



CE

OASR

Features

- Weatherproof Housing
- Radiation shield version to minimize errors from gains of the effects of direct sunlight
- Hinged lid with the facility of tamper proofing
- Uniformity of sensors with other AP products
- Custom output range scaling
- Choice of output type and temperature ranges on one unit

Technical Overview

The OAS and OASR active option combines 4 pre-set ranges and selectable mode, customised output range scaling enabling a choice of outputs and ranges on one unit.

Available in two versions the OAS has a 10mm diameter cap containing the sensing element located externally in the shadow of the lid to avoid solar gain.

It should be located in a sheltered position on a north facing wall.

The OASR sensing element is fitted into a PTFE radiation shield, which is designed to provide fast response time to changes in temperature and to protect the element from the direct effects of direct sunlight.

Ordering Codes

- | | |
|------------------|---|
| OAS 142 | 4-20mA/0-10Vdc Selectable output |
| OAS 142X | 4-20mA/0-10Vdc Selectable output with custom temperature scaling |
| OASR 142 | 4-20mA/0-10Vdc Selectable output radiation |
| OASR 142X | 4-20mA/0-10Vdc Selectable output with custom temperature scaling radiation. |

Technical Data

Selectable Output 4-20mA loop powered or 0-10Vdc

Supply voltage

0-10Vdc	24Vac +/- 15% @50Hz
	24Vdc +/-15% -6%
4-20mA	24Vdc +/- 15% -6%

Selectable temp.range -10 to +40°C

-10 to +110°C

-10 to +160°C

0 to +400°C

Custom ranges -40 to +400°C

Sensor type Pt100A

Connections Terminals 0,5 to 2,5 mm²

Accuracy +/-0,425@25°C, Overall +/-0,4°C

Ambient temperature -10...+50°C

Ambient humidity 0-80%RH non-condensing

Dimensions 75 x 70 x 50mm

Installation

OAS

1. Select a suitable location preferably on a north facing wall, ensuring that the sensor is away from direct sunlight and any heat sources.
2. Using the housing template, mark the hole centres, drill and fix the housing to a flat surface using appropriate screws.

The housing is designed to make it easy for an electric screddriver to be used if desired.

OASR

1. Select a suitable location. The sensor has a radiation shield that helps minimize error gains from direct sunlight.
2. Using the housing as a template, mark the hole centres, drill and fix the housing to a flat surface using appropriate screws.

The housing is designed to make it easy for an electric screddriver to be used if desired.

Common installation

1. Release the snap-fit lid by gently squeezing the locking tab.
2. Feed the cable through the waterproof gland and terminate the cores at the terminal block.
3. Leaving some slack inside the unit, tighten the cable gland onto the cable to ensure water tightness.

It is recommended that the unit be mounted with the cable entry at the bottom. We recommended that a rain loop be placed in the cable before entry into the sensor.

4. Snap shut the lid after the connections have been made. If IP65 protection is required, secure the lid with the two screws provided.

Connection

All connections to BEMS controllers, data recorders etc. should be made using screened cable.

Normally, the screen should be earthed at one end only (usually the controller end) to avoid earth hum loops which can create noise.

Low voltage signal and supply cables should be routed separately from high voltage or mains cabling.

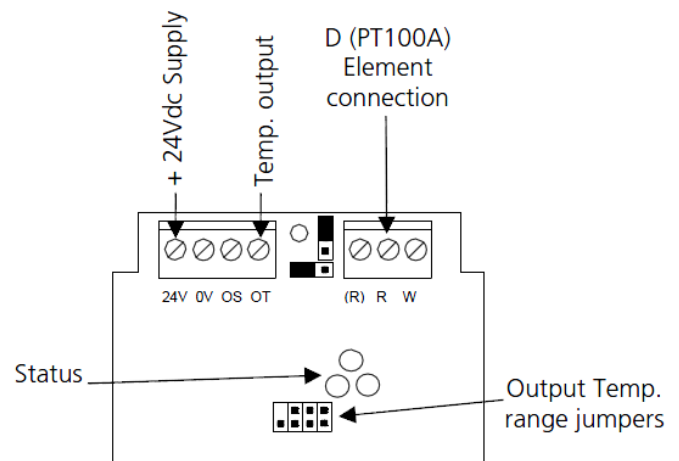
Separate conduit or cable trays should be used.

Where possible, the controller's earth should be connected to a FUNCTIONAL EARTH, rather than the mains safety earth.

This will provide better immunity to high frequency noise.

Most modern buildings have a separate earth for this purpose.

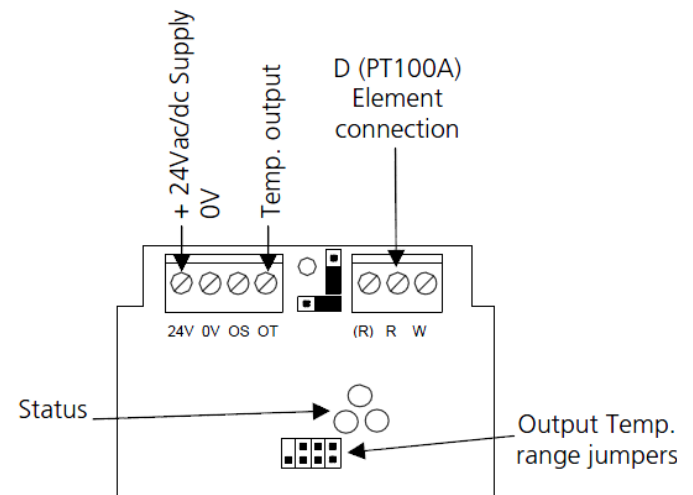
4-20mA Output



If using in current output mode, the sensor must only be used with 24Vdc supply.

The sensor may be damaged if supplied with 24Vac.

0-10Vdc Output

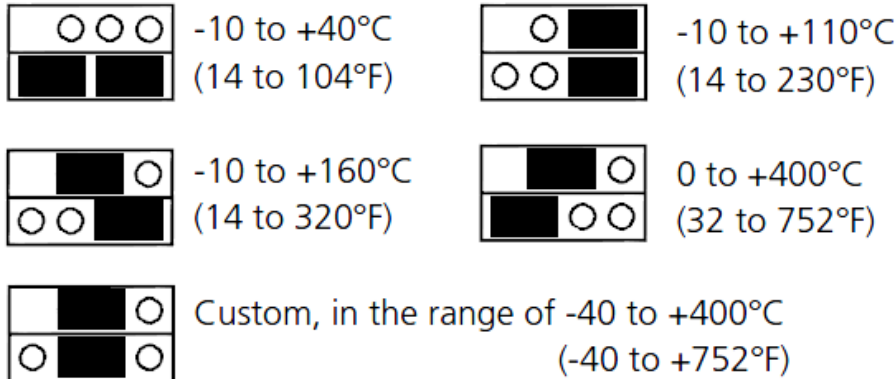


Nominal voltage 24Vac/dc



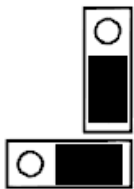
Jumper Settings

Output temperature range section:

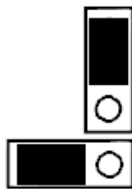


If the range links are incorrectly set, or missing the output range will default to -10 to +40C

Output signal type:



0-10Vdc



4-20mA

LED Status

Power Supply

Normal:

The green LED indicates the supply condition.

If the power supply is normal the green LED is ON continuously.

This shows that the OAS and OASR is powered correctly.

Low Supply Voltage:

If power supply falls below about 22V the green LED does double flashes twice a second.

The PCB tries to maintain the correct output but may be unable to achieve the specified voltage or current level.

At very low voltages it will stop working.

The products referred to in this datasheet meet the requirements of EU Directive 2004/08/EC.

Whilst every effort has been made to ensure the accuracy of specification, Automatikprodukter cannot accept responsibility for damage, injury, loss or expenses from error or commission. In the interest of technical improvements this specification may be altered without notice.

High Supply Voltage:

If the power supply is above 40V the green LED flashes 6 times a second.

The PCB tries to maintain the correct outputs but components on the PCB may overheat causing unreliability and ultimately failure.

Output

4-20mA output:

The red LED lights up when the PCB is in 4-20mA mode and is working correctly.

The following conditions must be met:

- The output selects (jumpers) must be set to the 4-20mA position.
- The output load must be an impedance of 500 Ω or less.
- The PCB is capable of sourcing the correct output current. The red LED may flash if PSU is below 22V or the impedance is more than 500 Ω.
- If using a current output mode, the sensor must only be used with a 24Vdc supply. The sensor may be damaged if supplied with AC.

0-10Vdc output:

The output select jumper(s) must be connected in the 0-10Vdc position, minimum impedance 2 kΩ.