

Excel 50 CONTROLLER

EXCEL 5000 OPEN™
S Y S T E M

SPECIFICATION DATA



FEATURES

- **Reduced engineering and start-up costs:**
Simply select a pretested configurable application with the Lizard Application Selector tool
- **Easy and flexible installation:**
Flat strip cabling or screw terminals
Mounting inside cabinet (DIN rail) or in cabinet front door
- **Wide selection of man-machine interfaces:**
Available with or without integrated MMI
External MMIs like XI582 or XI584 can be connected
Buswide access feature allows accessing other controllers
- **Various state-of-the-art communications options:**
Bus communication
Modem or ISDN terminal adapter at up to 38.4 Kbps
Wireless communication via GSM
Meter-Bus communication via external adapter
- **Optional LONWORKS® Network connection**
Interface with Excel 10 controllers and third-party products
- **Part of EXCEL 5000 Building Automation System**

GENERAL

Excel 50 is designed as a controller with integrated communication capability. Excel 50 can be used as standalone controller, integrated in the EXCEL 5000® System, or on a LONWORKS® network communicating with Excel 10 controllers as room/zone controllers or with third-party products.

Typical applications of the Excel 50 controller are heating systems, district heating systems and air conditioning plants for restaurants, small shops, offices, bank affiliates, chain stores and small distributed governmental houses.

The firmware, the system software, is stored in EPROM or Flash-EPROM. Flash-EPROM allows easy upgrading of the operating system via download. The EPROM/Flash-EPROM is located in the application module, a separate module plugged into the controller housing.

The Excel 50 is available either as configurable controller or as freely programmable controller. With the configurable version, for each group of applications there is a separate application module. Each specific application within the same group is represented by a code number. This application code number can be obtained with the PC-based application selector program, Lizard, and must be entered via the MMI. The freely programmable version is engineered with the CARE programming tool.

The necessary interfaces for communications with the various busses and for remote control operation are integrated in the Excel 50 controller and application modules so that there is no need for additional communication devices. Communication capabilities and memory are easily upgraded by replacement of the application module.

All changeable parts or switches are accessible without opening the controller housing.

DESCRIPTION

The Excel 50 controller has two housing versions, a housing with a Man-Machine-Interface (MMI) and a housing without an MMI. The Excel 50 MMI allows buswide access to other controllers on the bus. The external MMI XI582 or the PC-based MMI XI584 can be connected to all versions. The housing is mountable inside a cabinet on a DIN-rail or in a cabinet front door.

The controller has 8 analog inputs, 4 analog outputs, 4 digital inputs and 6 digital outputs. 3 out of 4 digital inputs can be used as totalizers. The digital outputs allow the direct drive of 3-position actuators (up to the maximum load).

The controller can be wired either with screw terminal blocks directly at the housing or with Phoenix terminal blocks, which are mounted on a DIN-rail within the same cabinet. Prewiring is possible with both terminal blocks, and a controller can be replaced without rewiring.

The PC-based application selector helps to get the optimum configuration. The preconfigured applications, which are stored in the firmware in the application module, are activated with a code number entered via the MMI.

The Excel 50 controller offers six application module versions including a standalone version with EPROM and 5 version with Flash EPROM and various bus interfaces (see Table 1). A modem or ISDN terminal adapter can be connected to the serial port of all models that have Flash-EPROM to allow remote access at up to 38.4 Kbps. Connection to a Siemens M20 terminal allows wireless communication via GSM.

SPECIFICATIONS

Versions

Housing:

With LCD and keypad.
Without LCD and keypad.

Application Module:

The application modules are available with configurable applications. Contact your local Honeywell affiliate for more information on the available applications.

Table 1. Module Versions

Module model	Module type
XD50-E	Standalone
XD50-F	Standalone/Flash EPROM ¹
XD50-FC	C-Bus/Flash EPROM ¹
XC50-FCS	C-Bus/Meter-Bus/Flash EPROM ¹
XD50-FL	LONWORKS Bus/Flash EPROM ¹
XC50-FCL	C-Bus/LONWORKS Bus/Flash EPROM ¹

NOTE

1. These versions can be upgraded by direct firmware download via serial port or C-Bus.

Mounting Options:

Front door mounted with sealing ring.
Cabinet mounted on DIN-rail (rail clips shipped with device).

I/O Terminal Options:

Screw Terminal blocks directly attached to housing.
Phoenix Terminal blocks connected via flat strip cables.

Input/Output Specifications

Table 2. Input/Output Specifications.

Type	Characteristics
8 analog inputs (universal)	Voltage: 0 to 10 V (software controlled switches for high impedance) Current: 0 to 20 mA (using external 499 ohm resistor) Resolution: 10 Bit Sensor: NTC 20k ohm, -58°F to 302°F (-50°C to 150°C)
4 digital inputs	Voltage: 24 Vdc, 0 to 0.4 Hz (0 to 15 Hz for 3 of 4 inputs when used as totalizer, 4th input only for static parameter requirements)
4 analog outputs	Voltage: 0 to 10 V, max. 11 V, ±1 mA Resolution: 8 Bit
6 digital outputs	Voltage: 24 Vac per triac Current: max. 0.8 A, 2.4 A for all 6 triacs together

All inputs and outputs protected against overvoltage up to 24 Vac and 35 Vdc. Digital outputs protected against short circuits via a changeable fuse (built-in fuse, 5 x 20 mm, 4 A quickblow).

Man-Machine-Interface (Optional)

Keypad:

8 function keys, 4 fast access keys.

Display:

LCD, 4 lines, 16 characters per line, adjustable contrast.

Bus and Port Connections

C-Bus (optional, located on application module):

up to 76.8 Kbps, switch provided for selectable termination.

LONWORKS Bus (optional, located on application module):

78 Kbps, FTT-10A Free Topology Transceiver, using LonTalk® protocol.

Controller Serial Port:

9-pin Sub-D connector, RS 232, 9.6 Kbps for external MMI XI582 and XI584 PC MMI, or with Flash EPROM versions up to 38.4 Kbps for modem/ISDN terminal adapter connection.

Meter-Bus (optional, located on application module):

RS232 serial link with RJ45 connector (PW3 Meter-Bus adapter is also required).

I/O connector A:

26-pin port, digital outputs and power.

I/O connector B:

34-pin port, analog and digital inputs, analog outputs.

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 failure, capacitor keeps RAM content for 72 hours.

Power Consumption:

Max. 10 VA without load at digital outputs.

Environmental Ratings

Operating temperature:

0 to 45°C (32 to 113°F)

Storage temperature:

-20 to 70°C (-4 to 158°F)

Relative humidity

5 to 90% noncondensing

Protection Standards

IP54:

When front door mounted with MMI within a cabinet which has IP54 and use of ACC3 mounting clamps and sealing ring.

IP30:

When cabinet mounted without MMI.
When cabinet mounted with 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

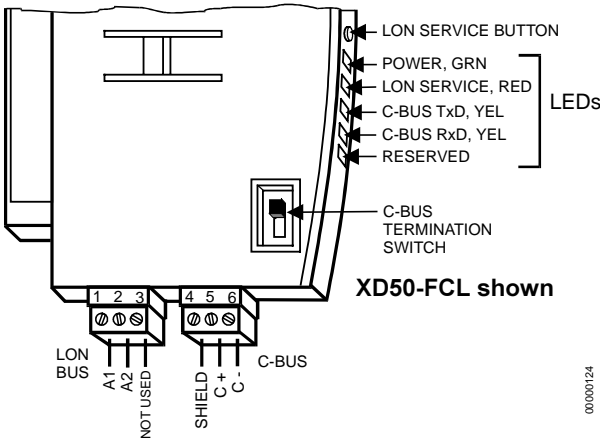
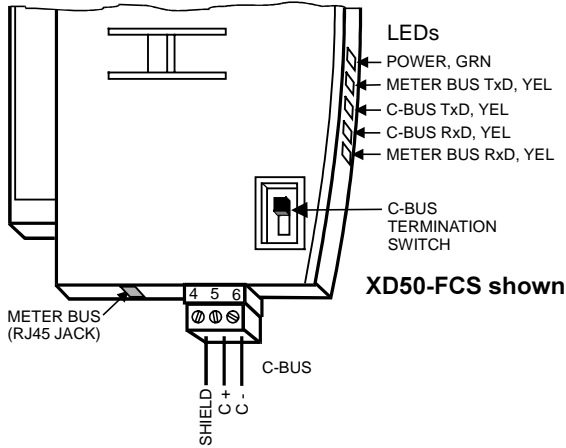
Firmware:

4 versions for the different communication options, downloadable via PC based MMI XI584 or C-Bus (not standalone version with EPROM).

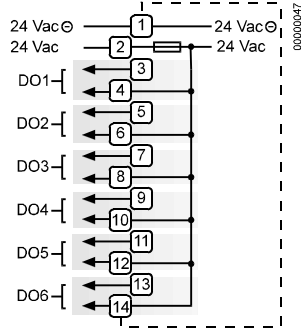
Housing:

Plug-in plastic module, fixed with screws.

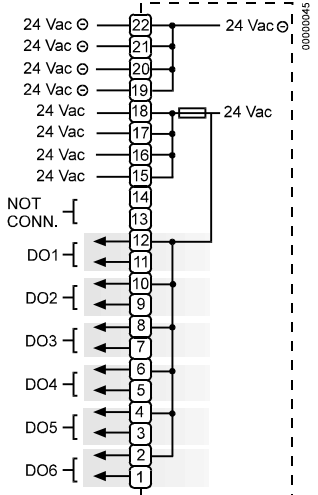
Application Module LEDs and Ports



Terminal Assignment Block A

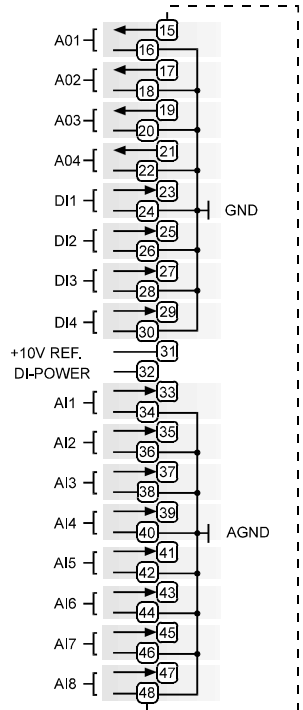


Screw Terminal Block A

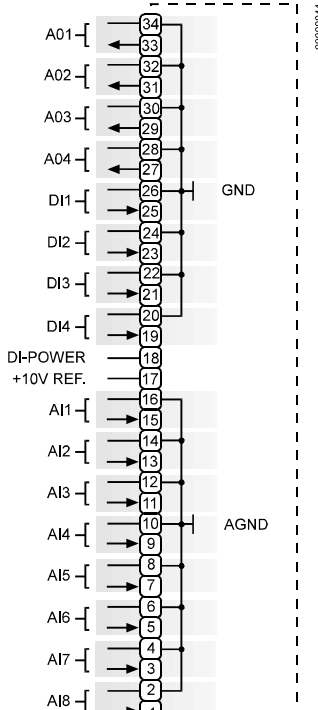


Phoenix Terminal Block A

Terminal Assignment Block B

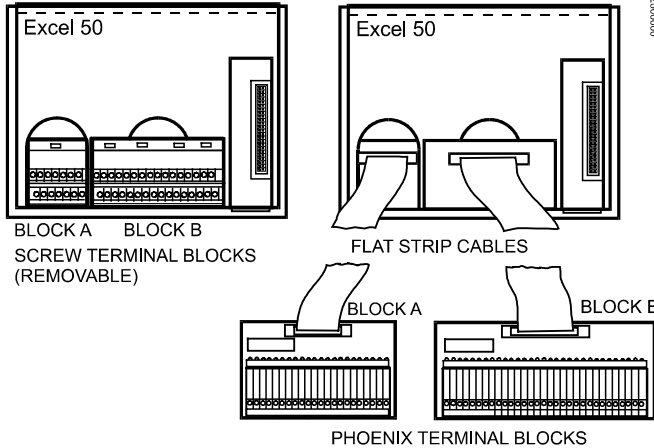


Screw Terminal Block B

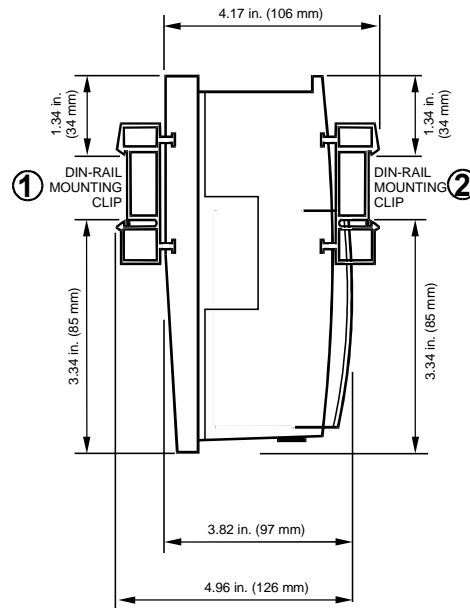
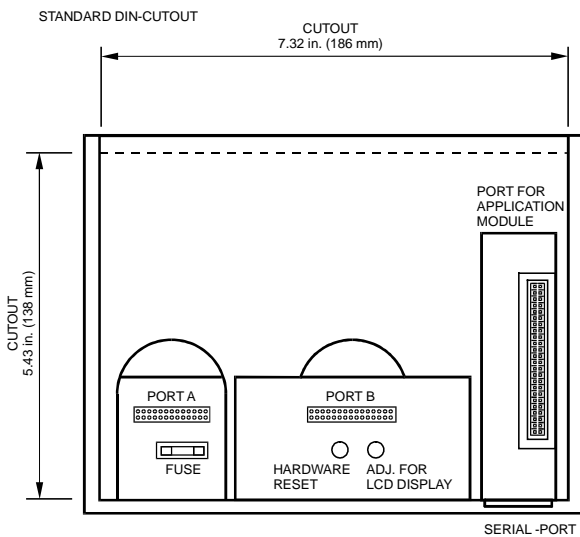
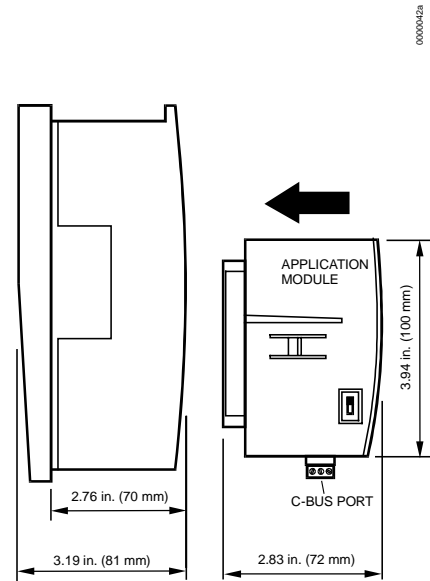
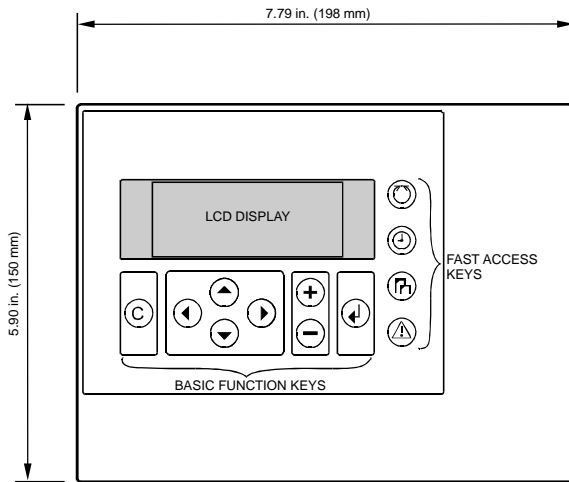


Phoenix Terminal Block B

Terminal Blocks



Dimensions



- ① = DIN-rail clip position when installed without MMI (connectors to front).
- ② = DIN-rail clip position when installed with MMI (MMI to front).

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DIN EN ISO
 9001/14001