



Be Right™

HACH ORBISPHERE 510 KK0/KKK AND 511 KK0/KKK MULTI CHANNEL CONTROLLER

Sales Presentation

November 2017

AGENDA

- What's new ? Which benefits do we bring to our customers ?
- What are the applications of this new controller ?
- What are the business opportunities ?
- What tools are available to help me sell ?

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WHAT'S NEW ?

New multi-channel controller for O2 Measurement with LDO Technology!!



NEW BENEFITS WITH THE MULTI-CHANNEL LDO

1. Competitive price

- 15% price advantage for offering multi-channel vs. 2 or 3 single channel controllers
- less installation costs

2. Attractive solution for E&C companies

- compact design - emphasize the flexibility to measure up to three different parameters with one controller open possibilities for an additional monitoring locations.
- Reduce the footprint of two sensors into one controller

WHAT MEANS LDO FOR MY POWER CUSTOMER?

3. Significantly increase of analyser's accuracy confidence

- Dry sensor
- No interferences from hydrogen
- Not flow dependent
- In **gas phase application** (no loss of electrolyte leading to drift and failure)

4. Significantly reduce cost of ownership

- No chemicals, no membranes
- Simple maintenance requirements
- No specialists needed

5. Significantly reduce radiation exposure time for operators (nuclear)

- Maintenance required only every 12 months
- Annual Calibration : 15 minutes max.

SELECTION CRITERIA

Choose an HACH **Orbisphere 510 or 511** controller with K1x00 LDO sensors if:

- Customers looks for minimal intervention + maintenance
- Magnetite is present in the water loop
- Flow variations or low flow is expected
- Customer wants accurate measurement down to 0.6ppb
- Frequent start-up/shutdown of systems occur (electrolyte is consumed in the presence of O₂ and O₂ is high on start-up/shutdown)

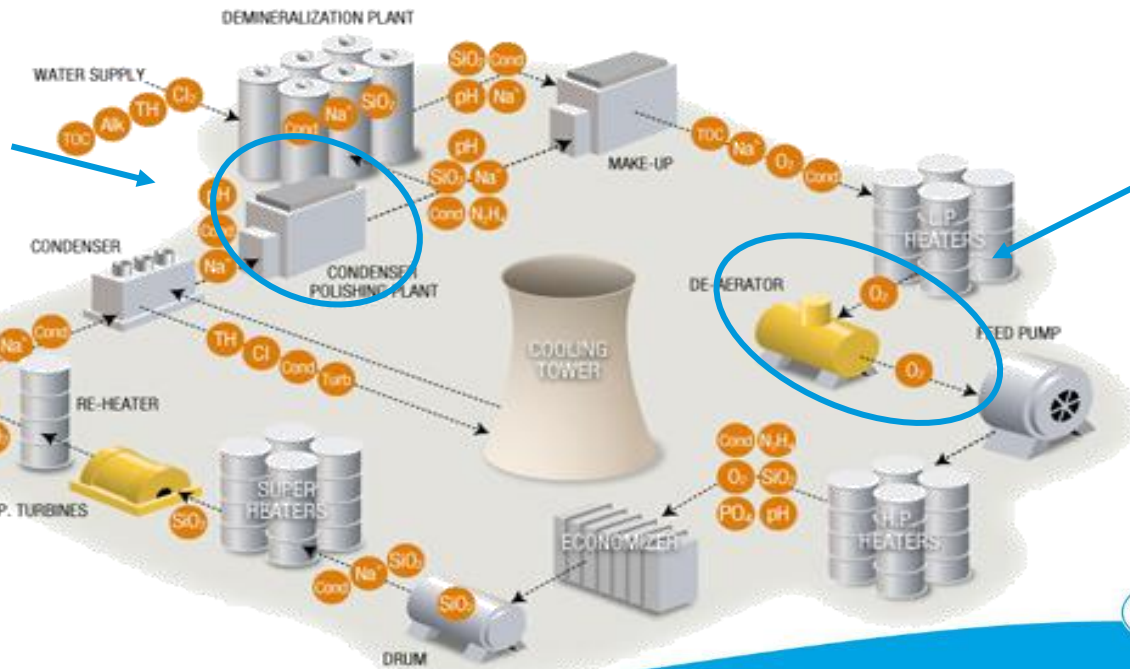
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WHY MEASURE DISSOLVED OXYGEN IN POWER PLANTS?

- Oxygen = major source of corrosion in water and steam at power plants
- Corrosion control through oxygen process monitoring
- Avoid costly CapEx destruction (turbines; piping; boilers...)
- Meet chemistry standards guidelines (EPRI; VGB; ...)
- Manage Hydrazine addition to the UPW cycle

Detect air leakage in condensation process



Manage the effectiveness of de-aerator phase

REQUIREMENTS AND CONSTRAINTS WHEN MEASURING DO

- Requirements for on-line instrumentation ⁽¹⁾
 - Minimum maintenance (frequency and complexity)
 - Availability (analyzer downtime)
 - Accuracy
 - Reliability (availability and accuracy over time)
 - Real time measurement
 - Meet industry norms
- (1) Maughan E., *PowerPlant Chemistry*, 2005, 7(5), 305
- Current imperfections (amperometric sensors)
 - Maintenance requirements:
 - Membrane fragility / Electrolyte and electrode consumption / Polarization time)
 - Flow dependence / effect of magnetite deposits
 - Calibration/verification:
 - Time consuming and reliability of auto-calibration systems

TARGET CUSTOMERS

Chemists & Lab Supervisors

- Supervise activities that maintain the balance of plant water chemistry to ensure that equipment is protected

Lab Technicians

- Run daily procedures and checks to maintain water chemistry

Maintenance (I&E, O&M) Supervisors

- Supervise activities to ensure equipment is running properly

Maintenance (I&E, O&M) Technicians

- Conduct regular maintenance and calibration on process analyzers

Radioactive Waste Supervisor & System Engineer

- Supervise radioactive waste activities including waste / off gas instrumentation

Environmental, Health and Safety group

- Supervise radioactive impact on operator's team

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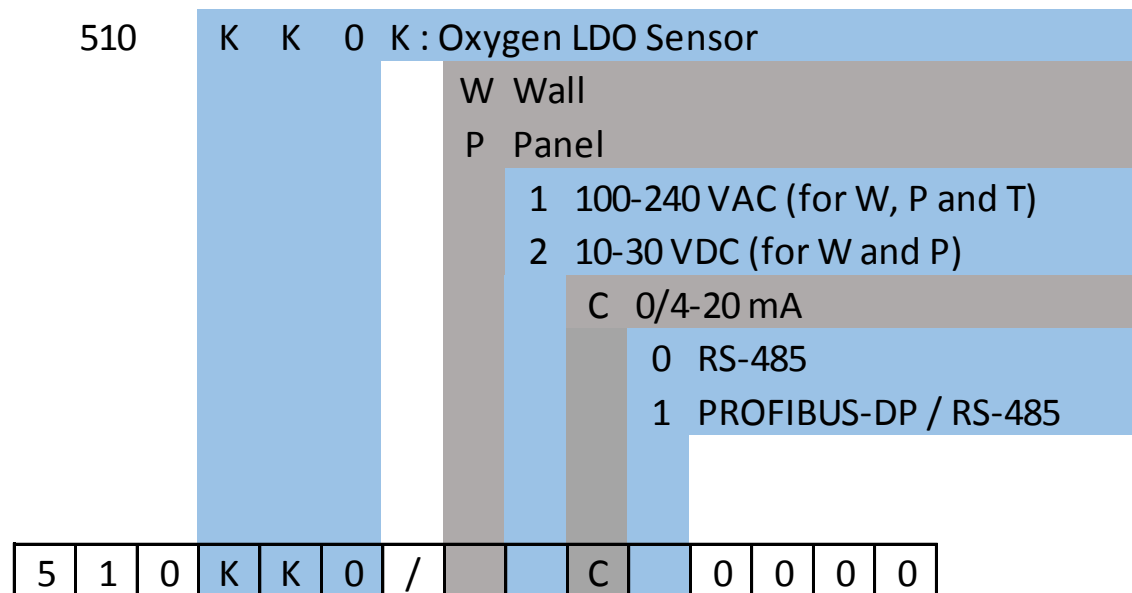
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NEW DUAL-CHANNEL CONTROLLER (NON-NUCLEAR)

- **510 KK0**: for Oxygen (Optical) measurement (non-nuclear customers)

These new controllers come directly with:

- LEMO Connectors
- Profibus DP or RS-485
- External Pressure Capability

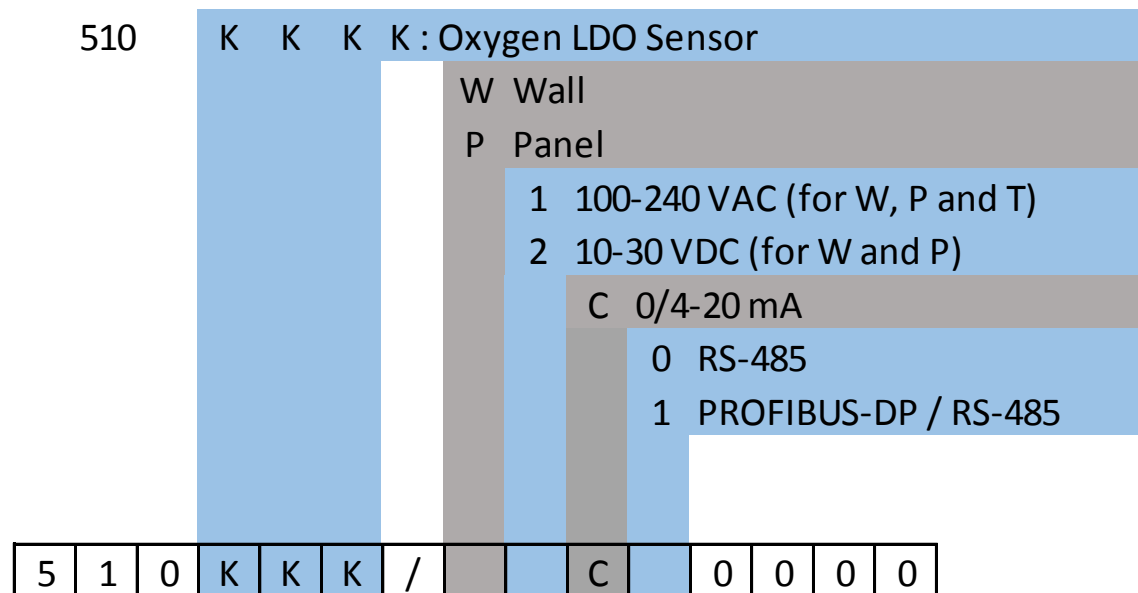


NEW THREE-CHANNEL CONTROLLER (NON-NUCLEAR)

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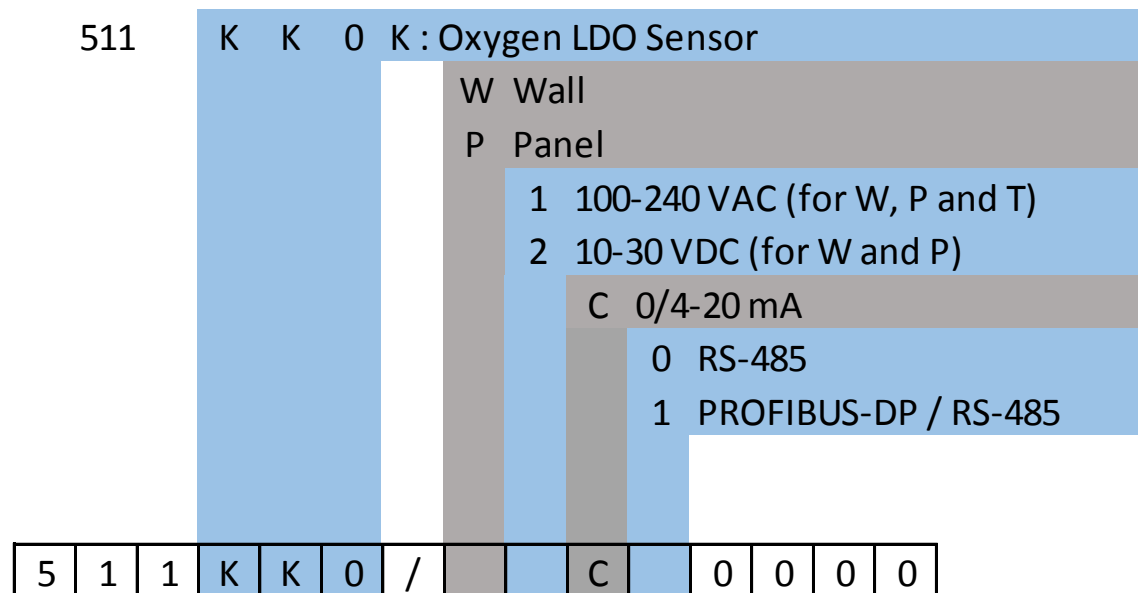


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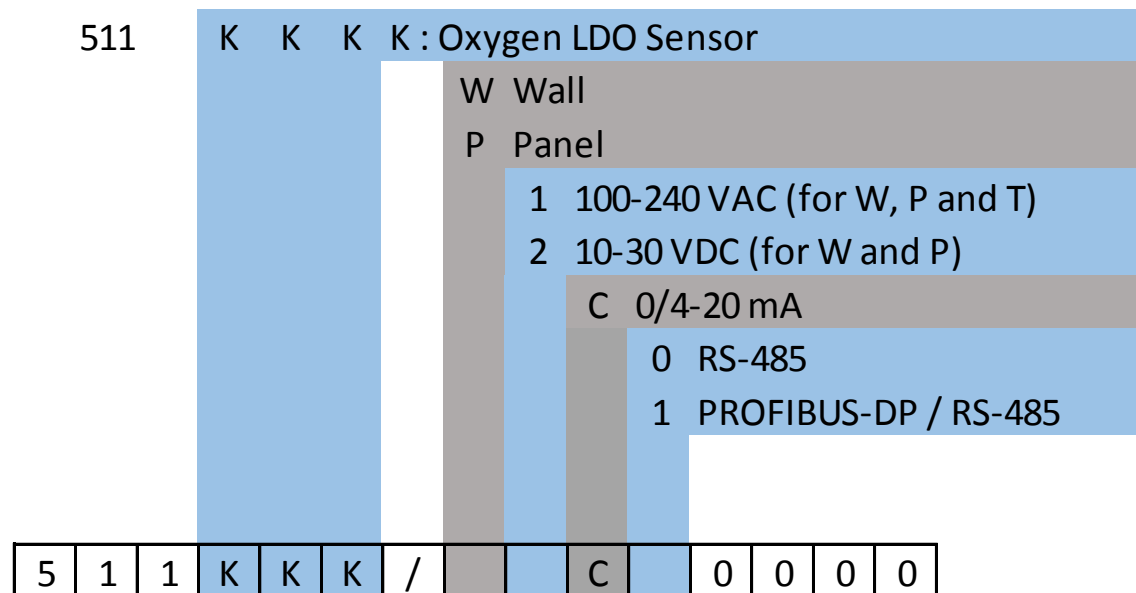


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KTO P/N CONFIGURATION MATRIX FOR 510 & K1100

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Controller mounting option

Wall W
 Panel P

Power supply option

110-230 V AC 1
 10-30 V DC 2

Interface connection

RS485 0
 Profibus DP / RS485 1

Sensor option

28 mm sensor (K1100-S00) 2

Cable option

5 m cable 5
 10 m cable 10

KTOS AVAILABLE FOR MULTI-CHANNEL FOR 510 & K1100

Part Number	Description	Information
DGK510KK-P1025	1x510KK0/P1C00000 controller, 2xK1100-S00 sensors, 2x6xmm flow chambers and 2xsensor cables (5m)	KTO with dual channel controller
DGK510KK-W1025	1x510KK0/W1C00000 controller, 2xK1100-S00 sensors, 2x6xmm flow chambers and 2xsensor cables (5m)	KTO with dual channel controller
DGK510KK-P-IMP	1x510KK0/P1C00000 controller, 2xK1100-S00 sensors, 2x1/4" flow chamber and 2xsensor cables (10m)	KTO with dual channel controller
DGK510KK-W-IMP	1x510KK0/W1C00000 controller, 2xK1100-S00 sensors, 2x1/4" flow chamber and 2xsensor cables (10m)	KTO with dual channel controller
DGK510KKK-P-IMP	1x510KKK/P1C00000 controller, 3xK1100-S00 sensors, 3x1/4" flow chamber and 3xsensor cables (10m)	KTO with three channel controller
DGK510KKK-W-IMP	1x510KKK/W1C00000 controller, 3xK1100-S00 sensors, 3x1/4" flow chamber and 3xsensor cables (10m)	KTO with three channel controller



ORDERING TABLE (NON-NUCLEAR CUSTOMERS) :



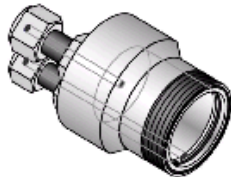
510 Controller



O2 K1000 LDO sensors



Cables



Flow chambers

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LAUNCH MATERIALS:

- Data Sheets
 - K1100 Sensor: DOC053.52.35029
 - K1200 sensor: DOC053.52.35030
 - 510 controllers: DOC053.52.35142
- Operational Manuals
 - Basic User Manual: DOC024.98.93135
 - Full User Manual: DOC024.52.93135
- Sales presentation (*Sales Presentation Name.pptx*)
- Value-Selling: Point of Differences
- New items list (including price for EU and US)
- P/N matrix selection

QUESTIONS :

- Nevena Hristova (Global Product Manager)
+49 211 5288 469
nevena.hristova@hach.com
- Jean Holz (Application Development Manager –US Power)
+1 970 663 1377 x2030
jholz@hach.com
- Martin Schubert (Application Development Manager – EU Power)
+49 211 5288 367
Martin.Schubert@hach.com
- Jean-Jacques Jourdan (Application Development Manager – EU Power)
+33 6 07 88 05 17
Jean-Jacques.Jourdan@hach.com