Sensor Quality Index

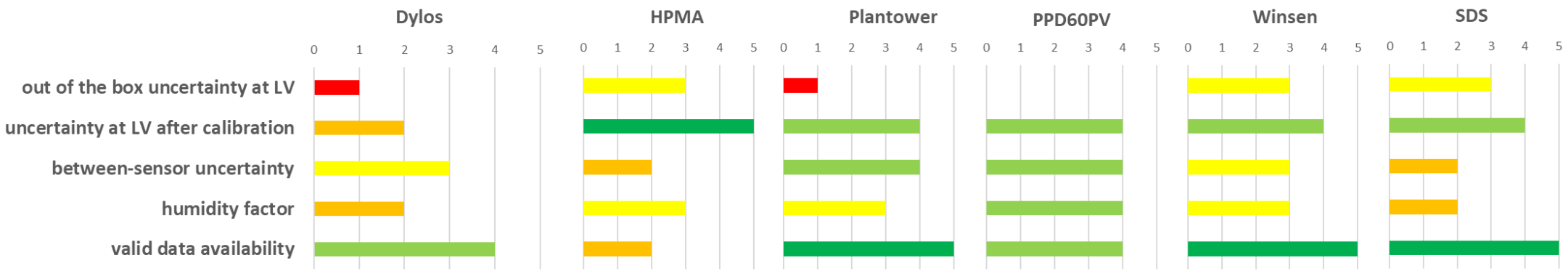
Tested PM-sensors

- **Dylos** DC1700
- Honeywell **HPMA** 115S0
- **Plantower** PMS7003
- Shinyei **PPD60PV**
- **Winsen** ZH03B
- Nova Fitness **SDS**011
- *Shinyei PPD42NS**
- *Alphasense OPC-N2**

*excluded from test due to technical problems

PM-sensors

	5	4	3	2	1
	excellent	good	ok	poor	bad
out of the box uncertainty at limit value (%)	<15	<25	<50	<100	>100
uncertainty at limit value after calibration (%)	<15	<25	<50	<100	>100
between-sensor uncertainty (%)	<10	<15	<20	<30	>30
humidity factor	<1.25	<1.5	<2	<3	>3
data availability (#valid hours)	>35000	>30000	>25000	>20000	<20000



Note that, depending on the use case, different sensor criteria may be more important.

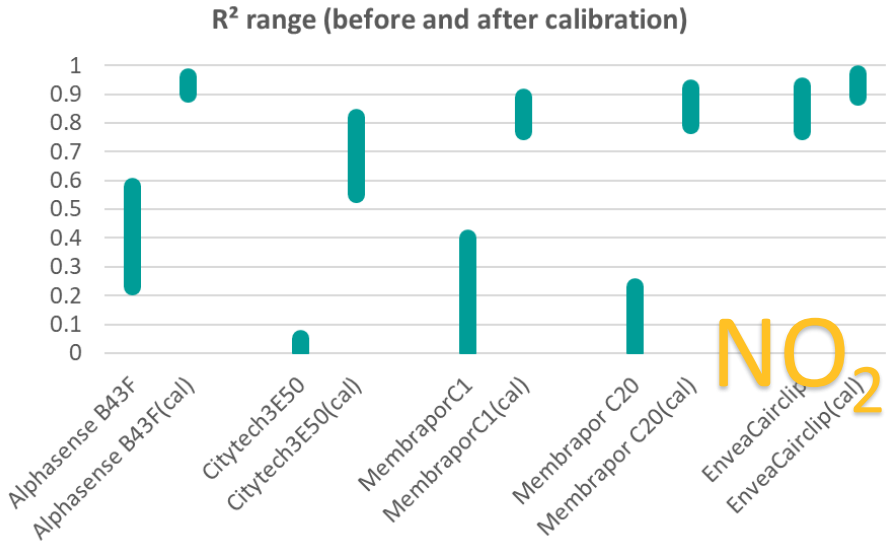
This sensor quality index is based on the results of the LIFE VAQUUMS field tests.

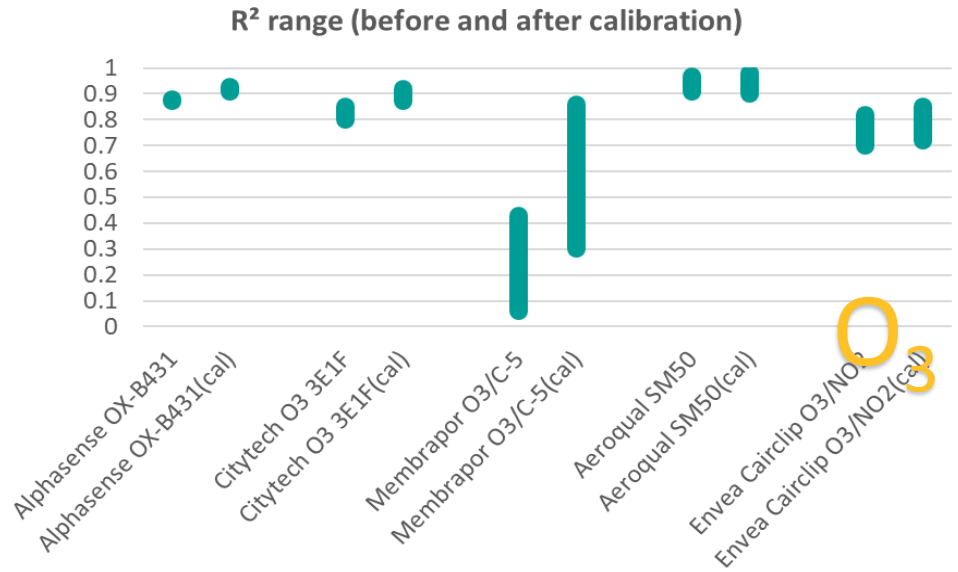
Full test report see: Vaquums PM fieldtest report

Sensor Quality Index

Gas-sensors

Tested NO_2-sensors	Tested O_3-sensors
Alphasense NO2-B43F	Alphasense OX-B431
Citytech NO2 3E50	Citytech O3 3E1F
Envea Cairclip NO2	Envea Cairclip O3/NO2
Membrapor NO2/C-1	Aeroqual SM50
Membrapor NO2/C-20	Membrapor 03/C-5





Almost all NO_2 and O_3 sensors need a calibration in order to provide usable data. Only the uncalibrated Aeroqual SM50 O_3-sensor had a good correlation and small bias compared to the reference.

Since the sensor performance will depend largely on calibration approach, we decided not to rank the devices.

This sensor quality index is based on the results of the LIFE VAQUUMS field tests.

Full test report see: NO2-sensors / O3-sensors fieldtest reports