

# Compressed Air Dryers

## Dewpoint Measurement Conversion

### CDAS / OFAS / FBP HL 50 - 85

Instruction Sheet



## Description

The following document details the equipment and steps required to replace a Michell hygrometer with a Parker dew point sensor (PDS) and a conversion from the PDS to a Michell hygrometer.



Only competent personnel trained, qualified, and approved by Parker domnick hunter should perform the following procedures.

## Equipment Required

- 17mm AF tube spanner
- 17mm AF open ended spanner
- Small flat bladed terminal screwdriver
- 5mm bladed screwdriver
- Ferrite removal tool

## Components

- Parker Dewpoint Sensor (PDS) Kit: **S308730001**

## Procedure - Michell Hygrometer to Parker Dew point Sensor



Before carrying out this conversion, the dryer should be isolated both electrically and pneumatically and fully depressurised.

- Accessing the rear of the dryer, identify the Michell hygrometer assembly and disconnect the wire from the hygrometer, it will be necessary to unscrew the connector retaining screw.
- Remove the hygrometer assembly from the tool clips and disconnect the Ø4mm PTFE hose from the hygrometer housing.
- Remove the tool clips from the back panel.
- Trace the PTFE hose to the front of the dryer and remove the hose from the connector and gently pull the hose from the dryer.
- Using a 17mm AF spanner unscrew the Ø4mm hose fitting from the casting.
- Take the new PDS and, making sure that the dowty seal is fitted over the threads, insert the PDS onto the housing and tighten using the 17mm AF tube spanner. Apply a torque of 15Nm.
- Fit one ferrite by clamping it around the cable approximately 100mm from the PDS.
- Feed the PDS cable to the back of the dryer, passing it through the grommeted hole in the back panel.
- Remove the electrical enclosure cover and identify the Michell hygrometer cable terminal block at the lower right hand side of the control board.
- Using a terminal screwdriver, remove the hygrometer cable from the control box.
- Insert the PDS cable in place of the hygrometer cable and connect as shown in the attached wiring diagram.
- Fit the second ferrite to the PDS cable between the back plate and where the cable enters the control box.

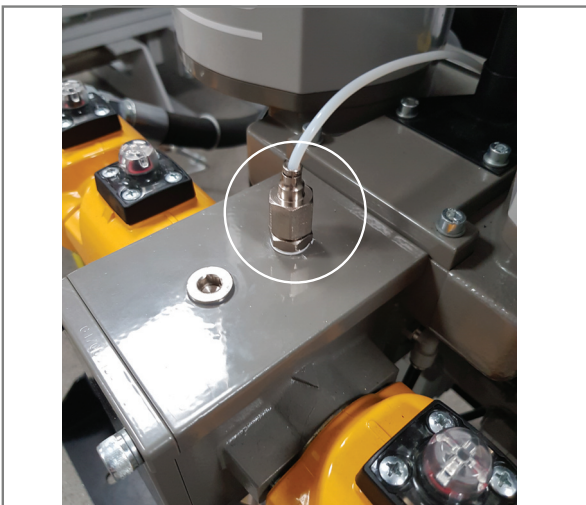
- m Identify DIP switch array B, switch No2 and using the small terminal screwdriver move the switch from on to off, this changes the selection from hygrometer to PDS.
- n Replace the enclosure cover.
- o The dryer should be powered electrically to check the display does not show any errors which could be attributed to any faulty wiring or sensor.
- p If the dryer passes the electrical checks, the dryer can be slowly pressurised.
- q Once pressurised the PDS should be checked for leaks around the sealing joint.
- r The dryer can now be brought online.
- s It is recommended that the sensor is replaced annually, accuracy of measured dew point will diminish beyond 12 months.



(a) Back panel and Michell hygrometer assembly



(c) Remove the tool clips



(d) CDAS Hygrometer 4mm PTFE hose connection



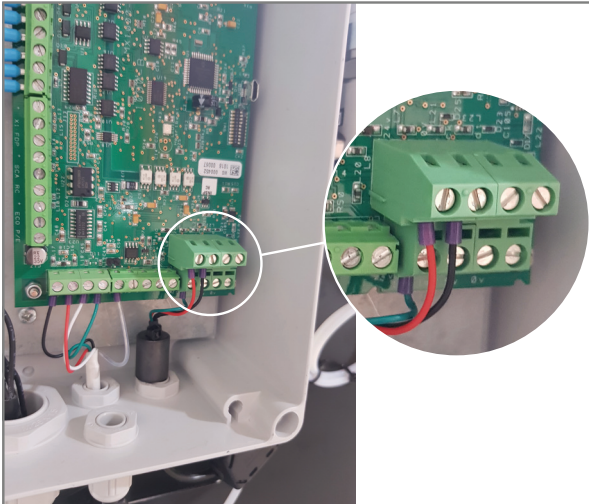
(d) OFAS / FBP Hygrometer 4mm PTFE hose connection



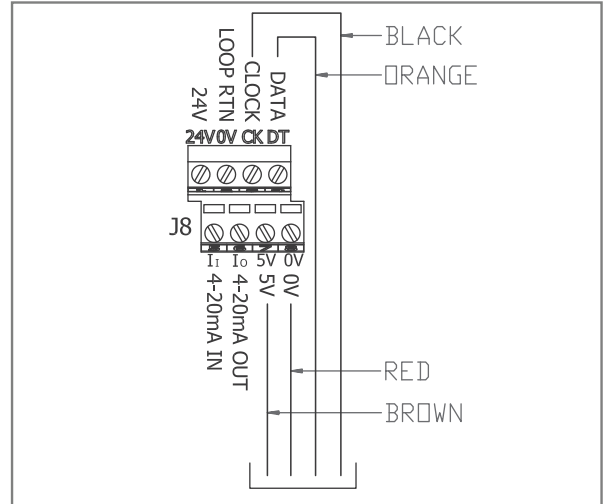
(e) CDAS Parker Dewpoint Sensor location



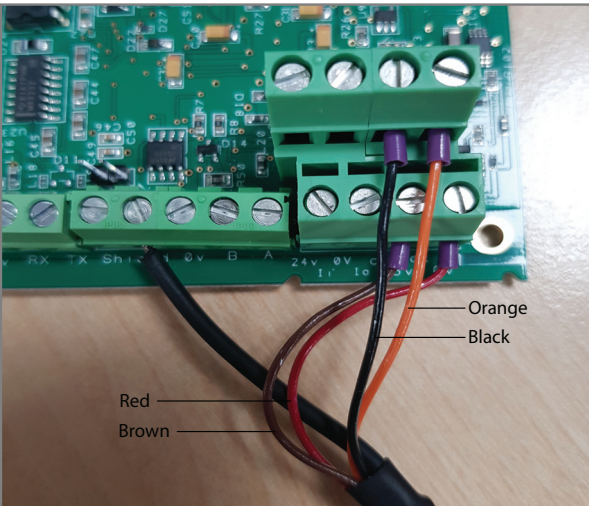
(f) OFAS / FBP Parker Dewpoint Sensor location



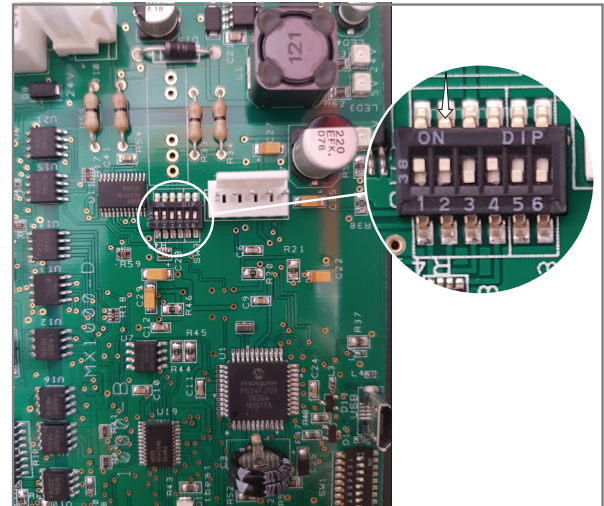
(i) 3 Wire hygrometer cable connection



(k) Parker Dewpoint Sensor wiring connections



(k) Parker Dewpoint Sensor wiring connections



(m) Move switch no.2 from ON to OFF

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## Equipment Required

- 17mm AF tube spanner
- 17mm AF open ended spanner
- Small flat bladed terminal screwdriver
- 5mm bladed screwdriver
- Ferrite removal tool

## Components

- Michell Hygrometer Kit: **F458730110**

## Procedure - Parker Dewpoint Sensor to Michell Hygrometer



**Before carrying out this conversion, the dryer should be isolated both electrically and pneumatically and fully depressurised.**

- Accessing the rear of the dryer, remove the electrical enclosure cover and identify the PDS cable terminals
- Using the terminal screwdriver remove the PDS wires from the terminals and gently pull the cable out of the control box through the gland.
- Remove the 2 ferrite blocks from the PDS cable, one of which should be retained for use with the Michell hygrometer.
- Using the 17mm AF spanner or tube spanner, remove the PDS sensor from the filter block.
- From the supplied hygrometer kit, fit the 3/8~1/4 inch reducer to the filter block in the location where the PDS sensor was fitted. It is recommended that PTFE tread tape is used on all threaded joints.
- Assemble the 1/4 inch BSP to Ø4mm straight adaptor to the reducer fitted in f) above.
- On the rear panel locate the two M3 threaded holes to the right of the control box and assemble the two tool clips.
- Taking the 500mm long Ø4mm PTFE hose, push this into the open push in connector on the side of the hygrometer assembly.
- Snap the hygrometer assembly into the tool clips. Feed the Ø4mm PTFE hose through the grommated hole in the back panel to the front of the dryer and insert into the fitting assembled in g) above. The hose can be cut to length if necessary.
- Take the sensor cable supplied in the kit and feed it through the now open gland in the base of the control box.
- Connect the wires in accordance with the attached wiring diagram.
- Identify DIP switch array B, switch No2 and using the small terminal screwdriver move the switch from OFF to ON, this changes the selection from PDS to hygrometer.
- Replace the electrical enclosure cover
- Fit the hygrometer cable to the hygrometer and screw into place.
- The dryer should be powered electrically to check the display does not show any errors which could be attributed to any faulty wiring or hygrometer.
- If the dryer passes the electrical checks, the dryer can be slowly pressurised.
- Once pressurised, the hygrometer fittings should be checked for leaks around the sealing joint.
- The dryer can now be brought online.
- It is recommended that the sensor is replaced annually, the calibration certificate is only valid for 12 months.

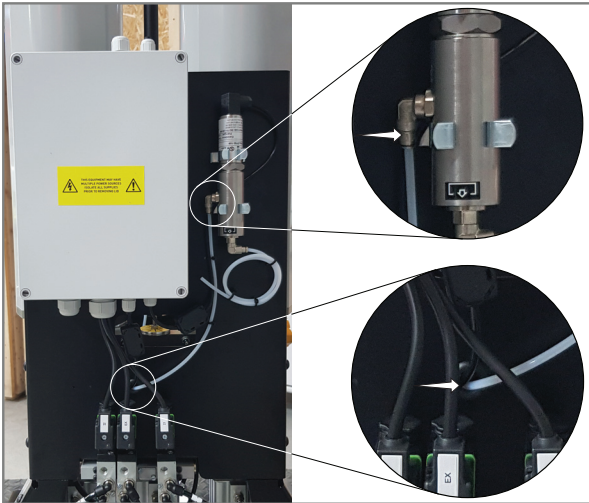
**NOTE** when changing to the Michell hygrometer, allowance should be made for the dryer air to purge the hygrometer system of moisture before a stable dew point is displayed.



(e & f) OFAS shown



(g) Fit the tool clips



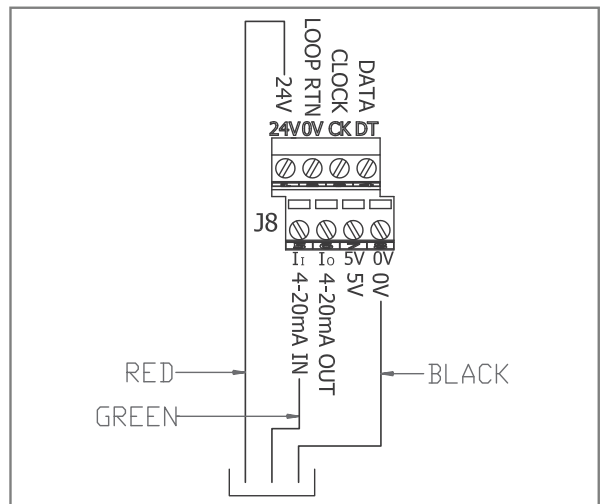
(h & i) Fitting the PTFE hose



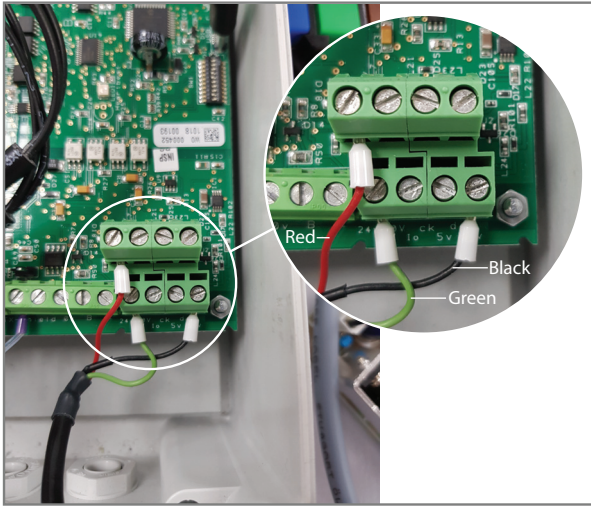
(i) Fit the 4mm PTFE hose connection



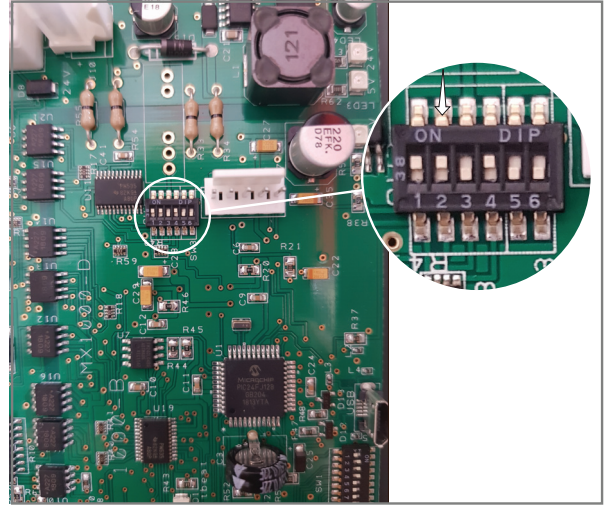
(i) Fit the 4mm PTFE hose connection



(k) Easi Dew Wiring connections



(k) Wiring connections



(l) Set DIP switch No.2 to ON



(n) Fit the cable to the hygrometer



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