# Product overview of Airyx GmbH



ICAD (IC) Subtypes

| Item#          | Description   | Comments   | Related articles  | lmage | Single Dual Emission ighGrac |
|----------------|---|--|---|-------|------------------------------|
| ICAD Instrum   | ents<br>Ox Instruments in 19" Rack Housing  |  |   |       |                              |
| ICAD-NO2-210   | ICAD-NO2-210 IN SITU NO2 MONITOR   Spirect nitrogen dioxide (NO2) measurement with ICAD method   Time resolution up to 1 s • Precision up to 0.15 ppb @30 s • Range: 0 - 5 ppm   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 43.6 x 36.5 x 13.2 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: 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.   | 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-COOSENS] • PTFE aerosol pore filter [IC-SPARE-FILT] • Zero air filter system - High capacity [IC-SPARE-ZERO400] • Zero air filter system - Regular capacity [IC-SPARE-ZERO415] • Maintenance [IC-MAINT-SET] • Spare part set [IC-SPARE-SET-NO2] • Services [IC-SERV-NO2-EXT] & [IC-SERV-EXT]  | AITUX |                              |
| ICAD-NOX-210D  | ICAD-NOx-210D TWO CHANNEL IN SITU NOx MONITOR  > 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 0.15 ppb @30 s • Range: 0 - 5 ppm  > 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 43.6 x 36.5 x 13.2 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 forma which is able to measure NOx by simultaneous measurement of both NO2 and NO.  TIME RESOLUTION: 5 s standard setting for delivery.  | 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-CO25ENS] • PTFE aerosol pore filter [IC-SPARE-FILT] • PTE aerosol pore 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-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   Nitrogen oxide (NOx) measurement with conversion of NO to NO2   Time resolution up to 1 s • Precision up to 0.15 ppb @30 s • Range: 0 - 5 ppm   Data communication: LAN • RS232 • Analogue Voltage/Current • Wi-Fi (with ACC-WIFIUSB)   Suitable for GFS geolocation and time synchronisation (with option IC-ACC-GPSEXT)   19" rack housing • Size 43.6 x 36.5 x 13.2 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 - 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 "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 it 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. | 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-PRETI] • Zero air filter system • High capacity [IC-SPARE-ZERO400] • Zero air filter system • Regular capacity [IC-SPARE-ZERO15] • Maintenance [IC-MAINT-SET] • Spare part set [IC-SPARE-SET-NOX] • Services [IC-SERV-EXT] • Plume Chasing measurement probe system [IC-ACC-PROBESYS]  | AITUX |                              |
| ICAD-NO2-210L  | ICAD-NO2-2:10L IN SITU NO2 MONITOR - HIGH GRADE VERSION  > Direct nitrogen dioxide (NO2) gas measurement with ICAD method  > Time resolution up to 1 s • Precision up to 0.012 ppb @1800 s • Range: 0 - 2 ppm  > 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 43.6 x 61 x 13.2 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 peltier cooling increase measurement accuracy and reduce zero point drift.  TIME RESOLUTION: 30 s in standard setting for delivery.   | 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-COSENS] • PTE aerosol pore filter [IC-SPARE-FILT] • PTFE aerosol depth filter [IC-SPARE-REFILT] • Zero air filter system - High capacity [IC-SPARE-ZERO410] • Zero air filter system - Regular capacity [IC-SPARE-ZERO410] • 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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|------------------------|---|---|---|--|----------------------------|
| Item#                  | Description   | Comments  | Related articles  | Image  | Single<br>Dual<br>Emission |
| ICAD-NOX-210DL         | ICAD-NOx-210DL IN SITU NOx MONITOR - HIGH GRADE VERSION  > 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 0.012 ppb @1800 s • Range: 0 • 2 ppm  > 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 • WiFI (with ACC-WIFIUSB)  > suitable for GPS geolocation and time synchronisation (with option 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  | 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. | 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 coz IR-Sensor [IC-CON-COSENS] • PTFE aerosol oper filter [IC-SPARE-FIETL]] • PTE 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-NOX] • Services [IC-SERV-NOX-EXT] & [IC-SERV-EXT] | Airux  |                            |
| ICAD-HONO/NO2-<br>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  > 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  > 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)  > GPS for geolocation and time synchronisation (with IC-ACC-GPSEXT)  > 19" rack housing • Size 43.6 x 61 x 14 cm² • 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 peltier cooling increase measurement accuracy and reduce zero point drift.  TIME RESOLUTION: 30 s in standard setting for delivery.  | 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-COSENS] • PTFE aerosol oper filter [IC-SPARE-FILT] • PTFE aerosol depth filter [IC-SPARE-REFILT] • 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  |                            |
| ICAD NO2 / NO          | Ox Instruments in UV resistant Polycarbonate IP64 housing     ICAD-NOZ-210-M IN SITU NOZ MONITOR, IP64 HOUSING  | ZERO AIR FILTER SYSTEM: Regular capiacity (115ml) is included.  | 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-PREFILT] • Zero air filter system - Regular capacity [IC-SPARE-ZERO400] • Maintenance [IC-MAINT-SET] • Spare part set [IC-SPARE-SET-NO2] • Services [IC-SERV-NO2-EXT] & [IC-SERV-EXT]   | Age and a second | •                          |
| 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  > Nitrogen oxide (NOx) measurement with conversion of NO to NO2  > Time resolution up to 1 s • Precision up to 0.15 ppb @ 30 s • Range: 0 - 5 ppm  > Data communication: LAN • RS232 • Analogue Voltage/Current • Wi-Fi (with ACC-WIFIUSB)  > suitable for GP5 geolocation and time synchronisation (with option IC-ACC-GPSEXT)  > UV resistant Polycarbonate IP64 housing • Dust and weatherproof (incl. weatherproof connectors) • Size 30  x 40 x 13.2 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 LAI cable with IP68 connector  > Patents: EP3329251 • DE 10 2015 000 423 • US15/748,923 • China ZL201680057099.6  | optimized for mobile and outdoor application.  TIME RESOLUTION: 5 s standard setting for delivery.  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 coz IR-Sensor [IC-CON-COSENS] • PTFE aerosol oper filter [IC-SPARE-FIETL]] • PTE 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] | THE 22   |                            |



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|------------------|--|--|--|--|--------|----------|---------|
| ltem#            | Description  | Comments   | Related articles   | lmage  | Single | Emission | Outdoor |
| ICAD-NO2-210DT-M | > Two inlets to measure at two sampling lines in parallel with two measurement cells > Time resolution up to 1 s • Precision up to 0.15 ppb @ 30 s • Range: 0 - 5 ppm > Two inlets for parallel NO2 measurements > Data communication: LAN • R5232 • 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 30 x 40 x 13.2 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   | ,  | 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 coz IR-Sensor [IC-CON-COOSENS] • PTFE aerosol oper filter [IC-SPARE-TILT] • PTE aerosol option filter [IC-SPARE-PEFILT] • Zero air filter system • Regular capacity [IC-SPARE-ZERO115] • 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-NO2] • Services [IC-SERV-NO2-EXT] & [IC-SERV-EXT] | THE ASSESSMENT OF THE PARTY OF  | •      |          | •       |
| 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  > Nitrogen oxide (NOx) measurement with conversion of NO to NO2  > Time resolution up to 1 s • Precision up to 0.15 ppb @ 30 s • Range: 0 - 5 ppm  > Data communication: LAN • RS232 • Analogue Voltage/Current • Wi-F1 (with ACC-WIFIUSB)  > suitable for GP5 geolocation and time synchronisation (with option IC-ACC-GPSEXT)  > UV resistant Polycarbonate IP64 housing • Dust and weatherproof (incl. weatherproof connectors) • Size 30  x 40 x 13.2 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 |  | 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-REFILT] • 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]   | TOTAL STATE OF THE PARTY OF THE |        | •        | •       |
| 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]  | CONTRACTOR OF THE PROPERTY OF  | •      |          |         |

#### Product overview of Airyx GmbH



ICAD (IC) Subtypes

Comments Related articles Item# Description OPTIONAL INSTRUMENT CONFIGURATIONS (TO BE ORDERED WITH THE INSTRUMENT) ICAD INTEGRATED CO2 IR-SENSOR Extension for integrated CO2 sensor needed for emission measurements | REQUIRED ARTICLES: Cooling Option for temperature stability of CO2 > Extends the ICAD system by measurements of CO2 concentrations (NOx/CO2) or emission plume detection. Required for [ICAD-NOX-200DE] sensor [IC-CON-COOL] 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 IC-LED1-COOL ICAD NO2 HIGH GRADE LED COOLING OPTION Compatible with ICAD RACK instruments. Already included in ICAD "HIGH integrated in ICAD System: active ICAD LED light source cooling with peltier for best LED temperature GRADE Version" instruments. By ordering, the LED cooling option it will be integrated in the ICAD stability (better 0.1°C) increase measurement accuracy and zero point drift. 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 Compatible with ICAD RACK instruments. Already included in ICAD "HIGH > integrated in ICAD System: active ICAD LED light source cooling for both measurement channels (NO2 and GRADE Version" instruments. NOx) with peltier for best LED temperature stability (better 0.1°C) By ordering, the LED cooling option it will be integrated in the ICAD increase measurement accuracy and zero point drift. 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 By ordering, the cooling (air to air peltier unit) option it will be · To be configured for ICAD Instrument: ICAD cooling + heating option to temperature stabilize measurement integrated at the ICAD analyser back plate. It is mandatory for ICAD cell in warm and cold environments (-10°C to 35°C) instruments with integrated CO2 sensor [IC-CON-CO2SENS] to provide Air to air cooling/heating system stable temperatures for optimal measurement precision at higher Measurement cell temperature stability ~0.2°C to 35°C 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. MEASUREMENT COMPUTERS PC-DE MEASUREMENT COMPUTER - DESKTOP PC If a measurement computer is ordered with a Airyx instrument, the · Windows 10 or 11 Pro installed and optimised for Airyx instrument measurement applications required measurement software (e.g. SKY-SOFT-\*) will be installed and Installation and configuration of measurement and (if included) evaluation software packages. preconfigured on the computer at Airyx GmbH. Same applies if software Robust Dell tower PC with min 8GB RAM, min 512GB Harddrive and min. Intel i5 Processor extensions (e.g. SkySpec evaluation package SKY-EVAL-\*) are ordered • Delivered with keyboard, but without monitor The system will be pre-configured as a plug-and-play setup. PC-NB MEASUREMENT COMPUTER - NOTEBOOK If a measurement computer is ordered with a Airyx instrument, the Windows 10 or 11 installed and optimised for Airyx instrument measurement applications required measurement software (e.g. SKY-SOFT-\*) will be installed and Installation and configuration of measurement and (if included) evaluation software packages preconfigured on the computer at Airvx GmbH. Same applies if software • · Robust Dell Notebook with min. 8GB RAM, SSD Harddrive extensions (e.g. SkySpec evaluation package SKY-EVAL-\*) are ordered • The system will be pre-configured as a plug-and-play setup. PC-NBHF MEASUREMENT COMPUTER - NOTEBOOK - HIGH PERFORMANCE If a measurement computer is ordered with an Airyx instrument, the Windows 10 or 11 Pro installed and optimised for Airyx instrument measurement applications required measurement software (e.g. SKY-SOFT-\*) will be installed and Installation and configuration of measurement and (if included) evaluation software packages. preconfigured on the computer at Airvx GmbH. Same applies if a Robust Dell Notebook with min. 8GB RAM, min. 512GB SSD Harddrive and min. Intel i5 Processor software extension (e.g. SKY-EVAL-\*) is ordered • the system will be preconfigured as a plug-and-play setup • In the "HIGH PERFORMANCE" • configuration a fast (i7 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

#### Product overview of Airyx GmbH



ICAD (IC) Subtypes

Related articles Item# Description Comments EXTENSIONS AND ACCESSORIES OPERATOR WIFI CONTROLLER (10" tablet size) as controller interface for Airyx ICAD or SkySpec Compact. Preconfigured Android tablet with shock protection for fast and easy RECOMMENDED ARTICLES: Android OS, pre installed apps and configurations for instruement control. control of ICAD and SkySpec Compact Instruments, especially for field Car tablet mounting [ACC-TAB-MNT] Includes: rugged frame protection, adapter USB-C --> USB 2.0, adapter USB --> LAN measurements. Preconfigured for simple application e.g. of "Plume Chasing" measurements with [ICAD-NOX-200DE] or [ICAD-NOX-200DE-M]. · WIFI and LAN connection to the instrument 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. ACC-TAB-MNT TABLET MOUNT CAR Enables mounting of Airyx tablets in the car cockpit in compliance with Mount to fix the tablet (10"-13", e.g. [OPERATOR DISPLAY TABLET]) in the car traffic regulations for mobile applications, e.g., Plume Chasing. Length of metal arm: 56.5 cm > Will be mounted to front seat base screw which is present in any car from any brand IC-ACC-SDCABLE ICAD SERIAL ADAPTER CABLE Data cable to transmit data from ICAD via serial connection, USB adapter Adapter cable for ICAD (IP68) to RS232 serial data connection (D-Sub 9) for serial data communication via for alternative connection with USB port of a PC is included. standardised Bayern Hessen data protocol • Length 2 m • Including RS232 to USB adapter 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. 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 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 Sampling probe for mounting at the front of a Plume Chasing Setup for gas sampling on a car with two air inlets (right and left) measurement vehicle • Includes all required tubing to perform on-road > Two inlets merged to one sample line (incl. T-piece gas connector) • incl. 5 m extra PTFE tubing [IC-ACC-Plume Chasing measurements of NOx emissions factors with the ICAD > For installation on the front bumper of a car with cable ties (included) or clamps • simple adjustment to Adjustable width (170 cm to 220 cm) and front end in relation to every vehicle width humner > Flexible probe to avoid injuries 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 IC-ACC-GPSEXT EXTERNAL GPS RECEIVER MODULE External GPS receiver with matching connector for easy extension of · Weatherproof u-blox 8 system with 5 m GPS cable • Serial data communication and connector to ICAD ICAD instruments, especially for mobile applications, e.g., Plume > 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 IC-ACC-SWTCHBX ICAD SWITCHABLE SAMPLE LINE BOX Extension for automated sampling from two different sources . Package > Extension for ICAD systems includes additional inlet on ICAD housing and external switching box with > Automatic switching between two sampling lines with electromagnetic valve during measurement remote controllable valves procedure • > Two separated sample lines, two aerosol filters and data cable included TO ICAD INLET ICAD ACC-WIFILISB 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).

#### Product overview of Airyx GmbH



ICAD (IC) Subtypes Description Comments Related articles Item# ACC-PWR-8A EXTERNAL POWER SUPPLY - 110 TO 230 V - 12 V / 8.5 A Power supply for Airyx instruments with IP68 connector configured for IP68 connector configured for Airyx instruments. Airyx instruments • Input: 110 V to 220 V • Output: regulated 12 V / 8.5 ΔCC-PWR-7Δ-IP EXTERNAL POWER SUPPLY - 110 TO 230 V - 12 V / 7.5 A Power supply for Airyx instruments in IP68 housing with IP68 connector configured for Airyx instruments • Input: 110 V to 220 V • Output: IP68 power supply and connector configured for Airyx instruments. 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]. • 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]. • • • ACC-PWRX 12 V POWER CABLE EXTENSION IP68 - CUSTOM LENGTH Custom length extension 12 V connection between power supply and Price: 40 € + 6 €/m (Example price for 10 m) 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]. ACC-PWR1 5RF 12 V POWER CABLE IP68- 1.5 m - BLANK END 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-PWR3RF 12 V POWER CABLE IP68 - 3 M - BLANK END 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. • LAN DATA CABLE IP68 - 2 M ACC-LAN2 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. ACC-LANX LAN DATA CABLE IP68 - CUSTOM LENGTH Custom length LAN cable to connect Airyx instruments to an external PC PUR Outdoor cable CAT 7 PUR outdoor cable with IP68 connector on the instrument side Price: 60€ + 7€/m (example price for 10 m) Flexible length, 40 € + 7 €/m Not for ICAD instruments in the rack, there a normal LAN cable is included and sufficient. ACC-PWR3CAR 12V POWER CABLE FOR CAR CIGARETTE LIGHTER IP68 - 3 m, plus adaptercable to connect 12V buffer 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. ACC-BAT-50Ah LIPO BATTERY 12 V/50.4 Ah IP67 - PELICASE Battery pack for instrument power supply in remote areas • IP67 • 3.37 > Included: 5 A charger kg • Allow ~15 h of ICAD operation • 3 IP67 power connectors • Battery > Included 1.5 m power cable for Airyx instrument connection (shipped separately) is directly shipped from the company producing the battery for Airyx • Batteries can only be sold within Europe due to transport restrictions. • Rugged Peli 1150 case (24 x 19 x 11 cm<sup>3</sup>) This item will be shipping from battery manufacturer directly > This item is only available in Europe

# Product overview of Airyx GmbH



ICAD (IC) Subtypes

| Item#             | Description  | Comments  | Related articles | lmage | Single Dual Emission HighGrac |
|-------------------|--|---|------------------|-------|-------------------------------|
| MAINTENAN         | CE EQUIPMENT AND SPARE PARTS   |   |                  |       |                               |
| SPARE-TSENS-DX    | DIGITAL TEMPERATURE SENSOR FOR MONITORING  > Digital sensor address selectable = 0, 1, 2, 3  | 1 x digital ADT temperature sensor for monitoring. Internal used in Airyx instruments • On micro printed circuit board with 30 cm connection ribbon cable • Digital IZC-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 controller board. |                  |       | • • • •                       |
| SPARE-PCEM1       | ICAD / SKYSPEC-COMP EMBEDDED MEASUREMENT PC INCL. 256 GB SSD > Windows 10 IoT installed and optimised for measurement applications > Installation and configuration of measurement software included > Incl. 4 Gb RAM > Incl. 256 GB SSD hard drive  | Replacement of internal embedded PC (pITX) in Airyx instruments incl. RAM and SSD hard drive  |                  |       |                               |
| IC-SPARE-ZERO400  | ZERO AIR SYSTEM - HIGH CAPACITY  > Generates zero air (e.g. NOx & HONO free air)  > For zero point measurement (ICAD)  > With 2 filter cartridges; Activated coal + desiccant  > High capacity with 400 ml in each cartridge  > For external connection  | Large size allow longer maintenance intervalls of typ. 2-3 months (at normal air humidity conditions for continious instrument operation).  |                  |       |                               |
| IC-SPARE-ZERO115  | ZERO AIR SYSTEM - REGULAR CAPACITY  > Generates zero air (e.g. NOx & HONO free air)  > For zero point measurement  > With 2 filter cartridges; Activated coal + desiccant  > Regular capacity with 115 ml in each cartridge  > For external connection  > Small size ideal for mobile applications | Can directly be attached on the side of the ICAD instruments with Polycarbonate IP64 housing instrument.  Maintenance intervalls of typ. 2 - 4 weeks (at normal air humidity conditions for continious instrument operation).   |                  |       |                               |
| 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.  |                  |       |                               |
| IC-SPARE-PREFILT  | 10X PTFE AEROSOL DEPTH FILTER For prefiltering in strongly polluted environments.  | Aerosol depth filter (filter mat only, enclosure with connectors not included) with 2 µm 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  > 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  | Made from chemical inert PFA material. Used in ICAD inlet line.   |                  | (88)  |                               |
| IC-SPARE-PUMP-STD | MEMBRANE AIR PUMP - STANDARD  > Compatible with any ICAD system > 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   | Lifetime is valid for maximum pump power • Longer lifetime for reduces pump power. In standard ICAD settings a lifetime of - 40.000h is expected.   |                  |       |                               |



|                   |   |  |                  |       | ICA    | AD (IC) | Subty    | pes     |
|-------------------|---|--|------------------|-------|--------|---------|----------|---------|
| Item#             | Description   | Comments   | Related articles | lmage | Single | Dual    | Emission | 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] 6 1x [IC-SPARE-BASEFILT] (each 10 pieces) • Disposable aerosol filter 1x 4µm 6 1x 6µm (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.  |                  | × ••• |        |         |          |         |
| 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-ZERO400] • 1x PTFE aerosol filter holder [IC-SPARE-FILTH] • Aerosol filter set 1x [IC- SPARE-PREFILT] 6 1x [IC-SPARE-BASEFILT] (each 10 pieces) • Disposable aerosol filter 2x 4µm 6 2x 6µm (used on measurement cells) • 1x fan 80 mm [SPARE-FAN8OV3] • 2x fan filter 80 mm, washable • 1x  Membrane air pump with cable connector [IC-SPARE-PURS-TD] • 1x Zero air particle filter inside ICAD (filter candle) • 1x O3 generator lamp of NO converter [IC-SPARE-O3LAMP] • 3x NOx Measurement LED | Set with all typical replacement components which degrade or break under normal operation after long operation time (> Zyears) 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-PREFILT] 6 1x [IC-SPARE-FILT] (each 10 pieces) • Disposable aerosol filter 1x 4µm 6 1x 6µm (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  | -  |                  | Xoo   |        |         |          |         |
| 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.  |                  | Xoo   | •      | •       | •        | •       |
| IC-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<br>Long life and high power  | Fan fitting to Airyx temperature stabilisation heat exchangers.  |                  | (2)   | •      | •       | •   •    | •       |
| 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).  |                  |       | •      | •       | •   •    | •       |



|                  |   |  |                  |       | icab (ic) subtypes            |
|------------------|---|--|------------------|-------|-------------------------------|
| Item#            | Description   | Comments   | Related articles | lmage | Single Dual Emission HighGrac |
| SERVICES         | -   |  |                  |       |                               |
| IC-SERV-EXT      | POST WARRANTY MAINTENANCE SERVICE EXTENSION - ICAD Optional extension package • Starts after expiring of warranty • Price per year and ICAD system • Consumption parts like filters, pumps and lamps not included.  | This is analogue to a longer warranty for this instrument. This does not include shipping costs if required. Required to be ordered with a new instrument. |                  | X     | • • • •                       |
| SERV-NONLIN      | SPECTROMETER NON-LINEARITY CHARACTERISATION Spectrometer non-linearity • Quantification and analysis • Protocol (per spectrometer)  | Included when buying an Airyx instrument   |                  | X     |                               |
| IC-SERV-NO2-STD  | ICAD NO2 SERVICE PACKAGE STANDARD Recommended after one year for NO2 instruments 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   | Service package includes the check and maintenance of the instrument at the laboratories of Airyx company.   |                  | ×     |                               |
| IC-SERV-NO2-EXT  | ICAD NO2 SERVICE PACKAGE EXTENDED Recommended every two years for NO2 instruments 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  | Service package includes the check and maintenance of the instrument at the laboratories of Airyx company.   |                  | ×     |                               |
| IC-SERV-NOX-STD  | ICAD NOX SERVICE PACKAGE STANDARD Recommended after one year for NOx instruments Replacements: PTEE 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 software   | Service package includes the check and maintenance of the instrument at the laboratories of Airyx company.   |                  | ×     |                               |
| IC-SERV-NOX-EXT  | ICAD NOX SERVICE PACKAGE EXTENDED 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 required) 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 | Service package includes the check and maintenance of the instrument at the laboratories of Airyx company.   |                  | *     |                               |
| IC-SERV-HONO-STD | ICAD HONO SERVICE PACKAGE STANDARD Recommended after one year for HONO instruments 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  | Service package includes the check and maintenance of the instrument at the laboratories of Airyx company.   |                  | ×     |                               |
| IC-SERV-HONO-EXT | ICAD HONO SERVICE PACKAGE EXTENDED Recommended every two years for HONO instruments 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  | Service package includes the check and maintenance of the instrument at the laboratories of Airyx company.   |                  | *     |                               |
| IC-SERV-CO2-CAL  | ICAD CO2 SENSOR SERVICE CALIBRATION Calibration of CO2 Sensor (zero point and span with calibration gas bottles) Upload new calibration to internal parameters  | Calibration of the CO2 sensor at the laboratories of Airyx company.  |                  | ×     |                               |

220V power supply . WIFI Stick module

Oty defines number of weeks

> Patents: EP3329251 • DE 10 2015 000 423 • US15/748,923 • China ZL201680057099.6

#### Product overview of Airyx GmbH



ICAD (IC) Subtypes Related articles Item# Description Comments 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 REQUIRED ARTICLES: WEEKLY RENTAL SERVICE PACKAGE FOR QUALITY Rental of instrument for customer measurement or testing projects. WFFK Direct nitrogen dioxide (NO2) gas measurement with ICAD method Airyx provide 75% of rental fee reimbursement, if within 3 months after 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 the rental the same or similar type of instrument is purchased. 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 REQUIRED ARTICLES: WEEKLY RENTAL SERVICE PACKAGE FOR QUALITY IC-RENT-NO2-100DT- WEEKLY RENTAL OF ICAD-NO2-100DT-M TWO CHANNEL TWIN INLET IN SITU NO2 MONITOR, IP64 HOUSING Rental of instrument for customer measurement or testing projects. M-WEEK > Direct nitrogen dioxide (NO2) gas measurement with ICAD method Airyx provide 75% of rental fee reimbursement, if within 3 months after CONROL ICAD-NO2 [IC-RENT-NO2-SERV-WEEK] Two inlets to measure at two sampling lines in parallel with two measurement cells the rental the same or similar type of instrument is purchased. Time resolution up to 1 s • Precision up to 0.5 ppb @ 30 s • Range: 0 - 3 ppm > Data communication: LAN • 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 ~8 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 Otv defines number of weeks IC-RENT-NOx-150D-M. WEEKLY RENTAL OF ICAD-NOx-150D-M TWO CHANNEL IN SITU NOX MONITOR, IP64 HOUSING REQUIRED ARTICLES: WEEKLY RENTAL SERVICE PACKAGE FOR QUALITY Rental of instrument for customer measurement or testing projects. Direct nitrogen dioxide (NO2) gas measurement with ICAD method Airyx provide 75% of rental fee reimbursement, if within 3 months after CONROL ICAD-NOx [IC-RENT-NOx-SERV-WEEK] Nitrogen oxide (NOx) measurement with conversion of NO to NO2 the rental the same or similar type of instrument is purchased. 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) 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 IC-RENT-NOx-150DE- WEEKLY RENTAL OF ICAD-NOx-150D-M TWO CHANNEL IN SITU NOX MONITOR, IP64 HOUSING REQUIRED ARTICLES: WEEKLY RENTAL SERVICE PACKAGE FOR QUALITY Rental of instrument for customer measurement or testing projects. > Direct nitrogen dioxide (NO2) gas measurement with ICAD method Airvx provide 75% of rental fee reimbursement, if within 3 months after CONROL ICAD-NOx [IC-RENT-NOx-SERV-WEEK] Nitrogen oxide (NOx) measurement with conversion of NO to NO2 the rental the same or similar type of instrument is purchased. 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) · 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



|                                |  |  |  |       | icab (ic) subtypes            |
|--------------------------------|--|--|--|-------|-------------------------------|
| Item#                          | Description  | Comments   | Related articles   | Image | Single Dual Emission HighGrac |
| IC-RENT-NOx-200DE<br>M-WEEK    | WEEKLY 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 (NO2) 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  > Patents: EP3329251 · DE 10 2015 000 423 · US15/748,923 · China ZL201680057099.6  > Qty defines number of weeks  | 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-150DE<br>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 ICAD cooling option: Cooling + heating to temperature stabilize measurement cell temperature stability -0.2°C (cooling option required for the combination with the CO2 IR-sensor)  > Polycarbonate IP64 housing · Dust and weather proof (incl. weather proof 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 vehicile  > 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/CO2 [IC-RENT-NOx-CO2-SERY-WEEK] |       | • • •                         |
| IC-RENT-NOx-200DE<br>PC-WEEK   | · ·  | 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] |       | • •                           |



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| Item#                           | Description  | Comments   | Related articles | Image  | Single | Dual      | HighGrad | Outdoor |
| IC-RENT-HONO/NO2-<br>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 • 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<br>a a a                                 | •      |           | •        |         |
| IC-RENT-HONO/NO2-<br>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 @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 overalt 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 4.3 c 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: EPS329251 • 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. |                  | Airyx<br>a a a a a a a a a a a a a a a a a a a | •      |           | •        |         |
| IC-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 * pare zero air filter system  |  |                  |  |        |           |          |         |
| IC-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 • spare zero air filter system  |  |                  |  | П      | •         |          | •       |
| IC-RENT-NOx-CO2-<br>SERV        | 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)   |  |                  |  |        | •         |          | •       |
| IC-RENT-HONO/NO2-<br>SERV       | 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  |  |                  |  | •      |           |          |         |
| IC-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   |  |                  |  | •      | •         | •        | •       |
| IC-RENT-SUP2-WEEK               |  |  |                  |  | •      | •         | •        | •       |
| ACC-RENT-BAT-50Ah-<br>WEEK      | 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 cm²)  > 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  | •      | •         | •        | •       |



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| em#     | Description   | Comments   | Related articles | Image   | Single Dual Emission |
| PPING   | / PACKING CUSTOMS (REGULAR)   |  |                  | ·       |                      |
| P-D-S1  | SHIPPING TO GERMANY - SIZE 1, including shipping insurance  | < 5 kg<br>e.g. Spare Parts   |                  |         |                      |
| P-D-S2  | SHIPPING TO GERMANY - SIZE 2, including shipping insurance  | 5 kg · 20 kg   |                  |         |                      |
|         | Jan 1 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0  | e.g. ICAD, SKYSPEC-COMP, SKYSPEC-MINI, ICAD-XX-200L  |                  |         | • • •                |
| P-D-S3  | SHIPPING TO GERMANY - SIZE 3, including shipping insurance  | > 20 kg<br>e.g. SkySpec-1D / 2D  |                  |         |                      |
| P-EU-S1 | SHIPPING TO EU COUNTRIES - SIZE 1, including shipping insurance   | < 5 kg<br>EU countries excl. Germany<br>e.g. e.g. Spare Parts  |                  |         |                      |
| P-EU-S2 | SHIPPING TO EU COUNTRIES - SIZE 2, including shipping insurance   | 5 kg - 20 kg<br>EU countries excl. Germany<br>e.g. ICAD, SKYSPEC-COMP, SKYSPEC-MINI, ICAD-XX-200L            |                  |         |                      |
| -EU-S3  | SHIPPING TO EU COUNTRIES - SIZE 3, including shipping insurance   | > 20 kg<br>EU countries excl. Germany<br>e.g. SkySpec-1D / 2D  |                  |         |                      |
| P-W1-S1 | SHIPPING TO WORLD 1 DISTANCE COUNTRIES - SIZE 1, including shipping insurance, export custom documents                                  | < 5 kg<br>incl. export customs, Europe excl. EU<br>e.g. Spare Parts  |                  |         |                      |
| P-W1-S2 | SHIPPING TO WORLD 1 DISTANCE COUNTRIES - SIZE 2, including shipping insurance, export custom documents                                  | 5 kg - 20 kg<br>incl. export customs, Europe excl. EU<br>e.g. ICAD, SKYSPEC-COMP, SKYSPEC-MINI               |                  | •       |                      |
| P-W1-S3 | SHIPPING TO WORLD 1 DISTANCE COUNTRIES - SIZE 3, including shipping insurance, export custom documents                                  | > 20 kg<br>incl. export customs, Europe excl. EU<br>e.g. SkySpec-1D / 2D; ICAD-XX-200L                       |                  | •       |                      |
| P-W2-S1 | SHIPPING TO WORLD 2 DISTANCE COUNTRIES - SIZE 1, including shipping insurance, export custom documents                                  | < 5 kg<br>incl. export customs, non-Europe countries<br>e.g. e.g. Spare Parts                                |                  |         |                      |
| -W2-S2  | SHIPPING TO WORLD 2 DISTANCE COUNTRIES - SIZE 2, including shipping insurance, export custom documents                                  | 5 kg - 20 kg<br>incl. export customs, non-Europe countries;<br>e.g. ICAD, SKYSPEC-COMP, SKYSPEC-MINI         |                  |         |                      |
| -W2-S3  | SHIPPING TO WORLD 2 DISTANCE COUNTRIES - SIZE 3, including shipping insurance, export custom documents                                  | > 20 kg<br>incl. export customs, non-Europe countries;<br>e.g. SkySpec-1D / 2D; ICAD-XX-200L                 |                  |         |                      |
| P-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 integarted she absorbing material, boxes can be stacked; | ck               | 8 8 0 E |                      |



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|-------------|--|---|------------------|-------------------------------|
| ltem#       | Description  | Comments  | Related articles | Single Dual Emission HighGrae |
| SHIP-CA-SBT | SHIPPING ALUMINIUM TROLLEY CASE - SIZE B  > Size (outside) W/D/H cm: 66,8 × 42,8 × 28,5  > Fit for: ICAD -M version  > Thickness aluminium: 1mm  > With removal trolley system | fit for ICAD -M version withut cooling system. With integarted 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: ICAD (all models) > Thickness aluminium: 1mm   | fit for ICAD especially for the High Grade - L & Emission version instruments, with integarted shock absorbing material, boxes can be stacked |                  | 8 0 F                         |
| SHIP-CA-SCT | SHIPPING ALUMINIUM TROLLEY CASE - SIZE C > Size (outside) W/D/H cm: 80,0 × 54,0 × 36,5 > Fit for: ICAD (all models) > Thickness aluminium: 1mm > With removal trolley system   | fit for ICAD especially for the High Grade - L & Emission version instruments, with integarted shock absorbing material, boxes can be stacked |                  |                               |

# Product overview of Airyx GmbH



lCAD (IC) Subtypes

| ltem# | Description | Comments | Related articles | lmage | Single | Dual | HighGrad | Outdoor | Caraco |
|-------|-------------|----------|------------------|-------|--------|------|----------|---------|--------|