Excel 50 Controller
HONEYWELL EXCEL 5000 OPEN SYSTEM

SPECIFICATION DATA

FEATURES

- Various state-of-the-art communication options: Open LonWorks® bus, or C-bus communication; modem or ISDN terminal adapter at up to 38.4 Kbaud
- Unique features in open LonWorks® networks: NV-Booster® reduces the number of required NVs and thus also the number of required controllers; NV bindings can be restored after controller reset (and thus need not be redone after exchanging controllers); 46 NVs supported for LonWorks® integration
- Reduced engineering and start-up costs: Huge variety of pre-tested and fully documented applications
- Easy and flexible installation: Screw terminals; mounting inside cabinet (DIN rail) or in cabinet front door
- Operating options: Integrated operator interface, XI582 Remote Interface, XI882 Remote Touch-Panel Interface, and XL-Online PC-based interface

DESCRIPTION

The Excel 50 controller is available in two housing versions, one with and one without a Man-Machine-Interface (MMI.) The MMI version allows buswide access to other controllers. The XI582 operator interface or the PC-based XL-Online operator and service software can be used in conjunction with either version. The housing can be mounted inside a cabinet on a DIN-rail or in a cabinet front door.

The Excel 50 has eight analog inputs, four analog outputs, four digital inputs (three of which can be used as totalizers,) and six digital outputs. The digital outputs allow the direct drive of 3-position actuators (up to the max. load.) The controller can be wired either with screw terminal blocks directly at the housing.) Flash EPROM allows easy upgrading of the operating system via download.

The application modules – all with Flash EPROM – are available in two bus-wide access versions. They feature two different bus interfaces (see Table 1). Large RAMs provide for increased trending capability. A modem or ISDN terminal adapter can be connected to the serial port to allow remote access at up to 38.4 Kbaud.

All changeable parts or switches are accessible without opening the housing. Communication capabilities and memory are easily upgraded by replacing application modules.

GENERAL

The Excel 50 controller has built-in communication capability, allowing it to be integrated into a Honeywell EXCEL 5000® System or into an open LonWorks® network communicating with Excel 10 controllers as room/zone controllers or with 3rd-party products. It can also serve as a stand-alone controller. Typical areas of application include heating systems, district heating systems, and air conditioning plants for restaurants, shops, offices, and small branch government buildings.

The Excel 50 supports standard LonMark™ Network Variables according to the LonMark™ Interoperability Guidelines V.3.0. It can serve 22 integrated I/Os and supports peer-to-peer communication; thus, in the case of larger-scale applications, several different controllers can be linked and accessed. The system firmware is stored in Flash EPROM located in the application module (a separate module plugged into the controller housing.) Flash EPROM allows easy upgrading of the operating system via download.

The Excel 50 is a freely programmable controller engineered using Honeywell’s CARE programming tool. For LonWorks® interoperability, a maximum of 46 LonMark™ NVs are available.
SPECIFICATIONS

Versions

Housing
XL50A-MMI (with Man-Machine Interface);
XL50A (without MMI.)

Versions with MMI
Both the XL50A-MMI and the XL50A-CY feature a keypad
(with eight function keys and four fast-access keys) and an
LCD display.
The LCD display of the XL50A-MMI has four lines, 16 char-
acters per line, adjustable contrast, and backlight.

Application Modules
The Excel 50 controller can be upgraded by direct firmware
download via serial port or C-Bus. Contact your local Hon-
eywell affiliate for more information on the available firm-
ware and applications.

I/O Terminal Connection
Screw terminal blocks directly attached to housing.

Power Supply

Voltage
24 Vac, ±20 %, 50/60 Hz from external transformer.

Current
3 A (2 A if digital output current ≤ 1.5 A.) In case of power fail-
ure, the super gold capacitor saves RAM content and real-
time clock for 72 hours (thus, no battery disposal neces-
sary.)

Power Consumption
Max. 10 VA without load at digital outputs.

Bus and Port Connections

C-Bus Connection
Optional; located on application module. Up to 76.8 Kbaud,
switch provided for selectable termination.

LONWORKS® Bus Connection
Optional; located on application module. 78 Kbaud, FTT-10A
Free Topology Transceiver, using LonTalk® protocol.

Controller Serial Port Connection
9-pin Sub-D connector, RS 232, 9.6 Kbaud for XI582. XL-
Online, or up to 38.4 Kbaud for modem/ISDN terminal adapter
connection.

I/O Connectors
I/O Connector A: 26-pin port, digital outputs and power.
I/O Connector B: 34-pin port, analog and digital inputs, analog
outputs.

Environmental Ratings

Operating temperature: 0...50 °C (+32...+122°F)
Storage temperature: -20...+70 °C (-4...+158°F)
Relative humidity: 5...93% non-condensing
Protection Standards
IP54 (when front-door mounted with MMI in a cabinet conforming to IP54 and use of ACC3 mounting clamps and sealing ring.)
IP20 (when wall-mounted: both with and without MMI.)
UL94-0: Flame-retardant class of housing material.

Certifications
• CE
• UL 916 and cUL
• Meets FCC Part 15, Subpart J for Class A equipment.

Application Module
Firmware
The firmware is downloadable via the PC-based XL-Online operator and service software or C-Bus.
NOTE: The application module firmware version should be equal to or greater than 2.07.00.

Housing
Plug-in plastic module, wired with screws.

Application Module LEDs and Ports

Terminal Blocks

Fig. 1. Application modules (examples)

Fig. 2. Removable screw terminal blocks

Fig. 3. Terminal assignment of screw terminal blocks
### Dimensions

![Diagram of EXCEL 50 Controller Dimensions](image)

**Fig. 4. Dimensions in mm.**

By using this Honeywell literature, you agree that Honeywell will have no liability for any damages arising out of your use or modification to, the literature. You will defend and indemnify Honeywell, its affiliates and subsidiaries, from and against any liability, cost, or damages, including attorneys’ fees, arising out of, or resulting from, any modification to the literature by you.