Barben Analyzer Technology, LLC

The 3rd generation pH sensor from the same mind that brought you the first two.

PDO2 Precision Dissolved Oxygen Measurement

For Municipal and Industrial Waste Water Treatment

Fluorescent Dissolved Oxygen Monitoring System
Designed for use in the Harshest Environments

Barben Analyzer Technology is proudly produces the PDO2 optical dissolved oxygen sensor to provide you the unequalled performance by any other dissolved oxygen sensor. Designed for simplicity, but made for durability to match your demanding requirements while also providing you the flexibility to meet your application needs.

Perfect to use in the following area's:
- Wastewater Treatment Facilities
- Water Treatment Facilities
- Petrochemical/Chemical Plants
- Aquatic Tanks or Pools
- Paper & Pulp Industry
- Inline Measurement
- Water Monitoring
- Fish Hatcheries

Reduce your Maintenance and Increase your Reliability!

- ☑ No Membranes to Replace
- ☑ No Consumables
- ☑ No Electrolyte to Replace
- ☑ No Flow Necessary
- ☑ Polypropylene Body
- ☑ Not Damaged by Sunlight
- ☑ Electronics Completely Sealed
- ☑ Fast, Dependable Readings
- ☑ Multiple Measurement
- ☑ Optical Isolation provides Optimum Performance in Sunlight

Process Control Services Pty Ltd, ABN 22 054 111 018
Ph: Brisbane (07) 3299 7881, Melbourne (03) 9859 0157, Sydney (02) 9319 1808, Auckland (09) 525 3425
eMail sales@pcspl.com.au, Web www.pcspl.com.au

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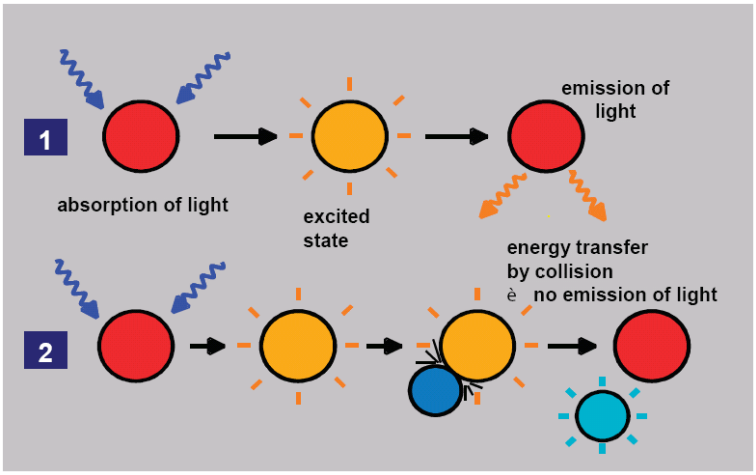
How Dynamic Quenching of Luminescence Works

The principle of measurement is based on the effect of dynamic luminescence quenching by molecular oxygen. The following scheme explains the principle of dynamic luminescence quenching by oxygen.



Principle of dynamic quenching of luminescence by molecular oxygen
(1) Luminescence process in absence of oxygen
(2) Deactivation of the luminescent indicator molecule by molecular oxygen

The collision between the luminophore in its excited state and the quencher (oxygen) results in radiationless deactivation and is called collisional or dynamic quenching. After collision, energy transfer takes place from the excited indicator molecule to oxygen which consequently is transferred from its ground state (triplet state) to its excited singlet state. As a result, the indicator molecule does not emit luminescence and the measurable luminescence signal decreases. A relation exists between the oxygen concentration in the sample and the luminescence intensity as well as the luminescence lifetime.

Specifications:

1401-M Transmitter		**PDO2 Sensor**	
Main Power	110/ 230 Vac; 50/60 Hz	Main Power	24 Vdc (50 mA)
Power Consumption	11 VA	Power Consumption	0.6 W (Nom) 1W (Startup)
Display	120 x 32 Pixels	Measuring Range	0.05 - 20.00 mg/l
Back light	Programmable	Operating Range	-10 to 70 C
Measurement Range	0 - 10 mg/l (Adjustable)	Response Time t90	<30s (Air to Nitrogen)
Inputs (2)	Sensor/Temperature	Accuracy	+/- 2% @ 25C
Outputs	4 - 20 mA/Relay x 2	Detection Limit	0.05 mg/l
Operating Range	-15 to 65C	Pressure Range	170 PSI/12 Bar
Excitation	24 Vdc (50 mA)	Detection Method	Fluorescent Quenching
Rating	NEMA 4X (IP-65)	Body Material	Polypropylene or Kynar

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PDO$_2$ Dissolved Oxygen Probe Options and Accessories

Emteq Accessories

Automatic Cleaning System & Mounting Accessories

Cleaning Nozzle

Air Blast Line
Follows probe cable

Maintains a clean sensor surface to eliminate the need for routine cleaning. Uses 3 to 5 Bar Air Supply. Air blast frequency configurable in electronics.

Solenoid operate by relay in electronics unit. System includes small receiver to ensure full impact of blast is not affected by long lengths of air line.

Slip on Cap for Easy removal and insertion of probe

Bracket for Rail Mounting

Probe Held in Position by 40mm (1.1/2") Pipe

PVC Weather Shield, Rail Mount Stand and Air Blast Cleaning Kit (3 Bar Air Supply)

ARC Wireless Handheld Communicator and Calibrator

- Collect data on sensor history, quality and performance.
- Easy in field calibration or configuration.
- Generate system configuration reports.
- Generate performance reports.
- Simplify service and QA functions.

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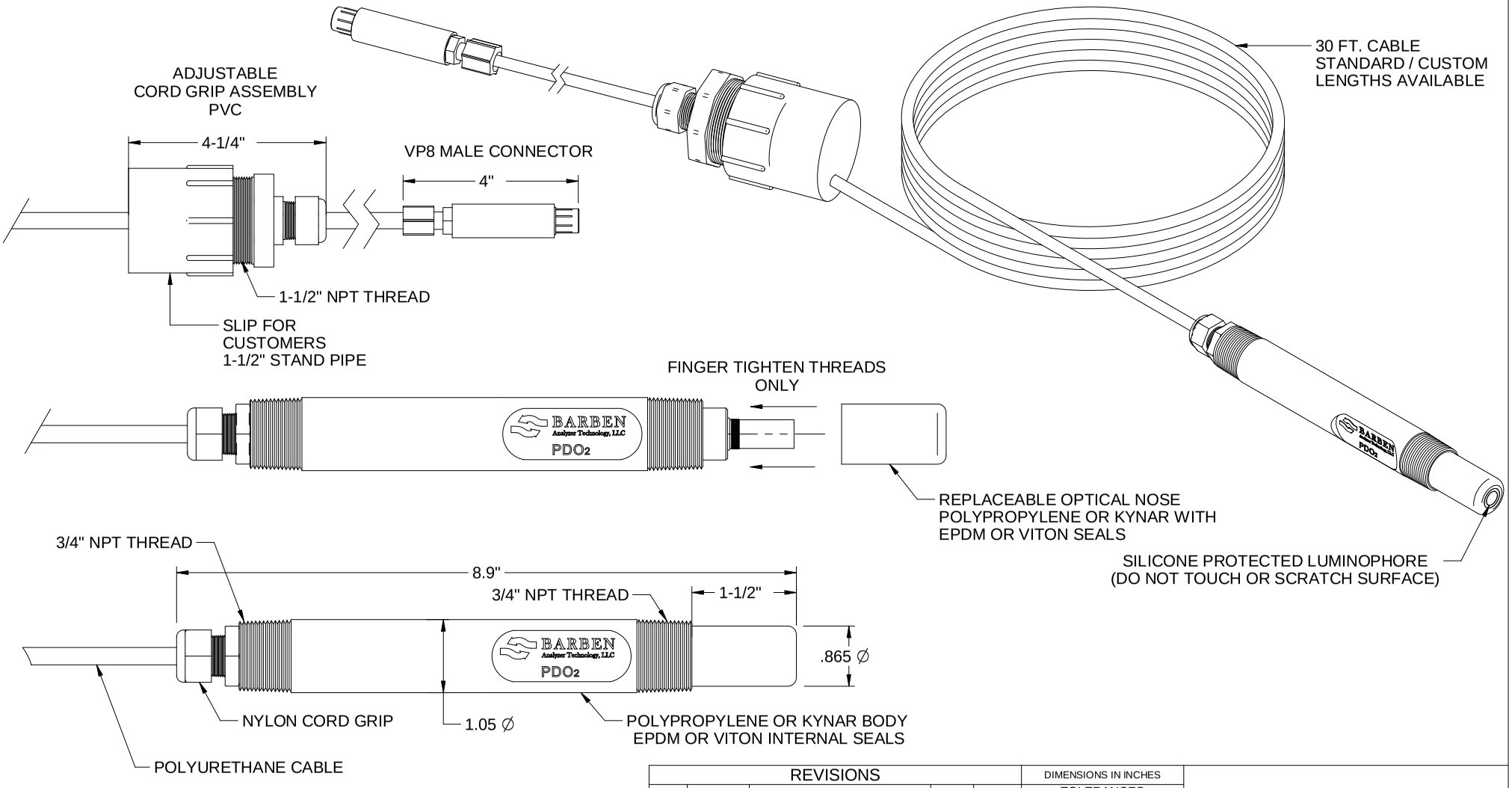


RATINGS

-10 TO 80 C

POLYPRO → -15 TO 100 PSIG
KYNAR → -15 TO 150 PSIG

REVISIONS				
REV	DATE	DESCRIPTION	DWN	APVD

DIMENSIONS IN INCHES

TOLERANCES
UNLESS OTHERWISE SPECIFIED

DECIMALS	FRACTIONS
.0000 +/- .0005	+/- .015
.000 +/- .005	ANGLES
.00 +/- .010	+/- 30MIN
.0 +/- .15	

DRAWING BY RW

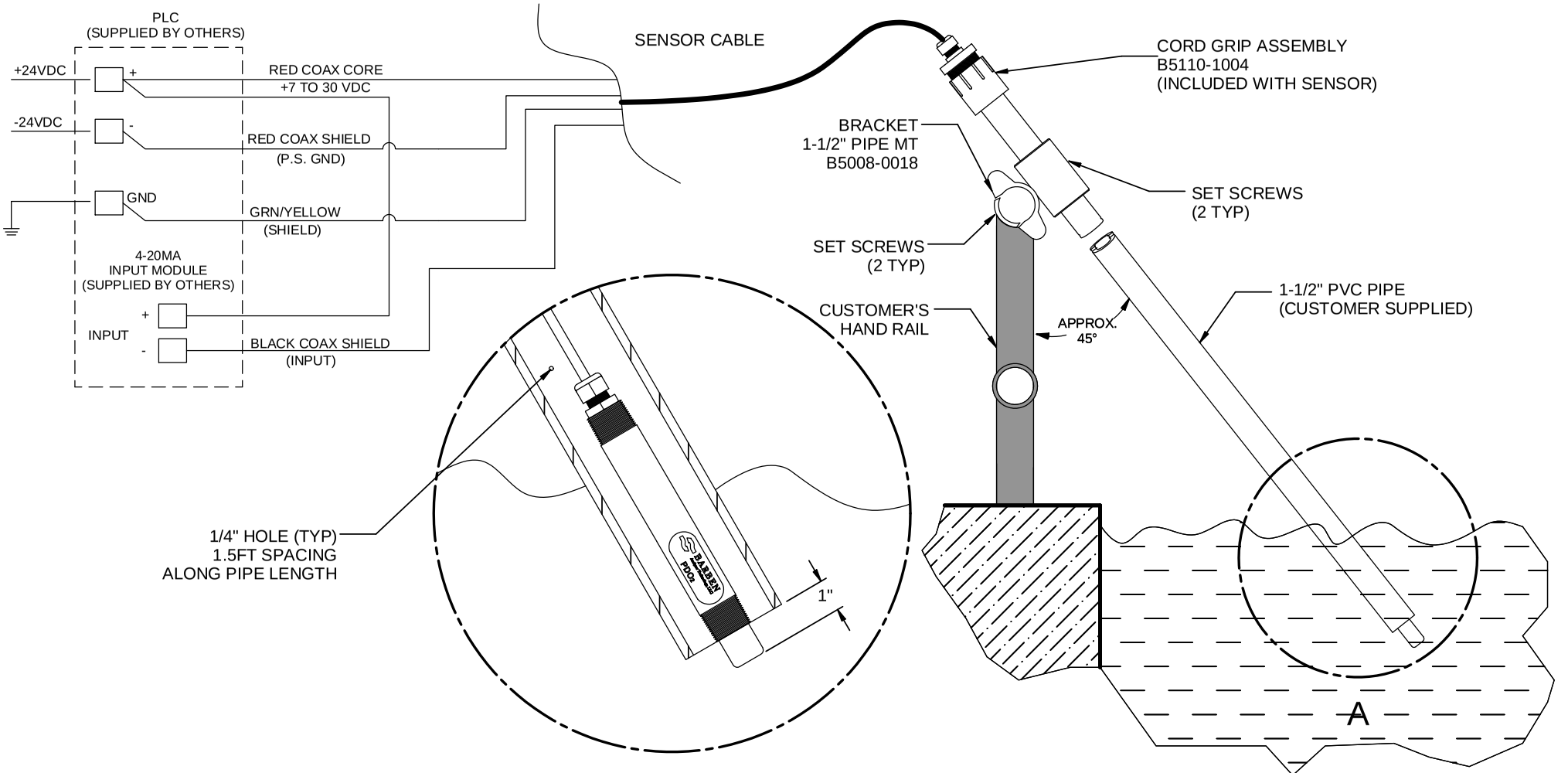
SCALE	DATE	SIZE
NONE	09/21/09	D

OPTICAL DO SENSOR

BARBEN ANALYZER TECHNOLOGY

DRAWING NO.	2P0147
CHECKED	H.W.M.
APPROVED	H.W.M.

PH(775)882-7900 FAX(775)883-6388



DETAIL A

LEAD DESC.	B5103-2001 SENSOR
SHIELD	GREEN / YELLOW
+7 TO 30VDC (1000MW MAX)	RED COAX SHIELD
P.S. GRD	RED COAX CORE
ANODE	BLACK COAX SHIELD

REVISIONS				
REV	DATE	DESCRIPTION	DWN	APVD
C	03/30/11	ADD P/N DETAILS	WC	HWM

DIMENSIONS IN INCHES
TOLERANCES
UNLESS OTHERWISE SPECIFIED

DECIMALS	FRACTIONS
.0000 +/- .0005	+/- .015
.000 +/- .005	ANGLES
.00 +/- .010	+/- 30MIN
.0 +/- .15	

DRAWING BY. MW

SCALE	DATE	SIZE
NONE	10/23/09	B

B5103-2001 SENSOR W/TINNED LEADS
CUSTOMER CONNECTION TO PLC

BARBEN ANALYZER TECHNOLOGY, LLC
5200 Convair Drive
Carson City, NV 89706
PH(775)883-2500 FAX(775)297-4740

DRAWING NO. 2P0150
CHECKED
APPROVED