

# Conductivity sensor series

## Type M3836

- ✓ Two or 6 electrode probe
- ✓ Stainless steel or titanium electrodes
- ✓ 2 wire loop powered 4...20mA or RS485 Modbus RTU interface
- ✓ Easy configurable
- ✓ Galvanically separated
- ✓ Most MOSTEC sensors attachable
- ✓ Internal high precision temperature compensation
- ✓ Different sensor materials
- ✓ IP65 protected



### Technical description

The M3836 conductivity sensor series suitable for water, waste water or pure water conditioning in continuous or batch-type operating modes, to control concentration in cooling towers or for general chemical process monitoring.

The actual measuring value is sent out on the loop powered two wire connection or in case of RS485 Modbus RTU the unit is supplied with 24VDC and connected on the 2 Modbus lines.

All settings are conveniently done with the MOSTEC M2428 Data interface and a PC for the loop powered 4 ... 20mA Version. Like this, the sensor can be programmed or recalibrated on site without the need to dismount.

The instrument comes with a galvanically separated power supply to maintain galvanic separation between the electrode path and the output signals. Therefore, ground loops between

the output signal and the electrode path via the measured media are eliminated.

The temperature compensation can be set manually or done automatically by the internal precision Pt-1000 temperature sensor built into the conductivity probe. A broken wire of the temperature probe leads to an alarm.

The instruments current output can be programmed to any measurement range. For example: 500 to 1000µS equals 4 ... 20mA

With the standard MOSTEC conductivity cells a range of 0.055µS to 200mS can be achieved. For ultra-pure water, the C=0.01 cell is used, for higher conductivities, the C = 0.6 six electrode cell covers the rest of the range. Since the transmitter electronics with the microcontroller sits on top of the sensor, the cable length is no longer relevant. A standard shielded cable with two inner wires can be used to connect the sensor.

## Technical data

Measuring ranges:	0...2.000 $\mu$ S C = 0.01 0...20.00 $\mu$ S C = 0.6, C = 0.01 0...200.00 $\mu$ S C = 0.6 0...2.000mS C = 0.6 six electrodes 0...20.00mS C = 0.6 six electrodes 0...200.0mS C = 0.6 six electrodes
Accuracy:	1.0% between 0.05 and 20mS, 2% between 20 and 200mS
Cell constant:	C= 0.01 or C=0.3 six electrodes
Temperature range:	-20...80°C
Temperature drift:	Max. 50 $\mu$ V/°C
Max. humidity:	95%, non-condensing
Temperature compensation:	Manual from 0 to 130°C. Automatic with internal precision Pt-1000. Wire break of the Pt-1000 sensor switches the device to 25°C.
Temperature slope:	0.00%/°C (no compensation) to 8.00%/°C
Internal temperature sensors:	Pt-1000, 2-wire
Connector:	DIN 40050, IP67 or M12
Warranty:	2 year
Programming functions:	Various setting options via software
Signal current output:	4...20mA programmable, isolated
- Max load:	<500 $\Omega$
- Output impedance:	Typ. >1M $\Omega$
Supply:	Max. 30VDC
CE-conformity:	Full filled
Other options:	- special measuring range / signal output / temperatures /

<b>M8836S01 Electrode C=0.01:</b>	For pure and ultra pure applications 0.055uS to 20uS
Range:	0 ... 20uS
Cell constant:	K=0.01
Temperature range:	-30 ... 130°C
Internal temperature sensor	Pt-1000 2-wire
Time constant temperature sensor:	60 sec
Electrode holder	Cr-Ni-Mo-alloy, quality 1.4404
Electrode body	Cr-Ni-Mo-alloy, quality 1.4435
Thread:	¾" cylindrical gas, sealed with o-ring
Wrench dimension:	36mm
Max. pressure:	20bar
Sensor diameter	18mm
Sensor depth	44mm

<b>M8836S6E Electrode C=0.6:</b>	Universal range 6 electrode cell 20uS to 200mS
Range:	20uS ... 200mS
Cell constant:	K=0.6
Temperature range:	-30 ... 130°C
Internal temperature sensor	Pt-1000 2-wire
Time constant temperature sensor:	60 sec
Electrode holder	Cr-Ni-Mo-alloy, quality 1.4404
Electrode body	PEEK
Electrode material	Titan grade 5, 6 electrodes
Thread:	¾" cylindrical gas, sealed with o-ring
Wrench dimension:	36mm
Max. pressure:	20bar
Sensor diameter	21mm
Sensor depth	41mm

## Terminals

Loop powered Sensor types 4 ... 20mA:

### PLC

Sensor (M12 5 pin connector)

Pin 1	+24VDC Supply
Pin 4	Signal In

RS485 Modbus RTU types:

### PLC / PC

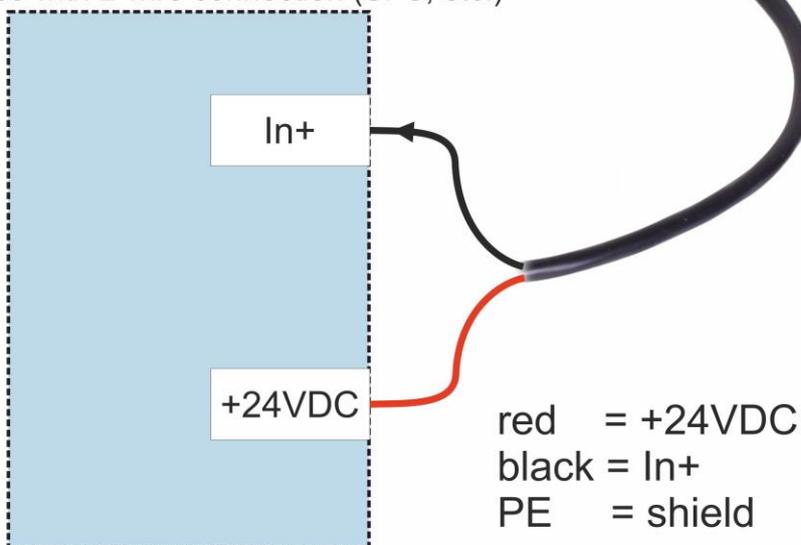
Sensor (M12 5 pin connector)

Pin 1	+24VDC Supply
Pin 2	RS485 A Line
Pin 3	RS485 B Line
Pin 4	GND

## Wiring



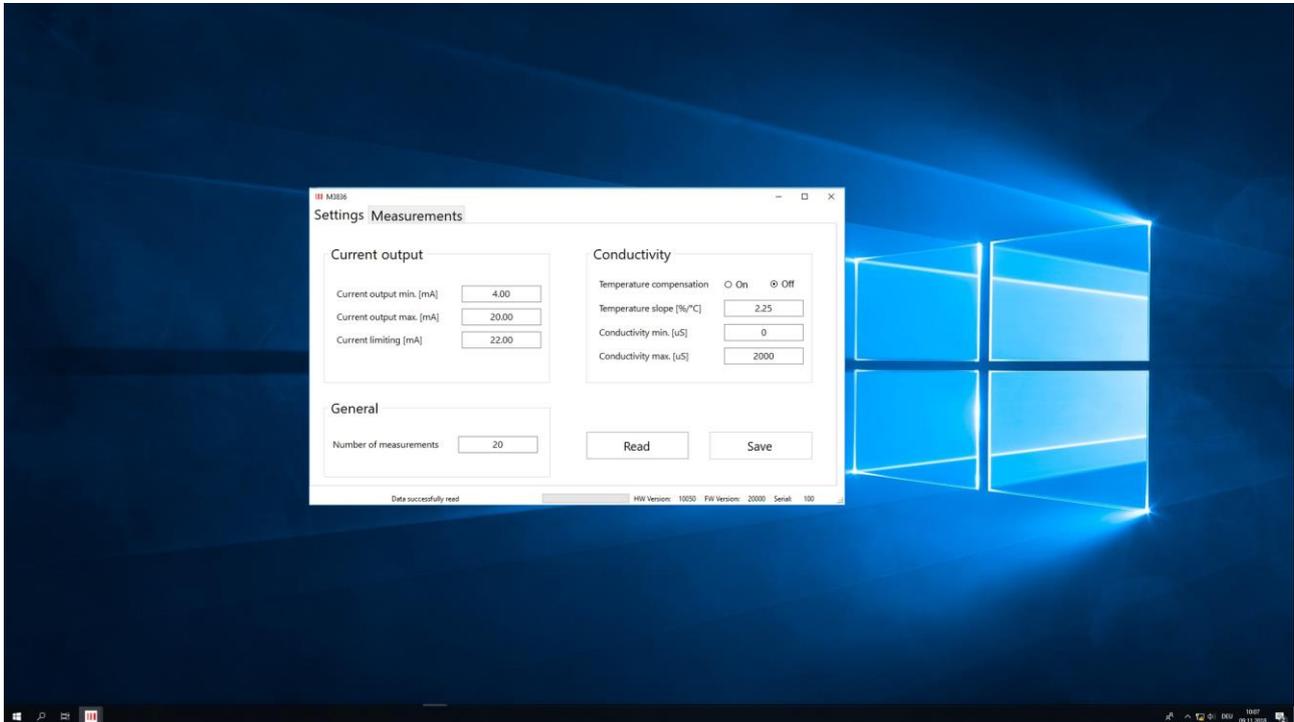
device with 2-wire connection (SPS, etc.)



## Programming device, change internal sensor transmitter settings

In order to change the configuration of the sensor, the unique MOSTEC protocol system can be simply connected to the sensor to change its internal settings. The PC application needed is free of charge and can be downloaded on our website.

Below an example screenshot of one of the configuration software windows.



Easy connection to the internal sensor transmitter:

By simply changing the plug of the sensor and attaching the M2428 Data interface to the USB port of your computer, you get access to the necessary sensor parameters and calibration menus.



## Dimensions

