Oxix®

DISSOLVED OXYGEN TRANSMITTER

5.40

General

MJK Oxix® Dissolved Oxygen Transmitter is designed for measurement of dissolved oxygen in open tanks exposed to sunlight, inwells and in closed containers.

The Oxix® sensor function is based on the fluorescence principle and does not consume oxygen like standard membrane-type sensors. It is rugged and designed to handle tough applications.

The Oxix® sensor is factory calibrated and does not require any recalibration. The physical outline and structure of the sensor reduce cleaning to a minimum. For extreme conditions, a built-in air and water jet cleaning system can be activated.

The Oxix® transmitter has one 4-20 mA analogue output, two digital outputs for process control and/or alarms, and one digital input for resetting alarms, etc.

The Oxix® transmitter holds a large graphic display and a user interface showing the actual measurement values. The user-freindly menu system available in multiple languages - together with softkeys - for operation, makes it very easy to programme and control the instrument.

The display unit's large build-in data logger offers 365.000 time-stamped entries. A trend curve of the loggings for the overview of the local operator is easily retrieved and shown in the display simply by activating a one-push button on the unit.

Features

- High performance optical sensor
- No calibration
- No spareparts needed in sensor's expected 10 year lifetime
- Air or water jet cleaning via built-in nozzle
- Measurements not affected by sunlight or dry environment
- Large, easy-to-read display with trend curve capability
- Multiple languages & built-in datalogger
- No moving parts, oxygen consumption or risk of poisoning
- Mounting accessories (optional)

Applications

- Sewage and wastewater treatment plants
- Drinking water
- Biologic control
- Sludge treatment
- Filtering stations
- Fishponds and farms

DATASHEET

EN 5.40 OXIX DATASHEET 2006

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Specifications

Oxix® Transmitter	
Accuracy	+/- 0,1% of reading
Measuring input	RS-485
Analog output	One active 4-20 mA, galvanically isolated (max. load 800 Ω)
Digital outputs	One voltage-free electromechanical relay (max. 50 V DC / 1 A) One optically isolated MOSFET relay (max. 50 VAC / V DC / 120 mA)
Digital inpus	One, max. 30 V DC, < 5 V DC = 0(low), > 10 V DC = 1(high), pulse length > 100 ms
Communication	MODBUS® RTU-mode, 9600 baud, 2-wire RS-485, slave-mode
Interface	RS-485 for connection to Display Unit or PLC
Power supply	10 - 30 V DC, or 24 V AC, 50 / 60 Hz ± 10 % or 115 V AC, 50 / 60 Hz ± 10 % or 230 V AC, 50 / 60 Hz ± 10 %
Power consumption	Max. 10 W
Cabinet material	Polycarbonate, glass reinforced
Enclosure rating	IP 67, NEMA 6
Temperature range	- 20 … 60 °C
Weight	1,1 kg
CE approvals	EN 61000-6-4:2001, EN 61000-6-2:2001

Display Unit	
Display	Graphic background-lit LCD-display (64 x 128 pixels) with soft keys
Display indication	Indication of flow , flow direction, volume, totalizers, configuration and graph
Power supply	From MagFlux®Converter
Clock	Real-time clock with built-in lithium battery (lifetime 10 years@20°C)
Communication	MODBUS® RTU-mode, 9600 baud, 2-wire RS 485, master-mode
Interface	1 pcs. RS-485 Modbus® RTU-mode 1 pcs. USB 1,1 type mini B, female 1 pcs. for Communication module
Memory storage	Flash memory, 345.000 loggings incl. date, time and value (curve display)
Enclosure rating	IP 67, NEMA 6
Material	Housing: Glass-reinforced Polycarbonate Protection Lid: Transparent Polycarbonate
Temperature range	- 20 … 60 °C / -5 ... 150°F
Operating relative humidity	Max. 85% noncondensing
Weight	0,5 kg / 1.1lb

Oxix® Sensor	
Dissolved saturated oxygen	0 - 25 mg/l or ppm 0 - 120 % SAT
Measurement principle	Optical, near infra-red fluorescence (l_{in} = 475 nm, l_{out} = 609 nm)
Sensor check	Automatic self-diagnostics
Pressure	Max. 6 bar (100 psi)
Materials	PVC, polyurethane, silicone, epoxy and stainless steel 316
Cleaning system	Built-in air or water jet Max. water supply pressure: 35 - 50 psi (2,3 - 3,4 Bar) Max. air supply pressure: 40 - 60 psi (2,7 - 4.0 Bar)
Cable	4 x 0,326 mm², shielded, dia Ø 5.0 mm (22 AWG), PUR insul.
Cable length	10 m (33 ft.); can be extended up to 300 m
Response time	t_{90} less than 1 second
Flow velocity	No flow required
Power supply	12 V DC (10 -16 V DC), approx. 10 mA (from converter)
Output	RS-485, 9600 baud, 2-wire
Accuracy	Better than 1% of actual reading (0,02 mg/l)
Resolution	Better than 0,02 mg/l and 0,02 ppm
Temperature range	0 - 60 °C
Temp. comp.	0 - 50 °C
Enclosure rating	IP 68 to IEC 529 (10 m), NEMA 6x
Dimensions	50 x 130 mm (diameter x length)
Mounting	1,5 inch NPT thread 0,25 inch NPT thread for jet spray cleaning tube
Weight	0,77 kg (1.7 lbs)
Approvals	EN 61000-6-4:2001, EN 61000-6-2:2001

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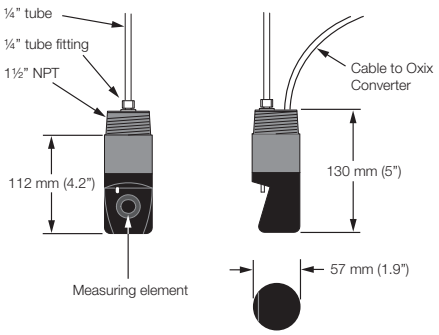
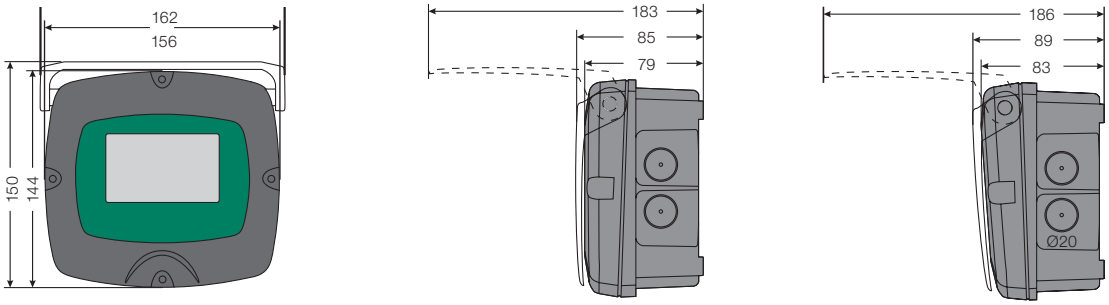
Electrical Connections

Sensor	
1. Black	DC supply –
2. White	RS 485 A
3. Green	RS 485 B
4. Shield	GND
5. Red	DC supply +

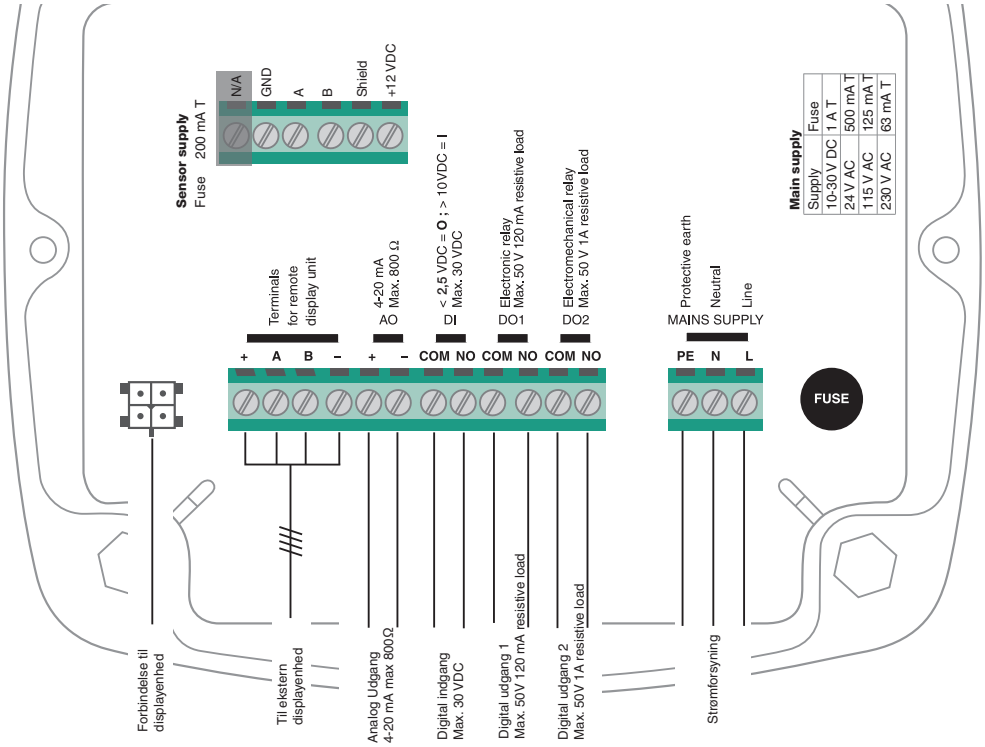
Dimensions
Oxix® Sensor



Converter/Display



Electrical Mounting

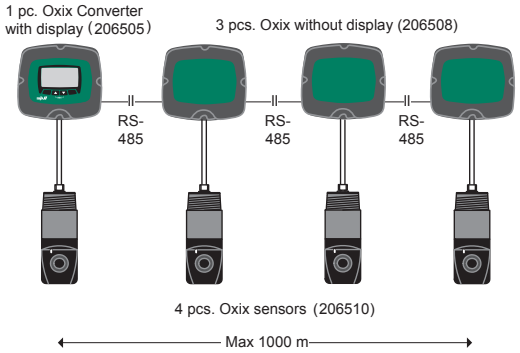


Interconnectivity

MJK's modular design allows up to 300 meters (950ft.) between the sensor and the converter, and the Display Unit can be mounted up to 1000 m (3000 ft.) from the signal converter with ordinary twisted wires.

One Display Unit can control up to four Oxix® DO transmitters, MagFlux® flow meters and/or SuSix® TTS transmitters for greater economy, space savings and an improved overview of multiple measurement values.

Oxix® allows uploading of instrument software updates (firmware). The onboard data logger including 365.000 readings can be retrieved as a CSV file on a PC. This connectivity is achieved with a common USB port and the free MJK Field Link software.



Accessories

Ball float for Oxix® sensor

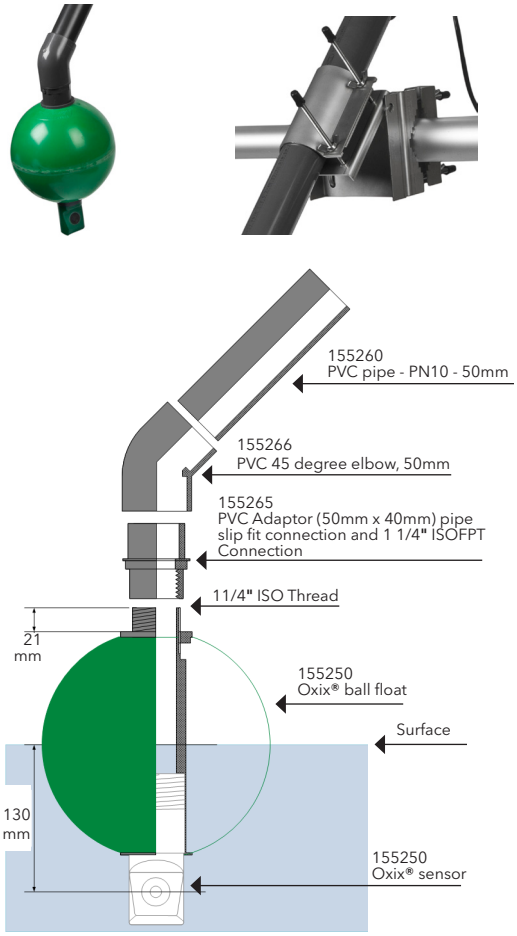
Measuring dissolved oxygen near the water surface, but away from the edges, is required at many water treatment installations. The MJK Oxix® Ball Float rises and falls with the water level keeping it right where it needs to be.

The flexible design consists of a hinge bracket for mounting on railings or stands as well as a ball with a bracket for an electrode and a PVC extension pipe. The bracket for the PVC pipe fits a standard PVC pipe, so that the user can install a pipe with the right length.

PVC pipes can be supplied locally and cut to length.

Oxix® ball float components can be delivered separately to retrofit existing pipes, fittings, etc.

Specifications	
Oxix® sensor mounting	1½" ISO female, inner thread
Oxix® ball float mounting	1¼" ISO male, outer thread
Enclosure rating	IP 68
Materials	ABS, PVC



Accessories (cont.)

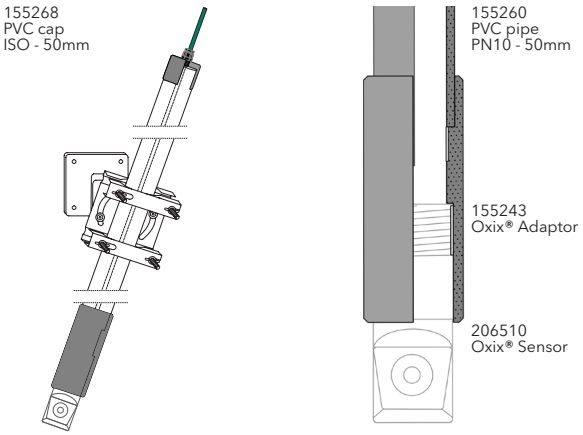
Immersion fitting for Oxix® sensor

For surface immersion with modular adapters made of PVC.

The holder for the PVC pipe fits standard 50mm PVC pipes. This allows users to install the right length of pipe.

Pipe and adapter are fitted on walls or railings using MJK universal bracket.

Specifications	
Temperatur range	- 20 ... 60 °C
Housing	IP 68
Material	PVC
Weight	0,5 kg



In-line fitting for Oxix® sensor

For fitting of Oxix® sensor on 2" x 50mm pipe-taper. Fitting ring and union ring is mounted on the Oxix® sensor.

Specifications	
Temperatur range	- 20 ... 60 °C
Material	PVC
Weight	0,2 kg

Order Numbers

Oxix® Converters	
206304	Susix®/Oxix® Converter w/ display 10-30VDC
206305	Susix®/Oxix® Converter w/ display 230/115VAC
206306	Susix®/Oxix® Converter w/ display 24VAC
206307	Susix®/Oxix® Converter w/o display 10-30VDC
206308	Susix®/Oxix® Converter w/o display 230/115VAC
206309	SuSix®/Oxix® Converter w/o display 24VAC

Dissolved Oxygen Sensors /Oxix® Sensor	
206510	Oxix® sensor w/ 10m cable

Order Numbers Accessories

Fittings and Accessories for Oxix® Sensors	
155225	Oxix® In-line adaptor fitting PVC 1½" RG to 2"X50mm pipe taper
155243	Oxix® sensor adaptor for immersion ISO
155250	Ball float for Oxix® sensor ISO
155260	PVC pipe 50mm - PN10 (ø50 x 2,4mm) per meter
155265	PVC coupler 50mmx40mmx1¼"ISO
155266	PVC bending 45 degrees 50mm
155268	PVC CAP ISO 50mm w. PG9 Cable Glans
155270	Oxix® Ball float bundle kit for Oxix® sensor ISO consisting of: 155250, 155265, 155266, 155268, 579055, 200205, 200206
155274	Sensor immersion bundle kit for Oxix® Sensor ISO
163015	Sodium sulphite

Order Numbers
Accessories (cont.)

Accessories for Oxix® Sensors	
109113	MJK product test certifikat. Must be requested upon order!
200205	Universal bracket
200206	Hinged mounting for pipe ø45mm-55mm for universal bracket
200210	Wall support for universal bracket
200215	Extension for universal bracket
205546	Modbus and RS 485 communications module
205547	Profibus DP communication module
207930	Wall mounting kit for Magflux®, SuSix® and Oxix®
207935	Panel Mounting Bracket for MagFlux®, SuSix® and Oxix®
207940	Display Unit for MagFlux®, SuSix®, Oxix®
500220	Cover for Field Cabinet (small) transparent
500221	Cover for Field Cabinet (small) Opaque
579055	PVC glue bottle with 120 gram
595128	Tube 6/4mm Green PE Polyethylene (-10/+40 grd.)
691075	Communication cable 2X2X0,5mm² (AWG20) Shielded twisted pair
691095	PC Mini USB/USB Cable
691098	USB mini/USB mini, plug for cabinet 0,2m cable
807021	Connection board for MagFlux®
840110	MJK Field-Link

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