructions (Product Literature No.: EN1B-0555GE51) for details.

M-Bus – EN 1434-3

Optionally, M-Bus communication is possible via the onboard RS232 interface. Please refer to the Excel Web II – Installation & Commissioning Instructions (Product Literature No.: EN1B-0555GE51) for details.

Panel Bus

Optionally, one or both of the onboard RS485 interfaces can be used for Panel Bus communication with Honeywell Panel Bus I/O modules.

HTTP

Excel Web II provides two operating options:

- Internet browsers with a resolution of 800x600 pixels or higher.
- Internet Explorer for WIN CE with a resolution of 320x240 pixels, optimized for Excel Touch or other 5.7" touch panels.

For supported web browsers, please consult the Software Release Bulletin.

HTTPS

Secure web browser communication is supported for web access via standard web browsers.

SFTP

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

SMTP

Simple Mail Transfer Protocol is used for e-mail alarming via network and Internet-DSL connection.

RPC

CARE uses the following ports for firmware downloading and application downloading: UDP111, TCP5000, and TCP5001.

Remote LonWorks Access

The remote network interface of Excel Web II allows its FTT LONWORKS network to be accessed via the Excel Web II's IP connection. TCP3830 port is used for this purpose.

BUS AND PORT CONNECTIONS

⚠ WARNING

Risk of electric shock or equipment damage!

- ► Do not touch any live parts in the cabinet!
- ► Disconnect the power supply before making connections to or removing connections from terminals of the Excel Web II Controller or Panel Bus I/O modules.
- ► Do not reconnect the power supply until you have completed installation.
- ► It is prohibited to power the Excel Web II Controller with the same transformer used to power other controllers or devices (e.g., the PW M-Bus Adapter).
- ► Observe the rules regarding electrostatic discharge.

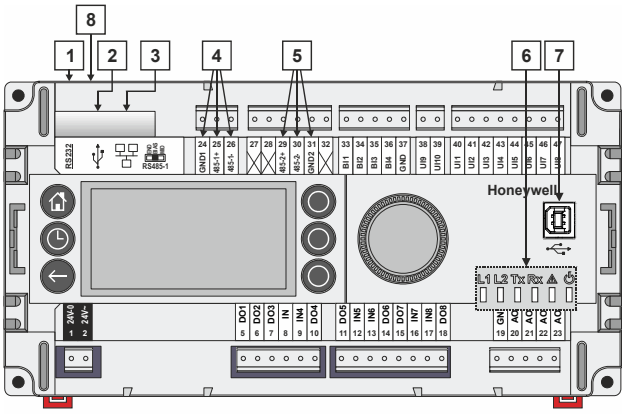

Fig. 2. Models with built-in HMI (top view)

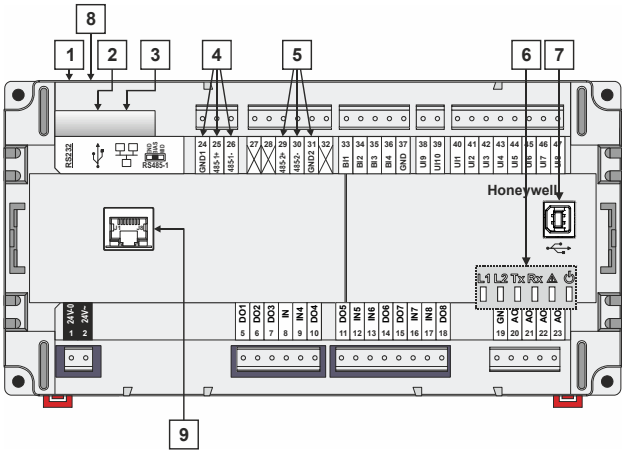

Fig. 3. Models without built-in HMI (top view)

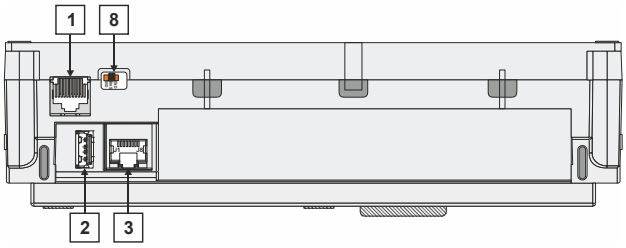

Fig. 4. All models (side view)

Legend

1. RS232 / RJ45 socket (for M-Bus connection and factory debugging)
2. USB 2.0 Host Interface (for connection of the IF-LON); max. 500 mA, high speed
3. Ethernet / RJ45 socket (for BACnet IP communication); 10/100 Mbit/s; 1 "activity" LED
4. RS485-1 (isolated; for BACnet MS/TP, Panel Bus, or Modbus RTU Master communication*)
5. RS485-2 (non-isolated; for BACnet MS/TP, Panel Bus, or Modbus RTU Master communication*)
6. LEDs
7. USB 2.0 Device Interface (for connection to CARE / XW-Online and web browsers, Excel Touch, or other 3rd-party touch panels)
8. Three-position slide switch (for setting bias and termination resistance of RS485-1)
9. RJ45 socket for connection of XL2000HMI-A External HMI – XL2000B3A, XL2014B3B, XL2026B3A, only

* Modbus RTU Master communication is possible on either one of the two RS485 interfaces, but not on both of them concurrently.

⚠ WARNING

Risk of electric shock or equipment damage!

- ► It is prohibited to connect any of the RJ45 sockets of the Excel Web II Controller to a so-called PoE-enabled device ("**P**ower **o**ver **E**thernet").

M-Bus Connection

The Excel Web II Controller can function as an M-Bus Master controller. It uses standard PW3/PW20/PW60 converters to connect to the M-Bus devices.

Wiring Topology

Max. bus length is 350 meters.

M-Bus devices are connected to the bus cable in parallel.

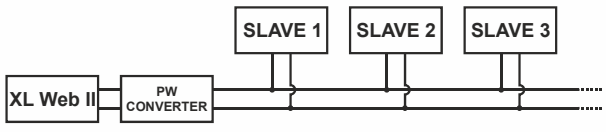

Fig. 5. Allowed M-Bus wiring topology

Cables

See section "M-Bus Connection" in Excel Web II Controller – Installation & Commissioning Instructions (EN1B-0555GE51).

Use shielded, twisted pair cable J-Y-(St)-Y 2 x 2 x 0,8.

Shielding

Shielding is especially recommended when the M-Bus cable is installed in areas with expected or actual electromagnetic noise. Avoiding such areas is to be preferred.

Use shielded, twisted pair cable J-Y-(St)-Y 2 x 2 x 0,8 and connect the shield to a noise-free earth ground – only once per M-Bus connection.

M-Bus Repeaters

The M-Bus can be extended to 1,000 meters, depending on the baud rate, and provided that the electrical limitations are observed. For details refer to the Excel Web II - Installation & Commissioning Instructions (EN1B-0555GE51).

For bus length extension, M-Bus repeaters can be used, but have not been tested by Honeywell. Hence, it is the responsibility of the installing / commissioning personnel to ensure proper functioning.

M-Bus Master Specifications

Physical Layer

RS232 to PW3/PW20/PW60

Physical connector: RS232 / RJ45 socket (see Fig. 4)

Cable order number: XW586

Communication rates: 300, 2,400, and 9,600 Baud are supported, individually per M-Bus slave.

Max. no. of devices: 60 (excluding the Excel Web II Controller)

Cable and wiring specifications: See Excel Web II – Installation Instructions (EN1B-0555GE51).

Address Range

M-Bus slaves can have a primary address between 1 and 250.

Measurement Cycle

Individually per M-Bus slave, the measurement cycle can be configured from 1 to 604,800 sec (i.e., 1 second to 7 days).

M-Bus Communication Failure Indication

As soon as the Excel Web II runs an application which includes M-Bus points, it will try to communicate with the M-Bus devices.

If an M-Bus slave does not respond to a message from the Excel Web II Controller, the Excel Web II Controller will repeat the message several times. If the M-Bus slave still does not respond, the Excel Web II will stall the messaging to this M-Bus slave for 60 seconds. After these 60 seconds, the Excel Web II Controller will again address the M-Bus slave. This cycle will be repeated endlessly as long as there is no answer.

If the Excel Web II does not receive any response for ≥ 5 minutes, the mapped datapoint will go to the communication failure condition.

M-Bus "Unreliable_Other" Indication

Each M-Bus device has a status with 8 bits. The following bits are used to set all mapped datapoints from this M-Bus device to the "Unreliable_Other" condition.

Table 1. Bits used to set all mapped datapoints

Bit	Meaning	Result
0	app.-specific	ignored
1	app.-specific	ignored
2	low power	reliability flag set to Unreliable_Other
3	perm. error	reliability flag set to Unreliable_Other
4	temp. error	reliability flag set to Unreliable_Other
5	manuf.-spec.	ignored
6	manuf.-spec.	ignored
7	manuf.-spec.	ignored

Additionally, each data record has a function field which can indicate the data as "Value with Error." In this case, the corresponding datapoint (not all datapoints) is set to the "Unreliable_Other" condition.

NOTE: The "Unreliable_Other" condition will result in the corresponding datapoint value being set to the last valid value. This means that the value from the M-Bus device is not shown in the datapoint; rather, an old value is shown.

Open Source Library for M-Bus

The libmbus library is a component of RaditexSCADA that is published as open source, and it is free for anyone to use as long as due credit is given to RaditexSCADA and Raditex Control in derivative work based on the libmbus library.

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Modbus Connection

The Excel Web II Controller can function as a Modbus Master.

In general, the RS485 wiring rules must be followed.

Wiring Topology

Only daisy-chain wiring topology is allowed.

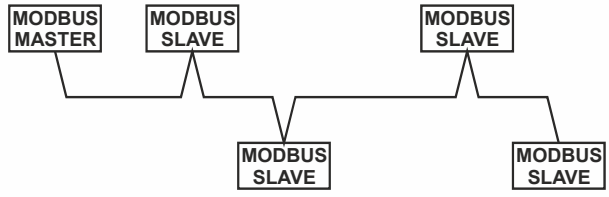


Fig. 6. Allowed Modbus wiring topology

Other wiring topologies (e.g., star wiring, or mixed star wiring and daisy chain wiring) are prohibited; this is to avoid communication problems of the physical layer.

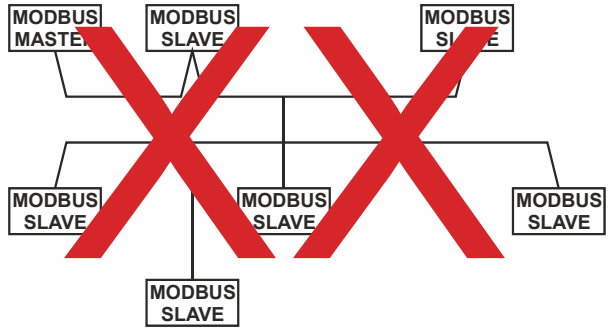


Fig. 7. Prohibited Modbus wiring topology (example)

Cables

See section "EIA 485 Cable Specifications" in Excel Web II Controller – Installation & Commissioning Instructions (EN1B-0555GE51).

Use shielded, twisted pair cable J-Y-(St)-Y 2 x 2 x 0,8.

You ***must*** use three wires:

- One wire for D1 = Modbus +
- One wire for D0 = Modbus –
- One wire for the signal common

When using one pair for D1 and D0 and one wire of another pair for the signal common, CAT5 cable may also be used.

For connection details, see Excel Web II Controller – Installation & Commissioning Instructions (EN1B-0555GE51).

Shielding

Shielding is especially recommended when the Modbus cable is installed in areas with expected or actual electromagnetic noise. Avoiding such areas is to be preferred.

Use shielded, twisted pair cable J-Y-(St)-Y 2 x 2 x 0,8 and connect the shield to a noise-free earth ground – only once per Modbus connection.

RS485 Repeaters

RS485 repeaters are possible, but have not been tested by Honeywell. Hence, it is the responsibility of the installing / commissioning personnel to ensure proper functioning.

NOTE: Each Modbus segment requires its own line polarization and line termination.

Modbus Master Specifications

Modbus Compliance

As per the Modbus standard, the Excel Web II Controller is a conditionally compliant "regular" Modbus device.

The Excel Web II Controller differs from an unconditionally compliant "regular" Modbus device in that it does not support communication rates of 1.2, 2.4, and 4.8 kBaud (because these communication rates are not market-relevant).

Physical Layer

2-wire serial line RS485 (EIA-485) (with additional common)

Communication rates: 9.6, 19.2, 38.4, 57.6, 76.8, and 115.2 kBaud supported.

Max. number of devices: 32

Cable and wiring specifications: See Excel Web II Controller – Installation & Commissioning Instructions (EN1B-0555GE51).

Communication Mode

Modbus Master.

Transmission Mode

RTU (Remote Terminal Unit)

Address Range

Modbus slaves can have an address between 1 and 65000.

Discrete Inputs, Coils, Input Registers and Holding Registers can have an address between 1 and 65534.

Function Codes

The following function codes are supported:

Table 2. Supported function codes

function code (hex)	function
02	Read Discrete Inputs
01	Read Coils
05	Write Single Coil
04	Read Input Register
03	Read Holding Register
06	Write Single Register
10	Write Multiple Registers

Exception Codes

Upon reception of any of the following exception codes, datapoints of the Excel Web II application will show "no response."

Table 3. Supported exception codes

exception code (hex)	function
01	illegal function
02	illegal data address
03	illegal data value
04	slave device failure
05	acknowledge
06	slave device busy

Register Sizes

The following Register sizes are supported:

- 16-bit Registers for Discrete inputs, Coils, Input Registers, and Holding Registers
- 32-bit Registers for Input Registers and Holding Registers.

Data Types

The following data types are supported:

- Discrete Inputs:
  - BOOL
- Coils:
  - BOOL
- Input Registers:
  - BOOL
  - INT16, UINT16
  - INT32, UINT32
  - FLOAT
- Holding Registers:
  - BOOL
  - INT16, UINT16
  - INT32, UINT32
  - FLOAT
  - 32-bit floating points can be transmitted as two consecutive 16-bit registers.

Byte and Word Order Transmission

- Most Significant Byte First (default)
- Lower Significant Byte First
- Most Significant Word first (default)
- Lower Significant Word first

Bit Unpack

The Excel Web II allows direct reading of single bits of an Input Register or of a Holding Register into a data-point.

In typical situations in which several different status bits of a Modbus slave's Register need to be read and linked into the Excel Web II application, this allows for very efficient application engineering.

Number of Stop Bits

One and two stop bits are supported.

Error Checking Mode

Parity checking: No parity, even parity, odd parity.

Frame checking: Cyclical redundancy checking (CRC).

Life Check of Modbus Slaves

The Excel Web II checks the Modbus every 15 seconds for lost Modbus slaves.

Message Timeout

20 msec ... 5000 msec.

Modbus Slaves Measurement Cycle

- "Live check repeat count": default = 3, range = 0…10
- "Live check": default = 2, range = 1…20 sec
- "Live check if offline": default = 15, range = 2…60 sec
- "Poll Rate": default = 1, range = 1…6000 sec

Modbus Communication Failure Indication

As soon as the Excel Web II runs an application which includes mappings to Modbus registers, it will try to communicate with these Modbus registers.

If a Modbus slave does not respond to a message from the Excel Web II controller, the Excel Web II controller will repeat the message as per the settings described in section "Modbus Slaves Measurement Cycle".

If, after "Life check repeat count" times, the Modbus slave has still not responded to the message from the Excel Web II controller, the Modbus point will go into the "fault" state.

⚠ WARNING

NETWORK SECURITY

Honeywell hereby expressly states that the Excel Web II controller is not inherently protected against cyber attacks from the Internet and that it is therefore intended solely for use in private, protected networks.

Unprotected Internet connections can expose the Excel Web II controller to cyber attacks from third parties who can then damage it and connected facility components or cause them to malfunction, or who can misuse it for illegal purposes for which the operator may then be held liable.

When directly connected to the Internet, the Excel Web II controller automatically becomes a potential target for cyber attacks. Corresponding protective measures are therefore essential if safe and reliable operation is to be ensured.

If it is not necessary for the Excel Web II controller to be accessible from the Internet, it should be isolated from the Internet via a suitable firewall.

If it is necessary for the Excel Web II controller to be accessible from the Internet (e.g., in order to perform remote maintenance), the use of a coded VPN connection is indispensable. Suitable VPN routers are available from numerous third-party manufacturers in a wide variety of designs, for operation at 230 V or 24 V.

For details, see also Excel Web II Networking Whitepaper (Product Literature No.: EN2B-0394GE51).

CONTROLLER SPECIFICATIONS

Table 4. Controller specifications

Ambient temperature	0 … 40 °C (wall-mounting) 0 … 50 °C (cabinet/door mounting)
Storage temperature	-20 … +70 °C
Humidity	5 … 95% r.h. non-condensing
Dimensions	See Fig. 9 and Fig. 10.
Degree of protection	IP20 (mounted on walls, with two accessory MVC-80-AC1 covers) IP30 (mounted in cabinet doors, with accessory MVC-80-AC2)
Fire class	V0
Shock protection	Class II
Pollution degree	2
Installation	Class 3
Rated impulse voltage	330 V for SELV, 2500 V for relay outputs
Overvoltage category	II
Automatic action	Type 1.C
Software class	Class A
Ball-pressure test temperature	housing parts >75°C terminals >125°C

Electrical Data

Table 5. Electrical data

Power supply	19 … 29 VAC, 50/60 Hz, or 20 … 30 VDC
Power consumption	typically dc: 5 W; max. 6 W typically ac: 9 VA; max. 11 VA
Heat dissipation	max. 6 W at dc power supply max. 11 W at ac power supply
Current consumption	typically dc: 210 mA; max. 240 mA typically ac: 370 mA; max. 410 mA

Excel Web II and 24 VAC field devices can obtain their power from the same transformer.

Mechanical Data
Housing Dimensions (L x B x T): 215.5 x 110 x 61 mm
Housing Material: ABS blend; flame retardant V0
Weight: 0.6 kg (without packaging)
Protection Class: IP 20

CPU

Processor

- ARM 9 32-bit processor, 450 MHz

Operating System: LINUX

Memory

- 128 MB DDR2-RAM
- 2 GB Flash Memory

Real-Time Clock

- accuracy: ± 2 minutes per year (at, typically, 25 °C)
- buffered typically for 72 h by gold capacitor

Standards, Approvals, etc.

- Device meets BTL, AMEV AS-A, EN 60730-1, EN 60730-2-9, UL60730, and UL916.
- The device complies with Ethernet Protocol versions IEEEC 802.3.
- The device supports BACnet IP and BACnet MS/TP communications as per ANSI / ASHRAE 135-2010.

MMI

The XL2014B2B, XL2026B2A, and XL2000B2A incorporate a user interface (HMI) featuring the following components:

- one LCD Display (1);
- six operating keys (2);
- one Rotate&Push Button (3); and
- six LEDs (4)

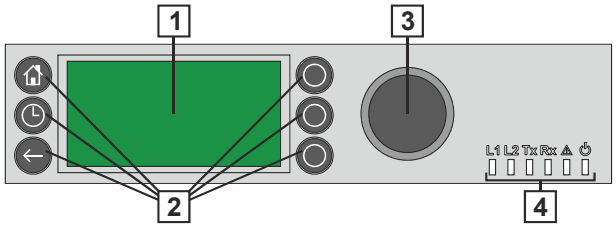


Fig. 8. Excel Web II Controller user interface (HMI)

The LCD display is the graphic interface presenting items for application-specific system information, operator entries, and menus of functions. The LCD display can show max. five lines of alphanumeric text with max. 20 characters per line.

The backlight of the LCD is switched on once an operating key or the rotate&push button is pressed. The backlight is switched off if any of the operating keys or the button are not used for 2 minutes.

The six operating keys consist of three fixed-function keys (left) and three soft keys (right).

The Rotate&Push button is used to navigate through menus and lists; to highlight items (menu, list, option, value, command symbol), and to adjust options (ON, OFF, etc.) and values (temperature in °C, etc.).

Mounting

The Excel Web II Controller is suitable for mounting as follows:

► in cabinets;

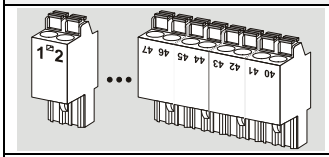
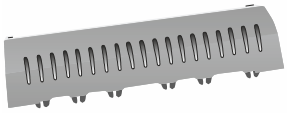
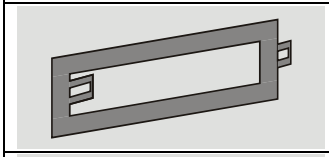
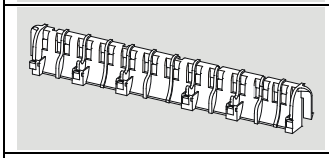
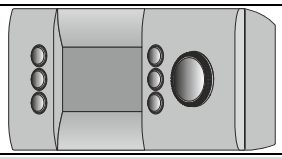
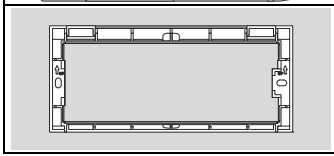
► in fuse boxes conforming with standard DIN43880, and having a slot height of max. 45 mm;

► on walls (using accessory MVC-80-AC1).

► in cabinet front doors (using accessory MVC-80-AC2);

Extra Parts

Table 6. Extra parts

	order number	description
	**TPU-45-01**	Removable terminal plugs, push-in type; complete set of 9 plugs (for terminals 1 - 47); for the XL2014Bxx and XL2026Bxx.
	TPU-11-01	Removable terminal plugs, push-in type; complete set of 3 plugs (for terminals 1 - 47); for the XL2000Bxx.
	**MVC-80-AC1**	Terminal cover (color: RAL9011); package of 10; for Excel Web II Controllers.
	**MVC-80-AC2**	Front door mounting accessory (color: RAL9011); package of 10; for Excel Web II Controllers.
	**MVC-40-AC3**	Strain relief; package of ten; for Excel Web II Controllers.
	XS830	Set of ten packages. Each Auxiliary Terminal Package consists of two groups of nine internally connected push-in terminals, for distributing signals / power. For the Mixed Panel Bus I/O Module and the Excel Web II Controller, only. Please refer to Honeywell I/O Modules - Installation & Commissioning Instructions (EN1B-0556GE51) for more information.
	XS831	Set of ten packages. Each Auxiliary Terminal Package consists of two groups of four pairs of push-in terminals (each with a 499 Ω resistor), for converting 0…20 mA signals into 0…10 VDC signals, and one push-in ground terminal per group. Please refer to Honeywell I/O Modules - Installation & Commissioning Instructions (EN1B-0556GE51) for more information.
	**XL2000HMI-A**	External HMI with LCD display which derives needed electrical energy from the Excel Web II Controller. Suitable for connection to the RJ45 socket on the front of the XL2000B3A, XL2014B3B, and XL2026B3A.
	**XL2000HMI-BASE**	Base for mounting the XL2000HMI-A onto walls and magnetic surfaces, and for hand-held use.

MODELS

- XL2000B2A: w/ HMI, w/o onboard I/Os, and 600 I/Os in total*; TPU-11-01; XL2000HMI-A External HMI not connectable
- XL2000B3A: w/o onboard I/Os, and 600 I/Os in total*; TPU-11-01; with RJ45 socket for XL2000HMI-A External HMI
- XL2014B2B: w/ HMI, 14 onboard I/Os, and 52 I/Os in total*; TPU-45-01; XL2000HMI-A External HMI not connectable
- XL2014B3B: w/ 14 onboard I/Os and 52 I/Os in total*; TPU-45-01; with RJ45 socket for XL2000HMI-A External HMI
- XL2026B2A: w/ HMI, 26 onboard I/Os, and 600 I/Os in total*; TPU-45-01; XL2000HMI-A External HMI not connectable
- XL2026B3A: w/ 26 onboard I/Os and 600 I/Os in total*; TPU-45-01; with RJ45 socket for XL2000HMI-A External HMI

*I/Os in total include onboard I/Os, I/Os via Panel Bus, and I/Os via LONWORKS Bus.

Table 7. Overview of models

feature	description		max. cable length	order no.					
				XL2014B2B[1]	XL2014B3B[1]	XL2026B2A	XL2026B3A	XL2000B2A	XL2000B3A
UI	NTC10kΩ and NTC20kΩ / 0…10V / slow BI		400 m	4	4	8	8	-	-
	NTC10kΩ and NTC20kΩ / 0…10V fix pull-up / slow BI		400 m	-	-	2	2	-	-
BI	open = 24 V / closed 2.0 mA / totalizer 15 Hz		400 m	4	4	4	4	-	-
AO	0..11 V (max. 1 mA)		400 m	2	2	4	4	-	-
BO	Relay N.O. contact		400 m	3	3	4	4	-	-
	Relay N.O. contact (high in-rush)		400 m	1	1	1	1	-	-
	Relay N.O. contact with one common		400 m	-	-	3	3	-	-
bus interfaces	RS485-1, isolated, BACnet MS/TP, Panel Bus, or Modbus RTU Master communication		1200 m[2]	1	1	1	1	1	1
	RS485-2, non-isolated, BACnet MS/TP, Panel Bus, or Modbus RTU Master communication		1200 m[2]	1	1	1	1	1	1
	Ethernet / RJ45 socket	e-mail communication, browser access	100 m	1	1	1	1	1	1
		BACnet IP communication	100 m	1	1	1	1	1	1
	USB 2.0 Device Interface (as Network Interface)		3 m	1	1	1	1	1	1
	USB 2.0 Host Interface (max. 500 mA)		3 m	1	1	1	1	1	1
	RS232 M-Bus communication via PW3 / PW20 / PW60 converters		1000 m[2]	1	1	1	1	1	1
user interface	HMI with graphic LCD		--	X	-	X	-	X	-
	Fast Access buttons		--	6	-	6	-	6	-
	push and turn button		--	1	-	1	-	1	-
LEDs	power LED (green)		--	1	1	1	1	1	1
	status LED (red, controllable by firmware)		--	1	1	1	1	1	1
	applications-specific LED L1 (yellow)		--	1	1	1	1	1	1
	LED L2 (reserved)		--	1	1	1	1	1	1
	bus status LEDs (for isolated RS485-1 interface)		--	2	2	2	2	2	2
HMI socket	RJ45 socket for connection of XL2000HMI-A External HMI		5 m	--	X	--	X	--	X

[1] In the case of the XL2014B2B and XL2014B3B, at least one of the two RS485 interfaces must be assigned to BACnet MS/TP. The other RS485 interface can then be assigned to either Panel Bus, Modbus, or BACnet MS/TP.
[2] Depending upon baud rate. For max. cable lengths, see Excel Web II – Installation & Commissioning Instructions (Product Literature No.: EN1B-0555GE51).

DIMENSIONS

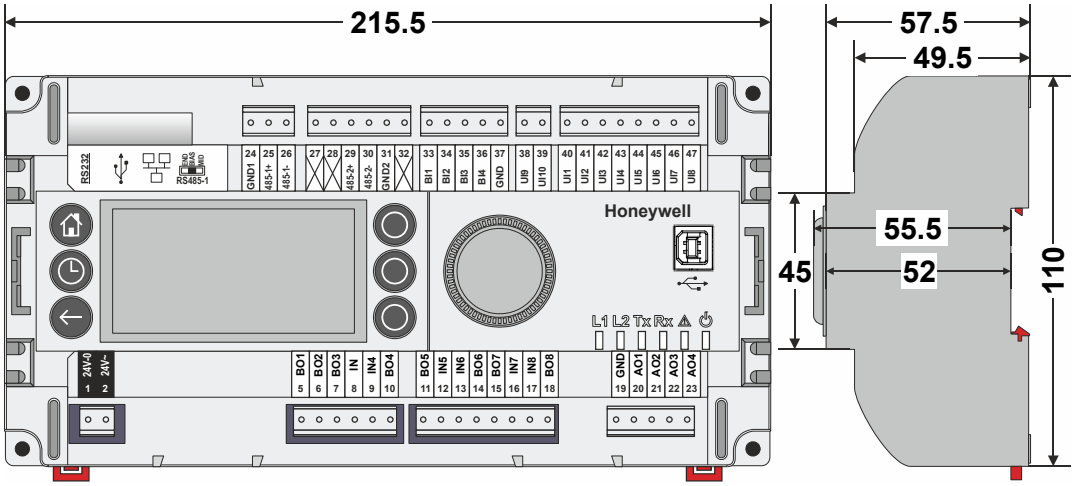


Fig. 9. Excel Web II Controller with built-in HMI, dimensions (in mm)

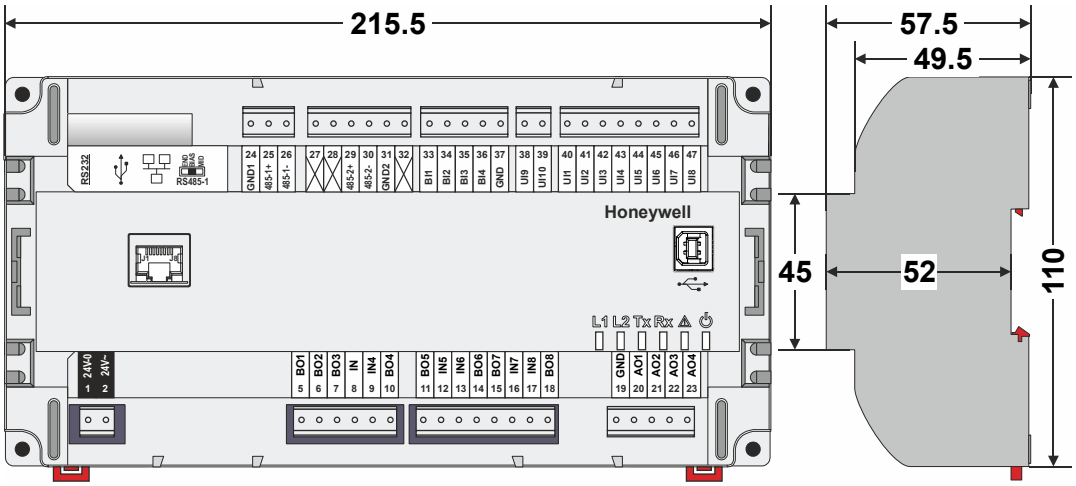


Fig. 10. Excel Web II Controller with RJ45 socket for connection of XL2000HMI-A External HMI, dimensions (in mm)

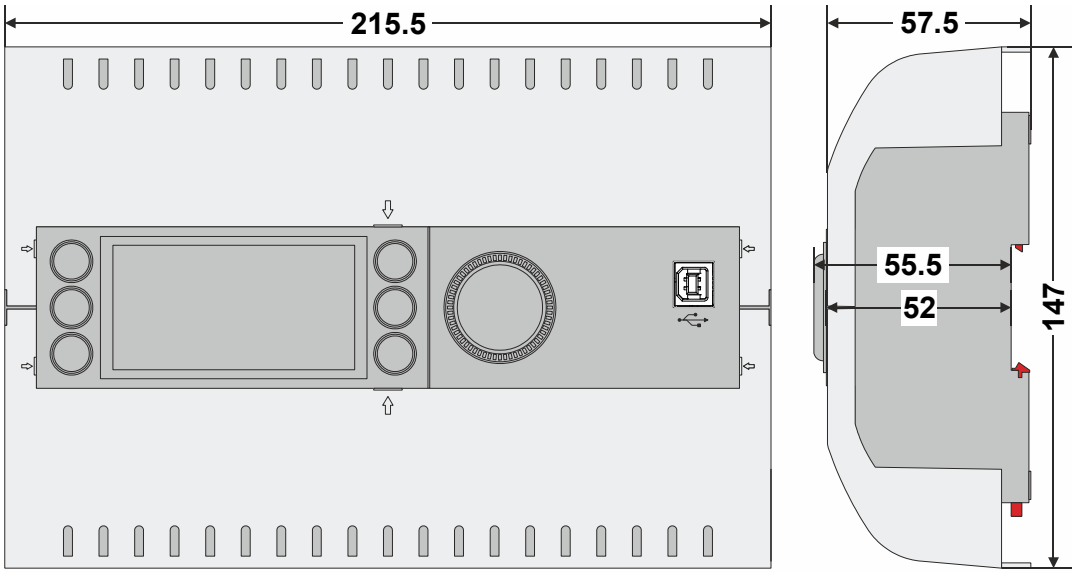


Fig. 11. Excel Web II Controller with built-in HMI (with MVC-80-AC1), dimensions (in mm)

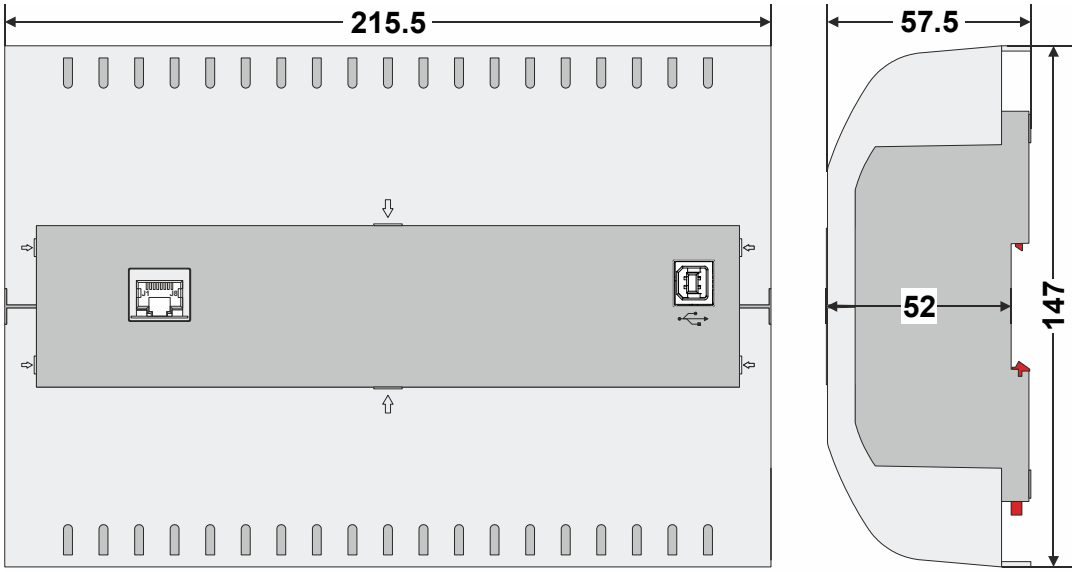


Fig. 12. Excel Web II Controller with RJ45 socket for XL2000HMI-A External HMI (with MVC-80-AC1), dimensions (in mm)

NOTE: Use of the covers (MVC-80-AC1) will obstruct access to the Ethernet and USB 2.0 Host Interfaces

Honeywell

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