## TT003: 4-20mA Dust Sensor

This technical tip shows how to connect a 4-20mA dust sensor to the ORB-X1. The dust sensor uses the principle of laser scattering, detecting the concentration of dust particles down to 1 micron in the air.

Sensor Parameters

Part Number	RK300-02B
Type	Outdoor PM2.5 Dust Sensor with 4-20mA Output
Supply	12-24V DC, 150mA max
Output	4-20mA
Range	0-1000ug/m^3
Warm-up Time	3 minutes
Cable Length	1.5m
Supplied by	www.oceancontrols.com.au

Dust Sensor

ORB-X1
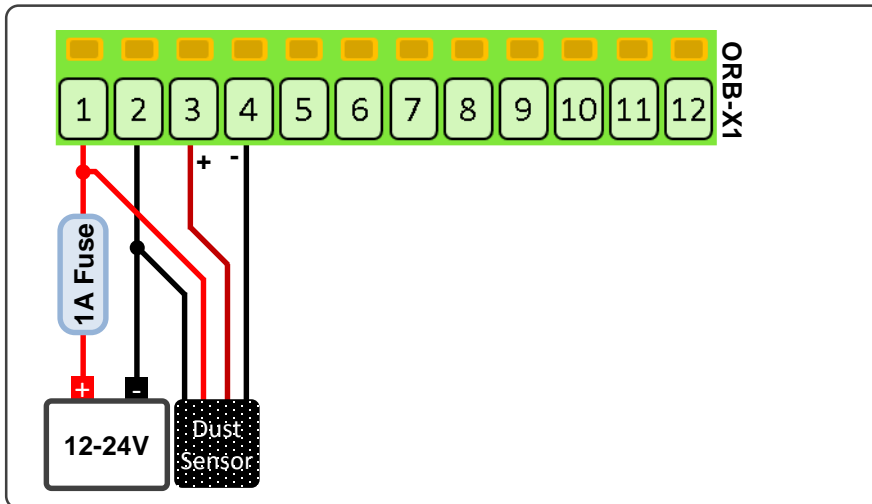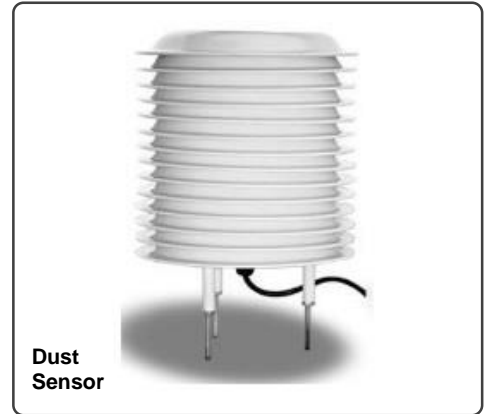
Setting (Current Source 1)	Value	Comment
Name	Air Quality	A meaningful name for the sensor data
Interval	1	1 means the sensor is sampled on every base interval
Always On	Disabled	Enable if the sensor needs to be permanently powered
Start Time	180	The time between powering and measuring the sensor, 3min from the datasheet
Hysteresis	10	The amount by which the dust level needs to change to exit warning or alarm
Warning	Enabled	A warning will be issued if the level goes outside limits
Low Warning	0	No lower warning level required
High Warning	200	The level above which a warning will be issued
Alarm	Enabled	An alarm will be issued if the level goes outside limits
Low Alarm	0	No lower alarm level required
High Alarm	400	The level above which an alarm will be issued
Calibration Low In	4	The datasheets specifies that 4mA represents 0m
Calibration High In	20	The datasheets specifies that 20mA represents 1000ug/m^3
Calibration Low Out	0	The datasheets specifies that 4mA represents 0m
Calibration High Out	1000	The datasheets specifies that 20mA represents 1000ug/m^3
Calibration Unit	Ug/m3	The unit of measure for the calibration; micrograms per cubic meter