



FSACC01 RS485/RS485 optical-isolated protection

FSACC01 is a Fourstar RS485/RS485 optical-isolated protection developed specially for Schneider PLC, used for Schneider TSX series PLC. To solve the interference in the communication and realize the protection of interface, RS485 light-isolated communication interface protection is designed, and it also suitable for any standard RS485 interface, with functions such as a high-speed optoelectronic segregation, anti-static, anti-lightning strikes, the extending of communication distance and increasing the number of group web sites. This product will greatly enhance the anti-jamming performance; reliability and safety of communication systems, system RS485 particularly, completely solve the interface's easily to be damaged problem.

This product is fully compatible with Schneider TSXPACC01 isolation, and the function is enhanced, the main differences between the two are as follows:

| Technique quanification | Schneider TSXPACC01 | Fourstar FSACC01 |
|---|--------------------------------------|-----------------------------|
| Communication rate | 19.2Kbps | 0~250Kbps adaptive |
| The greatest communication distance (when 9.6Kbps) | 500m | 2000m |
| The largest number of group networking sites | 32 | 64 |
| Anti-lighting circuit | Not have | have |
| Sending/receiving communication indicator light | Not have | have |
| Isolation between TER、AUX interfaces and PLC | Non-isolated | isolated |
| Installation way | Bolt hole | Bolt hole and standard rail |
| shape | Iron shell and water-proof structure | Non-water-proof |

Technical details:

1. power: 5VDC, 1W, supply by the TER interface of PLC
2. max distance of communication: 3km (4800bps) , 2km (9600bps)
3. max rate of communication:0~250kbps,automatically adaptive
4. The bus can link 64 RS485 transceivers (more than 64 need statement

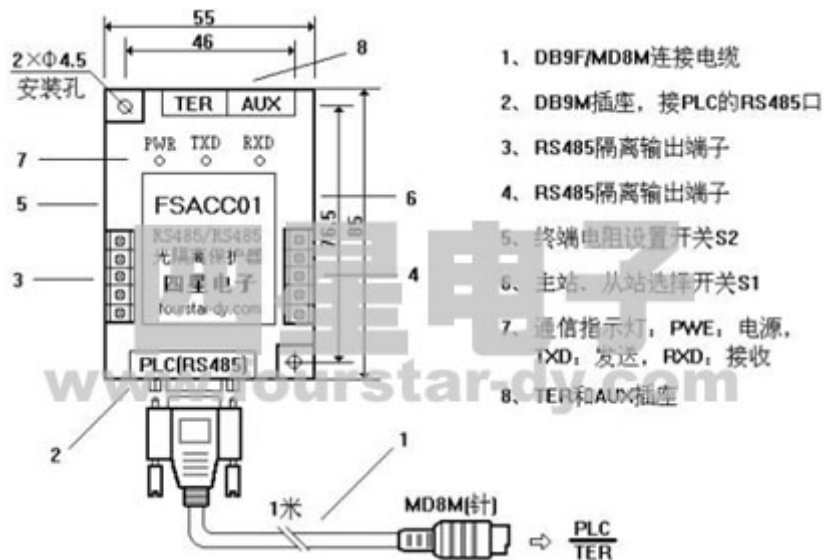
, No more than 512)
5. With transient voltage suppression, can withstand the transient over-voltage whose power is up to 600 W, anti-lighting and anti- static discharge impact
6. Slope-limited driver, to minimize electromagnetic interference, and can reduce the reflection caused by the no-match of transmission line terminal.
7. Protection of receiver input open-fault
8. A thermal shutdown feature
9. Isolated voltage: 1000 VDC (up to 3000 VDC, statement is required when ordering)
10. Temperature: -20 ~ 75 °C
- 11 Weight: 100 g
12. Dimensions: 85 × 55 × 25

13. Installation: installation of 35 mm standard rail and bolt hole

Products shape and definition of terminal signals:

The RS485 interface of this product's input end is DB9M socket, with a DB9F/MD8M cable and link to the TER interface of Schneider PLC. Users can make a self-made cable to connect to different devices according to their own situations. The terminals on FSACC01 and TER, AUX interface are isolated RS485 signal, but the Schneider TSXPACC01 TER, AUX are not isolated.

The connection terminals of this product and the definition of TER, AUX socket's signal are fully same with the Schneider TSXPACC01 Isolations. TER, AUX sockets are used to connect other peripherals such as programmer or programming cable.



Signal definition of connection terminal

| RS485 isolated output(left terminal) | | RS485 isolated terminal (right terminal) | |
|--------------------------------------|-----------------------------------|--|-----------------------------------|
| Signal name | description | Signal-name | description |
| D (B) | RS485 signal positive | D (B) | RS485 signal positive |
| D (A) | RS485 signal negative | D (A) | RS485 signal negative |
| 0VL | RS485 signal ground | 0VL | RS485 signal ground |
| 0VL | RS485 signal ground | 0VL | RS485 signal ground |
| FG | Shield ground (chassis ground) | FG | Shield ground (chassis ground) |

DB9M and TER、AUX socket (MD8F) stitch signal definition

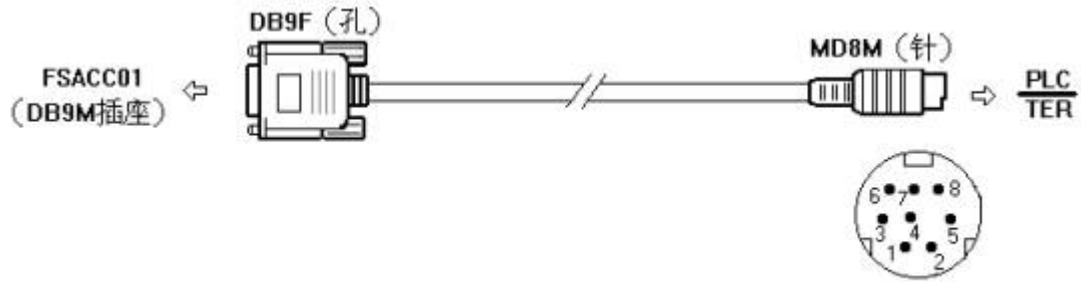
| DB9M socket (RS485 input) | | TER socket (RS485 isolated output) | | AUX socket (RS485 isolated output) | |
|---------------------------|--------------|------------------------------------|------------------|------------------------------------|-------------|
| Pin number | description | Pin number | description | Pin number | description |
| 1 | Not be used | 1 | D(B) | 1 | D(B) |
| 2 | Not be used | 2 | D(A) | 2 | D(A) |
| 3 | D (B) | 3 | Not be used | 3 | Not be used |
| 4 | Not be used | 4 | Not be used | 4 | Not be used |
| 5 | 0V | 5 | Not be used | 5 | Not be used |
| 6 | +5VDC in put | 6 | Not be used | 6 | Not be used |
| 7 | Not be used | 7 | 0V | 7 | Not be used |
| 8 | D (A) | 8 | +5VDC out put | 8 | Not be used |
| 9 | /DPT | | | | |

FSACC01 connect with Schneider PLC:

Use the DB9F/MD8M cable witch attach with the products to connect the DB9M socket of

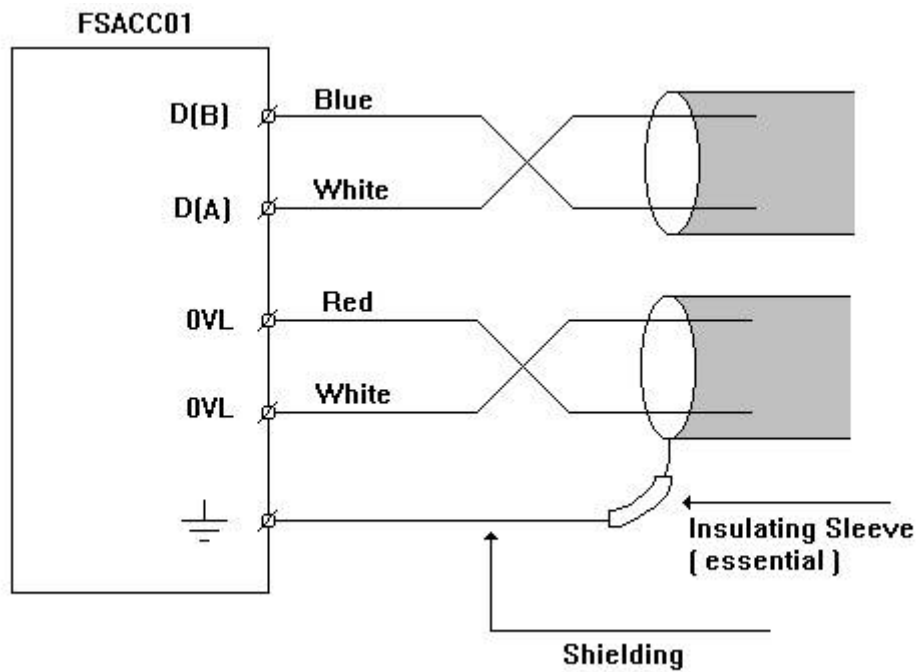
FSACC01 and the TER interface of PLC. As map below:

| | | | |
|------|---|---|------|
| D(B) | 3 | 1 | D(B) |
| D(A) | 8 | 2 | D(A) |
| +5V | 6 | 8 | +5V |
| 0V | 5 | 7 | 0V |
| /DPT | 9 | 5 | /DPT |

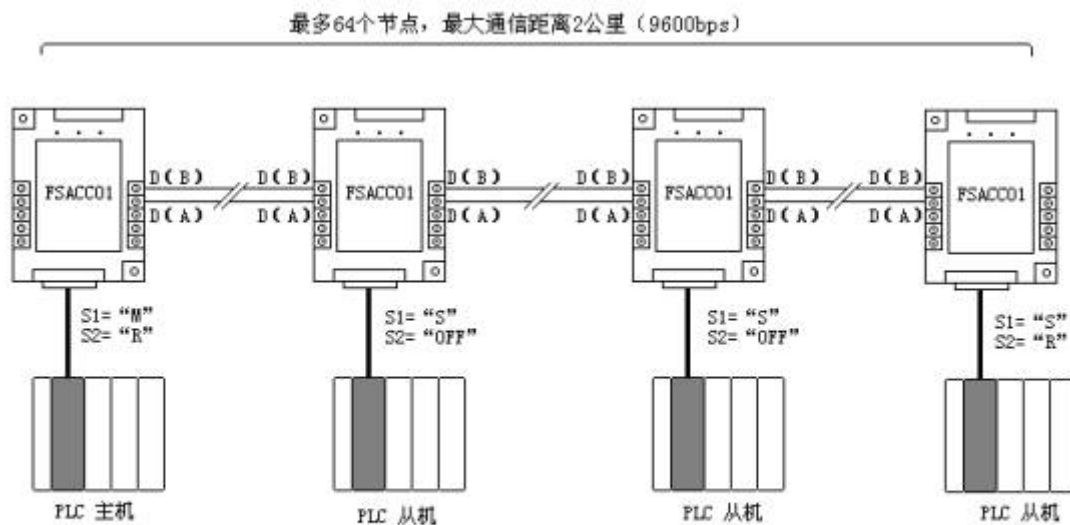


How to use:

Can completely according to the working method of Schneider TSXPACC01 isolation to connect FSACC01 to the UNI-TELWAY bus:



FSACC01 can make 64 PLC nodes form isolated RS485 communication network, the largest communication range is up to 2km (9600 bps), 3km(4800 bps), and without changing the existing communication software, as shown below. Turn the terminal resistance setting switch S2 on the FSACC01 of network's two ends to "R" (connect terminal resistance), the terminal resistance setting switch S2 of other nodes to "OFF" (don't connect terminal resistance).



主/从机的设置：将连接主机PLC的FSACC01上的主/从机选择开关S1拨到“M”，连接从机PLC的拨到“S”

终端电阻的设置：需将总线两端的FSACC01上的终端电阻设置开关S2拨到“R”，其它节点拨到“OFF”

Notes:

- 1, Shielded twisted pair with above 0.5 mm² cross-sectional area and 120-ohm impedance should be used as the communication lines,
- 2, In order to prevent the common mode voltage of RS485 interface beyond the permitted range which would impact the reliability of communication or even damage interfaces, you can use a low resistance wire whose cross-sectional area is 1 mm² to connect the signal ground "OVL" of each FSACC01 to remove the of each node on the network..

3, If using shielded twisted pair, you need to connect the shield to the ground terminal of FSACC01 shell.

4, Connect the input terminal of FSACC01 to the RS485 interface of PLC, and one FSACC01 only can connect to the RS485 interface of one PLC; Connect the isolated output terminal of FSACC01 with the RS485 bus network, the direction can be wrong.

5, the cable length from each FSACC01 to the bus (extension) is no more than 15 m, otherwise will cause echoes and affect the normal communication of system. If you use two pair of D(B),D(A) terminal for connection as the picture, there will be no extension problems of course.

6, For the setting of terminal resistance, the role of terminal resistance is to eliminate the waveform distortion caused by the reflection of signal in the communication lines. Please turn the termination resistor setting switch S2 witch is on the FSACC01 of the communication line's terminal and start to "R" (connect 120 Ohm terminal resistance), the terminal resistance setting switch S2 of other FSACC01 to "OFF" (terminal resistance is unacceptable).