

# 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.

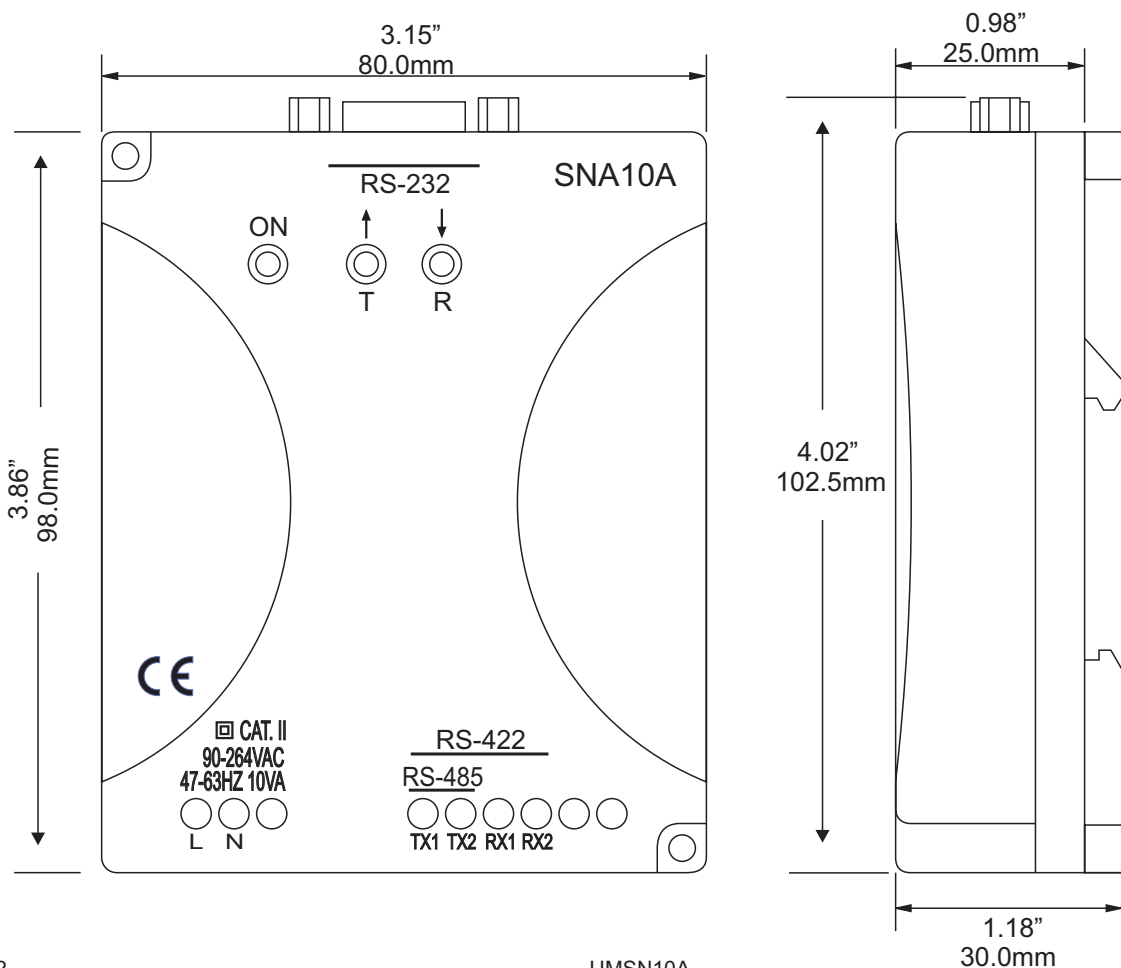
### 3. RS-232C Interface

Pin	EIA	Description	Source
1	CF	Carrier Detect (DCD)	DCE
2	BB	Received Data (RD)	DCE
3	BA	Transmitted Data (TD)	DTE
4	CD	Data Terminal Ready (DTR)	DTE
5	AB	Signal Ground (SG)	DTE/DCE
6	CC	Data Set Ready (DSR)	DCE
7	CA	Request to Send (RTS)	DTE
8	CB	Clear to Send (CTS)	DCE
9	CE	Calling Indication (RI)	DCE

## 4. Specifications

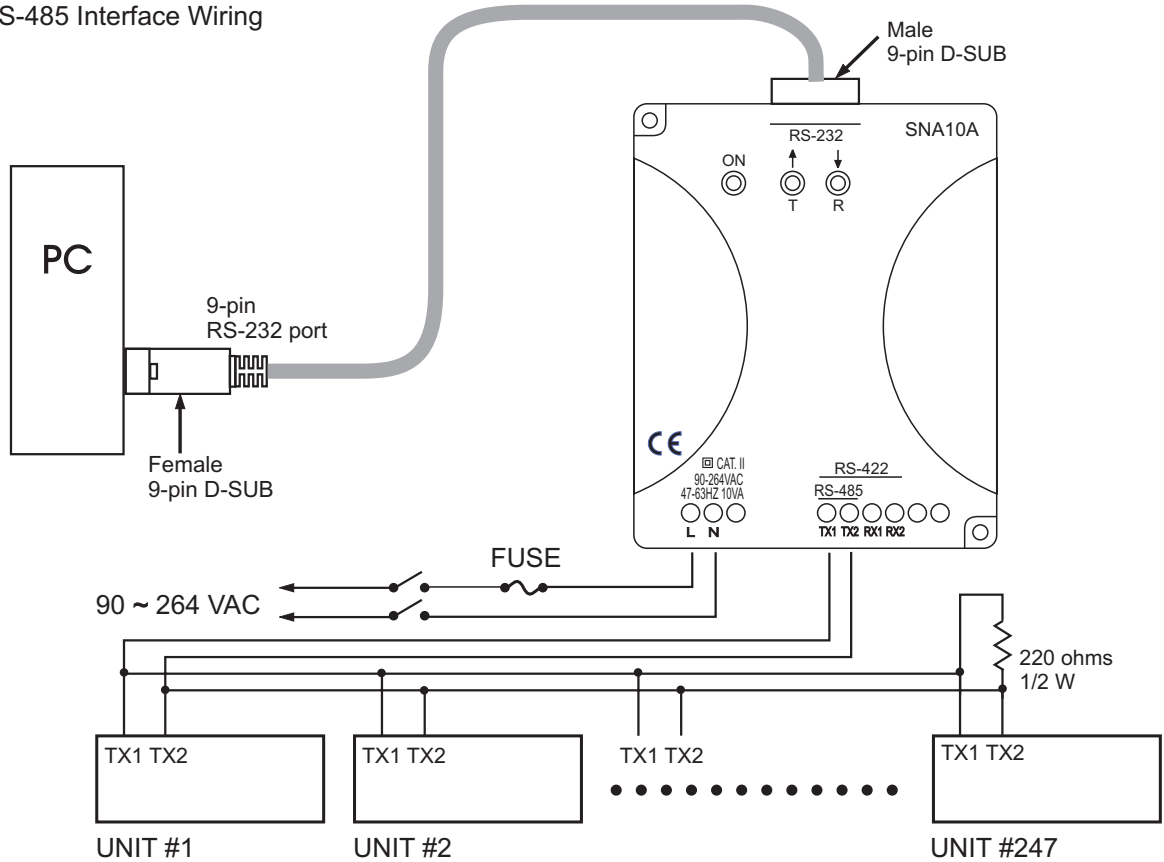
Baud rate:	300 ~ 38400 bits/sec
Parity bit:	None, odd or even
Data bit:	8 bits
Stop bit:	1 or 2 bits
Connectors:	9-pin Female D-SUB ( RS-232 ) Screw type terminal block ( RS-485/422 )
Receiver threshold:	0.8 V min. 2.4 V max. ( RS-232 ) K0.2 V ( RS-485/422 )
Receiver input impedance:	3K ~ 7 Kohm ( RS-232 ) 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, 1minute ( 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 LC
Storage temperature:	-20~80 LC
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



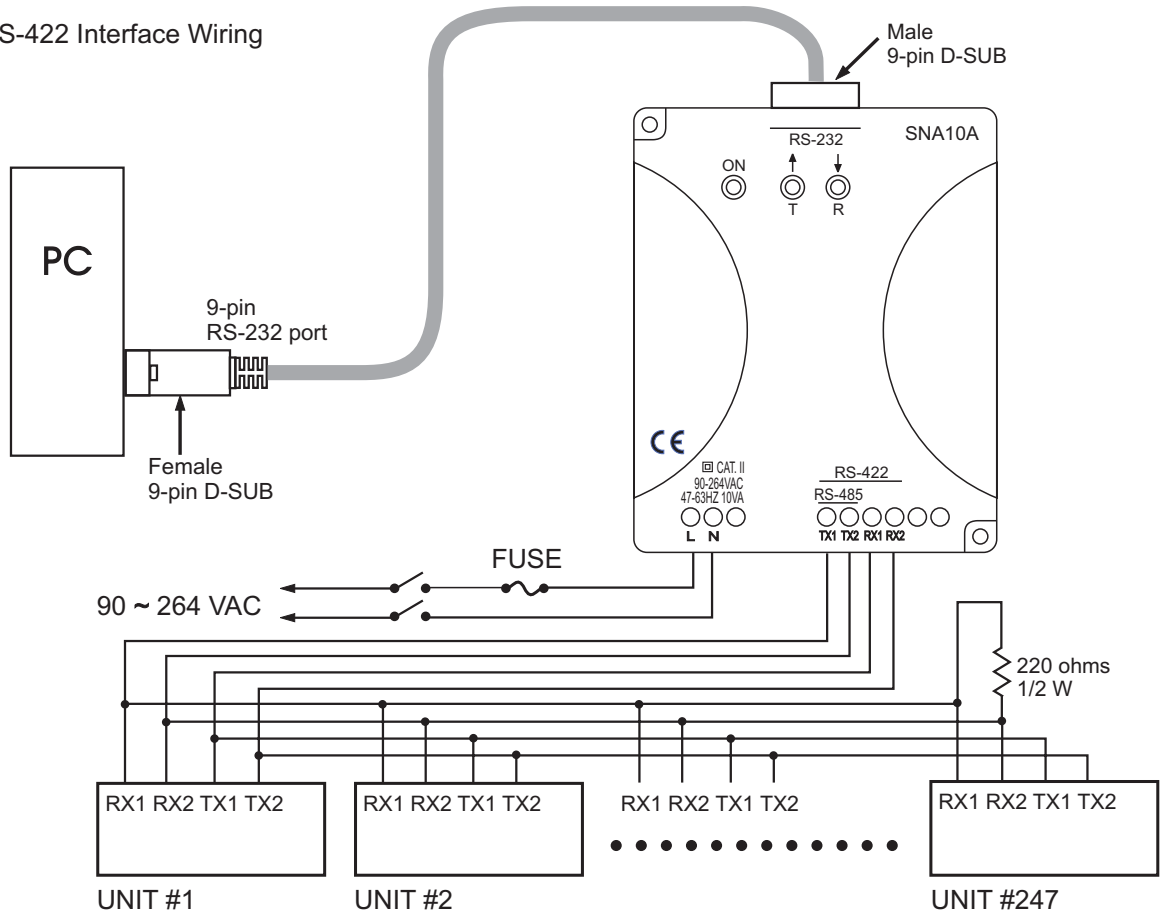
# 6.Application

( 1 ) RS-485 Interface Wiring



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)

( 2 ) RS-422 Interface Wiring



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

## 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 mult-drop Multiview software or third party software

# SNA10A

## Smart Network Adapter

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