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.
ASI 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 oC (32 to 104 oF)
10 to 95% rh non-condensing
Storage:  -37 to 80 oC (-35 to +180 oF)
5 to 95% rh non-condensing

UL Listing
UL 916, Open Energy Management
E123287 11PK
ASIC/2-7540
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:

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<th>Order Number</th>
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<tr>
<td>ASIC/2-7540</td>
<td>Configurable Controller with enclosure</td>
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Accessories:

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<td>Four Input Multiplex Kit</td>
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Software & Documentation:

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<td>ASI Expert</td>
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<tr>
<td>OBJ DEF</td>
<td>ASI/2 Object Definitions</td>
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<tr>
<td>7540 Manual</td>
<td>ASIC/2-7540 Users’ Manual</td>
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