

# BUILDING AUTOMATION PRODUCTS

## SMART EQUIPMENT CONTROLLERS

## SMART TERMINAL UNIT CONTROLLERS

# ATC

### ADVANCED TERMINAL UNIT CONTROLLER

The Advanced Terminal Unit Controller (ATC) from Johnson Controls® is a series of configurable controllers specifically designed for terminal unit equipment.

The ATC is available in two line voltage powered hardware models, and controls 2-pipe and 4-pipe equipment.

The controller meets the most demanding comfort and efficiency requirements, due to its energy optimization and on demand ventilation controls.

The ATC features a long list of Johnson Controls patents, best practices. An extensive library of factory-programmed, fully documented and proven applications are available to lower engineering and commissioning costs, granting superior reliability and efficiency.

The on-board power sources for the ancillary field devices reduce the number of required components, such as transformers and wires, therefore cutting installation costs.

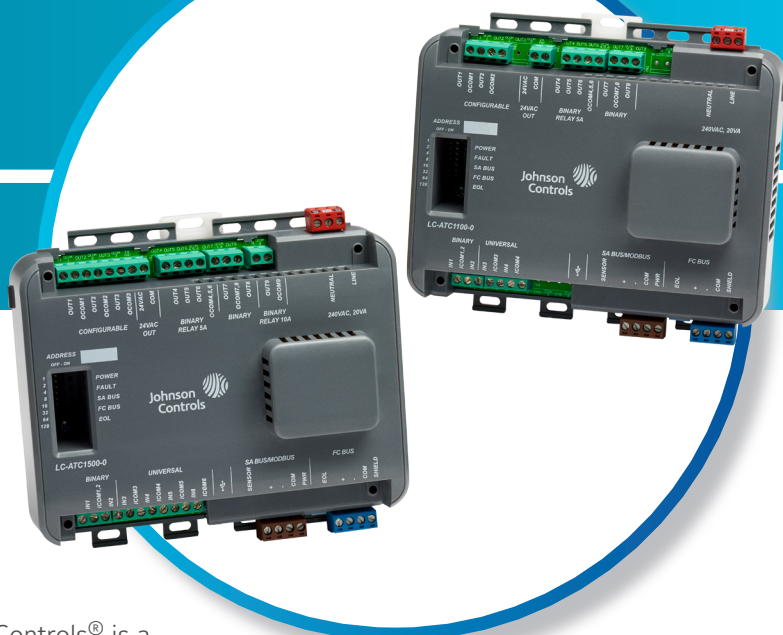
The cable strain relief and optional safety cover reduce installation costs, this enables, where regulation allows, the ATC to be installed without an additional cabinet.

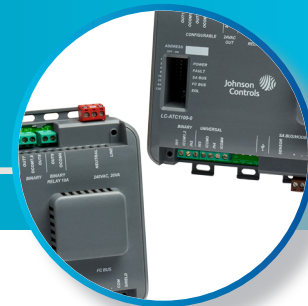
The controller's field-selectable communications protocols, including BACnet®, Modbus® and N2, make the ATC suitable for both new and retrofit installations because they provide a cost effective upgrade and modernization path for customers who are using existing N2 controllers.

The ATC fully supports the SMART Equipment™ technology, making it plug and play on the Verasys® smart control systems.

## FEATURES

- **Applications Library** - Lower engineering and commissioning costs providing a full set of advanced features as the patented automatic PID tuning, network sensors plug and play, indoor air quality control, energy performance indication, fault detection diagnostics and automatic commissioning mode
- **Line power supply with on-board power for field devices** - Reduce the number of components required which lowers total installation costs
- **Cable strain relief and optional safety covers** - Enable installation without the need for an electrical box which lowers installation costs where applicable
- **Specialized models for Simpler and Complex Applications** - Lower product cost
- **Fully featured SMART Equipment technology** - Verasys SMART Control System enabled
- **Real-time switchable communications protocols** - Suitable for new and retrofit installation, providing higher flexibility, thus protecting investments
- **Standard BACnet protocol** - BACnet Testing Laboratories (BTL) Listing Rev 12 provides interoperability with other Building Automation Systems (BAS) products that use the widely accepted BACnet standard





## ORDERING INFORMATION

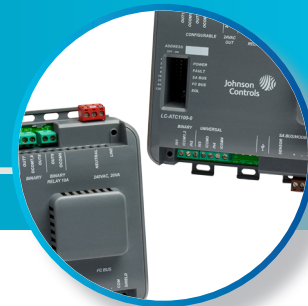
CODES	DESCRIPTION
LC-ATC1100-0	11-points Advanced Terminal unit Controller with 2 UI, 2 BI, 2 BO, 2 CO, 3 RO, FC and SA Bus, 240 VAC
LC-ATC1500-0	15-points Advanced Terminal unit Controller with 4 UI, 2 BI, 2 BO, 3 CO, 4 RO, FC and SA Bus, 240 VAC

## ACCESSORIES

CODE	DESCRIPTION
LC-IP20	Advanced Terminal unit Controller IP20 Safety Terminal Cover Kit
TL-MAP1810-OPE	Portable MAP Gateway - includes MAP Gateway, RJ-12 cable, protective shell, and lanyard

## TECHNICAL SPECIFICATIONS (PART 1/2)

Codes	
<i>LC-ATC1100-0</i>	11-points Advanced Terminal unit Controller with 2 UI, 2 BI, 2 BO, 2 CO, 3 RO, FC and SA Bus, 240 VAC
<i>LC-ATC1500-0</i>	15-points Advanced Terminal unit Controller with 4 UI, 2 BI, 2 BO, 3 CO, 4 RO, FC and SA Bus, 240 VAC
Supply Voltage	240 VAC, 50/60 Hz
Power Consumption	20 VA max
Ambient Conditions	
<i>Operating</i>	0 to 40°C; 10 to 95% RH noncondensing
<i>Storage</i>	-40 to 85°C; 5 to 95% RH noncondensing
Addressing	
<i>BACnet MS/TP</i>	Valid field controller device addresses 4-127 (Device addresses 0 to 3, 117, and 128 to 255 are reserved and not valid field controller addresses)
<i>N2 Slave</i>	Valid field controller device addresses 1 to 255
Communication Bus	
<i>BACnet MS/TP, ModBus and N2 through RS-485</i>	FC Bus between the supervisory controller and field controller SA Bus between controller, network sensors and other sensor/actuator devices, includes a 15 VDC, 210 mA power supply for bus devices
Processor	Renesas® RX631 32-bit microcontroller, 2 MB Flash, 128 kB RAM
External Memory	16 MB Flash and 8 MB RAM



## TECHNICAL SPECIFICATIONS (PART 2/2)

Input and Output Capabilities	<p><b>Binary Input (BI):</b></p> <ul style="list-style-type: none"> <li>• Dry Contact Maintained</li> <li>• Pulse Counter/Accumulator Mode (30 Hz)</li> </ul> <p><b>Universal Input (UI):</b> User-Configurable, 3 available modes:</p> <ul style="list-style-type: none"> <li>• Voltage Input: 0 to 10 VDC</li> <li>• Resistive (0-10 kOhm)</li> <li>• Dry-contact maintained binary</li> </ul> <p><b>Configurable Output (CO):</b></p> <ul style="list-style-type: none"> <li>• User-Configurable, 2 available modes:</li> <li>• Voltage Output: 0 to 10 VDC, 10 mA</li> <li>• Triac Output: 24 VAC, 500 mA (Externally sourced)</li> </ul>		<p><b>24 VAC out for actuator power:</b> 24 VAC at 500 mA</p> <p><b>5A Relay Output (5A RO):</b></p> <ul style="list-style-type: none"> <li>• Single-Pole, Single-Throw, Normally Open</li> <li>• 240 VAC, 5 A Resistive, 50K cycles</li> <li>• 240 VAC, 0.66 FLA / 4 LRA, 50K cycles</li> <li>• Shared common terminal between all 5 A RO's</li> </ul> <p><b>Binary Output Triac (BO):</b></p> <ul style="list-style-type: none"> <li>• 24 VAC or 240 VAC, 500 mA</li> <li>• Externally powered</li> <li>• Shared common terminal between all BO Triacs</li> </ul> <p><b>10 A Relay Output (10A RO):</b></p> <ul style="list-style-type: none"> <li>• Single-Pole, Single-Throw, Normally Open</li> <li>• 240 VAC, 10 A Resistive, 100K cycles</li> </ul>				
Input and Output Count		<b>BI</b>	<b>UI</b>	<b>CO</b>	<b>5 A RO</b>	<b>BO</b>	<b>10 A RO</b>
	<b>LC-ATC1100-0</b>	2	2	2	3	2	0
	<b>LC-ATC1500-0</b>	2	4	3	3	2	1
Analog Input / Output Resolution	<p><i>Analog Input</i> 12-bit resolution, ±1% in the 0-10 kOhm range, ±50 mV in the 0-10 VDC range</p> <p><i>Analog Output</i> 15-bit, ±200 mV in the 0-10 VDC range</p>						
Terminations	<p><i>Input/Output</i> Screw terminals</p> <p><i>FC Bus</i> 4-wire pluggable Screw Terminal Block</p> <p><i>SA Bus</i> 4-wire pluggable Screw Terminal Block and RJ-12, 6-pin modular jack</p>						
Mounting	<p>Horizontal on single 35 mm DIN rail mount (preferred), or screw mount on flat surface with three integral mounting clips on controller. Mount the controller on a wall or DIN rail inside an enclosure</p>						
Dimensions (Height x Width x Depth)	<p>165 x 130 x 63 mm 165 x 165 x 63 mm including terminals and mounting clips (with IP20 cover)</p>						
Weight	0.6 kg						
CE Compliance	<p>Johnson Controls declares that this product is also in compliance with the essential requirements and other relevant provisions of the EMC Directive and Low Voltage Directive (IEC/EN60730-1). Declared as an Electronic Independantly-Mounted Control for mounting in or on a panel</p>						
BACnet International	BACnet Testing Laboratories (BTL) Protocol Revision 12 Listed BACnet Application Specific Controller (B-ASC)						