

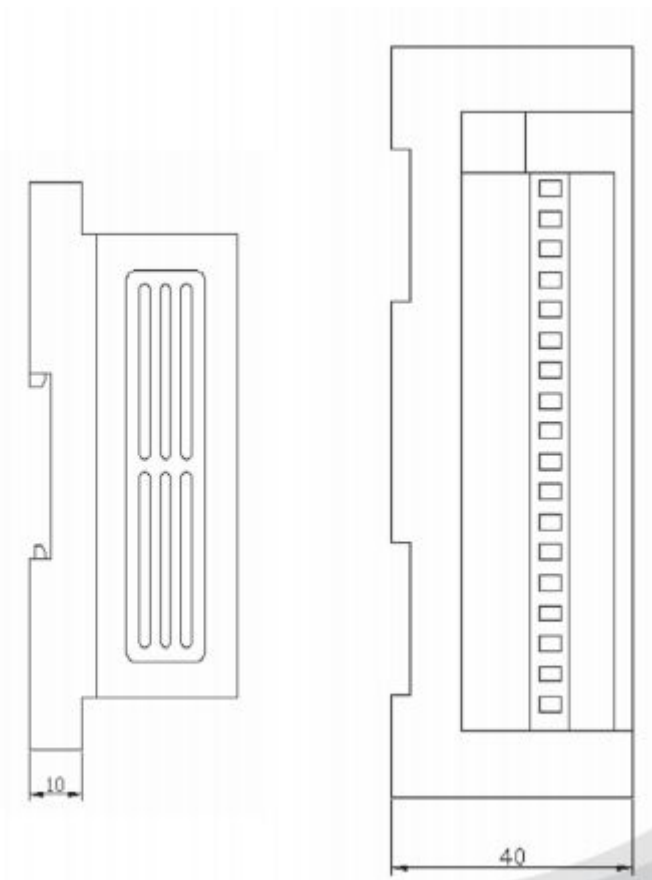
STC-101 Micro RTU

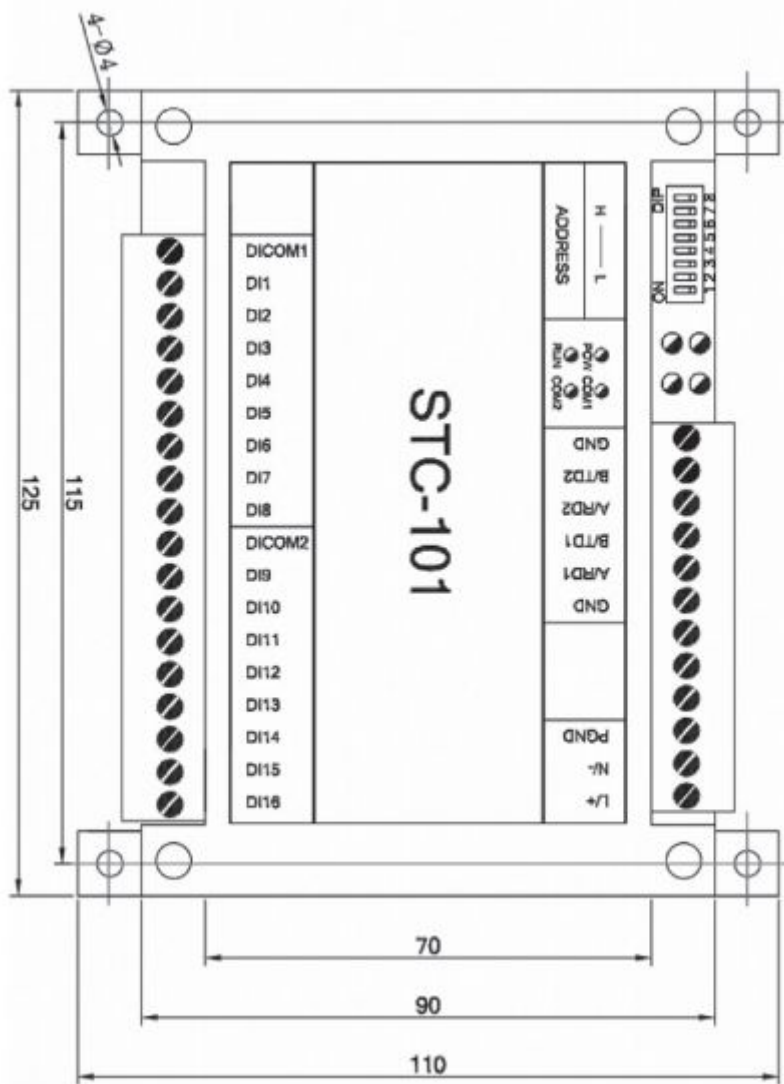
STC-101 Appearance

1. Installation and Connection Introduction

STC-101 installation process: if equipped with standard IEC rail, just block it into the rail. If there is no rail, you need fix STC-101 on the board with four snails.

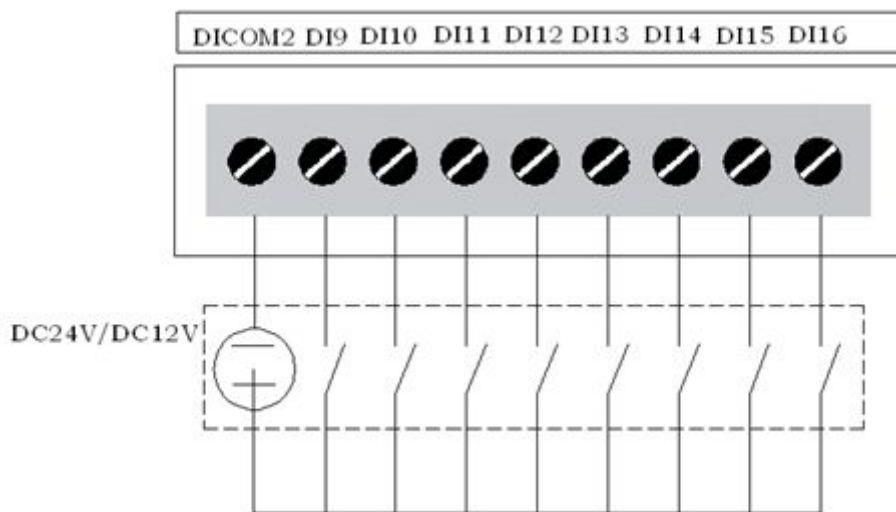
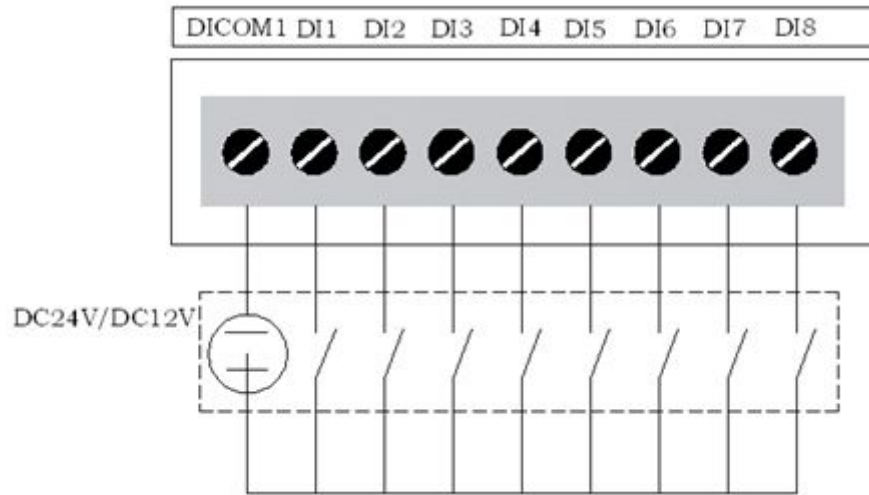
STC-101 dimension drawing:



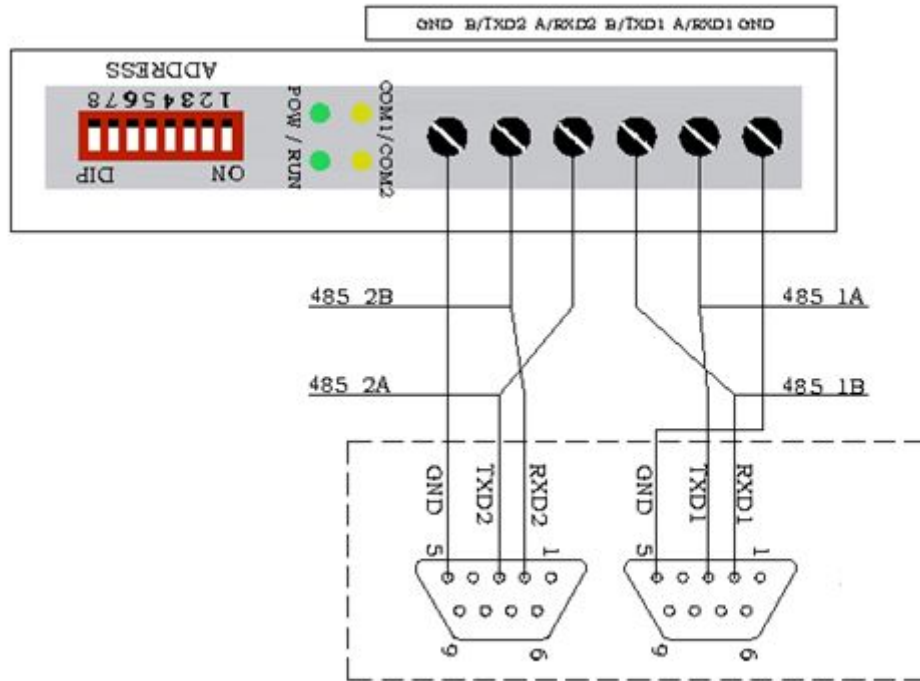


- Please according to underneath's elucidation to connect line:

Connect Digital Input:



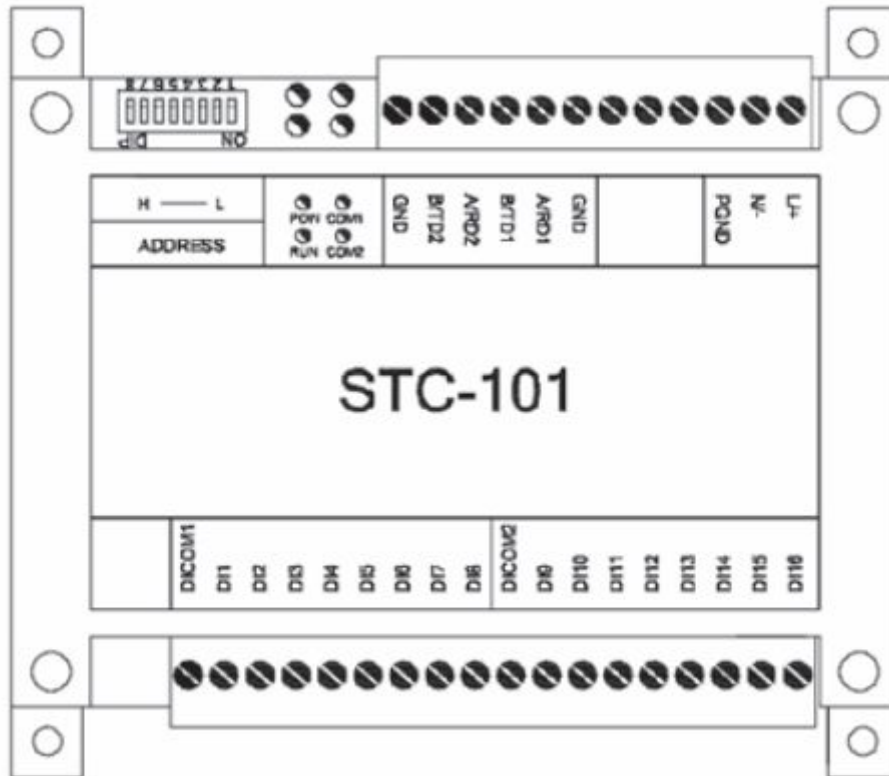
Connect Communication Port:



- POWER indicator light of power
- RUN indicator light of run (coruscate shows running)
- COM1 indicator light of communication port (coruscate shows communicating)
- COM2 indicator light of communication port (coruscate shows communicating)
- 8-bit Dial-Switch set the module address (the device address in MODBUS), The LSB is marked '1', and the MSB is marked '8'. The device address is zero, when all bits are dialed to 'ON'. The address of device according to ten enter to make BCD code to mean. Just use low 5 bits. High 3 bits is reserved.

Eg.1:	MSB				LSB	
	5ON	4ON	3OFF	2ON	1ON	
	0	0	1	0	0	The Address of Device is 04
Eg.2:	MSB				LSB	
	5ON	4OFF	3OFF	2ON	1ON	
	0	1	1	0	0	The Address of Device is 12

STC-101 Terminal Drawing:



Terminal definition:

L/+5/12V/24V48V	220V AC Power Input or DC Power Input +
N/-	220V AC Power Input or DC Power Input –
PGND	
GND	
A/RXD1	A to the 1st channel RS485 (485+) or RXD to RS232
B/TXD1	B to the 1st channel RS485 (485-) or TXD to RS232
A/RXD2	A to the 2nd channel RS485 (485+) or RXD to RS232
B/TXD2	B to the 2nd channel RS485 (485-) or TXD to RS232
DICOM1	Low 8th Common Port of Digital Input
D11	Digital Input 1 Terminal
D12	Digital Input 2 Terminal
D13	Digital Input 3 Terminal
D14	Digital Input 4 Terminal
D15	Digital Input 5 Terminal

DI6	Digital Input 6 Terminal
DI7	Digital Input 7 Terminal
DI8	Digital Input 8 Terminal
DICOM2	High 8th Common Port of Digital Input
DI9	Digital Input 9 Terminal
DI10	Digital Input 10 Terminal
DI11	Digital Input 11 Terminal
DI12	Digital Input 12 Terminal
DI13	Digital Input 13 Terminal
DI14	Digital Input 14 Terminal
DI15	Digital Input 15 Terminal
DI16	Digital Input 16 Terminal

2. STC-101 Modbus internal register define

- Digital Input DEF, Function Code 02

Modbus address	Data description
10001	Digital Input 1 (DI1)
10002	Digital Input 2 (DI2)
10003	Digital Input 3 (DI3)
10004	Digital Input 4 (DI4)
10005	Digital Input 5 (DI5)
10006	Digital Input 6 (DI6)
10007	Digital Input 7 (DI7)
10008	Digital Input 8 (DI8)
10009	Digital Input 9 (DI9)
10010	Digital Input 10 (DI10)
10011	Digital Input 11 (DI11)
10012	Digital Input 12 (DI12)
10013	Digital Input 13 (DI13)
10014	Digital Input 14 (DI14)
10015	Digital Input 15 (DI15)
10016	Digital Input 16 (DI16)

- Input Register DEF, Function Code 04

Modbus address	Data description
30001	Group 1st frequency
30002	Group 2nd frequency
30003	Group 3rd frequency
30004	Group 4th frequency
30005	Group 5th frequency
30006	Group 6th frequency
30007	Group 7th frequency
30008	Group 8th frequency

30009	Group 9th frequency
30010	Group 10th frequency
30011	Group 11th frequency
30012	Group 12th frequency
30013	Group 13th frequency
30014	Group 14th frequency
30015	Group 15th frequency
30016	Group 16th frequency

- **Holding Register DEF, Function Code 03/06**

Modbus address	Data description
40001	System Run Time Low 16 bit
40002	System Run Time High 16 bit
40003	Channel 1 32bit Counter low 16bit
40004	Channel 1 32bit Counter high 16bit
40005	Channel 2 32bit Counter low 16bit
40006	Channel 2 32bit Counter high 16bit
40007	Channel 3 32bit Counter low 16bit
40008	Channel 3 32bit Counter high 16bit
40009	Channel 4 32bit Counter low 16bit
40010	Channel 4 32bit Counter high 16bit
40011	Channel 5 32bit Counter low 16bit
40012	Channel 5 32bit Counter high 16bit
40013	Channel 6 32bit Counter low 16bit
40014	Channel 6 32bit Counter high 16bit
40015	Channel 7 32bit Counter low 16bit
40016	Channel 7 32bit Counter high 16bit
40017	Channel 8 32bit Counter low 16bit
40018	Channel 8 32bit Counter high 16bit
40019	Channel 9 32bit Counter low 16bit
40020	Channel 9 32bit Counter high 16bit
40021	Channel 10 32bit Counter low 16bit
40022	Channel 10 32bit Counter high 16bit
40023	Channel 11 32bit Counter low 16bit
40024	Channel 11 32bit Counter high 16bit
40025	Channel 12 32bit Counter low 16bit
40026	Channel 12 32bit Counter high 16bit
40027	Channel 13 32bit Counter low 16bit
40028	Channel 13 32bit Counter high 16bit
40029	Channel 14 32bit Counter low 16bit
40030	Channel 14 32bit Counter high 16bit
40031	Channel 15 32bit Counter low 16bit
40032	Channel 15 32bit Counter high 16bit
40033	Channel 16 32bit Counter low 16bit
40034	Channel 16 32bit Counter high 16bit

40035 All Input Status High correspond 16th group
Low correspond 1st group

40036~40044 Reserved

40045 SIO 1 Baud Rate Set

40046 SIO 2 Baud Rate Set

The values of 40045 and 40046 are 0xPQRS, 16 enter to make to mean for the R reserved, 8 data bit, 1 stop bit, the P is highest of four bits for parity check set.

P=D(13) for even, P=9 for odd, P=1 for none.

Q = 1 The communication method is ASCII;

Q = 0 The communication method is RTU.

Bode rate setting table

Baud Rate	Setting Value					
	Odd		Even		None	
	Hex	Decimal	Hex	Decimal	Hex	Decimal
9600	9000	36864	D000	53248	1000	4096
300	9001	36865	D001	53249	1001	4097
600	9002	36866	D002	53250	1002	4098
1200	9003	36867	D003	53251	1003	4099
2400	9004	36868	D004	53252	1004	4100
4800	9005	36869	D005	53253	1005	4101
9600	9006	36870	D006	53254	1006	4102
19200	9007	36871	D007	53255	1007	4103
38400	9008	36872	D008	53256	1008	4104
57600	9009	36873	D009	53257	1009	4105
76800	900A	36874	D00A	53258	100A	4106
115200	900B	36875	D00B	53259	100B	4107

Default communication mode :

Set the Address_Switch to zero before power on, at this time communication for the default mode: The device ID is 1, the communication protocol is RTU, the baud rate is 9600.one stop bit, eight data bit, none check.

Baud rate setting example:

Example 1: Change the communication mode to 38400, one-stop bit, eight data bit, even.

First step: Communicate with the default mode to (9600, one stop bit, eight data bit, none check), change the value of hold register address 40045 and 40046 to 53256 by the test software, wait a minute and cut the power.

Second step: Power on again, communicate with new mode: baud rate is 38400, one stop bit, eight data bit, even.

40047 Reserved

40048 Reserved

40049 Frequency Measure Gate Time