WORLD-BEAM® QS30H2O
Opposed-Mode Water Sensors

Reliable liquid detection in WORLD-BEAM® housing

Detect water and water-based liquids inside containers

- ▸ Fluid filled IV bags
- ▸ HDPE milk containers
- ▸ Clear glass test tubes
- ▸ Colored PET beverage bottles
- ▸ Etched or frosted glass containers
- ▸ Liquid point level in sight glass
- ▸ Thin walled PFA/FEP tubes
- ▸ Nozzle spray verification

Versatile models to meet demanding requirements

- ▸ Robust housing with 30 mm threaded barrel and integrated side mount
- ▸ Receivers with a choice of outputs and range
  - • Models with bipolar NPN/PNP output and 2 m range
  - • High-gain models with bipolar NPN/PNP output and 4 m range
  - • Analog (0-10V) output with 4 m range
- ▸ Light operate (LO) or dark operate (DO), depending on model (discrete only)
- ▸ Operating temperature from -20° to 60° C
- ▸ Large output status indicator on back of receiver
- ▸ Bright LED status indicators on sensor top
- ▸ 2 m or 9 m attached cable or 5-pin Euro-style pigtail quick-disconnect

High-power, infrared sensor for reliable detection of water and water-based liquids

The WORLD-BEAM® QS30H2O Sensor uses a 1450 nm sensing beam to burn through many types of thin-walled glass and plastic containers, creating contrast for reliable liquid detection. The QS30H2O Sensor is an innovative addition to Banner's complete line of cost-effective, rugged and powerful WORLD-BEAM photoelectric sensors.
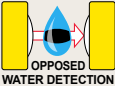
Liquid detection for challenging clear or translucent plastic or glass containers

- ▸ Emits light that water-based liquids will attenuate, enhancing contrast in challenging low-contrast applications
- ▸ Burns through many plastic and glass containers
- ▸ Detects water-based liquids including liquor, beer, shampoos, conditioners, lotions and sauces
- ▸ Penetrates many labels (material thickness and type dependent)
- ▸ Features WORLD-BEAM QS30 housing with popular 30 mm threaded lens and side mount

- ▸ Specified ranges of up to 4 m (longer range possible)
- ▸ Offers built-in electronic crosstalk avoidance
- ▸ Resists harsh environments with rugged IP67 (NEMA 6) housing and encapsulated electronics
- ▸ Rated PW12 (1200 psi washdown)
- ▸ Offers choice of 10 to 30V dc operation with bipolar, NPN (sinking) and PNP (soucing) output or 15 to 30V dc with analog (0-10V) output
- ▸ Delivers highly visible power and output status indicators
- ▸ Includes accessory apertures to attenuate or shape the beam

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WORLD-BEAM® QS30H2O Models

Sensing Mode	Models*	Range†	Cable	Supply Voltage	Output	Data Sheet
	QS30EXH2O	—	2 m	10 to 30V dc	—	
	QS30EXH2OQ5		5-pin Euro Pigtail QD			
	QS30ARH2O	2 m	2 m		Bipolar NPN/PNP LO	
	QS30ARH2OQ5		5-pin Euro Pigtail QD			
	QS30RRH2O		2 m		Bipolar NPN/PNP DO	136166
	QS30RRH2OQ5		5-pin Euro Pigtail QD			
Opposed (Effective Beam: 13 mm) 1450 nm infrared	QS30ARXH2O	4 m	2 m	10 to 30V dc	Bipolar NPN/PNP LO	
	QS30ARXH2OQ5		5-pin Euro Pigtail QD			
	QS30RRXH2O		2 m		Bipolar NPN/PNP DO	
	QS30RRXH2OQ5		5-pin Euro Pigtail QD			
	QS30RXH2OU	4 m	2 m	15 to 30V dc	0-10V Analog	
	QS30RXH2OUQ5		5-pin Euro Pigtail QD			

Sensing Mode illustration labeled: OPPOSED WATER DETECTION

* For 9 m cable, add suffix **W/30** to the 2 m model number (example, **QS30EXH2O W/30**).
A model with a QD connector requires a mating cordset.

† Sensors can be used at ranges greater than listed for applications that require less excess gain. Please contact the factory for assistance on your long-range applications.

Quick-Disconnect (QD) Cordsets

Style	Model	Length	Dimensions	Female Pinout
5-pin Euro-style, straight	**MQDC1-506**	2 m	ø 15 mm, M12 x 1, 44 mm max.	1 = Brown 2 = White 3 = Blue 4 = Black 5 = Gray
	MQDC1-515	5 m		
	MQDC1-530	9 m		

Brackets

Models	Description
SMBQS30L	• Right-angle bracket for cabled sensors • 14-ga. stainless steel • ±12° tilt adjustment • Clearance for M4 (#8) hardware
SMBQS30LT	• Tall right-angle bracket for QD sensors with straight cordset connectors • 14-ga. stainless steel • ± 8° tilt adjustment
SMBQS30Y	• Heavy-duty die-cast bracket with M18 vertical mounting option • ± 8° tilt adjustment for cabled sensors • Nuts and lockwasher included
SMB30SC	• Swivel bracket with 30 mm mounting hole for sensor • Black reinforced thermoplastic polyester • Stainless steel mounting and swivel locking hardware included

Opposed-Mode Apertures

Aperture	Model	Description
Circular hole	**APQS30-040**	1 mm dia. - 6 each
	APQS30-100	2.5 mm dia. - 6 each
	APQS30-200	5 mm dia. - 6 each
Horizontal slot	**APQ30-040H**	1 x 12 mm dia. - 6 each
	APQS30-100H	2.5 x 12 mm dia. - 6 each
	APQS30-200H	5 x 12 mm dia. - 6 each
Vertical slot	**APQ30-040V**	1 x 17 mm dia. - 6 each
	APQ30-100V	2.5 x 17 mm dia. - 6 each
	APQ30-200V	5 x 17 mm dia. - 6 each
Kit	**APQS30-DVHX2**	Kit (two of each) -18 total
	APQS30-DVH	Kit (included with each emitter/receiver) containing one each of aperture models: **APQS30-040, APQS30-040H, APQS30-040V**

NOTE: The use of apertures will reduce the excess gain.

Dimensions (sensor)
51.5 mm · 22 mm · 44 mm

iKnow® Online Training & Tutorials

A complete resource for tutorials, product questions and answers— and the mechanics and theory behind sensor technology available online at www.bannerengineering.com

Q: Why does the sensor burn through some materials but not others?

Q: Does the color of the container matter?

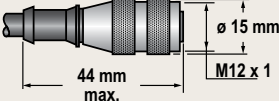Q: Is there a certain percentage of water necessary?

Q: Can I use this sensor to tell the percentage of water content?

Q: Does the color of the liquid matter?

Q: Can I control the gain on this sensor?

Go online for answers to these questions or to pose your own!

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