

Intelligent Diode Array Detector **MD-2010/2015**



The JASCO Model MD-2010 and MD-2015 are both powerful and flexible high sensitivity diode array HPLC detectors. The MD-2010 covers from 195 to 650 nm with a minimum wavelength interval of 1 nm and the MD-2015 covers from 200 to 900 nm with an interval of 1.5 nm. Both models can be used as stand alone units or as fully PC controlled instruments with the JASCO chromatography data systems. As stand alone detectors the MD-2010/2015 provide outstanding sensitivity with multiwavelength ratio capability and time programmable spectral storing facilities. When used in conjunction with a PC, the MD-2010/2015 can acquire data in real time to be interpreted through ample post run data manipulation and integration facilities.

- **Compact, easy to use design**

Both the MD-2010 and MD-2015 are components of the JASCO LC-2000 Plus series and incorporate the same compact design and user friendly operation. A backlit LCD display and well organized keypad assure simple, easy operation. A front loading flow cell allows easy cleaning and inspection. A lamp-off timer and Leak-in-cell sensor are provided as standard.

- **High sensitivity and wide dynamic range**

The innovative design of the MD-2010/2015 is a break through in diode array technology with a noise level of as low as 0.7×10^{-5} ABU and drift less than 1×10^{-3} ABU/hour. The wide dynamic range assures absorbance is linear up to 2.56 ABU. The combination of wide dynamic range and high resolution allows acquisition of precise UV spectral data needed for accurate determination of main components as well as impurities. The optimized, high resolution optical system allows differentiation of components which have similar spectral wave shape.

- **Powerful stand-alone operation**

Used without a computer the MD-2010/2015 offer much more than other HPLC detectors. For routine analysis, there are outputs for 3 chromatograms of different wavelength and an output of ratio chromatogram of two different wavelengths. Spectral measurement can be taken at any time throughout a chromatographic run by a single key stroke. The MD-2010/2015's memory can store as many as 50 UV spectra along with conditions such as retention time, sample number, and chromatographic peak number.

- **Software for control and data acquisition**

The JASCO chromatography data systems provide the researcher with a sophisticated data acquisition and processing system.

- Full automation of the HPLC system including the MD-2010/2015
- Real time monitoring of 3-D spectra as well as chromatographic data in data acquisition mode
- Variety of data display modes, such as 3-D chromatogram / spectra, simultaneous display of contour plot, six chromatograms display, ratio chromatogram and UV spectra
- Complete functions for data analysis, such as chromatographic peak purity check, spectral library search, automatic recognition of chromatographic/spectral peak maximum and minimum and integration function for 6 chromatograms simultaneously
- Quantitative analysis at the optimum wavelength



SPECIFICATIONS

Wavelength range:	
MD-2010:	195 ~ 650 nm
MD-2015:	200 ~ 900 nm
Noise level:	
MD-2010:	±0.7×10 ⁻⁵ ABU at 250 nm (with empty cell, Tacc=1.6 sec, Wacc=8 nm)
MD-2015:	±0.7×10 ⁻⁵ ABU at 250 nm (with empty cell, Tacc=1.6 sec, Wacc=12 nm)
Drift:	less than 1 × 10 ⁻³ AU at 250 nm with empty cell, room temperature
Time accumulation (Tacc):	0.1, 0.2, 0.4, 0.8, 1.6, 3.2 and 6.4 sec
Wavelength accumulation (Wacc):	
MD-2010:	1, 2, 4, 8, 16 and 32 nm
MD-2015:	1.5, 3, 6, 12, 24 and 48 nm
Light sources:	Deuterium lamp and Halogen lamp
Detectors:	512 elements diode array
Polychromator:	Flat field unit with concave holographic grating
Flow cell:	10 mm path, tapered cell
Time programmable parameters:	Wavelength, range, autozero, spectra acquisition, ratio maker
Program file:	10 files, each with up to 64 steps, 0.1 min increments
Spectral memory:	up to 50 spectra can be stored
Analog outputs:	4 channel - Absorbance at 3 selected wavelengths - One ratio - Pre-stored spectra for Channel 1 10 mV/FS, 1 ABU/1V, 2 ABU/1V, 0.2 ABU/0.2V for each channel
Control inputs/outputs:	Marker, autozero, program start and reset, leak warning
Self diagnostics:	ROM, RAM, +5V, ±15V, memory backup, leak in cell, lamp off
Interface for external PC:	SCSI
Dimensions and weight:	300 (W) x 470 (D) x 150 (H) mm, Approx. 15 kg
Power Input voltage:	AC 100 ~ 240 V ±10% 50/60 Hz
Power consumption:	230 VA

ORDERING INFORMATION

6832-J002B	Model MD-2015	Diode Array Detector (~ 900 nm)
6831-J002B	Model MD-2010	Diode Array Detector (~ 600 nm)
6824-J002B	Model UV-2070	UV/VIS Detector (~ 900 nm)
6825-J002B	Model UV-2075	UV/VIS Detector (~ 600 nm)
6826-J002B	Model UV-2077	Multi-wavelength UV/VIS Detector
6829-J003B	Model FP-2020	Fluorescence Detector
6833-J002B	Model RI-2031	Refractive Index detector
6838-J002B	Model CD-2095	Circular Dichroism Detector
6837-J002B	Model OR-2090	Chiral Detector
6836-J002B	Model CL-2027	Chemiluminescence Detector
6818-J002B	Model PU-2080	HPLC Pump
6823-J003B	Model PU-2089	Quaternary HPLC Pump
6820-J002B	Model PU-2085	Semi-micro HPLC Pump
6821-J002B	Model PU-2086	Semi-preparative HPLC Pump
6822-J002B	Model PU-2087	Preparative HPLC Pump
6819-J002B	Model PU-2080i	Bio-inert HPLC Pump
6823-J004B	Model PU-2089i	Bio-inert Quaternary HPLC Pump
6828-J008B	Model AS-2059	Autosampler
6827-J005B	Model AS-2055	Autosampler
6827-J006B	Model AS-2057	Autosampler
6834-J002B	Model CO-2060	Column Oven
6835-J002B	Model CO-2065	Column Oven

STANDARD ACCESSORIES

Spare fuses	2 pcs
AC Power cable	1 pc

OPTIONAL ACCESSORIES

6831-H107A	Micro flow cell unit, 5 µL
6831-H108A	Preparative flow cell unit, 20 µL, 1mm path.
6831-H111A	Standard flow cell unit
6831-H112A	Tapered flow cell unit, 17 µL, PEEK
6831-H113A	High pressure flow cell unit (gasket: Pb, window: quartz)
6831-H114A	High pressure cell unit (for prep. LC)

● Specifications are subject to change without notice.



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LLC07-0607 Printed in Japan