

# **INSTALLATION GUIDE**

## **Book 3.**

### **Sinar Drypro™**

### **Model 7080-001 Multi Channel Moisture System.**

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# **Sinar Drypro Model 7080 Multi Channel Moisture Measuring System.**

## **USER GUIDE.**

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## **1.0 Introduction:**

The installation guide provides information on how to install a Drypro display unit and Sensors into a typical vertical, gravity fed continuous flow dryer. Some variations may be required for certain dryers.

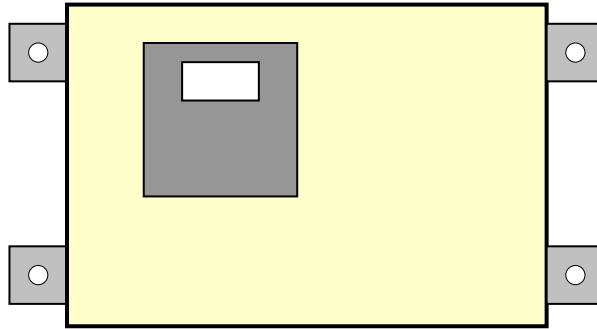
## **2.0 Unpacking instructions.**

The Drypro system will be packed in a number of boxes. Check the condition of the boxes prior to unpacking. Check the contents of the boxes visually for obvious signs of transit damage.

If any components have transit damage, contact Sinar Technology or your Sinar agent immediately.

The Drypro display unit has a key in a plastic bag taped to the Drypro front cover. Do not discard with packaging.

## **3.0 Mounting the Drypro Display unit.**



Find a position on a suitable wall in the dryer control room to mount the display unit. The preferable height is with the Drypro display at operator eye height.

Take into account that the display unit requires a mains voltage supply and that the sensor wiring will need to exit the control room to the dryer.

The Drypro also has a hinged front door which needs space to open.

Drill and plug the wall and mount the display unit using M8 bolts.

Bring a suitably rated 3 core mains cable into the Drypro via gland 'A'. The gland will accept cables up to  $\varnothing$ 8mm (5/16").

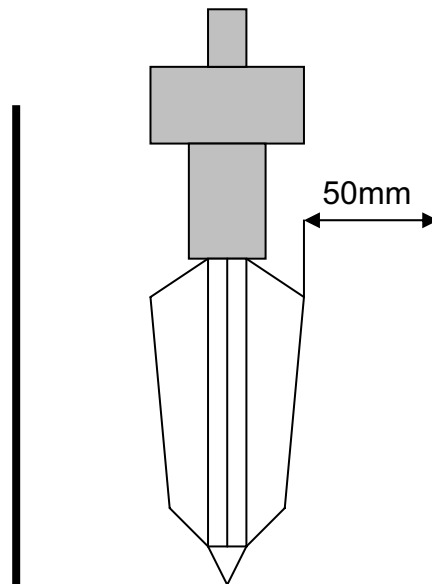
Terminate the conductors onto TB1.

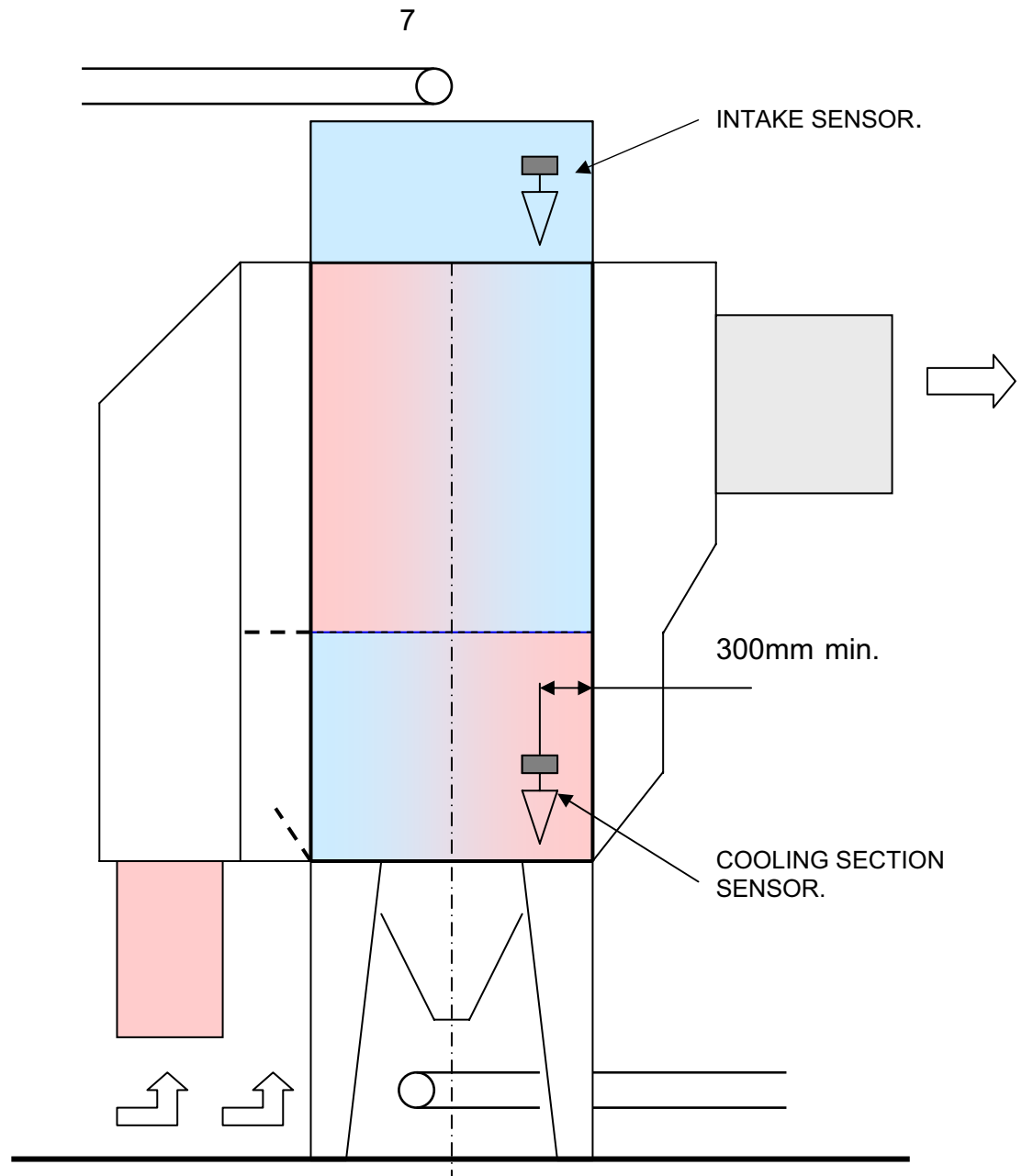
<b>LIVE</b>	<b>TERMINAL 9</b>
<b>NEUTRAL</b>	<b>TERMINAL 11</b>
<b>EARTH</b>	<b>TERMINAL 13</b>

## 1. The Drypro sensors.

The Drypro sensors can be mounted in various locations within the dryer. The location dictates the mounting arrangement.

1. Two standard mounting arrangements are supplied by Sinar Technology:
  - Sensor suspended from the dryer lateral.  
This sensor is mounted using a powerful magnet. See section 4.1.
  - Sensor mounted from the sidewall of the intake hopper.  
This sensor is mounted using a small frame bolted to the inside face of the intake chamber. See section 4.2. The sensor is also supplied with a flow regulator tube. This is positioned around the sensor and maintains a constant crop pressure on the sensor fins irrespective of the amount of crop in the intake chamber.
1. When mounting a sensor, irrespective of location, all four sensor fins must have 50mm (2") of clearance minimum, from any surrounding metalwork. This dimension is taken from the edge of the fins.





**Layout showing typical position of sensors in a vertical continuous flow dryer.**

## **5.0 Sensor mounting in dryer lateral.**

1. The sensor needs to be suspended a minimum of 300mm (12") in from the sidewall of the dryer, see drawing page 7.

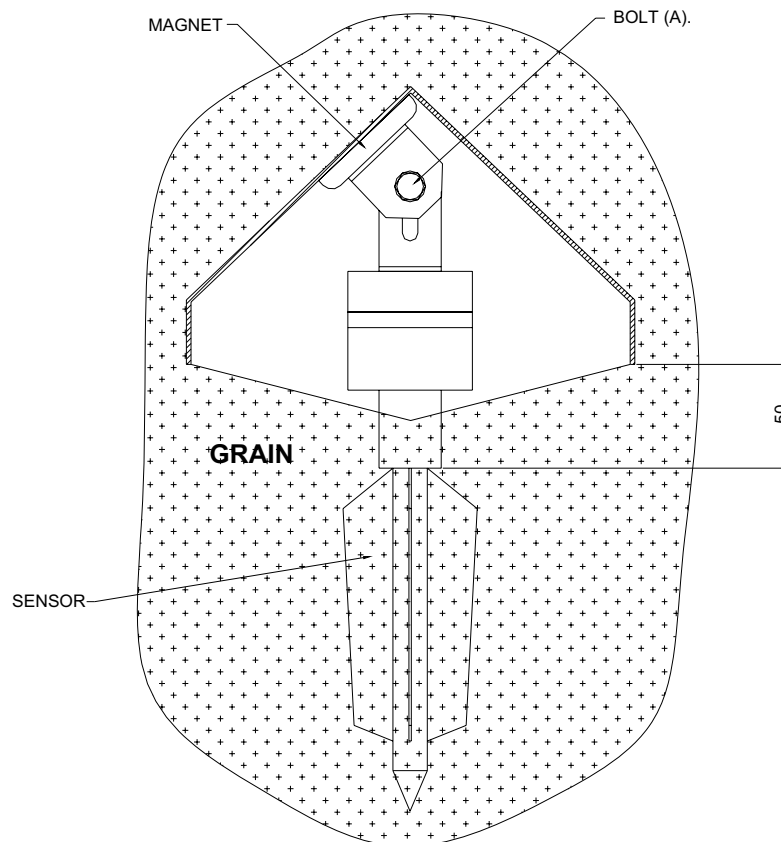
Try to align the sensor with the centre line of the lateral. This ensures the crop flows evenly around the sensor and applies a balanced force on the

sensor fins.

If you are mounting a sensor in the cooling section of the dryer, mount the sensor on the exhaust air side and in the lowest lateral. This is usually the second row of laterals in bay 2. The bottom row is usually too near the flow control valves.

When the dryer is in operation the crop forms a natural vee profile under the lateral. It is important that the sensor fins are positioned deep enough, to ensure they are always covered with crop. As a guide, the top of the sensor fins should be 50mm down from the bottom edge of the lateral, see drawing.

Cross-section through dryer lateral.



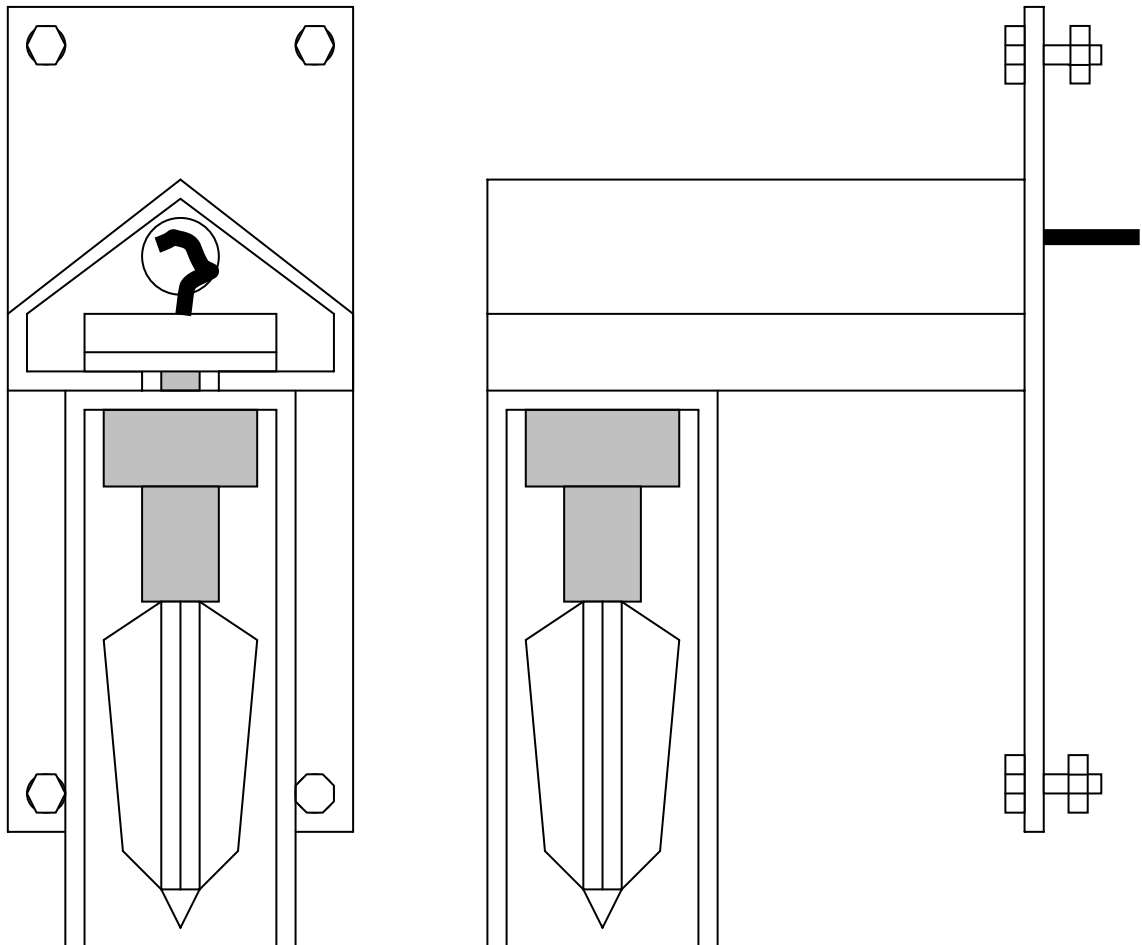
The sensors which are to be mounted from a lateral are supplied with a 1M length of chain. This is to secure the sensor and prevent it from dropping into the dryer should the magnet become dislodged.

## 6.0 Sensor mounting into intake hopper.



Choose an internal face of the intake hopper, which allows access from the outside for tightening nuts and bolts.

Using the bracket as a template, mark the position of 4 fixing holes and a hole for the cable exit. Drill the holes  $\text{Ø}10.0$  and secure the bracket in place.

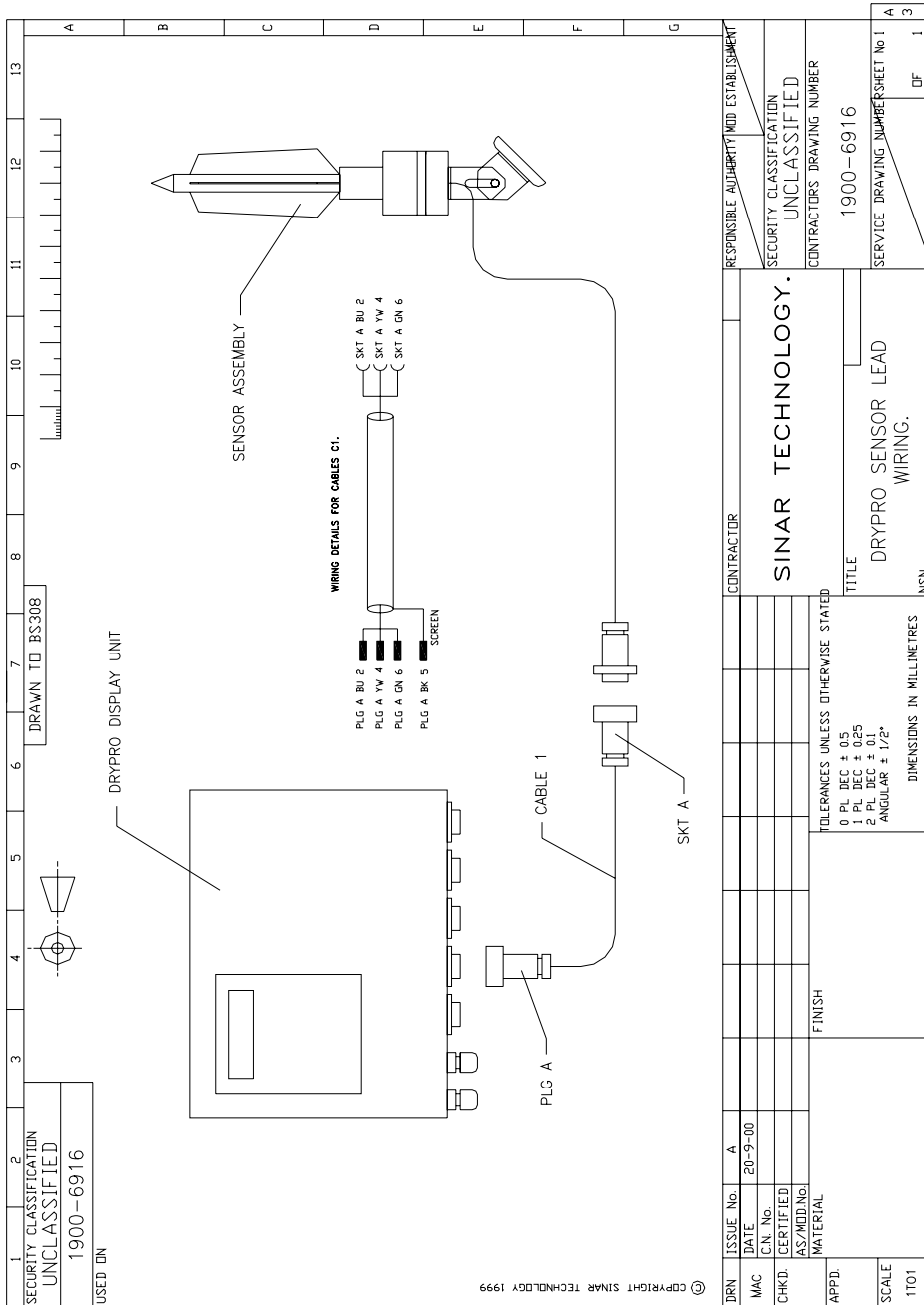


Where holes for cables are drilled through the dryer wall, ensure a grommet is used and the holes are sealed with silicone sealant.

## 7.0 Cable Routing.

Route the cables from the sensor/s to the display unit using existing cable trays wherever possible. Secure the cables to the cable trays using ty-raps supplied.

Using a screwdriver, terminate the cables into the connectors. Use the plug at display box cable end and a socket at sensor cable end.



Ensure the hexagonal nut on the back of the connector is fully tightened. This clamps a gland onto the cable and seals the back end of the connector from water ingress. To ensure a water-tight seal, use silicone sealant around the cable exit point.

Turn on the mains voltage to the display unit. Switch on the display unit using the “I” key. Follow the procedure in Section 8 to check the cable connections to the sensors.

As a standard, configure the sensor in the intake hopper of the dryer (if fitted) as sensor 1. Sensors in the cooling section of the dryer will be sensor 2 etc.

## **8.0 Checking Sensor Wiring (Mode 1, F3).**

This command has two purposes:

- 1) To see how many sensors are connected to the display unit.
- 2) To check the cable link between the sensors and the display box.

Press the **F3** key.

<b>Temperature</b>	<b>1</b>
<b>Temp</b>	<b>Sensors</b>

<b>F3</b>
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Mode 1 screen.

The display changes to show the screen below .

<b>2 sensors : 12--</b>	
<b>Temp</b>	<b>Sensors</b>

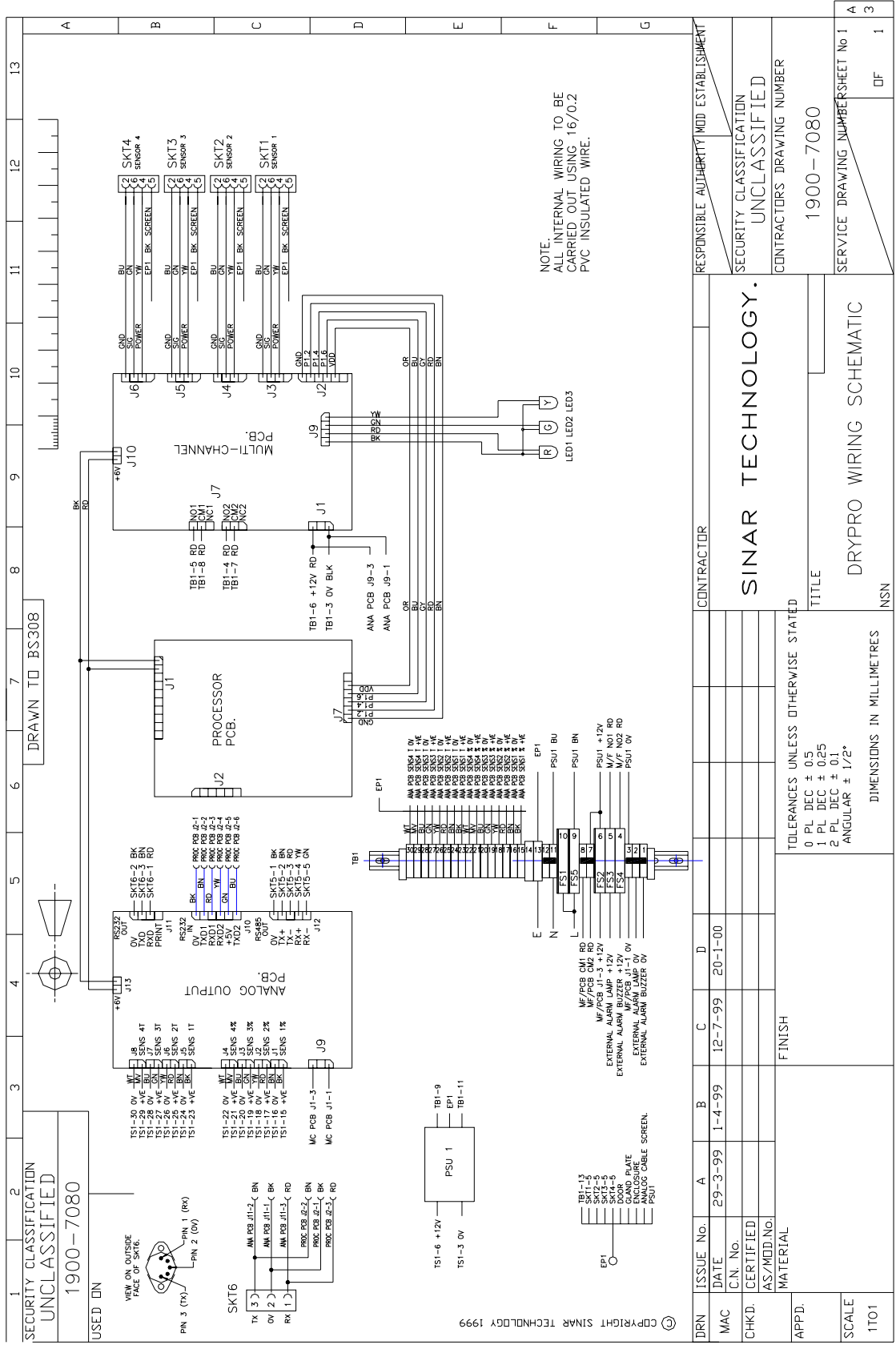
1 and 2 denote that there are sensors connected to the sensor port 1 and 2 on the display box. The dashes denote nothing connected to ports 3 and 4. If a dash appears where a sensor is installed, check the interconnecting wires between the display box and sensor. There is a fault.

Press the **MODE** key to return to the mode 1 screen.

## 9.0 System Calibration.

When the sensors are confirmed as being present and in the correct positions you are ready to calibrate the system. For this procedure refer to Drypro User Guide 2, Section 5.





SECURITY CLASSIFICATION  
UNCLASSIFIED  
1900-7080

DRAWN TO BS308

RESponsible AUTHORITY MID ESTABLISHMENT

DRN	ISSUE No.	A	B	C	D	CONTRACTOR	
MAC	DATE	29-3-99	1-4-99	12-7-99	20-1-00	SINAR TECHNOLOGY.	
CHKD	C.N. No.					SECURITY CLASSIFICATION UNCLASSIFIED	
APPD.	AS/MOD.No.					CONTRACTORS DRAWING NUMBER 1900-7080	
SCALE	MATERIAL					SERVICE DRAWING NUMBER SHEET No 1 A	
1/101	FINISH					DF 1	

TITLE		DRYPRO WIRING SCHEMATIC	
TOLERANCES UNLESS OTHERWISE STATED		DIMENSIONS IN MILLIMETRES	
0 PL DEC ± 0.5	1 PL DEC ± 0.25		
2 PL DEC ± 0.1	ANGULAR ± 1/2°		