IBP
a Mesa Labs Company

SmartHDM

Modular system of sensors, modules and Android-based devices designed for service of medical instrumentation

Pressure

Conductivity

Temperature

pH

HDU-Sensor Family

Flow

SmartHDM system includes

- Android based display unit with USB-Interfaces
- Sensors and measuring modules
- Sophisticated Software with class changing features

Application includes

Conductivity
- Hemodialysis machines
- RO-Systems
- Water Treatment

Pressure
- Hemodialysis machines
- Opthamological lasers
- Blood pressure meters
- Automatic tourniquets
- Drainage devices
- IV pumps
- Diagnostic, surgical suction
- Ventilators
- Pressure gauges

Temperature
- Temperature monitors
- Electronic thermometers
- Humidifiers/nebulizers
- Blood warmers
- Hypo/hyperthermia machines
- Infant incubator
- Radiant warmers

Flow
- Hemodialysis machines
- RO-Systems
- Water Treatment

New Concept

The **SmartHDM** system is a new approach combining a family of intelligent sensors, measuring modules and a smart handheld device for testing and quality control of medical devices. The product line combines more than 40 years of experience of innovative measuring device development.

Customizable

The modular concept of the **SmartHDM** system allows the use of any combination of IBP sensors and modules in order to fulfill a specific measuring application.

Changing class expectation

The **SmartHDM** software is specially tailored to the requirements for the service and maintenance of medical devices. The main difference to software from previous measuring devices is that the development of the app does not stop with the market launch, but continues to evolve dynamically.

The software is automatically kept up to date by the Android operating system.

The **SmartHDM** system has features that fundamentally will change your expectations about measuring instruments.
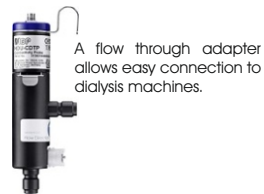
HDU-Sensor Family

Flexibility

The HDU-Sensor family fulfills the need for high accuracy and reliability, whether it be for taking conductivity, temperature, pressure, pH or flow readings. The sensors intelligently communicate via USB with the HDC display unit.

HDU-PRH

Different adapter such as Luer allows easy connection to any device.

HDU-CDTP

A flow through adapter allows easy connection to dialysis machines.

HDU-Flow

HDU-Pt100-Interface

HDU-pH-Interface

Different Temperature Sensors

HDU-Sensor Specifications

Pressure

HDU-PRH15

Range	- 13 to 15 psi
	-0.93 to 1 bar
	-700 to +775 mmHg
Resolution	0.01 mmHg
Accuracy	General 0.05% full scale
	0 to 300 mmHg ± 0.4 mmHg,
Over pressure	2 x full scale

HDU-PRH30

Range	-13 to 30 psi
	-0.93 to 2 bar
	-700 to +1550 mmHg
Resolution	0.01 mmHg
Accuracy	General 0.05% full scale
	0 to 300 mmHg ± 0.8 mmHg,
Over pressure	2 x full scale

HDU-PRH100

Range	-13 to 100 psi
	-0.93 to 7 bar
	-700 to +5150 mmHg
Resolution	0.01 mmHg
Accuracy	0.05% full scale
Over pressure	2 x full scale

Temperature

HDU-Pt100

Range	0 to 100 °C	
Resolution	0.001 °C	
Accuracy	25 to 40 °C	+/- 0.015°C
	otherwise	+/- 0.025 °C
	if Sensor and interface	
	are adjusted together	

Conductivity

HDU-CDTP

Conductivity

Range	0 to 200.00 mS/cm
Accuracy	0 to199 uS/cm 0,3% ± 0.6 uS/cm
	200 to 1999 uS/cm ± 6 uS/cm
	2 to 11.99 mS/cm ± 0.06 mS/cm
	12 to 19.99 mS/cm ± 0.03 mS/cm
	20 to 200 mS/cm ± 0.6 mS/cm
Temperature	Referenced to 25°C
Compensation	Adjustable via multiple modes:
	linear 1 value, dynamic 2 values,
	nLF-Iso - nonlinear according ISO7888

Temperaure

Range	0 to 100 °C
Resolution:	0.01 °C
Accuracy	25 to 40°C ± 0.05°C,
	otherwise ± 0.1°C

SmartHDM Software

The **SmartHDM** software is specially tailored to the requirements for the service and maintenance of medical devices.

The **SmartHDM** software has amazing features that fundamentally will change your expectations about measuring instruments.

Features include

- Numerical and graphical readings of measuring values
- Extensive setting options for the display of measured values
- Display of statistical measuring data
- Helpful functions such as pressure change measurement
- Data acquisition
- Data export including Microsoft Excel format
- Supports different languages

Special Functions

The user can add additional calculation channels. The calculation channels behave in the system like normal measurement channels and can be integrated both in the list and graphical display.
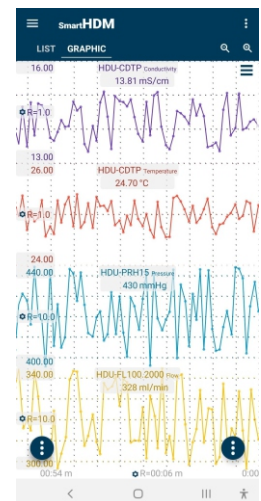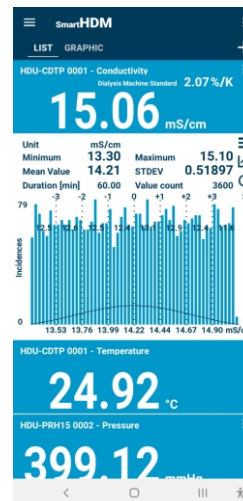

The formulas for the calculations can be easily edited and allow the insertion of measurement channels and any mathematical expressions.
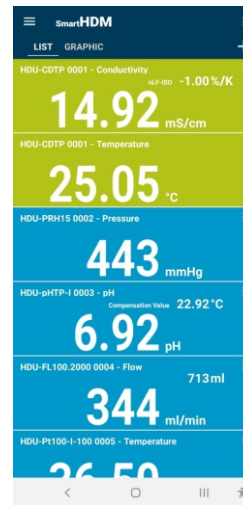
Display Modes

Various measured value displays always allow a perfect representation of the measured values.

One of the highlights of the APP is the representation of the Gaussian normal distribution for measured values. It includes statistical values and allows the assessment of the stability of measured values.

The picture above shows a special landscape dark mode combining value and graphic readings.

HDC Display and Control Units

The HDC-Devices are based on the popular Android operating system. The Android OS allows using all the features of a modern smart mobile device. Data handling was never so easy. Large batteries and robust mechanical design make the devices suitable for everyday use. The SmartHDM-Software allows reading measuring values both in numerical and graphical ways.

The SmartHDM system has features that fundamentally will change your expectations about measuring instruments.

An adaptable clamp is included to attach the devices to an IV pole. This clamp also allows the user to set up the HDC's in a tilt position on a flat surface.

HDC84

- 8" Capacitive touch screen
- Large 8,000 mAh battery for long continues work
- 4 USB-A-Interfaces for sensor connection
- Android operating system

HDC64

- 5,7" Capacitive touch screen
- Large 10,000 mAh battery for long continues work
- 4 USB-A-Interfaces for sensor connection
- Android operating system

The main difference between the HDC64 and HDC84 is the screen sizes. The HDC64 has a longer runtime due to the smaller screen and larger battery. In contrast, the HDC84 has better readability due to the larger screen.

Quality

Our products are developed and produced under certified quality management system according to ISO13485. We offer an annual sensor calibration service with certification following the ISO17025 standard.