**User's Manual**

**Future Design Controls SNA10A Smart Network Adaptor**

### 1. Features

- Supports both RS-485 and RS-422 Interface
- Baud Rate: 300 ~ 38400 bits/sec configurable
- Allows connection for 247 multi-drop units
- Automatic data direction control for RS-485 without the need to take care of RTS signal.
- Precision timing control for RS-485 allows fast switching between transmit and receive
- Universal (90 ~ 264 VAC) AC power input
- Isolated between RS-232 and RS-485 / 422 eliminate common mode noise problems
- Flexible installation: DIN rail mount or wall mount
- CE Approved

### 2. Introduction

SNA10A is a smart network adaptor which can be used to convert unbalanced RS-232 signals to balanced RS-485 or RS-422 signals. SNA10A is used for single node conversion or when communicating with 3rd party software including Future Design Controls MultiView software.

The RS-485 is an enhanced version of the RS-422A balanced line standard. It allows multiple drivers and receivers on a 2-wire system and reduces wiring cost. This 2-wire system can perform half-duplex transmission only. Because RS-422 is a 4-wire system, it can perform full-duplex transmission. The driving capability is dependent on the input impedance of the connected receivers.

As many as 32 standard units can be put on RS-422 or RS-485 port. Up to 247 high impedance units, such as Future Design Control’s interface products, can be put on RS-422 or RS-485 port.

### 3. RS-232C Interface 9 Pin female DCE Port

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<td>Soldered to DB9 Metal - Shield</td>
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4. Specifications

Baud rate: 300 ~ 38400 bits/sec
Parity bit: None, odd or even
Data bit: 8 bits
Stop bit: 1 or 2 bits
Connectors: 9-pin Female D-SUB (RS-232)
            Screw type terminal block (RS-485/422)
Receiver threshold: 0.8 V min. 2.4 V max. (RS-232)
                   0.2 V (RS-485/422)
Receiver input impedance: 3K ~ 7 Kohm (RS-232)
                         96 Kohm (RS-485/422)
Transmission mode: Single ended (RS-232)
                  Differential (RS-485/422)
Transmission distance: 50 ft (RS-232)
                       5000 ft (RS-485/422)
Common-mode voltage: K25 V (RS-232)
                    +12 V, -7V (RS-485/422)
Driving capability: 32 receivers (12 Kohm input)
                    247 receivers (96 Kohm input)
Power: 90~264 VAC, 47~63 Hz, 10VA, 4W max.
Breakdown Voltage: 2500VAC, 1 minute (power to RS-232, RS-485/422)
                   400 VAC, 1 minute (between RS-232 and RS-485/422)
Isolation resistance: >500 Mohm VS. 500 VDC
Ambient temperature: 0~50°C
Storage temperature: -20~80°C
Agency Approvals:  CE Approved
Mounting method:  DIN rail mount or wall mount
Dimension: 4.02” (L) X 3.15” (W) X 1.18” (H) inches
Weight: 120 grams

5. Mechanical Data
A 220 ohms 1/2 W termination resistor across the TX1 and TX2 terminals of the last unit in the network is required. (Resistor not included)

A 220 ohms 1/2 W termination resistor across the receive terminals of the last unit in the network is required.

6. Application

(1) RS-485 Interface Wiring

(2) RS-232 Interface Wiring
7. DIP Switch Setting

SNA10 DIP SWITCH SETTING
■ = ON POSITION
BLANK = OFF POSITION

1 2 3 4 5 6 7 8

Interface
RS-422 ■
RS-485

Parity Bit
None ■■
Even ■
Odd

Stop Bit
1 bit ■
2 bit

Baud Rate (bps)
300 ■■■■
600 ■■■■
1200 ■■■
2400 ■■
4800 ■■
9600 ■
14400 ■
19200 ■
28800 ■■■
38400 ■■

8. Ordering Data

SNA10A: Smart Network Adaptor for Future Design Controls mulit-drop Multiview software or third party software

SNA10A
Smart Network Adapter

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Rev 3 1/2017