



## ASI Controls

## Configurable System Controller

### ASIC/2-7540 Features

- 16 Universal Inputs
- 12 Binary relay outputs
- 8 analog outputs.
- 10 Year hardware clock
- Switching Power Supply for AC or DC operation
- System bus for communication access
- Local bus for supervision of terminal controllers, or Modbus Master RTU
- Direct RS-232 communication user access
- Network Connectivity with EtherLink or USB Adapter.
- Compatible with ASI WebLink & ASI Data Server products
- USB Connector for expansion

The ASIC/2-7540 is designed for energy management and control systems for a wide range of building systems including air handlers, chillers, cooling towers, pumps, lighting, etc. Applications range from autonomous control of retail stores, branch banks, and telephone company buildings to networked control of very large buildings. It has an isolated switching power supply for AC or DC operation and flash and NVRAM memory for program and data storage. The ASIC/2-7540 configurable unitary controller provides the same functionality and features as the ASIC/2-7040.

The controller is easily configured using Windows™ based ASI Visual Expert configuration software that links ready-made objects for scheduling, logic, PID control, alarming, optimum start, trending, run-time accumulation, event logging and electrical demand management. The ASIC/2-7540 has an on-board battery-backed calendar clock and allows special events, holidays, and schedules to be defined in advance. Configuration data is stored in non-volatile memory that is retained through power loss. Comprehensive product documentation is available on-line while using ASI Expert software.

A plug-in USB Connector slot enables remote communication via a LAN or WAN using an Ethernet USB Adapter; or via a telephone line using a USB Modem. Under selected event conditions the controller can send notify messages to a pager, printer, or computer running ASI Monitor software. Similarly, an ASI EtherLink can be attached to receive and send information via an Ethernet network.

The controller has separate RS-485 system and local buses. The system bus is used to network multiple ASIC/2 controllers. The controllers may be polled or be configured for peer-to-peer communication using token passing. On a separate local bus the ASIC/2-7540 can poll ASIC/1 terminal controllers and make control decisions based on the data received. No central system is needed to supervise the controller. Red and green LEDs indicate the controller receive and transmit communications. Alternately the local bus supports Modbus Master RTU.

The ASIC/2-7540 can operate as part of a larger communicating control network with other ASI controllers. Communication at speeds up to 19,200 baud on both the system and local bus means rapid access to information. This enables integrated control of the complete mechanical system to ensure optimum building performance. Temperatures, setpoints, and other controller information may be easily reported to ASI WebLink, or any Windows based software that is a client for OLE for Process Control (OPC).

The twelve 24 Vac relay outputs are ideal for driving contactors and starters. Four yellow LEDs may be configured to indicate specific alarm or other conditions. The eight analog outputs are used for modulated actuators, electronic-pneumatic transducers, variable speed drives and other analog signal devices. The 16 universal inputs may be used for counting pulses, for reading thermistors and contact closures directly, and for reading 4 to 20 mA, 0 to 5 Vdc or 1 to 5 Vdc input signals.





## ASCI Controls

## Configurable System Controller

### Features

Analog Input Monitoring	Binary Input Monitoring
Maintained Outputs	Pulsed Outputs
Tristate Outputs	Analog Outputs
Scheduled Start/Stop	Afterhour Override
Calendar Events	Special Day Schedules
Multiple Control States	Multiple PID Loop
Counters and Timers	Optional Demand Limit
Conditional Logic	Display and Keypad
Cooling Tower	Boiler
Notify Alarm Configuration	Value Trending
Polling Communications	Optional Token Passing
Local Bus Polling	Local Bus Broadcast
Hardware Clock	Brownout Protection
Optional Modbus Master RTU	

### Specifications

#### Control Power

Supply Voltage: 24 Vac +/- 15%, 50/60 Hz  
or +/- 24 to 48 Vdc

Power Consumption: 18 VA (plus loads)

Protection: PS6, 0.75 A Polyswitch, MOV

#### Binary Outputs 12

Type: Form "A" Relay SPST N.O.  
Dry Contacts

Voltage Rating: 24 Vac or 24 Vdc

Current Rating: 2A General

#### Analog Outputs 8

Type: Analog 0-10Vdc

Resolution: 0.4% full scale

Current Rating: 20 mA at 10Vdc

Protection: TVS, 10 V, 600W peak

#### Aux Power

Aux Power: 12V, 100 mA max

#### Inputs 16

Type: Universal Analog/Binary

Range: 0 to 5 Vdc

Accuracy: 0.1% full scale

#### Communications

Format: RS-485 1/2 duplex  
RS-232 DB-9 Connector

Protection: 100 mA Polyswitch

Transient Protection: 500 mW-s TVS, 7 V BiPolar

Maximum Length: 4000 ft (1.2 km) RS-485

Repeater: ASI Converter/Repeater  
every 32 devices

#### System Bus Communication

Address Range: 32,001 to 32,255

Maximum Size: Up to 255 devices with repeaters

System Baud Rate: Up to 19,200 baud

#### Local Bus Communication

ASI Address Range: 1 to 32,000

Maximum Size: Up to 64 devices with repeaters

Local Baud Rate: Up to 19,200 baud

Second UART: TL16C450

Alternate Protocol: Modbus Master RTU

#### Connections

Power: Molex 3 pin plug connector

Input: 2 Molex 15 pin plug connector

Binary Output: 2 Molex 12 pin plug connector

Analog Output: Molex 15 pin receptacle connector

Aux Power: Screw Terminals

Communications: 2, 3 Position, screw terminals  
Mini-Molex 8 pin connector for DAK-002-E  
9 position DE-9 female for RS-232  
USB

#### Other

Memory: Firmware, 128 KBytes Flash  
Volatile, 30 KBytes RAM  
Non-volatile, 30 kbytes NVRAM

Hardware Clock: Real Time Clock with 10 year Battery Backup

Optional Ethernet: USB Ethernet Adapter (future)

Optional Modem: USB Modem (future)

Indication: 1 Red LED, Power  
2 Red LED Receive, 2 Green LED Transmit  
4 Amber LED programmable.  
12 Red LED, Binary Outputs

#### Overall Dimensions with base:

7.7" x 10.2" x 1.75" (WxLxH)  
196 mm x 259 mm x 45 mm  
with mounting holes on center  
7.2" x 7.2" (183 mm x 183 mm)

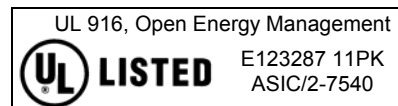
Weight: 3.22 lb (1.46 kg)

#### Environmental

Operating: 0 to 40 °C (32 to 104 °F)  
10 to 95% rh non-condensing

Storage: -37 to 80 °C (-35 to +180 °F)  
5 to 95% rh non-condensing

#### UL Listing



Rated as a Class 2 Device

Includes MCK-003 Molex connector kit with wiring instructions

Use provided connectors. Meets CE requirements.

Complies with FCC Part 15 (CISPR 22) Class A

How to Order:	Order Number
Configurable Controller with enclosure	ASIC/2-7540

Accessories:	Order Number
Four Input Multiplex Kit	QUADMUX

Software & Documentation:	Order Number
ASI Expert Configuration Software	ASI Expert
ASIC/2 Object Definitions	OBJ DEF
ASIC/2-7540 Users' Manual	7540 Manual