

P110 シングルチャンネルディスプレイ装置



特徴：

- * シングルチャンネルディスプレイ
- * 温度および放射率を表示
- * 大きなデジタル表示なので離れていても見やすい

性能：

- ・ 応答時間：51 mSec.
- ・ データ入力：RS422/RS232

電気仕様：

- 入力電源 (日本国内仕様)：
100 VAC 50Hz/60Hz および
200 VAC 50Hz/60Hz

機械仕様：

- ・ 寸法 H x W x D：104 x 144 x 85 mm
- ・ 重量：～0.5 kg

使用環境条件：

- 操作時の温度範囲：0 - 45°C (32 - 113°F)
操作時の湿度：10 - 90 % (非液体)

Detail Technical specification

Display P110 has 2 serial ports both from DB 9 connector as following:

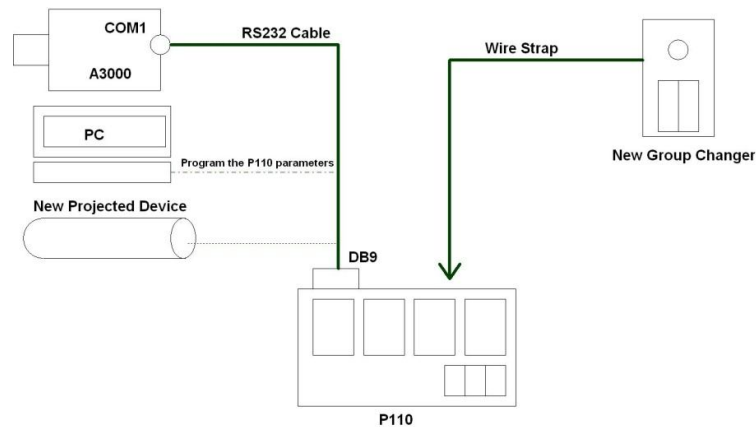
- 3-wires RS232;
- isolated 4-wires RS422 / 2-wires RS485.

3-wires RS232 serial port is designated to communicate with A3000 COM1 to display temperature and emissivity and send the “change group” command to A3000.

The new group changer generates this command requirement.

The A3000 COM1 communication protocol is described in the “A3000_App_E_Communication Protocol” of User Manual.

The port also will communicate with PC to program the special parameters (see below the item 7) only for AST internal using. New projected sensor for India is planned to communicate with this P110 port also.

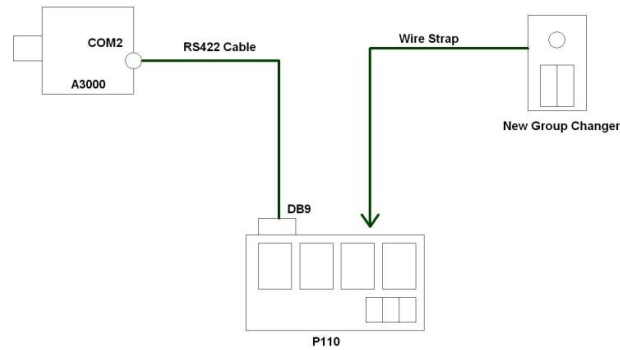


Picture 1. RS232 Connection

4-wires RS422 serial port is designated to communicate with A3000 COM2 to display temperature and emissivity and send the “change group” command to A3000.

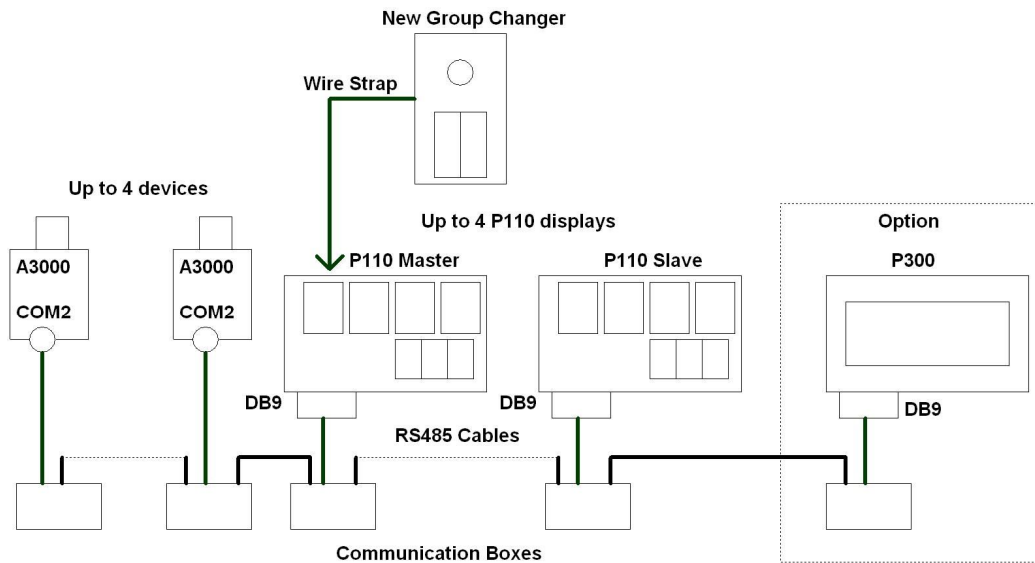
The new group changer generates this command requirement.

The A3000 COM2 communication protocol is described in the “A3000_App_E-1_Communication Protocol” of user manual. The protocol has message frames and commands like the protocol of old P1001 display, because it includes the “change group” command. As against of P100 RS422 connection, this connection requires 4 wires (2 twisted pairs T+ and T-, R+ and R-), because P110 should transmit the “change group” command to A3000 and receive messages from it. P100 only receives messages from A3000.



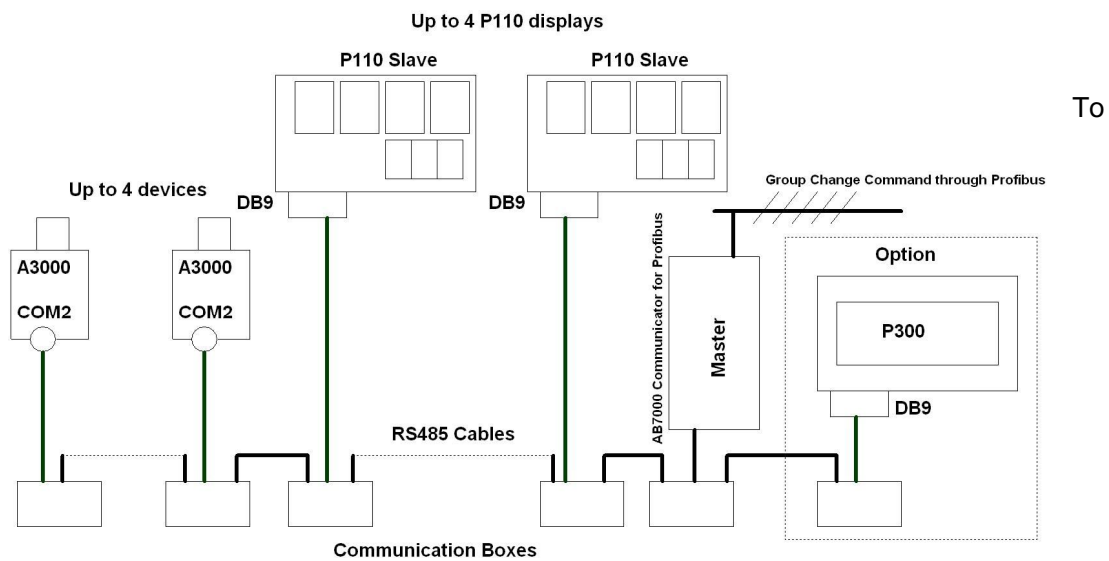
Picture 2. RS422 Connection

2-wires RS485 option with group changer is designated to connect up to 4 A3000, up to 4 P110 and P300 in one line. One of P110 is selected as Master by programming the special parameter in its memory. Group changer is connected to Master P110 and generates the “change group” command requirement. Master P110 sequentially sends this command to all connected A3000. The A3000 COM2 communication protocol is described in the “A3000_App_E-3_Communication Protocol” of user manual, so Master P110 acts exactly like Profibus communicator in this case. All P110 including Master one recognize the P300 (MT500 ASCII) communication message to display temperature and emissivity of respecting A3000 by programming the special line address parameter in their memory.



Picture 3. RS485 Master Option Connection

2-wires RS485 option with Profibus communicator is designated to connect up to 4 A3000, up to 4 P110, Profibus communicator and P300 in one line. Profibus communicator is the Master device on created RS485 sub network (see the "A3000_App_E-3_Communication Protocol" of user manual). All P110 recognize the P300 (MT500 ASCII) communication message to display temperature and emissivity of respecting A3000 by programming the special line address parameter in their memory.



Picture 4. RS485 Slave Option Connection

support existing 2-wires RS422 connection between P100 and A3000 COM2, P110 can have this connection possibility only for temperature and emissivity indication, but not for group change. It is supposed to have 2 set parameters in P110 memory, programmed by special PC software as mentioned in the item 2 as follows:

- Master/Slave flag used for RS485 options (see the items 4 and 5);
- Line address parameter used also for RS485 options allowing separate P110 to display temperature and emissivity of specified A3000.

P110 will automatically recognize A3000 messages of existing communication protocols.

Proposed output DB9 pin assignment:

Pin #	Symbol	RS232 3 wires	RS422 4 wires + shield	RS485 2 wires + shield
1	RS422/RS485 Ground	-	Shield	Shield
2	RxD	RxD	-	-
3	TxD	TxD	-	-
4	-	-	-	-
5	RS232 Ground	GND	-	-
6	R+	-	R+	-
7	R-	-	R-	-
8	T+	-	T+	Data+
9	T-	-	T-	Data-

Existing P100 output DB9 pin assignment:

Pin #	Symbol	RS232 3 wires	RS422 2 wires + shield
1	RS422 <i>Ground</i>	-	Shield
2	RxD	RxD	-
3	TxD	TxD	-
4	T+	-	T+
5	RS232 Ground or T-	GND	T-
6	-	-	-
7	-	-	-
8	-	-	-
9	-	-	-