

**Compact. Cost-efficient. Digital.**  
Plug & Measure with the new  
analyzers for Memosens

# MemoRail





# MemoRail

## The Essence of Measuring

**MemoRail is the first genuinely compact, digital analyzer for measuring pH values, ORP, conductivity, oxygen and temperature with Memosens sensors. Two analog active / passive 4 to 20 mA outputs supply the measured values for the process value and temperature to the process control system or a PLC.**

### Plug & Measure

MemoRail is immediately ready for measurement on connecting a pre-calibrated Memosens sensor. "Used" sensors can simply be replaced.

### Memosens

Optimum availability of the point of measurement is achieved by using pre-calibrated sensors with contactless Memosens technology. Calibration is no longer carried out on site but under reproducible conditions in the laboratory with the new MemoSuite software tool. Individual sensor data are always directly assigned to each Memosens sensor. Problems at the connector involving humidity, corrosion or even defective galvanic isolation are a thing of the past.

### Compact

The highly space-saving modular housing of the MemoRail devices is only 12.5 mm wide.

### Versatile

With its simple configuration via DIP switches, MemoRail is set up only once for the measurement parameters and ranges. For precise adjustment to the application, a range of variants is available: models with one or two analog current outputs which can be active or passive. The unit is supplied with 24 V DC via screw terminals / bus connectors or with 90 to 230 V AC via the integrated VariPower broad-range power supply. LEDs report operating and sensor states.

### Cost-Efficient

The outstanding properties of MemoRail enable the implementation of measuring stations with low overall costs, especially in combination with modern Memosens sensors specially tailored for use with MemoRail.

### Applications

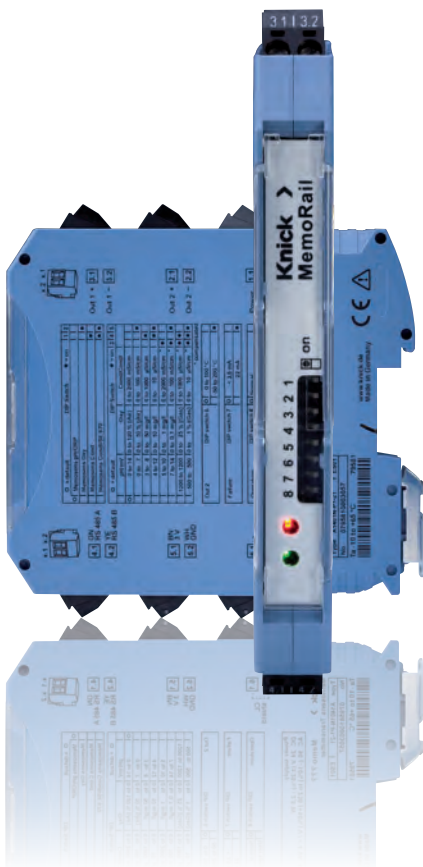
MemoRail offers economical alternatives in applications such as:

- drinking water
- wastewater, sewage plants
- aquaria, fish farms, greenhouses
- fermentation
- rinsing equipment
- car wash systems
- water treatment plants/equipment

With its narrow modular housing, MemoRail is perfectly suited to installation in restricted spaces – eg, in control cabinets, fermenters or on ships.

### Explosion Protection

MemoRail is designed for operation in ATEX zone 2 and UL hazardous areas.





**Memosens Sensors**  
pH, Cond, Oxy, Temp



**MemoRail**  
Digital analyzer  
for Memosens sensors

**The Facts**

- Modular housing, 12.5 mm wide
- Measurement of pH value, ORP, conductivity, oxygen and temperature
- Memosens communication
- 2 current outputs 4 to 20 mA, active or passive
- Power supply 24 V DC (screw terminals or bus connection) or VariPower broad-range power supply 90 to 230 V AC
- Simple configuration via DIP switches
- LEDs report operating and sensor states
- Ex marking



**MemoSuite**  
Software tool for calibration,  
sensor diagnostics and  
database documentation





# MemoRail

## The Principle

### Plug & Measure

MemoRail supplies power to the Memosens sensors and converts the digital measuring signals into output currents of 4 to 20 mA for connection to the process control system or to a PLC.

Memosens



MemoRail



PCS / PLC



### Calibration, Diagnostics, Documentation

MemoSuite calibrates Memosens sensors. Additional functions are the sensor diagnostics and database documentation. MemoLink establishes the connection between Memosens sensor and PC.

Memosens



MemoLink



MemoSuite



# MemoSuite

## The Software Tool

### Fast and User-Friendly

The flexible and intuitive software enables easy calibration of Memosens sensors in the lab. Calibration under adverse ambient conditions on site is no longer necessary. The only thing required there is the quick and uncomplicated replacement of the used sensors with pre-calibrated sensors.

Extensive buffer management is offered by the convenient grouping of separate buffer sets from a large buffer library. It is also a simple matter to enter special, user-specific buffer tables incl. temperature values.

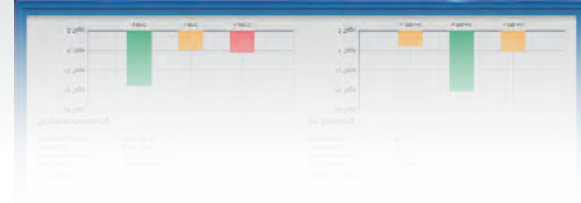
### MemoSuite Basic

Calibrates Memosens sensors

### MemoSuite Advanced

In addition to calibration, MemoSuite Advanced also performs diagnostics and database documentation.

Up to 10 sensors can be calibrated simultaneously. The database meets the requirements of GMP and FDA CFR 21 Part 11.





# Memosens

## The Sensors

### pH Measurement

Memosens sensors for measuring pH, ORP and temperature. Perfectly adaptable to miscellaneous process requirements due to different pH glasses or ISFET, reference systems, designs or lengths.

pH



### Conductivity Measurement

2-electrode sensors with Memosens technology for measuring very low to medium conductivities. Digital conductivity sensors with extremely wide measuring range up to highest conductivities. Applications starting from ultrapure water to concentration determination.

Cond



### Oxygen Measurement

Amperometric Memosens sensors for measuring very low oxygen values up to pure oxygen, dissolved in water or gaseous. Applications: water, fermentation, measurement of traces

Oxy



## Product Line

<b>MemoRail</b>		A1401	<input type="checkbox"/>	-	<input type="checkbox"/> P1	-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Explosion protection	Without		N												
	Zone 2		B												
Outputs	1 x active						1								
	2 x active						2								
	1 x passive						3								
	2 x passive						4								
Power supply	24 V DC, 90 ... 230 V AC (connection via terminals)						1								
	24 V AC (connection via terminals or bus connector)						0								
Customer-specific ranges											-	n	n	n	n

<b>MemoSuite Basic</b>			Order No.
MemoSuite Basic with calibration function			SW-MS1400-B
Memosens lab cable (Ex and non-Ex, M12 plug)	Length 1.5 m		CA/MS-001XDA-L
	Length 2.9 m		CA/MS-003XDA-L
<b>MemoSuite Advanced</b>			Order No.
MemoSuite Advanced with calibration function, diagnostics, database, 1 channel			SW-MS1400-A
Memosens lab cable (Ex and non-Ex, M12 plug)	Length 1.5 m		CA/MS-001XDA-L
	Length 2.9 m		CA/MS-003XDA-L
<b>Second Channel (for MemoSuite Advanced only)</b>			Order No.
MemoLink			ML1400
Memosens lab cable (Ex and non-Ex, M12 plug)	Length 1.5 m		CA/MS-001XDA-L
	Length 2.9 m		CA/MS-003XDA-L
<b>Indicators</b>			Order No.
Process Indicator 830 S2 with two min/max outputs			830 S2. 290
Process Indicator 830 X S2 with two min/max outputs (Ex)			830 S2. 291
<b>Power Supply</b>			Order No.
IsoPower A 20900 H4, 24 V DC, 1 A, broad-range power supply 100 ... 240 V AC			A 20900 H4
<b>DIN Rail Bus Connector</b>			Order No.
for tapping of supply voltage			ZU 0678
Routing to ZU 0628 DIN-rail bus connector, number required: supply towards left = 1, supply towards right = 2			
Power supply bridging for one MemoRail unit each			ZU 0628



Interface Technology

Indicators

**Process Analytics**

Portables

Laboratory

Sensors

Fittings

**Knick**  
**Elektronische Messgeräte**  
**GmbH & Co. KG**

Beuckestraße 22, 14163 Berlin,  
Germany

Phone: +49 30 801 91 - 0

Telefax: +49 30 801 91 - 200

knick@knick.de · www.knick.de