

GC-UV · LABIO · SINCE 1990

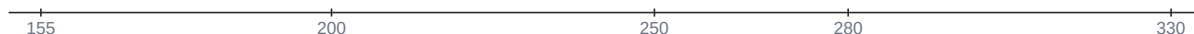
INSCAN OEM

Detector core module for instrument integrators

DETECTION ENVELOPE

<155 nm → 330 nm

Vacuum-UV through near-UV — continuous full-spectrum acquisition

**UV ENVELOPE**<155 – 330
nm**FORM**

Module

DATA RATE

200 Hz

CERT

CE / FCC

Abstract

INSCAN OEM is the embeddable deep-UV detection core for instrument manufacturers. It exposes the same optics and firmware that power INSCAN and INSCAN X, in a compact module with open electrical and software interfaces for white-label integration.

Why GC-UV

GC-UV couples capillary gas chromatography to vapor-phase electronic absorption spectroscopy. Analytes eluting from the column traverse a heated optical flow cell where a continuous deuterium source illuminates them across the deep-UV. Each species contributes a structure-specific absorbance band ($\pi \rightarrow \pi^*$, $n \rightarrow \pi^*$, Rydberg) that, free of solvent perturbation, yields reproducible vapor-phase spectra suitable for library matching^{1,2}.

- Vapor-phase electronic spectra: no solvent shift, no chromophore quenching
- Discriminates structural and positional isomers GC-MS cannot resolve (e.g. xylene o/m/p)²
- Simultaneous multi-wavelength Beer–Lambert quantification in a single run
- No vacuum, no turbomolecular pump — robust for routine and field deployment
- Continuous full-spectrum acquisition (deuterium source, 1024-pixel array)
- Orthogonal and complementary to GC-MS for unambiguous compound confirmation

Specifications

Detector	Deep-UV absorbance OEM core
UV range	<155 – 330 nm
Flow cell	Customer-specified, OEM mount
Host compatibility	Any GC chassis with 24 V supply
Data rate	up to 200 Hz
Dimensions (W×D×H)	180 × 220 × 95 mm
Power	24 V DC, 60 W
Signal output	TTL, RS-485, Ethernet (REST/TCP), analog 0–10 V
Firmware	Open API, NDA-shared documentation
Certification	CE, FCC Class A, RoHS pre-certification

Representative applications

GC OEM integration

Embed GC-UV into next-generation laboratory and process GCs.

Process analyzer builders

Add isomer-level ID to custom analyzer skids.

Research instruments

Core detection for one-off academic and industrial builds.

White-label products

Re-brand under partner instrument lines via volume licensing.

References

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- 3 Sánchez-Palomo E. *et al.* (2002). Separation and determination of volatile compounds in synthetic wine by GC with UV-Vis molecular absorption detection. *Talanta*, doi:10.1016/S0039-9140(02)00055-3.
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