

parSYNC[®] FLEX[®]

pollutant activity relay synchronization

R-28

Utilizing the ModuleX™ System



Flexible iPEMS: Design The Best Solution For YOU

The 3DATX parSYNC[®] iPEMS (integrated Portable Emissions Measurement System) provides gaseous AND nanoparticle measurements with a proprietary cartridge system. The “hot-swap” capability delivers emissions acquisition of 4-Gas measurement, NO_x measurement and Nanoparticle measurement.

The 3DATX patented multi-plex basic particle sensor system provides the ability to capture multiple, dissimilar “images” of particles using Ionization, Scattering, and Opacity sensors in addition to outputs for Particle Number (PN) and Particulate Mass (PM).

PRE-LOADED FLEX CARTRIDGE CONFIGURATION:

P Particulates Cartridge	C C-GasMOD™ Cartridge	N N-GasMOD™ Cartridge
PN/PM	CO/CO ₂ /HC/O ₂	NO/NO ₂

Call us to discuss customization options!



New! Further customize your parSYNC[®] FLEX to allow for real-time acquisition of:

- Wireless OBD Data Logger: User-defined ECU Data for LD and HD
- Real-time GPS and Ambient Meteorology Data (pressure, temperature, humidity)
- Ports for Additional Measurements (ie - exhaust flow rate, after-treatment temperature)

The parSYNC[®] series of devices are powered by a common software interface, either directly on the imbedded LCD screen or from a linked laptop, which provides a familiar and adaptable platform to each unique transportation challenge presented.

The software and hardware embedded in parSYNC[®] is completely customizable and extremely valuable for the 3DATX user community. This broad spectrum and flexibility of analytical and reporting functions for fleet managers, manufacturers, consultants and regulatory compliance specialists is particularly useful as national and international Governments and Authorities ramp up new emissions standards.



WEIGHT AND BATTERY RUNTIME

The FLEX is a modular platform that allows various weight and power configurations based on user needs. Given below are the most common configurations:

Weight and Battery Runtime	No Battery ¹ (external power)	Minimum Battery ²	Maximum Battery ³
parSYNC [®] Weight	6.5 kg	7.2 kg	7.2 kg
CUBE [™] Weight	3.3 kg	4.0 kg	5.5 kg
parSYNC [®] + CUBE [™] Weight	9.8 kg	11.2 kg	12.7 kg
Battery Runtime ⁴	N/A	~2 hours	~4 hours

¹System powered from external source, such as wall/mains power. ²One battery in each of parSYNC[®] and CUBE[™] units. ³One battery in parSYNC[®] and three batteries in CUBE[™]. ⁴Runtime is for typical working conditions.

FEATURES AND BENEFITS OF THE parSYNC[®] FLEX

- Small Size/Lightweight = Easily transported to job site, Dimensions (mm): 402 x 153 x 294 (W x H x D)
- Operation via interactive LCD display or from linked laptop
- Built-in WiFi Access-point to transmit data in real-time to laptop
- Fully Automated Software (customizable for specific requirements)
- Simple and Quick Calibration Process (BAR97 Hi/Lo, etc)
- Internal Power Supply: 18V Standard Lithium-Ion Battery Pack (same model as CUBE[™] FLEX)
- Low Power Consumption: 2A, 38W typically (5A, 100W during warm-up)
- Measurement Cartridges with Monitored and Stabilized Temperatures
- Hot-Swap Replaceable Sensor Cartridges (4-Gas, NOx and PN/PM) eliminates downtime in the field
- Rugged and Weather Resistant
- Easy to Maintain and Operate

FEATURES AND BENEFITS OF THE CUBE[™] FLEX (Conditioning Unit for Batch Emissions)

Support unit connected to the parSYNC[®] for sample conditioning and extended power supply:

- Exhaust Sample Condensate Removal
- Volatile Particle Reduction
- Extended Power Supply: Triple, Hot-Swappable 18V Standard Lithium-Ion Battery Packs
- Small Size/Lightweight = Easily transported to job site, Dimensions (mm): 348 x 294 x 147 (W x H x D)

Gases	Non-Dispersive Infrared (NDIR)			Individual Electro-Chemical Cells			
	CO ₂	CO	HC	NO	NO ₂	O ₂	
Range	0-20%	0-15%	0-4000 ppm ¹	0-5000 ppm	0-300 ppm	0-100%	
T ₀₋₉₀ Time (s)	< 3.5	< 3.5	< 3.5	< 5	< 35	< 6	
Resolution	0.01%	0.01%	1 ppm	1-2 ppm	0.1 ppm	0.01%	
Accuracy	Abs	± 0.3%	± 0.02%	± 8 ppm	± 15 ppm	± 5 ppm	± 0.1%
	Rel	± 3%	± 3%	± 3%	± 2%	± 2%	2%
Repeatability	Abs	± 0.1%	± 0.02%	± 6 ppm	± 5 ppm	± 5 ppm	± 0.1%
	Rel	± 2%	± 2%	± 2%	± 2%	± 2%	± 2%

¹ Propane mode, extends to 30,000 ppm (lower accuracy)

Particulates	
Details	Data
Particle Size Range	10 to 10,000nm = 0.01 to 10 µm
Ionization Sensor	Ultra-Fine: 10 to 250nm / peak@ <80nm
Opacity Sensor	Medium: 80 to 7,000nm / peak@ ~800nm
Scattering Sensor	Coarse: 250 to 10,000nm / peak@ ~2,500nm