

## FPA 4100 分析仪表的规格

### 性能

零点漂移	+/- 2% 量程 (使用每天的自动零点校准)
量程漂移	+/- 2% 量程
精度	+/- 2% 量程
重复性	+/- 2% 量程
灵敏度	1% 量程
线性	+/- 2% 量程
响应时间	T-90 30 秒钟

### 周围环境

环境温度	0°C ~ 55°C
尺寸	610 mm 高 x 400 mm 宽 x 250 mm 深
重量	30 kg

### 消耗品

电源、电耗	10~36 VDC, 30W 90~240 VAC, 50/60 Hz, 30W
样品流量	0.5-1 L/分钟

### 通讯

数字输出	Modbus RS232, Modbus RS485, Modbus TCP/IP 可选
数字输入	4 干接点, 4 湿接点 (12/24 VDC)
模拟输入	2 x 4-20 mA, 用户可选的量程, 自供电或回路供电
模拟输出	6 x 4-20 mA, 用户可选的量程, 回路供电
继电器	6 x SPDT 继电器, 5A @ 30 VDC or 8A @ 120/240 VAC

### 批准及证书

CSA (C, CUS) Class 1 Division 2, Groups BCD  
CE

注意: 为了提高我们产品的性能, 我们一直在工作, 所以所有的规格也许无通变化

关于加拿大GALVANIC公司  
加拿大GALVANIC公司提供系列齐全、高质量、适于气体及液体测量的系统, 为全球客户解决过程分析及测量的问题。我们制造的系统 and 零部件即使在极其恶劣的工艺环境下都精度高、可靠和使用寿命长, 这就是不管是跨国公司还是小公司都一次又一次寻求我们的原因, 他们信赖我们的注重细节、应用诀窍及严格的质量标准。我们与顾客通力协作, 使每个系统为客户量身定制, 以满足客户的现场特定要求, 另外我们提供独一无二的技术支持包括安装、培训和长期产品维修。加拿大GALVANIC公司的总部位于加拿大卡尔加里, 分公司位于美国波士顿附近。GALVANIC公司有布局全球的兢兢业业的销售和服务工程师, 另外有层级分销商, 根据客户的需求提供服务。

**GALVANIC**  
APPLIED SCIENCES



FPA 4100 光度计  
分析仪表

## 提供莫大的操纵自如、精确的测量、始终不渝现场证明的性能和性价比。

GALVANIC的工艺气在线光度计分析仪的FPA4100系列可测量多种气体和液体样品的分析物。光电子模块可放得下要么可见光源要么紫外光光源，为了最稳定性的信号包括控制温度的光源模块。光纤用于连接光源和检测仪到样品检测室。

FPA4100的控制器包括直观的人机界面、可拆掉的本安型的手掌键盘、10个LED指示灯、数据保存功能。结实可靠的仪表系统提供多流路的测量、不需要试剂或压缩气体和精确的连续样品测量。操作和维护容易，仪表提供使用通标气活液体的自动较准功能、自动零点补偿、数字的检测仪增益值优化。为了优化的安全和稳定性，检测仪的电子板跟工艺气隔离。FPA4100系列也提供通过可选的以太网端口的远程操作和诊断。

### 定制、方便的安装和操作

GALVANIC的分析仪表是在工厂定制，能无缝隙地集成于您已存在的基础结构中。GALVANIC的专家服务团队，在必要时可以模仿您当前系统的取样状况和输出，根据您的准确规格对一台或者多台分析仪表进行校验。

在必要时各个地撤下旧的分析仪表，或者以最经济有效的方法启动新的工艺线，因为GALVANIC可对您全球的所有设施方便地规范培训协定、操作步骤和服务过程。

往里面看看 ... GALVANIC 仍在继续领先于创新的、性价比高的分析纸带分析仪表系统领域。

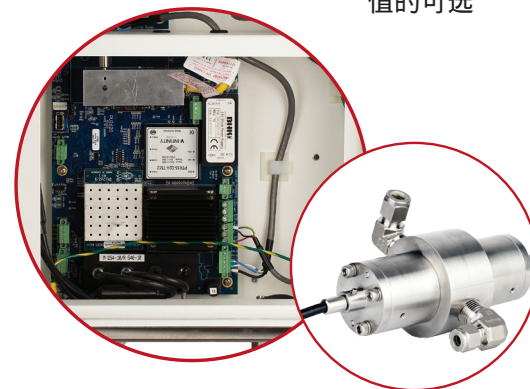
### 特点

- 连续的不需要试剂或压缩气的测量
- 测量室可以在旁路管子或在线安装，可以由烘烤箱或蒸汽套加热
- 对于浓度的线性的响应
- 可选的多流路测量（8个流路以下）
- 实时分析，不是批量分析
- 控制温度的检测仪模块和光源提供稳定性和光源的长寿命
- 双光波长的测量补偿混浊、光强度的变化、光学镜片的涂层、泡沫
- 可选的以太网端口提供远程地监测、诊断、控制
- 没有移动部件的光度计设计包管很高的可靠性和很低的维护要求
- 按照要求的自动校准和自动测量室的清洗
- 自动光源故障的探测，显示在仪表的显示屏上，也可以由模拟输出或数字输出传



### 隔离的光电子板包管最高的稳定性

光电子板包括温度控制的光源和检测仪模块，包管最稳定的仪表测量，可选监测和补偿紫外光光源光强度变化的配置。



### 直感的用户界面的控制器，可拆掉的手掌键盘

10个LED指示灯，保存数据的功能，整体菜单接触允许用户不需要打开仪表柜门看一看分析结果和报警（可选的配置）。仪表也可能由以太网和浏览器基地的用户界面控制、操作。



### 测量室可选的适应性

测量室有多种材料和温度/压力额定值的可选

### 选择对您特定的应用要求适合的FPA4100分析仪表

型号	测量
FPA 4100 UV	<ul style="list-style-type: none"> <li>● 测量紫外光量程范围的分析物</li> <li>● 气体 - H<sub>2</sub>S、SO<sub>2</sub>、不饱和烃</li> <li>● 水性 - 水内的油、硝酸盐、氯、不饱和烃</li> </ul>
FPA 4100 Vis	<ul style="list-style-type: none"> <li>● 测量可见光量程范围的参数</li> <li>● 燃料的颜, Hazen / APHA 颜色</li> </ul>

## 选取的工业和应用

- 铜的采矿
  - 酸浸过程和精制过程中的铜浓度的监测
- 城市饮用水和废水
  - 颜色、氯、硝酸盐
- 天然气处理
  - LNG 和 LPG的颜色
  - 烟囱的排放
- 石油和炼化 / 石化
  - 水内的烃（仅不饱和烃）
  - 水内的油
  - 烟囱的排放
  - 废水 - UV-254 nm 测量用于监测不饱和烃
- 发电
  - 冷凝水内的油
- 半导体
  - 烟囱的排放



## FPA 4100™ UV DIGITAL PHOTOMETERS

Galvanic's FPA 4100 family of process photometers enables measurement of the concentration of a wide variety of analytes in both liquid and gas streams. The photonics module can accommodate either UV or visible light sources and has a temperature controlled photo diode block for maximum signal stability. The light source and detectors are coupled to a measurement cell via fiber optic cables.

Delivering the Utmost in Ease-Of-Operation, Precise Measurements, Consistent, Field-Proven Performance and Value

The FPA 4100 controller includes an intuitive user interface with an intrinsically safe, removable keypad, LCD screen, 10 LED indicator lights, and data-loading capability. Rugged and reliable, the systems offer multi-stream-analysis capability, delivering precise continuous measurement with no reagents or compressed gases required. Easy to use and maintain with auto-calibration capability using external standards, auto-zero compensation, and digital optimization of detector gains, the detector electronics are isolated from the process for optimum safety and stability. The FPA 4100 series also enables remote operation and diagnostics via an Ethernet connection.

## FEATURES

- Continuous measurement without the need for reagents or compressed gases
- Cell may be installed in a bypass line or in-line; measurement cells may be heating using an oven or by steam jacketing
- Linear response to concentration
- Multi-stream (up to 8) analysis option
- No batch analysis
- Temperature-controlled detector block and UV light sources for stability, long lamp life
- Dual-wavelength measurement compensates for turbidity, changes in light intensity, optical window coating, and bubbles
- Remote monitoring, diagnostics, and control via Ethernet connection
- No moving parts are used in the photometer design, assuring high reliability and exceptionally low maintenance
- Auto calibration and auto cell washing when required
- Automatic lamp-failure detection flagged on the front panel; can also be transmitted via serial and digital output.

## SELECTED INDUSTRIES & APPLICATIONS

- Copper Mining

Copper-concentration monitoring during ore acid leaching process & refining

- Municipal Water & Wastewater

Color, chlorine, nitrate

- Natural Gas Processing

Color of LNG & LPG

Stack emissions

- Oil & Refining / Petrochemical

Hydrocarbon in Water (unsaturated HC only)

Oil in water

Stack emissions

Wastewater – UV-254 nm measurement for unsaturated hydrocarbons

- Power Generation

Oil in condensate water

- Semiconductor

Stack emissions

## FPA 4100 PHOTOMETER SPECIFICATIONS



### PERFORMANCE

<b>Zero drift</b>	+/- 2% F.S. with daily autozero ( <i>Application dependent</i> )
<b>Span Drift</b>	+/- 2% F.S.
<b>Accuracy</b>	+/- 2% F.S.
<b>Repeatability</b>	+/- 2% F.S.
<b>Sensitivity</b>	1% F.S.
<b>Linearity</b>	+/- 2% F.S.
<b>Response time:</b>	T-90 30 seconds

### ENVIRONMENT

<b>Ambient temperature</b>	0°C to 55°C (32°F to 131°F)
<b>Dimensions</b>	610 mm H x 400 mm W x 25 mm D (24" H x 15.8" W x 9.8 " D)
<b>Weight</b>	30 kg (66 lbs)

### UTILITIES

<b>Power &amp; consumption</b>	10-36 VDC, 30 watts 90-240 VAC, 50/60 Hz, 30 watts
<b>Sample flow</b>	0.5-1 L/min

### COMMUNICATIONS

<b>Digital Outputs</b>	Modbus RS232, Modbus RS485, Modbus TCP/IP ( <i>optional</i> )
<b>Digital Inputs</b>	4 dry contact, 4 wet contact (12/24 VDC)
<b>Analog Inputs</b>	2 x 4-20 mA, user scalable, loop or self powered
<b>Analog Outputs</b>	6 x 4-20 mA, user scalable, loop powered
<b>Relays</b>	6 x SPDT relays, 5 amps @ 30 VDC or 8 amps @ 120/240 VAC

### APPROVALS & CERTIFICATIONS

Class I Div 2, Groups BCD, Temp Code T3 (*field certification*)  
ZONE 1II 2 GEx db ia IIB+H2 T4 Gb| Ta= -20°C to +50°C| IECEx QPS 17.0009x | CML 17ATEX1239X



Please Note: we work continuously to improve the performance of our products – all specifications are subject to change without notice.

AVAILABLE MODELS

Models	Measurements
<b>FPA 4100 UV</b>	• Measures analytes in the UV range
	• Gas – H <sub>2</sub> S, SO <sub>2</sub> , unsaturated hydrocarbons
	• Aqueous – oil in water, nitrate, chlorine, unsaturated
<b>FPA 4100 Vis</b>	• Measures parameters in the visible range
	• Color of fuels, Hazen Color, APHA color

## LOOK CLOSER

---



### CONTROLLER WITH INTUITIVE USER INTERFACE & REMOVABLE KEYPAD

Ten LED indicator lights, data-loading capability, and full menu access lets you view analysis results and alarms on the spot without opening the en-closure (as optional configuration). The analyzer can also be controlled remotely via Ethernet and a Web-based graphical user interface.





### ISOLATED PHOTONICS BOARD FOR MAXIMUM STABILITY

The photonics board has temperature-controlled lamp and photo-detector blocks to assure maximum stability of the analyzer measurements. Configurations are available to monitor and correct for any UV lamp intensity changes.



### FLEXIBILITY IN SENSOR CELL OPTIONS

The flow cell is available with many material options and temperature pressure ratings

