

**Pyrometer A5
Display P110
Appendix H**

1. Properties

- 1.1 Dimensions: 106 x 146 x 89mm³
- 1.2 Weight: 0.5kg
- 1.3 Input Power: 24VDC (18-36), 0.1A
- 1.4 Operating Temperature: 0-45°C
- 1.5 Operating Humidity: 10-90% (non-condense)
- 1.6 Certification: CE

2. Display

Display **P110** is designated to show measurement results of **AST A5 pyrometers** (further on text “camera”). Upper four 7-segment indicators show temperature in °C or in °F or special text messages about either out of range or error conditions. Lower three 7-segment indicators show value of emissivity or special numbers of either out of range or error (see **A5 User manual**). Below the display picture is shown:



Picture 1. Display P110

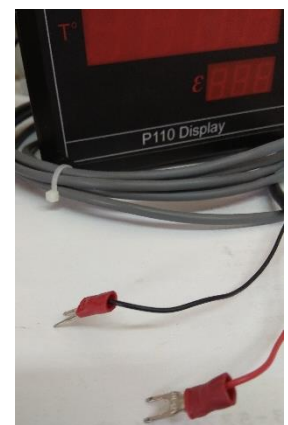
3. Power

Display P110 should be powered up by a stable 24V DC (in a 18-36V range, above 0.1A) power supply.

Power supply wiring:

P110 **Red** wire should be connected to the **positive** 24V pole.

P110 **Black** wire should be connected to the **grounding** 24V pole.



4. Serial Ports

Display has 2 serial ports as following:

- 3-wires RS232
- Isolated 5-wires RS422 (or 3-wires RS485).

3.1. RS232

3-wires RS232 serial port is designated to communicate with camera **RS232** serial port to display measurement results and send to camera the “change group” command. Accordingly, if pyrometer has RS422 serial port, it connecting with RS422 port of display.

The camera RS232/RS422 communication protocol is described in the **A5 App E Communication RS232/RS422** of User manual.

Otherwise, this command may be generated by specially ordered Group Changer AS30000, or by means connected to P110 Display external PLC (see Appendix D of A5 User manual- “**Switch camera calibration groups**”).

3.2. RS485

3-wires RS485 option is designated connecting up to 4 cameras A4 equipped by RS485 communication, up to 4 **P110** and **AB7000** communicator for Profibus by **HMS** Company. More detailed information see in the “**A5 App E.1 - RS485 Communication**” of Pyrometer user manual.

5. DB9 Pin-Out

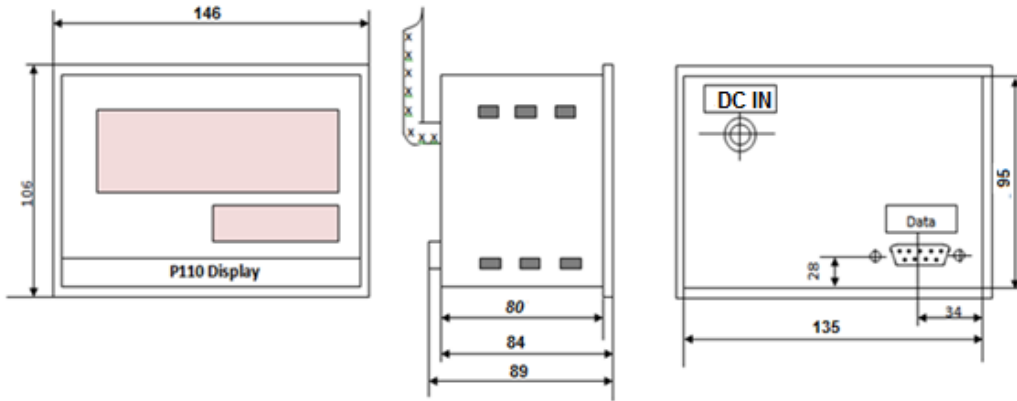
P110 automatically recognizes camera messages of the communication protocols. Both RS232 and RS422 (or RS485) ports’ terminals are connected to DB9 data connector. Table 1.0 shows the DB9 pin out.

Table 1.0 Data Connector Pin Out.

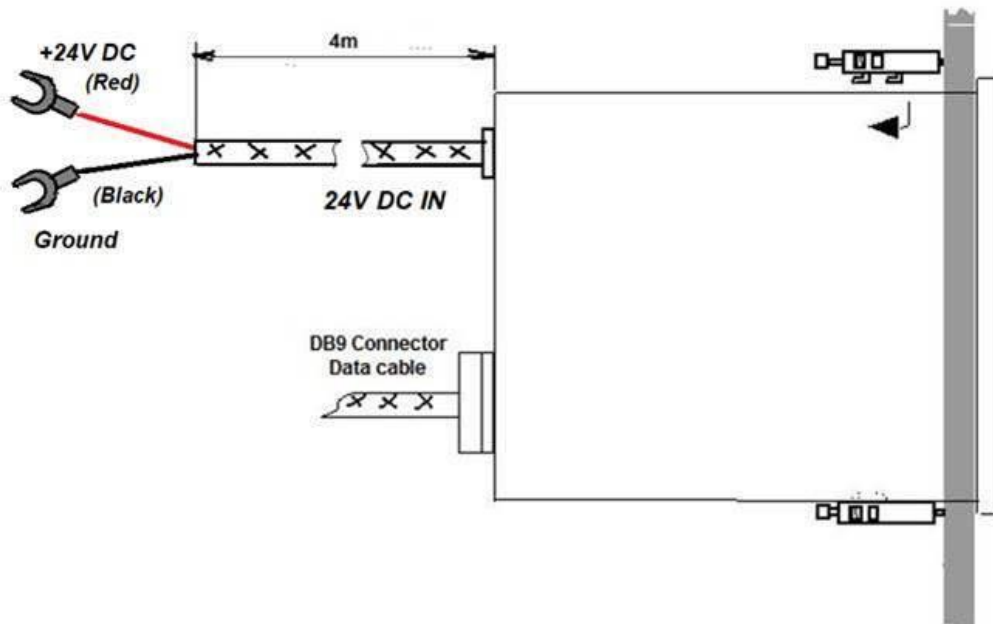
<i>Pin #</i>	<i>Symbol</i>	<i>RS232 3 wires</i>	<i>RS422* 5 wires</i>	<i>RS485* 2 wires</i>
1	RS422/RS485 Signal Ground	-	Ground	Ground
2	RxD	RxD	-	-
3	TxD	TxD	-	-
4	-	-	-	-
5	RS232 Signal Ground	GND	-	-
6	R+	-	R+	-
7	R-	-	R-	-
8	T+	-	T+	Data+
9	T-	-	T-	Data-

* Communication version accordingly to order

6. Mechanical dimensions



Picture 2. Display P110 Mechanical dimensions



Picture 3. P110 Display panel mounting