Systems Associates, Incorporated

ControlIQ Building Automation Solutions
SynergyMMS Maintenance Management Software

Interface: **OPTO-22 Driver for ControlIQ**
Version: **2.12** (revision history listed at the end of this document)
Date: **August 20, 2009**
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Interface Specifications

1. **Intellectual Property:**
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2. **Purpose:**
   It is desired to interface ControlIQ to OPTO-22 – Optomux protocol for the purpose of monitoring and control of devices that support this open protocol.

3. **Sponsoring Property:**
   The interface is being developed as an overall product enhancement and is not for any specific property.

4. **SAI Associated Products:**

   _X_ ControlIQ version 2.12.0.0

   ___ SynergyMMS version _____

5. **General Description of the Interface:**
   The interface is developed using standard Serial Port communications or TCP socket messaging. Optomux is a serial communication using RS-422 topology. RS-485 may be used by paralleling the communications wiring. TCP communications is only supported through a Ethernet to serial server.

6. **Supporting Documents:**
   This interface was developed based on publicly available documentation. Manufacturer specific documents were used where applicable.

7. **Interface Specifics:**
   a. The interface uses standard serial communications (settable)
   b. The Interface uses TCP sockets (settable)
   c. The interface was developed via Visual Studio 2005 named Driver_Opto22”

8. **Subsystem Table Fields**

SubsystemType = Opto-22

Settings = [IPaddress of NIC card]:[Port used]
192.168.2.1:TCP4003
[CommPortName:baud,parity,databits,stopbits]
COM1:9600,N,8,1

Personality (tags shown with their default values)

RefreshInterval=0	How often to rescan devices (in Seconds)
QuietTime=150	Delay between TX and RX attempts (in ms)
WriteAlways	Force a write (TX) even if data has not changed

9. Point Types Support in ControlIQ

All
Points addressing is defined as
BoardAddress . Position
For example: 123.15

Board address values:	0-255
Position values:	0-15

In the Points table use the Conversion field as follows:

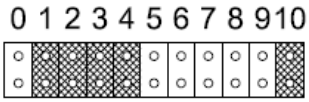
Momentary - Indicates that the Opto Position will be pulsed for 1 second when "On" command is issued. The subsequent position will be pulsed for 1 second when the "Off" command is issued. That means that the subsequent can not be defined in the CIQ database.

Pulse - Indicate that the Opto Position will be pulsed for 1 second when the "On" OR "Off" command is issued.

Information continues on next page

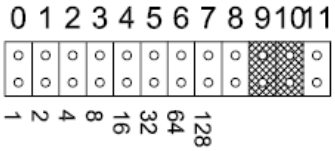
Onboard jumper set the Board Address and Baud Rates:

A Group Jumpers



Set the A Group Jumpers as shown to configure the OPTO-22 brain boards for Multidrop mode. Note to Installers: Install Jumpers at A0 and A6 on the last board on the communication loop.

B Group Jumpers

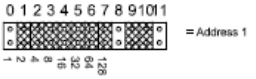


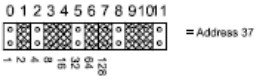
B Group Jumpers 0-7 set the brain board address. Each brain must have a unique address assigned. The jumpered locations are in 'binary' style with the jumpered Installed = 0 and jumper not Installed = 1. The 'value' of each position is listed below the B group jumpers. Valid address are 1-255 and should be set based on the previous panel drawings.

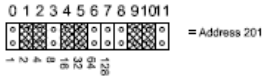

= No Jumper Installed


Jumper Installed

Address examples:







B Group Jumpers 8, 9 and 11 are used to set the baud rate. The default (9600 baud) is shown.

Baud	B8 in	B9 in	B11 in
300	No	No	No
600	No	No	Yes
1200	Yes	No	No
2400	Yes	No	Yes
9600	No	Yes	No
19200	Yes	Yes	No
38400	Yes	Yes	Yes

Note: B10 is always installed

Revision History:

None