Metrohm
Ion analysis
swiss made

875 ProcessLab

At-line Analyzer for Process Analysis

ProcessLab

ProcessLab – the innovative solution for routine analysis in production

ProcessLab

ProcessLab is a robust analytical system for routine analysis in the plant. Wherever various parameters are to be measured at different measuring points, ProcessLab is the convincing solution. Custom-made to suit your analytical requirements, ProcessLab guarantees reliable analytical results and safe process control. ProcessLab is also easy to use.

The difference between at-line and on-line analysis systems
In an at-line system the sample is taken manually and then fed into the system. In this way different samples from various process stages or units can be easily analyzed. In contrast, in an on-line system the sample is fed automatically to the analyzer via a bypass. This means that an increased effort is required to cover several baths or measuring points.

ProcessLab means

- Simple operation
- Robust hardware
- Flexibility and modularity
- Networking and process integration
- Efficient ion analysis

ProcessLab is 100% compatible with all other Metrohm laboratory analysis equipment

Fields of application for ProcessLab

ProcessLab

Analytical methods
ProcessLab can provide the following analysis and sample preparation techniques:

- Direct measurement of pH, redox potential and conductivity
- Measurements with ion-selective electrodes (ISEs)
- Potentiometric titration
- Karl Fischer titration
- Voltammetry
- Cyclic voltammetric stripping (CVS)
- Liquid handling for sample preparation

In addition to these techniques, instruments from other manufacturers can also be incorporated. This considerably extends the range of measuring methods. For example, the following parameters can be measured with instruments from other manufacturers:

- Temperature
- Density
- Refractive index
- Viscosity

Examples of typical applications

Thanks to Metrohm's many years of experience in the field of ion analysis, we are able to measure numerous analytical parameters, of which the following are particularly important in process analysis:

- pH value
- Conductivity
- Redox potential
- Acid content
- Free and total alkalinity
- Water hardness
- Phosphates
- Chloride
- Chlorine
- Ammonia
- Nitrite
- Fe, Cu, Ni, Zn
- Na, Ca, F (with ISE)
- Free and total SO_2
- Sulfate
- H_2S/mercaptans
- Hydrogen peroxide
- Free fatty acids
- Surfactants
- Water content
- Organic additives (CVS)

All analytical methods that are already used in the lab can easily be transferred to process analysis.

As a result of the high flexibility of the individual modules, the systems are very versatile. A few of the typical application fields of the instruments are listed below:

Etching baths in the steel industry
Determination of the content of acids and metals in etching baths.

Baths in the electroplating industry
Typical parameters in electroplating baths including the cleaning and degreasing baths used for pretreatment.

Phosphating baths in the automobile industry
All the important parameters for monitoring a complete phosphating plant.

Process baths in the paper industry
Parameters in the cooking liquor or the so-called white, green or black liquors in the paper industry.

Parameters in the food industry
Important parameters for the quality control of foodstuffs, for example in instant soups or fruit juices.

Applications for automated sample preparation
For example the automatic filtration of water samples or the extraction of organic substances as sample preparation steps for the subsequent spectroscopic or chromatographic determinations.

Modularity

The design of ProcessLab is entirely modular, which is why it adapts perfectly to your specific analytical and process requirements. The wet-chemistry part of an analysis module is modular in design, just like the electronics part. These two parts are hermetically separated from one another. Modern interfaces permit the analysis modules to be set up in different locations, or the control panel to be separate from the analysis module. This has advantages, for example in cleanroom analysis or in hazardous areas. The housings are dust-proof and splash-proof; this means that the instruments can be used in the roughest production plant environments.

Sample loops
A flexible solution for metering variable sample volumes with an 800 Dosino

Sensors
All the usual Metrosensor pH and redox electrodes, ion-selective electrodes (ISEs) and conductivity cells can be used

Loop sampling system
With fixed volumes for quick and exact dosing of defined sample volumes

Valves
For a wide range of liquid handling tasks

800 Dosino
For the exact addition of titrants and auxiliary reagents

Peristaltic pumps
For adding reagents and auxiliary components or also for automatically rinsing and cleaning measuring vessels

Measuring cell with magnetic stirrer
For accurate and reproducible titrations

Sample loop

Measuring cell with magnetic stirrer

Overflow pipet

Peristaltic pump

Countless combination options

ProcessLab is set up according to your requirements. An analysis module contains exactly those components that are required for the analysis to be carried out. A wide range of analytical systems can be configured by the combination of several analysis modules. This results in simply structured and clearly laid-out analysis units. Sample introduction can be performed manually or – considerably more conveniently – by means of a Sample Processor.

Easy operation

tiamo™ is the comprehensive control and database software for complete automation in laboratory and process analysis. ***tiamo*** complies with the high demands of GLP/GMP as well as FDA regulation 21 CFR Part 11.

Configuration
tiamo automatically manages all the components and modules integrated in ProcessLab. This means that complicated manual configuration can be dispensed with. All the configuration data necessary for ProcessLab such as type of reagent, titer, electrode calibration data, calculation variables and constants are stored here. ***tiamo*** monitors calibration and titer determination intervals as well as GLP tests and servicing and warns the user in good time before the expiry date.

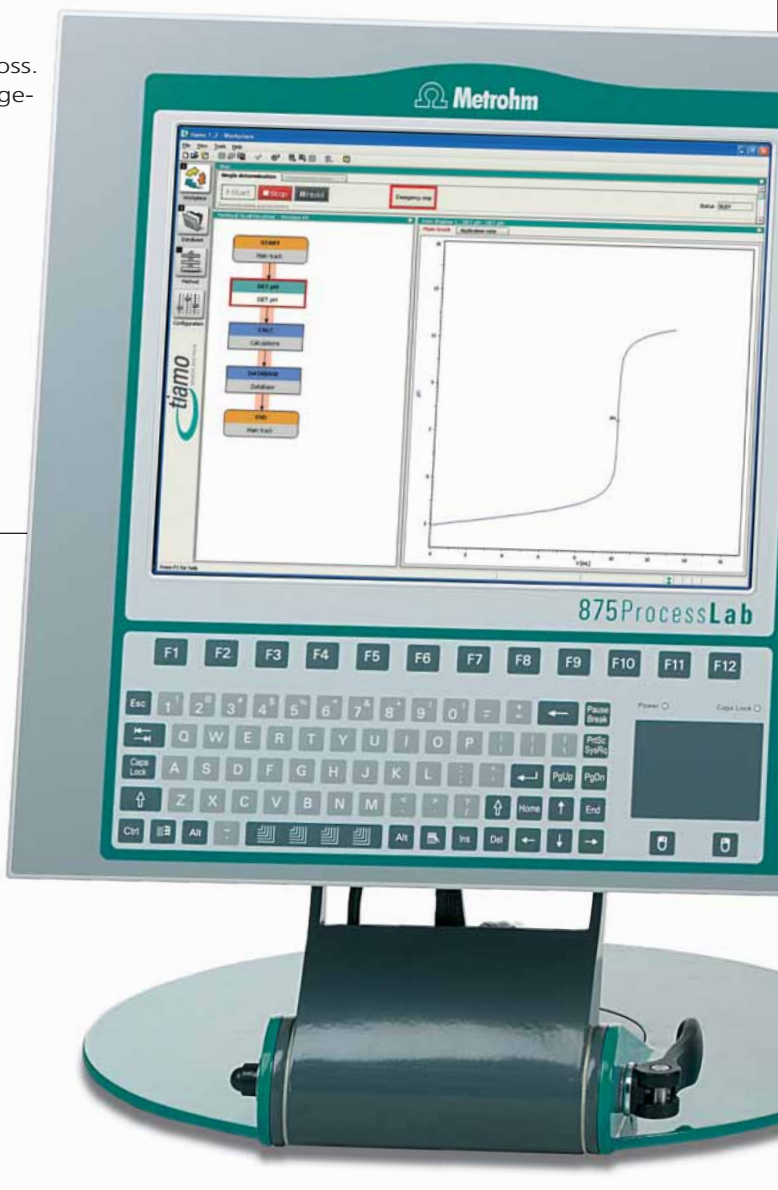
Method editor
In the graphical method editor individual method blocks are assembled by simple «drag and drop» to form an analytical sequence. ***tiamo*** also supports logical operations and parallel analytical sequences. In addition, method templates and plausibility tests make drawing up a method easier. The included method manager enables you to have an overview of the existing methods.

Workplace
Log in the sample and start. That's all!
All the analysis methods linked with the sample name are called up and carried out automatically. Live curves and the current status of the analytical sequence are displayed.

Database
Analysis results and raw data are stored centrally, thus they are protected against manipulation and loss. Efficient search and filter tools facilitate data management.

Client/server applications
In a client/server setup ***tiamo*** is able to allow ProcessLab to function as a client. Analysis data and methods are managed centrally and, for example, are also available in the lab.

tiamo™
titration and more

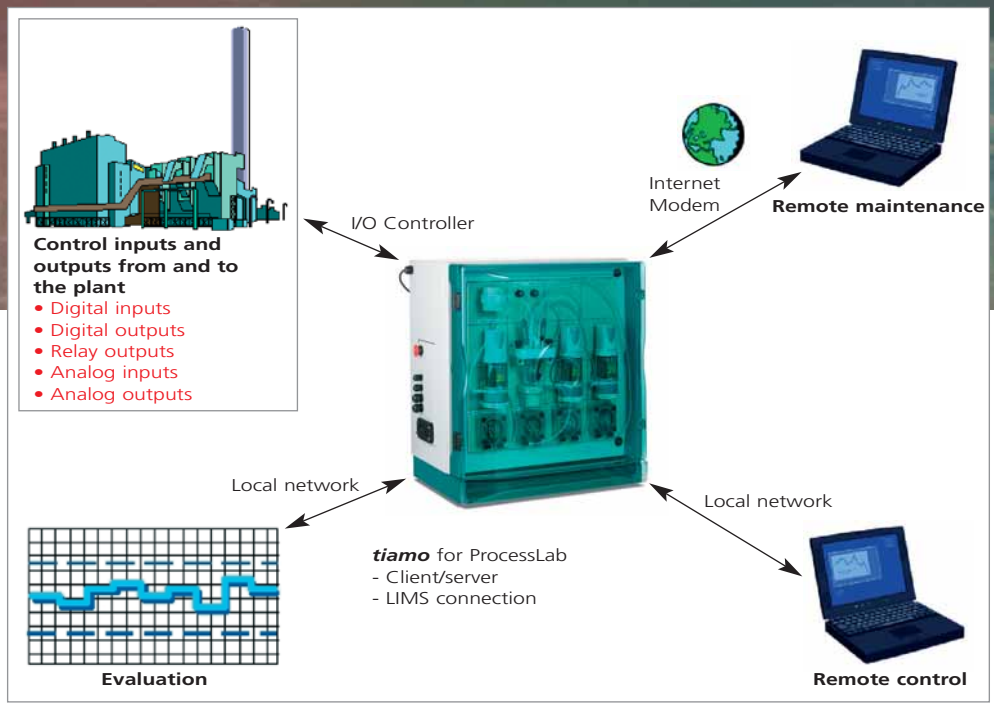


Robust operating unit
The TFT monitor is equipped with an anti-reflex-coated protection panel and can be easily and comfortably operated via the touch-sensitive keyboard with built-in touchpad. The sealed housing is splash-proof according to protection code IP 65 and guarantees smooth operation under rough process surroundings.

Networking and process integration

The digital and analog input/output (I/O) components available allow the system to be very easily incorporated in the process surroundings. In this way the system can react to different input signals, for example automatically measure different parameters depending on the sample, trigger an alarm if limits are infringed or transfer measured values as analog 4...20 mA signals.

ProcessLab can also be easily integrated in a local network or be fully operated by remote control. Analysis data can be exported to any LIMS or made available to a process control system.



Comprehensive communication possibilities

Ordering information

ProcessLab

The 875 ProcessLab is of modular design and always consists of a complete Base Unit and any Extension Modules that may be required. The Base Unit contains all the system components required for correct functioning, but still requires to be completed by the wet-chemistry components mounted on the front panel and by I/O components.

875 ProcessLab Base Unit
ProcessLab Base Unit with integral industrial PC, operating unit with 15-inch TFT monitor, ***tiamo*** for ProcessLab software plus base I/O controller and power supplies. With an integral Metrohm Dosing & Measuring (MDM) Controller, up to 4 Dosinos can be controlled.

2.875.0010	875 ProcessLab Base Unit, left-hinged door, 1 MDM Controller
2.875.0020	875 ProcessLab Base Unit, right-hinged door, 1 MDM Controller
2.875.0030	875 ProcessLab Base Unit, left-hinged door, 2 MDM Controllers
2.875.0040	875 ProcessLab Base Unit, right-hinged door, 2 MDM Controllers

875 ProcessLab Extension Module
Module for extending an 875 ProcessLab Base Unit

2.875.0110	875 ProcessLab Extension Module, left-hinged door
2.875.0120	875 ProcessLab Extension Module, right-hinged door
2.875.0130	875 ProcessLab Extension Module, left-hinged door, 1 MDM Controller
2.875.0140	875 ProcessLab Extension Module, right-hinged door, 1 MDM Controller

Options

The following lists a small selection of the comprehensive range of complementary modules and components that are at your disposal:

- ProcessLab measuring amplifier for connecting various sensors
- ProcessLab digital input and output 24 V DC
- ProcessLab analog input and output 4...20 mA
- ProcessLab relay output
- ProcessLab sensor connection
- ProcessLab measuring vessel holder with stirrer and different measuring vessels
- ProcessLab peristaltic pumps with flow rates of 40 mL/min, 120 mL/min or 320 mL/min
- ProcessLab sampling system with sample loops
- ProcessLab overflow pipet in different sizes
- ProcessLab solenoid-valve module for controlling liquid flows
- Containers with liquid-level sensor in different sizes

Please contact your local Metrohm distributor for the precise configuration and setup of a ProcessLab system. Thanks to its modularity, the system allows on-site adaptation to any individual requirements.

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По вопросам продаж и поддержки обращайтесь:
Волгоград (844)278-03-48, Воронеж (473)204-51-73, Екатеринбург (343)384-55-89, Казань (843)206-01-48,
Краснодар (861)203-40-90, Красноярск (391)204-63-61, Москва (495)268-04-70,
Нижний Новгород (831)429-08-12, Новосибирск (383)227-86-73, Ростов-на-Дону (863)308-18-15,
Самара (846)206-03-16, Санкт-Петербург (812)309-46-40, Саратов (845)249-38-78, Уфа (347)229-48-12

Единый адрес: apk@nt-rt.ruВеб-сайт: applikon.nt-rt.ru

3 year
instrument warranty