## Product overview of Airyx GmbH



ICAD (IC) Subtypes

Item#	Description	Comments	Related articles	Image	Single Dual Emission HighGrac
Instruments	Ox Instruments in 19" Rack Housing				
ICAD-N02-210	ICAD-NO2-210 IN SITU NO2 MONITOR  > Direct nitrogen dioxide (NO2) measurement with ICAD method, NO2 calibration gas not required  > Time resolution up to 1 s · Precision up to 0.40 ppb @1 s & up to 0.05 ppb @60 s · Range: 0 · 5000 ppb  > Data communication: LAN · RS232 · Analogue Voltage/Current · Wi-Fi (with AcC-WIFIUSB)  > suitable for GPS geolocation and time synchronisation (with option IC-ACC-GPSEXT)  > Connection for 12V power  > 19° rack housing • Size 43.8 x 13.2 x 43.5 cm³ • Weight less than 10 kg • Front side display • Suitable for mobile measurements  > System health on-board diagnosis and control interface, accessible via WiFi  > Included: Large Zero air cartridge • Aerosol filter • 5 m PTFE tubing • Filter Keys • 3 m LAN cable  > Patents: EP3329251 • DE 10 2015 000 423 • U515/748,923 • China ZL201680057099.6	GENERAL: This is the single channel, "NO2 only" version of the ICAD instrument in 19" rack format. Unlike the dual channel instruments ("D" in item name), it only measures NO2, not NOx.  TIME RESOLUTION: 5 s standard setting for delivery. Can be changed using the Web UI. Use higher values for increased accuracy by true internal spectral averaging.		AITUX	
ICAD-NOX-210D	ICAD-NOx-210D TWO CHANNEL IN SITU NOx MONITOR  > Direct nitrogen dioxide (NO2) gas measurement with ICAD method, NO2 calibration gas not required  > Nitrogen oxide (NOx) measurement with conversion of NO to NO2  > Time resolution up to 1 s • Precision up to 0.40 ppb @1 s & up to 0.05 ppb @60 s • Range: 0 - 5000 ppb  > Data communication: LAN • R5232 • Analogue Voltage/Current • Wi-Fi (with ACC-WIFIUSB)  > suitable for GPS geolocation and time synchronisation (with option IC-ACC-GPSEXT)  > Connection for 12V power  > 19" rack housing • Size 43.8 x 13.2 x 43.5 cm³ • Weight less than 10 kg • Front side display • Suitable for mobile measurements  > Included: Large Zero air cartridge • Aerosol filter • 5 m PTFE tubing • Filter Keys • 3 m LAN cable  > Patents: EP3329251 • DE 10 2015 000 423 • US15/748,923 • China ZL201680057099.6	GENERAL: The "D"-version is a dual channel instrument in 19" rack format which is able to measure NOx by simultaneous measurement of both NO2 and NO.  TIME RESOLUTION: 5 s standard setting for delivery. Can be changed using the Web UI. Use higher values for increased accuracy by true internal spectral averaging.	REQUIRED ARTICLES: WIFI Stick [ACC-WIFIUSB] • External power supply [ACC-PWR-8A]  RECOMMENDED ARTICLES: GPS [IC-ACC-GPSEXT] • Operator Display Tablet [ACC-TAB] • I.CAD cooling option [IC-CON-COOL] • I.CAD integrated cod IR-Sensor [IC-CON-COOLSPD] • PTFE aerosol pore filter [IC-SPARE-FIET] • PTFE aerosol depth filter [IC-SPARE-PREFILT] • PTFE aerosol depth filter [IC-SPARE-PREFILT] • Zero air filter system - High capacity [IC-SPARE-ZERO400] • Zero air filter system - Regular capacity [IC-SPARE-ZERO401] • Maintenance [IC-MAINT-SET] • Spare part set [IC-SPARE-SET-NOX] • Services [IC-SERV-NOX-EXT] & [IC-SERV-EXT]	AITUX	
ICAD-NOX-210DE	ICAD-NOx-210DE TWO CHANNEL IN SITU NOx/CO2 MONITOR  > Direct nitrogen dioxide (NO2) gas measurement with ICAD method, NO2 calibration gas not required  > Nitrogen oxide (NOx) measurement with conversion of NO to NO2  > Time resolution up to 1 s • Precision up to 0.40 ppb @1 s & up to 0.05 ppb @60 s • Range: 0 - 5000 ppb  > Data communication: LAN • RS232 • Analogue Voltage/Current • Wi-F1 (with AcC-WIFIUSB)  > suitable for GPS geolocation and time synchronisation (with option IC-ACC-GPSEXT)  > 19" rack housing • Size 43.8 x 13.2 x 43.5 cm³ • Weight less than 10 kg • Front side display • Suitable for mobile measurements    Including online vehicle emission analysis software with the "Plume Chasing"-principle  > Direct classification of NOx LDV and HDV emission factors (EURO VI to IV)  > Integrated CO2 IR-Sensor (two wavelength measurements): Relative precision -2 ppm, accuracy -5 ppm with regular offset calibration • Range 0 - 2.000 ppm  > Including ICAD cooling option: Cooling + heating to temperature stabilize measurement cell in warm (up to 35°C) and cold environments with an air to air cooling / heating system, measurement cell temperature stability -0.2°C (cooling option required for the combination with the CO2 IR-sensor)    Included: Large Zero air cartridge • Aerosof litter • 5 m FIFTE tubing • Filter Keys • 3 m LAN cable  > Patents: EP3329251 • DE 10 2015 000 423 • US15/748,923 • China ZL201680057099.6	GENERAL: The "DE"-version is an instrument for emission measurements with "Plume Chasing" or "Points Sampling" setups. The internal software directly derives NOx and NO2 emission factors for vehicles.  The instrument is like the "D"- version a dual channel instrument in 19" rack format with additional CO2 sensor. From the measured gases and its ratios, the system derives directly emission factors of NOx and NO2.  The system comes always with a cooling option.  TIME RESOLUTION: 2 s standard setting for emission measurements. Can be changed using the Web UI. Use higher values for increased accuracy by true internal spectral averaging. However, short time resolution is recommended for "Plume Chasing" to cover the dynamics during sampling.	REQUIRED ARTICLES: WIFI Stick [ACC-WIFIUSB] • External power supply [ACC-PWR-8A]  RECOMMENDED ARTICLES: GPS [IC-ACC-GPSEXT] • Operator Display Tablet [ACC-TAB] • PTFE aerosol pore filter [IC-SPARE-FILT] • PTFE aerosol depth filter [IC-SPARE-FEREIT] - Zero air filter system - Regular capacity [IC-SPARE-ZERO400] • Zero air filter system - Regular capacity [IC-SPARE-ZERO400] • Zero air filter system - Regular capacity [IC-SPARE-ZERO400] • Zero air filter system - Regular capacity [IC-SPARE-ZERO115] • Maintenance [IC-MAINT-SET] • Spare part set [IC-SPARE-SET-NOX] • Services [IC-SERV-NOX-EXT] a [IC-SERV-EXT] • Plume Chasing measurement probe system [IC-ACC-PROBESYS]	ALLE ALLE ALLE ALLE ALLE ALLE ALLE ALLE	• •
ICAD-NO2-210L	ICAD-NO2-210L IN SITU NO2 MONITOR - HIGH GRADE VERSION  Direct nitrogen dioxide (NO2) gas measurement with ICAD method, NO2 calibration gas not required  Time resolution up to 1 s • Precision up to 0.12 ppb @1 s t up to 0.02 ppb @60 s • Range: 0 - 2000 ppb  Increased sensitivity resonator cell configuration  Active ICAD LED light source cooling with peltier for best LED temperature stability (better 0.1°C)  Data communication: LAN • RS232 • Analogue Voltage/Current • Wi-Fi (with ACC-WIFIUSB)  suitable for GPS geolocation and time synchronisation (with option IC-ACC-GPSEXT)  19" rack housing • Size 43.8 x 13.2 x 66.5 cm³ • Weight less than 12 kg • Front side display • Suitable for mobile measurements  Included: Large Zero air cartridge • Aerosol filter • 5 m PFA tubing • Filter Keys • 3 m LAN cable  Patents: EP3329251 • DE 10 2015 000 423 • US15/748,923 • China ZL201680057099.6	GENERAL: Like [ICAD-NO2-200]. The "L"-version features and enhanced resonator which is optimized for higher sensitivity for applications where low NO2 concentrations need to be measured with high precision. Enhanced Resonator: Almost twice as long measurement cell and high grade mirrors. The LED petier cooling increase measurement accuracy and reduce zero point drift.  TIME RESOLUTION: 30 s in standard setting for delivery. Can be changed using the Web UI. Use higher values for increased accuracy by true internal spectral averaging.	REQUIRED ARTICLES: WIFI Stick [ACC-WIFIUSB] • External power supply [ACC-PWR-8A]  RECOMMENDED ARTICLES: GPS [IC-ACC-GPSEXT] • Operator Display Tablet [ACC-TAB] • ICAD cooling option [IC-CON-COOL] • ICAD integrated co2 IR-Sensor [IC-CON-CO2SENS] • PTFE aerosol pore filter [IC-SPARE-RILT] • PTFE aerosol depth filter [IC-SPARE-PREFILT] • Zero air filter system - High capacity [IC-SPARE-ZERO400] • Zero air filter system - Regular capacity [IC-SPARE-ZERO115] • Maintenance [IC-MAINT-SET] • Spare part set [IC-SPARE-SET-NO2] • Services [IC-SERV-NO2-EXT] & [IC-SERV-EXT]	AIRUX	



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ltem#	Description	Comments	Related articles	Image	Single Dual Emission HighGrac
ICAD-NOX-210DL	ICAD-NOx-210DL IN SITU NOx MONITOR - HIGH GRADE VERSION  > Direct nitrogen dioxide (NC2) gas measurement with ICAD method, NO2 calibration gas not required  > Nitrogen oxide (NOx) measurement with conversion of N 0to NO2  > Time resolution up to 1 s • Precision up to 0.12 ppb @1 s & up to 0.02 ppb @60 s • Range: 0 - 2000 ppb  > Increased sensitivity resonator cell configuration  > Active ICAD LED light source cooling with petiter for best LED temperature stability (better 0.1°C)  > Data communication: LAN • RS232 • Analogue Voltage/Current • WiFi (with ACC-WiFIUSB)  > suitable for GPS geolocation and time synchronisation (with option IC-ACC-GPSEXT)  > 19" rack housing • Size 43.8 x 13.2 x 66.5 cm³ • Weight less than 12 kg • Front side display • Suitable for mobile measurements  Included: Large Zero air cartridge • Aerosol filter • 5 m PFA tubing • Filter Keys • 3 m LAN cable  > Patents: EP3329251 • DE 10 2015 000 423 • US15/748,923 • China ZL201680057099.6	GENERAL: Like [ICAD-NOX-200D]. The "L"-version features and enhanced resonator which is optimized for higher sensitivity for applications where low NOx concentrations need to be measured with high precision. Enhanced Resonator: Almost twice as long measurement cell and high grade mirrors. The LED peltier cooling increase measurement accuracy and reduce zero point drift.  TIME RESOLUTION: 30 s in standard setting for delivery. Can be changed using the Web UI. Use higher values for increased accuracy by true internal spectral averaging.	REQUIRED ARTICLES: WIFI Stick [ACC-WIFIUSB] • External power supply [ACC-PWR-8A]  RECOMMENDED ARTICLES: GPS [IC-ACC-GPSEXT] • Operator Display Tablet [ACC-TAB] • ICAD cooling option [IC-CON-COOL] • ICAD Integrated co2 IR-Sensor [IC-CON-CO2SENS] • PTFE aerosol pore filter [IC-SPARE-FIET] • PTFE aerosol depth filter [IC-SPARE-PREFILT] • Zero air filter system - High capacity [IC-SPARE-ZERO400] • Zero air filter system - Regular capacity [IC-SPARE-ZERO400] • Services [IC-MAINT-SET] • Spare part set [IC-SPARE-SET-NOX] • Services [IC-SERV-NOX-EXT] & [IC-SERV-EXT]	AITUX	
ICAD-HONO/NO2- 210L	ICAD-HONO/NO2-210L IN SITU HONO AND NO2 MONITOR - HIGH GRADE VERSION  > Direct nitrous acid (HONO) and nitrogen dioxide (NO2) gas measurement with ICAD method, HONO and NO2 calibration gas not required  > Time resolution up to 1 s  > Precision HONO: Up to 0.3 ppb @1 s & up to 0.04 ppb @60 s • Range: 0 - 500 ppb  > Precision HONO: Up to 0.6 ppb @1 s & up to 0.08 ppb @60 s • Range: 0 - 2000 ppb  > Precision HONO: Up to 0.6 ppb @1 s & up to 0.08 ppb @60 s • Range: 0 - 2000 ppb  > Increased sensitivity resonator cell configuration  > Active ICAD LED light source cooling with petiter for best LED temperature stability (better 0.1°C)  > Data communication: LAN • R5232 • Analogue Voltage/Current • Wi-Fi (with ACC-WIFIUSB)  > GP5 for geolocation and time synchronisation (with IC-ACC-GFSEXT)  > 19" rack housing • Size 43.8 x 13.2 x 66.5 cm³ • Weight less than 12 kg • Front side display • Suitable for mobile measurements  Included: Large Zero air cartridge • Aerosol filter • 5 m PFA tubing • Filter Keys • 3 m LAN cable  > Patents: EP3329251 • DE 10 2015 000 423 • US15/748,923 • China ZL201680057099.6	GENERAL: Like [ICAD-NO2-200L], but operating on another wavelength range (UV) to detect nitrous acid (HONO). NO2 is still detectable since it also provides significant absorbance in the UV wavelength range. The LED petiter cooling increase measurement accuracy and reduce zero point drift.  TIME RESOLUTION: 30 s in standard setting for delivery. Can be changed using the Web UI. Use higher values for increased accuracy by true internal spectral averaging.	REQUIRED ARTICLES: WIFI Stick [ACC-WIFIUSB] • External power supply (ACC-PWR-BA)  RECOMMENDED ARTICLES: GPS [IC-ACC-GPSEXT] • Operator Display Tablet [ACC-TAB] • ICAD cooling option [IC-CON-COOL] • ICAD integrated co2 IR-Sensor [IC-CON-CO2SENS] • PTFE aerosol pore filter [IC-SPARE-FIET] • PTFE aerosol depth filter [IC-SPARE-FREFILT] • Zero air filter system - High capacity [IC-SPARE-ZERO400] • Zero air filter system - Regular capacity [IC-SPARE-ZERO400] • Services [IC-MAINT-SET] • Spare part set [IC-SPARE-SET-HONO] • Services [IC-SERV-HONO-EXT] & [IC-SERV-EXT]	AITUX	
	x Instruments in UV resistant Polycarbonate IP64 housing				
TCAD-NO2-210-M	ICAD-NOZ-210-M IN SITU NOZ MONITOR, IP64 HOUSING	GENERAL: Like [ICAD-NO2-200], but with rugged polycarbonate housing optimized for mobile and outdoor application.  TIME RESOLUTION: 5 s standard setting for delivery. Can be changed using the Web UI. Use higher values for increased accuracy by true internal spectral averaging.  ZERO AIR FILTER SYSTEM: Regular capiacity (115ml) is included. Indicate if a switch to a High capacity (400ml) filter is requested.	REQUIRED ARTICLES: WIFI Stick [ACC-WIFIUSB] • External power supply [ACC-PWR-8A]  RECOMMENDED ARTICLES: GPS [IC-ACC-GPSEXT] • Operator Display Tablet [ACC-TAB] • ICAD cooling option [IC-CON-COOL] • ICAD integrated co2 IR-Sensor [IC-CON-CO2SENS] • PTFE aerosol pore filter [IC-SPARE-FILT] • PTFE aerosol depth filter [IC-SPARE-FREFILT] • Zero air filter system - Regular capacity [IC-SPARE-ZERO115] • Zero air filter system - High capacity [IC-SPARE-ZERO105] • Maintenance [IC-MAINT-SET] • Spare part set [IC-SPARE-SET-NO2] • Services [IC-SERV-NO2-EXT] & [IC-SERV-EXT]		
ICAD-NOX-210D-M	ICAD-NOX-210D-M TWO CHANNEL IN SITU NOX MONITOR, IP64 HOUSING  > Direct nitrogen dioxide (NO2) gas measurement with ICAD method, NO2 calibration gas not required  > Nitrogen oxide (NO2) measurement with conversion of NO to NO2  > Time resolution up to 1 s • Precision up to 0.40 ppb @1 s & up to 0.05 ppb @60 s • Range: 0 - 5000 ppb  > Data communication: LAN • RS232 • Analogue Voltage/Current • Wi-Fi (with ACC-WIFIUSB)  > suitable for GPS geolocation and time synchronisation (with option IC-ACC-GPSEXT)  > UV resistant Polycarbonate IP64 housing • Dust and weatherproof (incl. weatherproof connectors) • Size 43.6 x  13.2 x 3.0, cm³ • Weight less than 10 kg • Suitable for mobile outdoor measurements  > Included: Zero air filter system - Regular (115ml) • Aerosol filter • 5 m PTFE tubing • Filter Keys • 2 m LAN cable with IP68 connector  > Patents: EP3329251 • DE 10 2015 000 423 • US15/748,923 • China ZL201680057099.6	GENERAL: Like [ICAD-NOX-200D], but with rugged polycarbonate housing optimized for mobile and outdoor application.  TIME RESOLUTION: 5 s standard setting for delivery. Can be changed using the Web UI. Use higher values for increased accuracy by true internal spectral averaging.  ZERO AIR FILTER SYSTEM: Regular capiacity (115ml) is included. Indicate if a switch to a High capacity (400ml) filter is requested.	REQUIRED ARTICLES: WIFI Stick [ACC-WIFIUSB] • External power supply [ACC-PWR-8A]  RECOMMENDED ARTICLES: GPS [IC-ACC-GPSEXT] • Operator Display Tablet [ACC-TAB] • ICAD cooling option [IC-CON-COOL] • ICAD integrated cod IR-Sensor [IC-CON-COOLSEN] • PTFE aerosol pore filter [IC-SPARE-FIEIT] • PTFE aerosol depth filter [IC-SPARE-FREFILT] • Zero air filter system - Regular capacity [IC-SPARE-ZERO115] • Zero air filter system - High capacity [IC-SPARE-ZERO105] • Maintenance [IC-MAINT-SET] • Spare part set [IC-SPARE-SET-NOX] • Services [IC-SERV-NOX-EXT] & [IC-SERV-EXT]	The state of the s	
ICAD-NO2-210DT-M	ICAD-NO2-210DT-M TWO CHANNEL TWIN INLET IN SITU NO2 MONITOR, IP64 HOUSING  > Direct nitrogen dioxide (NO2) gas measurement with ICAD method, NO2 calibration gas not required  > Two inlets to measure at two sampling lines in parallel with two measurement cells  > Time resolution up to 1 s • Precision up to 0.40 ppb ⊚1 s & up to 0.05 ppb ⊚60 s • Range: 0 - 5000 ppb  > Two inlets for parallel NO2 measurements  > Data communication: LAN • RS232 • Analogue Voltage/Current • Wi-Fi (with ACC-WIFIUSB)  > suitable for GPS geolocation and time synchronisation (with option IC-ACC-GPSEXT)  > UV resistant Polycarbonate IP64 housing • Dust and weatherproof (incl. weatherproof connectors) • Size 43.6 x  13.2 x 30.0 cm³ • Weight less than 10 kg • Suitable for mobile outdoor measurements  > Included: Zero air filter system • Regular (115ml) • Aerosol filter • 5 m PTFE tubing • Filter Keys • 2 m LAN cable with IP68 connector  > Patents: EP3329251 • DE 10 2015 000 423 • US15/748,923 • China ZL201680057099.6	GENERAL: Like [ICAD-NO2-200-M] but with two NO2 measurement cells and dual inlet for parallel measurement of sample air from two different sources. Advantage in comparison to the alternative switch box [IC-ACC-SWTCHBX] is that both inlets measure simultaneously without time delay.  TIME RESOLUTION: 5 s standard setting for delivery. Can be changed using the Web UI. Use higher values for increased accuracy by true internal spectral averaging.  ZERO AIR FILTER SYSTEM: Regular capiacity (115ml) is included. Indicate if a switch to a High capacity (400ml) filter is requested.	REQUIRED ARTICLES: WIFI Stick [ACC-WIFIUSB] • External power supply [ACC-PWR-8A]  RECOMMENDED ARTICLES: GPS [IC-ACC-GPSEXT] • Operator Display Tablet [ACC-TAB] • ICAD cooling option [IC-CON-COOL] • ICAD integrated col Re-Sensor [IC-CON-COOLSEN] • PTFE aerosol pore filter [IC-SPARE-FIEIT] • PTFE aerosol depth filter [IC-SPARE-FREFILT] • Zero air filter system - Regular capacity [IC-SPARE-ZERO115] • Zero air filter system - High capacity [IC-SPARE-ZERO100] • Maintenance [IC-MAINT-SET] • Spare part set [IC-SPARE-SET-NO2] • Services [IC-SERV-NO2-EXT] & [IC-SERV-EXT]	The state of the s	



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ICAD-NOx-210DE-M	ICAD-NOX-210DE-M TWO CHANNEL IN SITU NOX/CO2 MONITOR, IP64 HOUSING  > Direct nitrogen dioxide (NO2) gas measurement with ICAD method, NO2 calibration gas not required  > Nitrogen oxide (NO2) measurement with conversion of NO to NO2  > Time resolution up to 1 s · Precision up to 0.40 ppb e1 s û up to 0.05 ppb e60 s · Range: 0 · 5000 ppb  > Data communication: LAN · R5232 · Analogue Voltage/Current · Wi-Fi (with ACC-WIFIUSB)  > Suitable for GPS geolocation and time synchronisation (with option IC-ACC-GFSEXT)  > UV resistant Polycarbonate IP64 housing · Dust and weatherproof (incl. weatherproof connectors) · Size 43.6 x 13.2 x 30.0 cm³ · Weight less than 10 kg · Suitable for mobile outdoor measurements  > Including online vehicle emission analysis software with the "Plume Chasing"-principle  > Direct classification of NOx LDV and HDV emission factors (EURO VI to IV)  > Integrated CO2 IR-Sensor (two wavelength measurements): Relative precision -2 ppm, accuracy -5 ppm with regular offset calibration, range 0 · 2.000 ppm  > Including ICAD cooling option: Cooling + heating to temperature stabilize measurement cell in warm (up to 35°C) and cold environments with an air to air cooling / heating system, measurement cell temperature stability -0.2°C (cooling option required for the combination with the CO2 IR-sensor)  > Included: Zero air filter system - Regular (115ml) · Aerosol filter · 5 m PTFE tubing · Filter Keys · 2 m LAN cable with IP68 connector  > Patents: EP3329251 · DE 10 2015 000 423 · US15/748,923 · China ZL201680057099.6	GENERAL: Like [ICAD-NOx-200DE] but in the weatherproof IP64 housing. Includes an instrument cooling and CO2 sensor.  TIME RESOLUTION: 2 s standard setting for emission measurements. Can be changed using the Web UI. Use higher values for increased accuracy by true internal spectral averaging. However, short time resolution is recommended for "Plume Chasing" to cover the dynamics during sampling.  ZERO AIR FILTER SYSTEM: Regular capiacity (115ml) is included. Indicate if a switch to a High capacity (400ml) filter is requested.	REQUIRED ARTICLES: WIFI Stick [ACC-WIFIUSB] • External power supply [ACC-PWR-8A]  RECOMMENDED ARTICLES: GPS [IC-ACC-GPSEXT] • Operator Display Tablet [ACC-TAB] • PTFE aerosol pore filter [IC-SPARE-FILT] • PTFE aerosol depth filter [IC-SPARE-PREFILT] • Zero air filter system - Regular capacity [IC-SPARE-ZERO115] • Zero air filter system - High capacity [IC-SPARE-ZERO400] • Maintenance [IC-MAINT-SET] • Spare part set [IC-SPARE-SET-NOX] • Services [IC-SERV-NOX-EXT] & [IC-SERV-EXT] • Plume Chasing measurement probe system [IC-ACC-PROBESYS]		
ICAD-UAV	Add-on: Customized, lightweight version of ICAD instruments for UAV applications.  > Additional price for this special configuration  > instrument weight -6.5kg (for ICAD-NOX-200D-M)  > Aluminium housing • Size: 40 x 30 x 17 cm <sup>3</sup>	Available for standard ICAD configurations (non-"L" versions).	REQUIRED ARTICLES: ICAD-NO2-200-M IN SITU NO2 MONITOR [ICAD-NO2-200-M] or ICAD-NOX-200D-M TWO CHANNEL IN SITU NOX MONITOR [ICAD-NOX-200D-M]		
OPTIONAL IN	ISTRUMENT CONFIGURATIONS (TO BE ORDERED WITH THE INSTRUM	MENT)		1	
IC-CON-CO2SENS	ICAD INTEGRATED CO2 IR-SENSOR  Extends the ICAD system by measurements of CO2 concentrations  Sensor mounted within the instrument, no additional external parts  Including online vehicle emission analysis software with the "Plume Chasing" principle • Integrated and synchronised into ICAD software  Specification and properties: IR intensity measurements at two wavelength • Time resolution: Up to 1 s • Relative precision: -2 ppm • Accuracy: -5 ppm with regular offset calibration • Range: 0 - 2000 ppm	Extension for integrated CO2 sensor needed for emission measurements (NOx/CO2) or emission plume detection. Required for [ICAD-NOX-2000E] & [ICAD-NOX-2000E-M].	REQUIRED ARTICLES: Cooling Option for temperature stability of CO2 sensor [IC-CON-COOL]	DYTEAL CHITT  MAINTENANT CILL NO.  OFTEAL CHITT  OFTEAL CHITT  MAINTENANT CILL NO.	
IC-LED1-COOL	ICAD NO2 HIGH GRADE LED COOLING OPTION  > integrated in ICAD System: active ICAD LED light source cooling with peltier for best LED temperature stability (better 0.1 °C)  > increase measurement accuracy and zero point drift.	Compatible with ICAD RACK instruments. Already included in ICAD "HIGH GRADE Version" instruments. By ordering, the LED cooling option it will be integrated in the ICAD measurement cell. It provide stable LED temperatures for optimal measurement precision at changing ambient temperatures, especially for warm temperatures (above 25°C). This is also beneficial for the overall measurement precision of the ICAD.			
IC-LED2-COOL	ICAD NOX HIGH GRADE LED COOLING OPTION > integrated in ICAD System: active ICAD LED light source cooling for both measurement channels (NO2 and NOx) with peltier for best LED temperature stability (better 0.1°C) > increase measurement accuracy and zero point drift.	Compatible with ICAD RACK instruments. Already included in ICAD "HIGH GRADE Version" instruments. By ordering, the LED cooling option it will be integrated in the ICAD measurement cell. It provide stable LED temperatures for optimal measurement precision at at changing ambient temperatures, especially for warm temperatures (above 25°C). This is also beneficial for the overall measurement precision of the ICAD.			
IC-CON-COOL	ICAD COOLING OPTION  > To be configured for ICAD Instrument: ICAD cooling + heating option to temperature stabilize measurement cell in warm and cold environments (-10°C to 35°C)  > Air to air cooling/heating system  > Measurement cell temperature stability -0.2°C to 35°C	By ordering, the cooling (air to air peltier unit) option it will be integrated at the ICAD analyser back plate. It is mandatory for ICAD instruments with integrated CO2 sensor [IC-CON-CO2SENS] to provide stable temperatures for optimal measurement precision at higher ambient temperatures (above 24°C). This is also beneficial for the overall measurement precision of the ICAD and extents the ambient temperature working range of the instrument.			
MEASUREME	NT COMPUTERS	1	1	1	
PC-DE	MEASUREMENT COMPUTER - DESKTOP PC  > Windows 10 or 11 Pro installed and optimised for Airyx instrument measurement applications > Installation and configuration of measurement and (if included) evaluation software packages. > Robust Dell tower PC with min 8GB RAM, min 512GB Harddrive and min. Intel i5 Processor > Delivered with keyboard, but without monitor	If a measurement computer is ordered with a Airyx instrument, the required measurement software (e.g. SKY-SOFT-¹) will be installed and preconfigured on the computer at Airyx GmbH. Same applies if software extensions (e.g. SkySpec evaluation package SKY-EVAL-¹) are ordered • The system will be pre-configured as a plug-and-play setup.			
PC-NB	MEASUREMENT COMPUTER - NOTEBOOK  > Windows 10 or 11 installed and optimised for Airyx instrument measurement applications  > Installation and configuration of measurement and (if included) evaluation software packages.  > Robust Dell Notebook with min. 8GB RAM, SSD Harddrive	If a measurement computer is ordered with a Airyx instrument, the required measurement software (e.g. SKY-SOFT-*) will be installed and preconfigured on the computer at Airyx GmbH. Same applies if software extensions (e.g. SkySpec evaluation package SKY-EVAL-*) are ordered • The system will be pre-configured as a plug-and-play setup.			



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PC-NBHP	MEASUREMENT COMPUTER - NOTEBOOK - HIGH PERFORMANCE  > Windows 10 or 11 Pro installed and optimised for Airyx instrument measurement applications  > Installation and configuration of measurement and (if included) evaluation software packages.  > Robust Dell Notebook with min. 8GB RAM, min. 512GB SSD Harddrive and min. Intel i5 Processor	If a measurement computer is ordered with an Airyx instrument, the required measurement software (e.g., SKY-SofT-1) will be installed and preconfigured on the computer at Airyx GmbH. Same applies if a software extension (e.g., SKY-EVAL-1) is ordered - the system will be pre-configured as a plug-and-play setup - in the "HIGH PERFORMANCE" configuration a fast (17 processor with 16GB RAM will be used); recommended for Open Path systems and SkySpec applications with calculation intensive data processing (going beyond the Airyx standard software packages)			
EXTENSIONS	AND ACCESSORIES		1		
ACC-TAB	OPERATOR WIFI CONTROLLER (10" tablet size) as controller interface for Airyx ICAD or SkySpec Compact. Android OS, pre installed apps and configurations for instruement control.  > Includes: rugged frame protection, adapter USB-C> USB 2.0, adapter USB> LAN  > WIFI and LAN connection to the instrument	Preconfigured Android tablet with shock protection for fast and easy control of ICAD and SkySpec Compact Instruments, especially for field measurements. Preconfigured for simple application e.g. of "Plume Chasing" measurements with ICAD-NOX-200DE or [ICAD-NOX-200DE-M]. Simple operation of instruments with touch screen. For mobile car applications, e.g., Plume Chasing, we recommend the [ACC-TAB-MNT] for stable mounting of the tablet in the car cockpit in compliance with traffic regulations.	RECOMMENDED ARTICLES: Car tablet mounting [ACC-TAB-MNT] r		
ACC-TAB-MNT	TABLET MOUNT CAR  > Mount to fix the tablet (10"-13", e.g. [OPERATOR DISPLAY TABLET]) in the car  > Length of metal arm: 56.5 cm  > Will be mounted to front seat base screw which is present in any car from any brand	Enables mounting of Airyx tablets in the car cockpit in compliance with traffic regulations for mobile applications, e.g., Plume Chasing.			
IC-ACC-SDCABLE	ICAD SERIAL ADAPTER CABLE Adapter cable for ICAD (IP68) to RS232 serial data connection (D-Sub 9) for serial data communication via standardised Bayern Hessen data protocol • Length 2 m • Including RS232 to USB adapter	Data cable to transmit data from ICAD via serial connection. USB adapter for alternative connection with USB port of a PC is included.		Q	
IC-ACC-ST1M	PTFE AIR SAMPLING TUBING - 6 mm DIAMETER • PER 1 m (cut on ordered length)	Standard sampling tube made of inert PTFE • If ordered with an instrument, the length will be added to the tubing length already included with the shipping • Interchangeable for Sample Air tubing and Plume Chasing Measurement probe system tubing.		Q	
IC-ACC-TPIECE	PVDF T-PIECE TUBING CONNECTOR - FOR 6 mm DIAMETER	T-connector piece to connect three 6 mm air sampling tubing's • Used for example in setup of tubing for Plume Chasing Probes		80	
IC-ACC-CONNECTOR	PVDF TUBING CONNECTOR - FOR 6 mm DIAMETER to connect two tubings	streigth-connector piece to connect two 6 mm air sampling tubing's • Used for example ito connect tubings			
IC-ACC-PROBESYS	PLUME CHASING MEASUREMENT PROBE SYSTEM  > Setup for gas sampling on a car with two air inlets (right and left)  > Two inlets merged to one sample line (incl. T-piece gas connector) • incl. 5 m extra PTFE tubing [IC-ACC-5T1M]  > For installation on the front bumper of a car with cable ties (included) or clamps • simple adjustment to every vehicle width  > Flexible probe to avoid injuries	Sampling probe for mounting at the front of a Plume Chasing measurement vehicle • Includes all required tubing to perform on-road Plume Chasing measurements of NOx emissions factors with the IcAD instrument.  Adjustable width (170 cm to 220 cm) and front end in relation to bumper.  The double probe (right and left) has the advantage to make emission measurements independent of the exhaust position. Both inlets are merged with a T-piece [IC-ACC-TPIECE]. Sample position optimised for best signal strength.			
IC-ACC-GPSEXT	EXTERNAL GPS RECEIVER MODULE  > Weatherproof u-blox 8 system with 5 m GPS cable • Serial data communication and connector to ICAD instruments  > Automatic integration into ICAD measurement software • GPS position is stored for each data point • GPS time is used for instrument time synchronisation  > Magnetic for easy mounting • Operation down to 0°C	External GPS receiver with matching connector for easy extension of ICAD instruments, especially for mobile applications, e.g., Plume Chasing.		-8	
IC-ACC-SWTCHBX	ICAD SWITCHABLE SAMPLE LINE BOX  > Extension for ICAD systems  > Automatic switching between two sampling lines with electromagnetic valve during measurement procedure  > Two separated sample lines, two aerosol filters and data cable included	Extension for automated sampling from two different sources • Package includes additional inlet on ICAD housing and external switching box with remote controllable valves.		ICACC-SWTCHBX. SwtChable inlet  Contact  TO KAD INLET  ICAD	



					IC	AD (IC	() Subty	pes
ltem#	Description	Comments	Related articles	Image	Single	Dual	Emission	Outdoor
ACC-WIFIUSB	WIFI USB MODULE (Dongle)	External USB Wi-Fi module, externally connected to all ICAD variants or SKY-COMPACT-XXX instruments • Only this specific WIFI dongle is suitable for the Airyx instruments • For Wi-Fi data communication between instrument and any Wi-Fi device (e.g. [PC-*] or own device).		accurs 🌒 (	•	•	•	
ACC-PWR-8A	EXTERNAL POWER SUPPLY - 110 TO 230 V - 12 V / 8.5 A IP68 connector configured for Airyx instruments.	Power supply for Airyx instruments with IP68 connector configured for Airyx instruments • Input: 110 V to 220 V • Output: regulated 12 V / 8.5 A		8	•	•	•	•
ACC-PWR-7A-IP	EXTERNAL POWER SUPPLY - 110 TO 230 V - 12 V / 7.5 A  IP68 power supply and connector configured for Airyx instruments.	Power supply for Airyx instruments in IP68 housing with IP68 connector configured for Airyx instruments • Input: 110 V to 220 V • Output: regulated 12 V / 7.5 A			•	•	•	•
ACC-PWR3	12 V POWER CABLE EXTENSION IP68 - 3 m	3 m extension 12 V connection between power supply and instrument • PUR outdoor cable with IP68 connectors on both sides • Can also be used to connect LIPo battery packs [ACC-BATPACK].		Q	•	•	•	•
ACC-PWR5	12 V POWER CABLE EXTENSION IP68 - 5 m	5 m extension 12 V connection between power supply and instrument • PUR outdoor cable with IP68 connectors on both sides • Can also be used to connect LIPo battery packs [ACC-BATPACK].		0	•	•	•	
ACC-PWRX	12 V POWER CABLE EXTENSION IP68 - CUSTOM LENGTH Price: 40 € + 6 €/m (Example price for 10 m)	Custom length extension 12 V connection between power supply and instrument • PUR outdoor cable with IP68 connectors on both sides. Flexible length, 30€ + 5€/M • Can also be used to connect LiPo battery packs [ACC-BATPACK].		0	•	•	•	•
ACC-PWR1.5BE	12 V POWER CABLE IP68- 1.5 m - BLANK END suiteable for connection of 12V battery or 12V power supply	1.5 m connection between instrument and arbitrary 12 V power supply • PUR outdoor cable with IP68 connector on the instrument side • Other end with blank wires for flexible assembly.			•	•	•	•
ACC-PWR3BE	12 V POWER CABLE IP68 - 3 M - BLANK END suiteable for connection of 12V battery or 12V power supply	3 M connection between instrument and arbitrary 12 V power supply • PUR outdoor cable with IP68 connector on the instrument side • Other end with blank wires for flexible assembly.			•	•	•	
ACC-LAN2	LAN DATA CABLE IP68 - 2 M	2 m LAN cable to connect Airyx instruments to an external PC • PUR outdoor cable with IP68 connector on the instrument side. Not for ICAD instruments in the rack, there a normal LAN cable is included and sufficient.		Q	•	•	•	•
ACC-LANX	LAN DATA CABLE IP68 - CUSTOM LENGTH PUR Outdoor cable CAT 7 Price: 60€ + 7€/m (example price for 10 m)	Custom length LAN cable to connect Airyx instruments to an external PC • PUR outdoor cable with IP68 connector on the instrument side • Flexible length, $40 \in 7 \in I$ Not for ICAD instruments in the rack, there a normal LAN cable is included and sufficient.		Q	•	•	•	•
ACC-PWR3CAR	12V POWER CABLE FOR CAR CIGARETTE LIGHTER IP68 - 3 m, plus adaptercable to connect 12V buffer battery	3 m power cable for connection of Airyx instruments to a 12 V cigarette lighter in a car  • connectable additional 12 V power source (battery) as 12V buffer to avoid power  cuts when car power is off • PUR outdoor cable • IP68 connector on instrument side.		00	•	•	•	•
ACC-BAT-50Ah	LIPO BATTERY 12 V/50.4 Ah IP67 - PELICASE  Included: 5 A charger  Included 1.5 m power cable for Airyx instrument connection (shipped separately)  3.37 kg  Rugged Peli 1150 case (24 x 19 x 11 cm³)  This item will be shipping from battery manufacturer directly  This item is only available in Europe	Battery pack for instrument power supply in remote areas • IP67 • 3.37 kg • Allow -15 h of ICAD operation • 3 IP67 power connectors • Battery is directly shipped from the company producing the battery for Airyx • Batteries can only be sold within Europe due to transport restrictions.		0	•	•	•	•

#### Product overview of Airyx GmbH



ICAD (IC) Subtypes Item# Description Comments Related articles MAINTENANCE EQUIPMENT AND SPARE PARTS DIGITAL TEMPERATURE SENSOR FOR MONITORING 1 x digital ADT temperature sensor for monitoring. Internal used in Airyx instruments • > Digital sensor address selectable = 0, 1, 2, 3 On micro printed circuit board with 30 cm connection ribbon cable • Digital I2C-adress is selectable (0, 1, 2 or 3) • Also used in older instruments (instead of [SPARE-TSENS-SPD]) to control spectrometer temperature • Direct connection to internal Airyx SPARE-PCEM1 ICAD / SKYSPEC-COMP EMBEDDED MEASUREMENT PC INCL. 256 GB SSD Replacement of internal embedded PC (pITX) in Airyx instruments incl. RAM and SSD > Windows 10 IoT installed and optimised for measurement applications hard drive Installation and configuration of measurement software included • • > Incl. 4 Gb RAM Incl. 256 GB SSD hard drive IC-SPARE-ZERO400 ZERO AIR SYSTEM - HIGH CAPACITY Large size allow longer maintenance intervalls of typ. 2-3 months (at normal air Generates zero air (e.g. NOx & HONO free air) humidity conditions for continious instrument operation) > For zero point measurement (ICAD) With 2 filter cartridges: Activated coal + desiccant > High capacity with 400 ml in each cartridge > For external connection IC-SPARE-ZERO115 ZERO AIR SYSTEM - REGULAR CAPACITY Can directly be attached on the side of the ICAD instruments with Polycarbonate IP64 > Generates zero air (e.g. NOx & HONO free air) housing instrument. > For zero point measurement Maintenance intervalls of typ. 2 - 4 weeks (at normal air humidity conditions for > With 2 filter cartridges: Activated coal + desiccant continious instrument operation) • • > Regular capacity with 115 ml in each cartridge > For external connection > Small size ideal for mobile applications IC-SPARE-FILT 10X PTFE AEROSOL PORE FILTER (pure PTFE) Aerosol pore filter (filter mat only, enclosure with connectors not included) with 5 μm pore size • >100µm thick pure PTFE layer • Used for particle filtering in ICAD inlet of high grade instruments (HONO/NO2 and L-Series) • Packages of 10 piece. IC-SPARE-BASEFILT 10X PTFE on PET AEROSOL PORE FILTER Aerosol pore filter (filter mat only, enclosure with connectors not included) with 5 µm pore size • Thin PTFE filter membrane on PET supporting layer • Used for particle filtering in standard ICAD inlet • Packages of 10 piece. • 10X PTFE AEROSOL DEPTH FILTER Aerosol depth filter (filter mat only, enclosure with connectors not included) with 2 For prefiltering in strongly polluted environments. um pore size. Less precise size cut-off, but high capacity • Ideal for prefiltering to enhance lifetime of the regular 5 µm filter • Used for particle filtering in ICAD inlet • Packages of 10 pieces • • IC-SPARE-FILTH PFA AEROSOL FILTER HOLDER Made from chemical inert PFA material. Used in ICAD inlet line > To hold aerosol filters > For 1/4 inch tubes > Incl. adapter and tubes for 6mm > Incl. keys to open the filter holder > Incl. 1x PTFE aerosol pore filter & 1x PTFE aerosol depth filter IC-SPARE-PUMP-STD MEMBRANE AIR PUMP - STANDARD Lifetime is valid for maximum pump power . Longer lifetime for reduces pump power Compatible with any ICAD system In standard ICAD settings a lifetime of ~ 40.000h is expected.

> 12V, air flow < 5 l/min, up to 700mbar continuous pressure, power regulated with 0.5 to 12V signal

Prepared cable and connector
 Pump rate regulated by ICAD
 Lifetime > 10.000h



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Item#	Description	Comments	Related articles	lmage	Single	Dual	Emission HighGrad	Outdoor
IC-SPARE-PUMP	MEMBRANE AIR PUMP - FIXED PUMP POWER  > Suitable for instruments without pump power regulation > 12V, air flow < 5 L/min, up to 700 mbar continuous pressure > Preset power reduction with resistor to -2L/min > Pump holder included > Lifetime -40.000h	Suitable as replacements for older ICAD systems with only 12V power connection (no pump flow regulator).  > Picture does not include the additional electronic.			•	•	• •	•
IC-SPARE-O3LAMP	O3 GENERATOR LAMP OF NO CONVERTER  > Replacement lamp (mercury) > Including holder and sealing for O3 generator > Lifetime -20.000h	The O3 lamp generates O3 for the NO to NO2 converter needed in the NOx channel. PenRay lamp style. The lamp degrade over the lifetime and a replacement is required to ensure efficient NO to NOx conversion. The lamp is prepared and tested over -10 days for efficient O3 production.				•	• •	•
IC-SPARE-SET-NO2	SPARE PART SET FOR ICAD NO2  1x power supply 12 V, 8 A with configured connector [ACC-PWR-8A] • 1x high capacity zero air filter cartridge [IC- SPARE-ZERO400] • 1x PTFE aerosol filter holder [IC-SPARE-FILTH] • Aerosol filter set 1x [IC-SPARE-PREFILT] & 1x [IC- SPARE-BASEFILT] (each 10 pieces) • Set of disposable aerosol filter (used on measurement cells) • 1x fan 80 mm [SPARE-FAN80V3] • 2x fan filter 80 mm, washable • 1x Membrane air pump with cable connector [IC-SPARE-PUMP- STD] • 1x Zero air particle filter inside ICAD (filter candle) • 2x NO2 Measurement LED	Set with all typical replacement components which degrade or break under normal operation after long operation time (> 2years) due to component lifetime. Include also parts of regular maintenance • Includes desiccant for Zero Air cartridges and aerosol filters.		X_00	•		•	•
IC-SPARE-SET-NOX	SPARE PART SET FOR ICAD NOX  1x power supply 12 V, 8 A with configured connector [ACC-PWR-8A] • 1x high capacity zero air filter cartridge [IC-SPARE-AERE-IRCH] • 1x PTFE aerosol filter holder [IC-SPARE-IRCH] • Aerosol filter set 1x [IC-SPARE-PREFILT] • 1x [IC-SPARE-PREFILT] • 1x [IC-SPARE-AREFILT] • 1x [IC-SPARE-AREFILT] • 1x [IC-SPARE-AREFILT] • 1x [IC-SPARE-AREFILT] • 1x [IC-SPARE-IRCH] • 1x [IC-SPARE-I	Set with all typical replacement components which degrade or break under normal operation after long operation time (> 2years) due to component lifetime. Include also parts of regular maintenance • Includes desiccant for Zero Air cartridges and aerosol filters.		X_00		•		
IC-SPARE-SET-HONO	SPARE PART SET FOR ICAD HONO 1x power supply 12 V, 8 A with configured connector [ACC-PWR-8A] • 1x high capacity zero air filter cartridge [IC- SPARE-ZERO400] • 1x PTFE aerosol filter holder [IC-SPARE-FILTH] • Aerosol filter set 1x [IC-SPARE-REFILT] & 1x [IC- SPARE-FILT] (each 10 pieces) • Set of disposable aerosol filter (used on measurement cells) • 1x fan 80 mm [SPARE- FAN80V3] • 2x fan filter 80 mm, washable • 1x Membrane air pump with cable connector [IC-SPARE-PUMP-STD] • 1x Zero air particle filter inside ICAD (filter candle) • 2x HONO Measurement LED			X.00	•		•	
IC-MAINT-SET	ICAD BASIC MAINTENANCE SET  1x silica desiccant 0.9 kg [SPARE-SILICA] • Aerosol filter set 1x [IC-SPARE-PREFILT] & 1x [IC-SPARE-BASEFILT]	Parts for regular maintenance • Includes desiccant for Zero Air cartridges and aerosol filters.		× 00	•	•	• •	•
IC-SPARE-MCU-V2.0	ICAD MCU (MASTER CONTROL UNIT) BOARD V2.0 > Replacement with instrument specific firmware	Spare main instrument control board with temperature stabilisation controller and instrument firmware for your specific ICAD / SkySpec instrument. This board is only as replacement in Airyx instruments. The new v2.0 is compatible with most older versions. Please contact Airyx to clear compatibility.			•	•	• •	•
SPARE-PELTIER-V2	PELTIER COOLER AIRYX	Peltier cooler in Airyx instruments with cooling function. Peltier regulate the heating / cooling of the instrument between the heat sinks. Silicon sealed version		0	•	•	• •	•
SPARE-FAN80V3	HEAT EXCHANGER FAN - 80 MM Long life and high power	Fan fitting to Airyx temperature stabilisation heat exchangers.			•	•	• •	•
SPARE-FANFILT80	FAN FILTER - 80 MM - WASHABLE	Fan filter fitting to Airyx temperature stabilisation heat exchangers.			•	•	• •	•
SPARE-SILICA	SILICA DESICCANT - 0.9 KG (11)	0.9 kg silica desiccant with colour indicator (orange -> greenish) to be used in Airyx instruments and zero air systems (ICAD instruments).			•	•	•	•

#### Product overview of Airyx GmbH



ICAD (IC) Subtypes

Description Comments Related articles Item# **SERVICES** IC-SERV-EXT POST WARRANTY MAINTENANCE SERVICE EXTENSION - ICAD This is analogue to a longer warranty for this instrument. This does not include Optional extension package • Starts after expiring of warranty • Price per year and ICAD system • Consumption parts | shipping costs if required. Required to be ordered with a new instrument. like filters, pumps and lamps not included SPECTROMETER NON-LINEARITY CHARACTERISATION SFRV-NONI IN Included when buying an Airvx instrument Spectrometer non-linearity • Quantification and analysis • Protocol (per spectrometer) • IC-SERV-NO2-STD ICAD NO2 SERVICE PACKAGE STANDARD Service package includes the check and maintenance of the instrument at the Recommended after one year for NO2 instruments laboratories of Airyx company Replacements: Sample filter . Desiccant of zero air filter • Services: Check of all system parameters • Light path calibration (NO2 mode) • Internal PC clean-up • Backup data on ICAD to USB stick . Update of security relevant software ICAD NO2 SERVICE PACKAGE EXTENDED Service package includes the check and maintenance of the instrument at the Recommended every two years for NO2 instruments laboratories of Airvx company. Replacements: Sample filter • Desiccant and activated coal of zero air filter • Pump replacement • Zero air particle filter inside ICAD • Filter on the measurement cell (if replacement required) Services: Instrument check of all system parameters • Cleaning of optical measurement cell and high reflective mirrors (if required) • Light path calibration (NO2 mode) • Internal PC clean-up • Backup data on ICAD to USB stick • Update of security relevant software IC-SERV-NOX-STD ICAD NOX SERVICE PACKAGE STANDARD Service package includes the check and maintenance of the instrument at the Recommended after one year for NOx instruments laboratories of Airyx company. Replacements: PTFE Aerosol Filter • Desiccant of zero air filter system Services: Check of all system parameters • Light path calibration (NO2 mode) • Calibration of NO to NO2 converter (with NO calibration gas) • Internal PC clean-up • Backup data on ICAD to USB stick • Update of security relevant IC-SERV-NOX-EXT ICAD NOX SERVICE PACKAGE EXTENDED Service package includes the check and maintenance of the instrument at the Recommended every two years for NOx instruments Replacements: PTFE Aerosol Filter • Desiccant and activated coal of zero air filter system • Membrane air pump • 03 generator lamp of NO converter . Zero air filter inside ICAD . Filter on the measurement cell (if replacement • • • Services: Check of all system parameters • Cleaning of optical measurement cell and high reflective mirrors (if required) • Light path calibration (NO2 mode) • Calibration of NO to NO2 converter (with NO calibration gas) • Internal PC clean-up • Backup data on ICAD to USB stick • Update of security relevant software IC-SERV-HONO-STD ICAD HONO SERVICE PACKAGE STANDARD Service package includes the check and maintenance of the instrument at the Recommended after one year for HONO instruments laboratories of Airyx company Replacements: Sample filter . Desiccant of zero air filter Services: Check of all system parameters • Light path calibration • Internal PC clean-up • Backup data on ICAD to USB stick • Update of security relevant software IC-SERV-HONO-EXT ICAD HONO SERVICE PACKAGE EXTENDED Service package includes the check and maintenance of the instrument at the Recommended every two years for HONO instruments laboratories of Airvx company. Replacements: Sample filter • Desiccant and activated coal of zero air filter • Pump replacement • Zero air particle filter inside ICAD • Filter on the measurement cell (if replacement required) • Measurement UV LED's (if required) Services: Instrument check of all system parameters • Cleaning of optical measurement cell and high reflective mirrors (if required) . Light path calibration . Internal PC clean-up . Backup data on ICAD to USB stick . Update of security relevant software ICAD CO2 SENSOR SERVICE CALIBRATION Calibration of the CO2 sensor at the laboratories of Airvx company. Calibration of CO2 Sensor (zero point and span with calibration gas bottles) Unload new calibration to internal parameters RENTAL / TRAINING / MEASUREMENT SERVICE Airyx provide a large range of Measurement services, instrument rental and training. Please contact Airyx for more details. IC-RENT-NO2-150-M- WEEKLY RENTAL OF ICAD-NO2-150-M IN SITU NO2 MONITOR, IP64 HOUSING Rental of instrument for customer measurement or testing projects. Airyx provide 75% REQUIRED ARTICLES: WEEKLY RENTAL SERVICE PACKAGE FOR QUALITY > Direct nitrogen dioxide (NO2) gas measurement with ICAD method of rental fee reimbursement, if within 3 months after the rental the same or similar CONROL ICAD-NO2 [IC-RENT-NO2-SERV-WEEK] Time resolution up to 1 s • Precision up to 0.5 ppb @ 30 s • Range: 0 - 3 ppm Data communication: LAN • RS232 • Wi-Fi (with ACC-WIFIUSB) with GPS module for geolocation and time synchronisation > Polycarbonate IP64 housing • Dust and weatherproof (incl. weatherproof connectors) • Size 30 x 40 x 13.2 cm3 • Weight ~7 kg • Suitable for mobile outdoor measurements > Included: Small Zero air cartridge • Aerosol filter • 5 m PTFE tubing • 2 m LAN cable with IP68 connector • 220V power supply • WIFI Stick module > Patents: EP3329251 • DE 10 2015 000 423 • US15/748,923 • China ZL201680057099.6 > Qty defines number of weeks for rental



					ICAD	(IC) Subty	pes
Item#	Description	Comments	Related articles	lmage	Single	Emission	Outdoor
IC-RENT-NO2-100D M-WEEK	T- WEEKLY RENTAL OF ICAD-NO2-100DT-M TWO CHANNEL TWIN INLET IN SITU NO2 MONITOR, IP64 HOUSING  > Direct nitrogen dioxide (NO2) gas measurement with ICAD method  > Two inlets to measure at two sampling lines in parallel with two measurement cells  > Time resolution up to 1 s • Precision up to 0.5 ppb ⊚ 30 s • Range: 0 · 3 ppm  > Data communication: LAN • WI-F! (with ACC-WIFIU58)  > with GPS module for geolocation and time synchronisation  > Polycarbonate IP64 housing • Dust and weatherproof (incl. weatherproof connectors) • Size 30 x 40 x 13.2 cm³ • Wieight • 8 k • Suitable for mobile outdoor measurements  > included: Small Zero air cartridge • Aerosol filter • 5 m PTFE tubing • 2 m LAN cable with IP68 connector • 220V power supply • WIFI Stick module  > Patents: E7332921 • DE 10 2015 000 423 • US15/748,923 • China ZL201680057099.6	Rental of instrument for customer measurement or testing projects. Airyx provide 75% of rental fee reimbursement, if within 3 months after the rental the same or similar type of instrument is purchased.	REQUIRED ARTICLES: WEEKLY RENTAL SERVICE PACKAGE FOR QUALITY CONROL ICAD-NO2 [IC-RENT-NO2-SERY-WEEK]		•		•
IC-RENT-NOX-1500- WEEK	## WEEKLY RENTAL OF ICAD-NOX-150D-M TWO CHANNEL IN SITU NOX MONITOR, IP64 HOUSING  > Direct nitrogen dioxide (NO2) gas measurement with ICAD method  > Nitrogen oxide (NOx) measurement with conversion of NO to NO2  > Time resolution up to 1 s • Precision up to 0.5 ppb @ 30 s • Range: 0 - 5 ppm  > Data communication: LAM - RS232 • WHF (in/th ACC-WHIUSB)  > with GPS module for geolocation and time synchronisation  > Polycarbonate IP64 housing • Dust and weatherproof (incl. weatherproof connectors) • Size 30 x 40 x 13.2 cm³ • Weight - 10 kg • Suitable for mobile outdoor measurements  > Included: Small Zero air cartridge • Aerosol filter • 5 m PTFE tubing • 2 m LAN cable with IP68 connector • 220V power supply • WIFI Stick module  > Patents: EP3329251 • DE 10 2015 000 423 • US15/748,923 • China ZL201680057099.6	Rental of instrument for customer measurement or testing projects. Airyx provide 75% of rental fee reimbursement, if within 3 months after the rental the same or similar type of instrument is purchased.	REQUIRED ARTICLES: WEEKLY RENTAL SERVICE PACKAGE FOR QUALITY CONROL ICAD-NOX [IC-RENT-NOx-SERV-WEEK]		•		•
IC-RENT-NOx-150DI M-WEEK	WEEKLY RENTAL OF ICAD-NOx-150D-M TWO CHANNEL IN SITU NOX MONITOR, IP64 HOUSING  > Direct nitrogen dioxide (NO2) gas measurement with ICAD method  > Nitrogen oxide (NO3) measurement with conversion of NO to NO2  > Time resolution up to 1 s • Precision up to 0.5 ppb @ 30 s • Range: 0 - 5 ppm  > Data communication: LAN • R5232 • WH-Fi (WIA ACC-WIFIUSB)  > with GPS module for geolocation and time synchronisation  > Polycarbonate IP64 housing • Dust and weatherproof (incl. weatherproof connectors) • Size 30 x 40 x 13.2 cm³ • Weight - 10 kg • Suitable for mobile outdoor measurements  > Included: Small Zero air cartridge • Aerosol filter • 5 m PTFE tubing • 2 m LAN cable with IP68 connector • 220V power supply • WIFI Stick module  > Patents: EP3329251 • De 10 2015 000 423 • US15/748,923 • China ZL201680057099.6  > Qty defines number of weeks for rental	Rental of instrument for customer measurement or testing projects. Airyx provide 75% of rental fee reimbursement, if within 3 months after the rental the same or similar type of instrument is purchased.	REQUIRED ARTICLES: WEEKLY RENTAL SERVICE PACKAGE FOR QUALITY CONROL ICAD-NOX [IC-RENT-NOX-SERY-WEEK]			•	•
IC-RENT-NOx-200DI M-WEEK	EWEEKLY RENTAL OF ICAD-NOx-200DE-M TWO CHANNEL IN SITU NOX/CO2 MONITOR, IP64 HOUSING  > Direct nitrogen dioxide (NO2) gas measurement with ICAD method  > Nitrogen oxide (NOX) measurement with conversion of NO to NO2  > Integrated CO2 IR-Sensor (two wavelength measurements): Relative precision -2 ppm, accuracy -5 ppm, range 0 -  2.000 ppm (with emission software for Plume Chasing)  > Time resolution up to 1 s- Precision up to 0.5 ppb @ 30 s · Range: 0 - 5 ppm  > Data communication: LAN • RS232 • Wi-Fi (with ACC-WIFIUSB)  > Tablet for data monitoring and control included  > with GPS module for geolocation and time synchronisation  > including ICAD cooling option: Cooling * heating to temperature stabilize measurement cell in warm (up to 35°C) and cold environments with an air to air cooling / heating system, measurement cell temperature stability -0.2°C (cooling option required for the combination with the CO2 IR-sensor)  > Polycarbonate IP64 housing • Dust and weatherproof (incl. weatherproof connectors) • Size 30 x 40 x 13.2 cm³ • Weight -10 kg • Suitable for mobile outdoor measurements  > Included: Small Zero air cartridge • Aerosol filter • 5 m PTFE tubing • 2 m LAN cable with IP68 connector • 220V power supply • WIFI Stick module	Rental of instrument for customer measurement or testing projects. Airyx provide 75% of rental fee reimbursement, if within 3 months after the rental the same or similar type of instrument is purchased.	REQUIRED ARTICLES: WEEKLY RENTAL SERVICE PACKAGE FOR QUALITY CONROL ICAD-NOX [IC-RENT-NOX-SERV-WEEK]			•	•
	> Patents: EP3329251 • DE 102015 000 423 • US15/748,923 • China ZL201680057099.6 > Qty defines number of weeks for rental						



					ICAD (IC	) Subtypes
ltem#	Description	Comments	Related articles	lmage	Single Dual	Emission HighGrad Outdoor
IC-RENT-NOx-150DE M-PC-WEEK	WEEKLY RENTAL OF EMISSION PLUME CHASING SYSTEM WITH ICAD-NOx-150DE-M TWO CHANNEL IN SITU NOX/CO2 MONITOR, IP64 HOUSING & PLUME CHASING SETUP  > Direct nitrogen dioxide (NO2) gas measurement with ICAD method  > Nitrogen oxide (NOx) measurement with conversion of NO to NO2  > Integrated CO2 IR-Sensor (two wavelength measurements): Relative precision −2 ppm, accuracy −5 ppm with regular offset calibration, range 0 − 2.000 ppm  Time resolution up to 1 s • Precision up to 0.5 ppb @ 30 s • Range: 0 − 5 ppm  > Including online vehicle emission analysis software with the "Plume Chasing" principle  > Complete Plume Chasing setup for the vehicle including tubing, tablet, tablet mounting, power cables  > with GPS module for geolocation and time synchronisation  > Data communication: LAN • RS232 · Wi-Fi (with ACC-WIFIUSB)  > Including (IAO cooling option: Cooling + heating to temperature stabilize measurement cell in warm (up to 35°C) and cold environments with an air to air cooling / heating system, measurement cell temperature stability −0.2°C (cooling option required for the combination with the CO2 IR-sensor)  > Polycarbonate IP64 housing • Dust and weatherproof (incl. weatherproof connectors) • Size 30 x 40 x 13.2 cm³ • Weight −10 kg • Suitable for mobile outdoor measurements  · Included: Small Zero air cartridge • Aerosol filter • 5 m PTFE tubing • 2 m LAN cable with IP68 connector • 220V power supply • WIFI Stick module  > Plume Chasing tubing and acessories to set-up on a vehcile  > Patents: EP3329251 • De 10 2015 000 423 • US1517/48,923 • China ZL201680057099.6	Rental of instrument for customer measurement or testing projects. Airyx provide 75 of rental fee reimbursement, if within 3 months after the rental the same or similar type of instrument is purchased.				
IC-RENT-NOx-200DE PC-WEEK	WERKLY RENTAL OF EMISSION PLUME CHASING SYSTEM WITH ICAD-NOx-200DE TWO CHANNEL IN SITU NOX/CO2 MONITOR, PLUME CHASING SETUP  Complete Plume Chasing setup for the vehicle including tubing, tablet, tablet mounting, power cables  Including online vehicle emission analysis software with the "Plume Chasing"-principle  Direct classification of NOx LDV and HDV emission factors (EURO VI to IV)  Direct nitrogen dioxide (NO2) gas measurement with ICAD method  Nitrogen oxide (NOX) measurement with conversion of NO to NO2  Integrated CO2 IR-Sensor (two wavelength measurements): Relative precision -2 ppm, accuracy -5 ppm with regular offset calibration, range 0 - 2.000 ppm  Time resolution up to 1 s - Precision up to 0.5 ppb @ 30 s • Range: 0 - 5 ppm  with GPS module for geolocation and time synchronisation  Data communication: Wi-Fi • LAN • RS232  Including (LAD cooling option: Cooling + heating to temperature stabilize measurement cell in warm (up to 35°C) and cold environments  19" rack housing • Size 43.6 x 36.5 x 13.2 cm³ • Weight - 10 kg • Front side display • Suitable for mobile measurements  Included: Large Zero air cartridge • Aerosol filter  Patents: EP3329251 • DE 10 2015 000 423 • US15/748,923 • China ZL201680057099.6  Qty defines number of weeks for rental	Rental of instrument for customer measurement or testing projects. Airyx provide 75 of rental fee reimbursement, if within 3 months after the rental the same or similar type of instrument is purchased.	REQUIRED ARTICLES: WEEKLY RENTAL SERVICE PACKAGE FOR QUALITY CONROL ICAD-NOx/CO2 [IC-RENT-NOx-CO2-SERV-WEEK]			
IC-RENT-HONO/NO2- 200L-WEEK	WEEKLY RENTAL OF ICAD-HONO/NO2-200L IN SITU HONO AND NO2 MONITOR - HIGH GRADE VERSION  > Direct nitrous acid (HONO) and nitrogen dioxide (NO2) gas measurement with ICAD method  > Time resolution up to 1 s  > Precision HONO: 0.1 ppb ⊕10 s • 0.01 ppb ⊕1000 s • Range: 0 · 0.5 ppm  > Precision NO2: 0.2 ppb ⊕10 s • 0.02 ppb ⊕10000 s • Range: 0 · 2 ppm  Increased sensitivity resonator cell configuration  > LED cooling included [IC-LED1-COOL]: Stable LED temperatures for optimal measurement precision at changing ambient temperatures, especially for warm temperatures (above 25° C). This is also beneficial for the overall measurement precision of the ICAD.  > Data communication: LAN • R5232 • Analogue Voltage/Current • Wi-Fi (with ACC-WIFIUSB)  > GPS for geolocation and time synchronisation (with IC-ACC-GPSEXT)  > 19" rack housing • Size 43.6 x 61 x 14 cm³ • Weight less than 12 kg • Front side display • Suitable for mobile measurements  Included: Large Zero air cartridge • Aerosol filter • 5 m PFA tubing • Filter Keys • 3 m LAN cable  > Patents: EP3329251 • DE 10 2015 000 423 • US15/748,923 • China ZL201680057099.6	Rental of instrument for customer measurement or testing projects. Airyx provide 75 of rental fee reimbursement, if within 3 months after the rental the same or similar type of instrument is purchased.	5%	Airux		
IC-RENT-HONO/NO2- 200L-MONTH	MONTHLY RENTAL OF ICAD-HONO/NO2-200L IN SITU HONO AND NO2 MONITOR - HIGH GRADE VERSION  > Direct nitrous acid (HONO) and nitrogen dioxide (NO2) gas measurement with ICAD method  > Time resolution up to 1 s  > Precision HONO: 0.1 ppb ⊕10 s • 0.01 ppb ⊕1000 s • Range: 0 - 0.5 ppm  > Precision NO2: 0.2 ppb ⊕10 s • 0.02 ppb ⊕1000 s • Range: 0 - 2 ppm  Increased sensitivity resonator cell configuration  > LED cooling included [IC-LED1-COOL]: Stable LED temperatures for optimal measurement precision at changing ambient temperatures, especially for warm temperatures (above 25°C). This is also beneficial for the overall measurement precision of the ICAD.  > Data communication: LAN • RS232 • Analogue Voltage/Current • Wi-Fi (with ACC-WIFIUSB)  ○ GPS for geolocation and time synchronisation (with IC-ACC-GPSEXT)  > 19" rack housing • Size 43.6 x 61 x 14 cm³ • Weight less than 12 kg • Front side display • Suitable for mobile measurements  Included: Large Zero air cartridge • Aerosol filter • 5 m PFA tubing • Filter Keys • 3 m LAN cable  > Patents: EP3329251 • DE 10 2015 000 423 • US15/748,923 • China ZL201680057099.6	Rental of instrument for customer measurement or testing projects. Airyx provide 75 of rental fee reimbursement, if within 3 months after the rental the same or similar type of instrument is purchased.		Airux	•	



					ICAD (IC) Subtype
tem#	Description	Comments	Related articles	Image	Single Dual Emission HighGrac
-RENT-NO2-SERV	RENTAL SERVICE PACKAGE FOR QUALITY CONROL ICAD-NO2 > 1x calibration before rental > New particle filter • zero filter before rental > Spare particle filter • spare zero air filter system				•
RENT-NOx-SERV	RENTAL SERVICE PACKAGE FOR QUALITY CONROL ICAD-NOx > 1x calibration before rental (NO2, NOx, NO) > New particle filter - zero filter before rental > Spare particle filter - s pare zero air filter system				•
RENT-NOx-CO2- RV	RENTAL SERVICE PACKAGE FOR QUALITY CONROL ICAD-NOx/CO2 > 1x calibration before rental (NO2, NOx, NO, CO2) > New particle filter - zero filter before rental > Spare particle filter - spare zero air filter system (for 1 month)				• •
RV	RENTAL SERVICE PACKAGE FOR QUALITY CONROL ICAD-HONO/NO2 > 1x calibration before rental > New particle filter • zero filter before rental > Spare particle filter • spare zero air filter system				
-RENT-SUP1-WEEK	ONLINE SUPPORT FOR INSTALLATION, OPERATION, TRAINING AND INSTRUMENT SUPPORT PER WEEK:  > Installation Plume Chasing setup in vehicle from customer  Instruction to operate and maintain the instrument (incl. download data)  > Training to read online emission factors  > Training requirements for high emitter detections  > Remote control via internet network				
-RENT-SUP2-WEEK	ONLINE SUPPORT FOR OPERATION AND INSTRUMENT SUPPORT PER WEEK:  > Operation and measurement support  > Data daownload support and quality check  > Remote instrument support  > Remote control via internet network				
CC-RENT-BAT-50Ah- /EEK	WEEKLY RENTAL OF AIRYX INSTRUMENT LIPO BATTERY 12 V/50.4 Ah IP67 - PELICASE  Included: 5 A charger  Included 1.5 m power cable for Airyx instrument connection  3.37 kg  Rugged Peli 1150 case (24 x 19 x 11 cm³)  Including extra shipping fees for batteries in EU	Battery pack for instrument power supply in remote areas • IP67 • 3.37 kg • Allow -15 h of ICAD operation • 3 IP67 power connectors		0	
IIPPING / P.	ACKING CUSTOMS (REGULAR)				
HIP-D-S1	SHIPPING TO GERMANY - SIZE 1, including shipping insurance	< 5 kg e.g. Spare Parts			
HIP-D-S2	SHIPPING TO GERMANY - SIZE 2, including shipping insurance	5 kg - 20 kg e.g. ICAD, SKYSPEC-COMP, SKYSPEC-MINI, ICAD-XX-200L			
HIP-D-S3	SHIPPING TO GERMANY - SIZE 3, including shipping insurance	> 20 kg e.g. SkySpec-1D / 2D			
HIP-EU-S1	SHIPPING TO EU COUNTRIES - SIZE 1, including shipping insurance	< 5 kg EU countries excl. Germany e.g. e.g. Spare Parts			
HIP-EU-S2	SHIPPING TO EU COUNTRIES - SIZE 2, including shipping insurance	5 kg - 20 kg EU countries excl. Germany e.g. ICAD, SKYSPEC-COMP, SKYSPEC-MINI, ICAD-XX-200L			
HIP-EU-S3	SHIPPING TO EU COUNTRIES - SIZE 3, including shipping insurance	> 20 kg EU countries excl. Germany e.g. SkySpec-1D / 2D			•
SHIP-W1-S1	SHIPPING TO WORLD 1 DISTANCE COUNTRIES - SIZE 1, including shipping insurance, export custom documents	< 5 kg incl. export customs, Europe excl. EU e.g. Spare Parts			
SHIP-W1-S2	SHIPPING TO WORLD 1 DISTANCE COUNTRIES - SIZE 2, including shipping insurance, export custom documents	5 kg - 20 kg incl. export customs, Europe excl. EU e.g. ICAD, SKYSPEC-COMP, SKYSPEC-MINI			



					IC	AD (IC)	Subtyp	es
ltem#	Description	Comments	Related articles	Image	Single	Dual	Emission	Outdoor
SHIP-W1-S3	SHIPPING TO WORLD 1 DISTANCE COUNTRIES - SIZE 3, including shipping insurance, export custom documents	> 20 kg incl. export customs, Europe excl. EU e.g. SkySpec-1D / 2D; ICAD-XX-200L					•	
SHIP-W2-S1	SHIPPING TO WORLD 2 DISTANCE COUNTRIES - SIZE 1, including shipping insurance, export custom documents	< 5 kg incl. export customs, non-Europe countries e.g. Spare Parts		*				
SHIP-W2-S2	SHIPPING TO WORLD 2 DISTANCE COUNTRIES - SIZE 2, including shipping insurance, export custom documents	5 kg - 20 kg incl. export customs, non-Europe countries; e.g. ICAD, SKYSPEC-COMP, SKYSPEC-MINI			•	•		•
SHIP-W2-S3	SHIPPING TO WORLD 2 DISTANCE COUNTRIES - SIZE 3, including shipping insurance, export custom documents	> 20 kg incl. export customs, non-Europe countries; e.g. SkySpec-1D / 2D; ICAD-XX-200L		•			•	
SHIP-CA-SB	SHIPPING ALUMINIUM CASE - SIZE B  > Size (outside) W/D/H cm: 66,8 × 42,8 × 28,5  > Fit for: ICAD -M version  > Thickness aluminium: 1mm	fit for ICAD -M version withut cooling system. With integrated shock absorbing material, boxes can be stacked;		0 8 0 8				•
SHIP-CA-SBT	SHIPPING ALUMINIUM TROLLEY CASE - SIZE B  > Size (outside) W/D/H cm: 66,8 × 42,8 × 28,5  > Fit for: (CAD - M version  > Thickness aluminium: 1mm  > With removal trolley system	fit for ICAD -M version withut cooling system. With integrated shock absorbing material, boxes can be stacked;						•
SHIP-CA-SC	SHIPPING ALUMINIUM CASE - SIZE C  > Size (outside) W/D/H cm: 80,0 × 54,0 × 36,5 > Fit for: (CAD (all models), SKYSPEC-1D / 2D > Thickness aluminium: 1mm	fit for ICAD especially for the High Grade - L & Emission version instruments, with integrated shock absorbing material, boxes can be stacked		8 0 R	•	•	• •	•
SHIP-CA-SCT	SHIPPING ALUMINIUM TROLLEY CASE - SIZE C  > Size (outside) W/D/H cm: 80,0 × 54,0 × 36,5  > Fit for: (CAD (all models), SKYSPEC-1D / 2D  > Thickness aluminium: 1mm  > With removal trolley system	fit for ICAD especially for the High Grade - L & Emission version instruments, with integrated shock absorbing material, boxes can be stacked			•	•	•	•

## Product overview of Airyx GmbH



ICAD (IC) Subtypes

ltem#	Description	Comments	Related articles	lmage	Single Dual Emission HighGrac