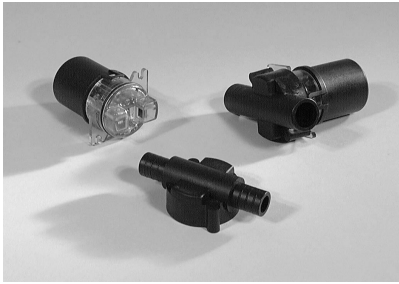


Turbidity Sensors

Wash Process Sensors

APMS-10G Series



FEATURES

- Low-cost infrared turbidity sensing
- Multiple sensors in a single package for simple integration
- Ratio turbidity output to minimize common-mode effects
- Flow-through covers available for hose applications and simple retrofit
- On-board microprocessor for signal conditioning and communications

TYPICAL APPLICATIONS

- Parts washers
- Printed circuit board washers
- Plating rinse baths
- Industrial and coin-operated laundry machines
- Commercial dishwashers
- Mixing tanks
- Water treatment equipment

OPERATION

The APMS-10G Wash Process Sensor provides an integrated package consisting of a microprocessor and three sensing functions:

- Turbidity
- Conductivity
- Temperature

The sensor can monitor and control an application process to improve the quality of the process, minimizing the consumption of energy, water, materials and time.

Each sensor output is conditioned by the internal microprocessor. All data transmitted to the host system is supplied by the microprocessor via a 5 VDC serial communications link. The sensor operates in slave mode, waiting for the host system to request sensor information.

ORDER GUIDE

Catalog Listings*	Sensor Included	Flow-through Cap Installed
APMS-10GRCF	Yes	No
APMS-10GRCF-50	Yes	.5 inch OD
APMS-10GRCF-18	Yes	18 mm OD
APMS-10GRCF-KIT	Yes	Both, not installed Kit includes sensor, flow-through caps, PC interface, and software

GENERAL SPECIFICATIONS

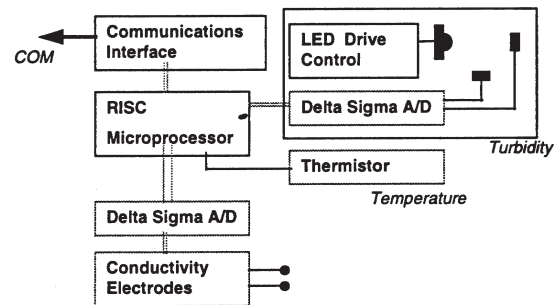
Parameter	Min.	Typ.	Max.	Units
Supply Voltage	8	24	30	Volts DC
Supply Current		16	40	mA
Output Voltage				
Sensor Transmit Low	0		1.1	volts*
Sensor Transmit High	4	5	5.25	volts*
Sensor Receive Low	0		1.7	volts*
Sensor Receive High	3.3		5.25	volts*

* Assumes a sinking output current of 3 mA maximum.

TURBIDITY SPECIFICATIONS

Characteristic	Min.	Typ.	Max.	Units
Ratio Range	0		4000	NTU
	.03		10	units
Response Time			1.3	seconds

WASH PROCESS SENSOR FUNCTIONAL DIAGRAM



CONDUCTIVITY SPECIFICATIONS

Characteristic	Min.	Typ.	Max.	Units
Range	.0001		15	mSiemens
Range	4		255	units
Response Time			0.85	second

TEMPERATURE SPECIFICATIONS

Characteristic	Min.	Typ.	Max.	Units
Range	68		140	°F
Accuracy	-4		+4	°F
Response Time			0.03	second
Stabilization Time	3		5	minutes

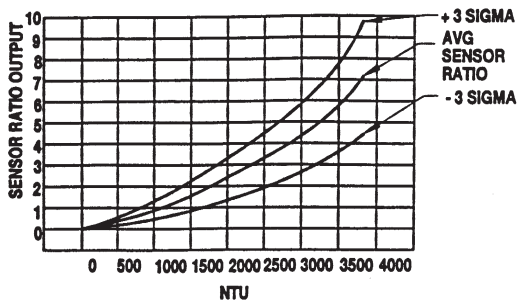
Analog

Solid State Sensors

Turbidity Sensors

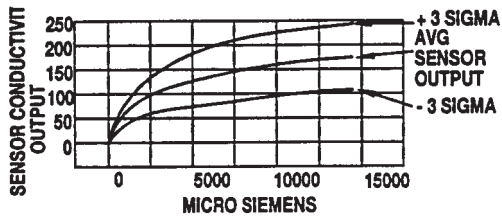
APMS-10G Series

TURBIDITY CHARACTERISTICS

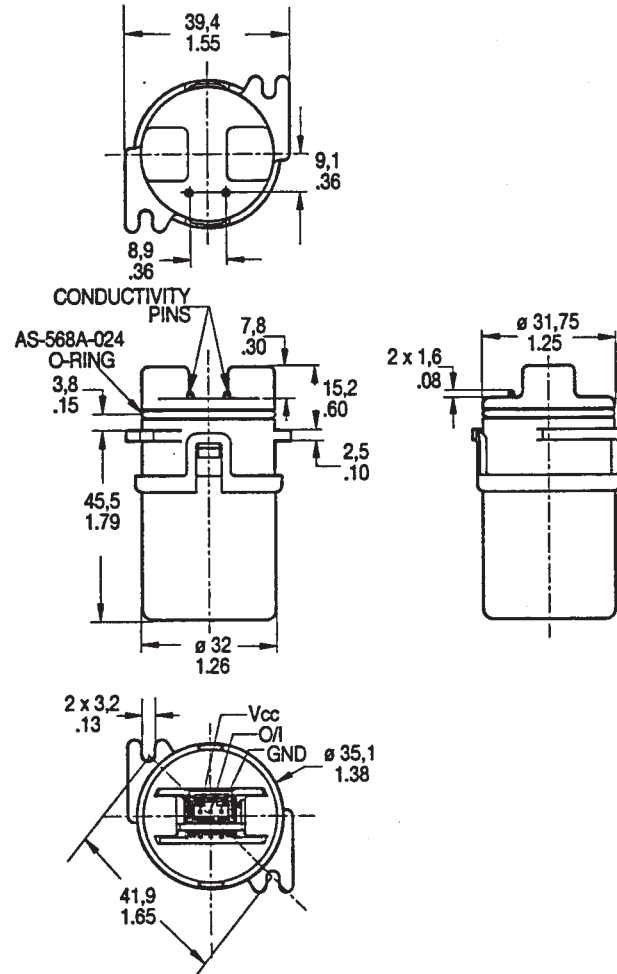


This graph is based on testing using formazin as the medium at room temperature. Characteristics may change when sensor is subjected to media other than formazin.

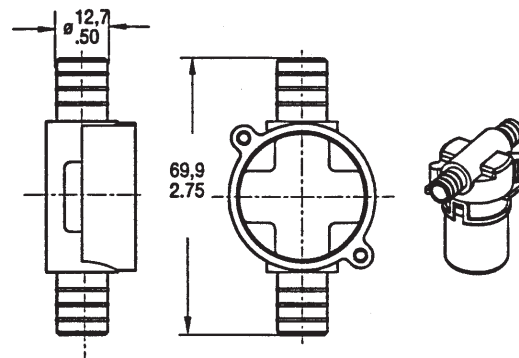
CONDUCTIVITY ACCURACY



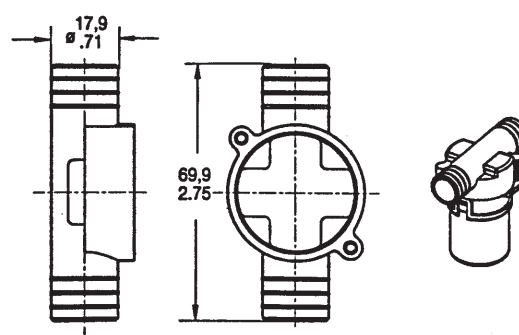
MOUNTING DIMENSIONS (for reference only)



CAP FOR APMS-10GRCF-50



CAP FOR APMS-10GRCF-18



Installation Instructions for the MICRO SWITCH APMS-10G Series Wash Process Sensor

ISSUE 1
PK 80023

GENERAL SPECIFICATIONS

Parameter	Min.	Typ.	Max.	Units
Supply Voltage	8	24	30	volts
Supply Current		16	40	mA
Output Voltage				
Sensor Transmit Low	0		1.1	volts*
Sensor Transmit High	4	5	5.25	volts*
Sensor Receive Low	0		1.7	volts*
Sensor Receive High	3.3		5.25	volts*
Storage Temperature	-20		+70	°C

* Assumes a sinking output current of 3 mA maximum.

TURBIDITY SPECIFICATIONS

Characteristic	Min.	Typ.	Max.	Units
Range	0		4000	NTU
Ratio Range	0.03		10	units
Response Time			1.3	seconds

CONDUCTIVITY SPECIFICATIONS

Characteristic	Min.	Typ.	Max.	Units
Range	.00010		15	mSiemen
Range	4		255	units
Response Time			0.85	seconds

TEMPERATURE SPECIFICATIONS

Characteristic	Min.	Typ.	Max.	Units
Range	68		140	°F
Accuracy	-4		+4	°F
Response Time			.03	second
Stabilization Time	3		5	minutes

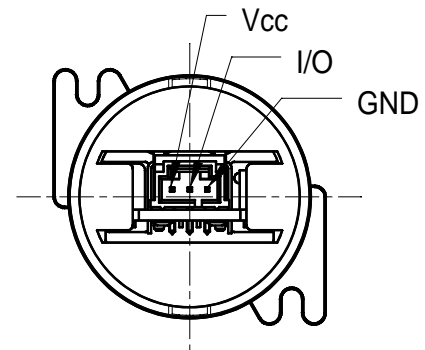
MATING CONNECTOR

Molex 70400, 70430, or 70066 (G Version) type or equivalent (2.54/.100 pitch, 3-pin).

MOUNTING

Mounting holes accept #4 self-tapping screws, 6.4 mm/.250 inch minimum length. Surface finish on mating sealing surface is not to exceed 32 microinches. The AS-568A-02A O-ring seal is provided assembled to the sensor.

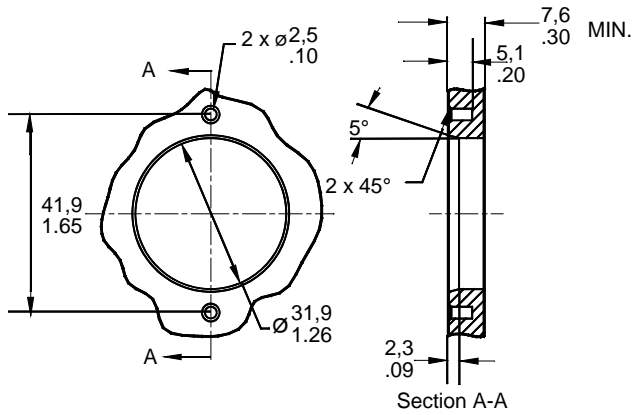
CONNECTION DIAGRAM



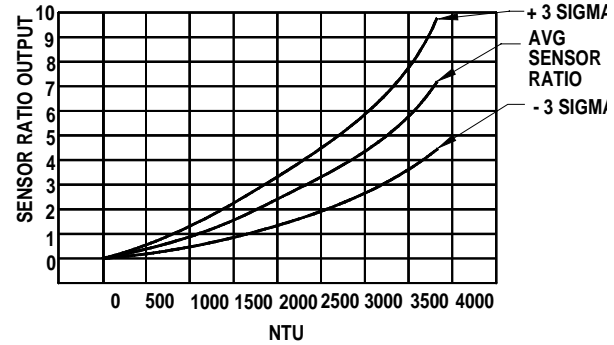
NOTICE

- APMS-10G Series sensors do not have reverse voltage protection. Permanent damage may occur if the sensors are powered with reverse polarity.
- The back of the sensor is not environmentally sealed. Permanent damage may occur if fluids enter through the connector area. Do not submerge or wash down the connector area of the sensor.
- The sensor's optical face should be kept wet at all times in the application. Repeated wet/dry cycles may cause filming from detergents and mineral deposits.
- The sensor contains Class 1 static-sensitive components. Avoid making contact with the connector terminals without static protection.

MOUNTING DETAIL



TURBIDITY CHARACTERISTICS

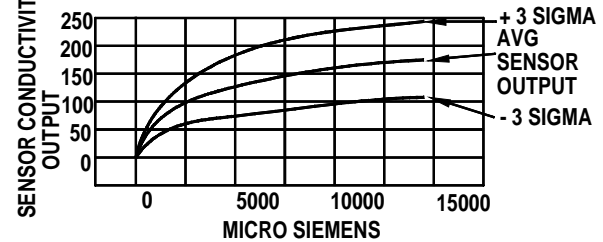


This graph is based on testing using formazin as the medium at room temperature. Characteristics may change when sensor is subjected to media other than formazin.

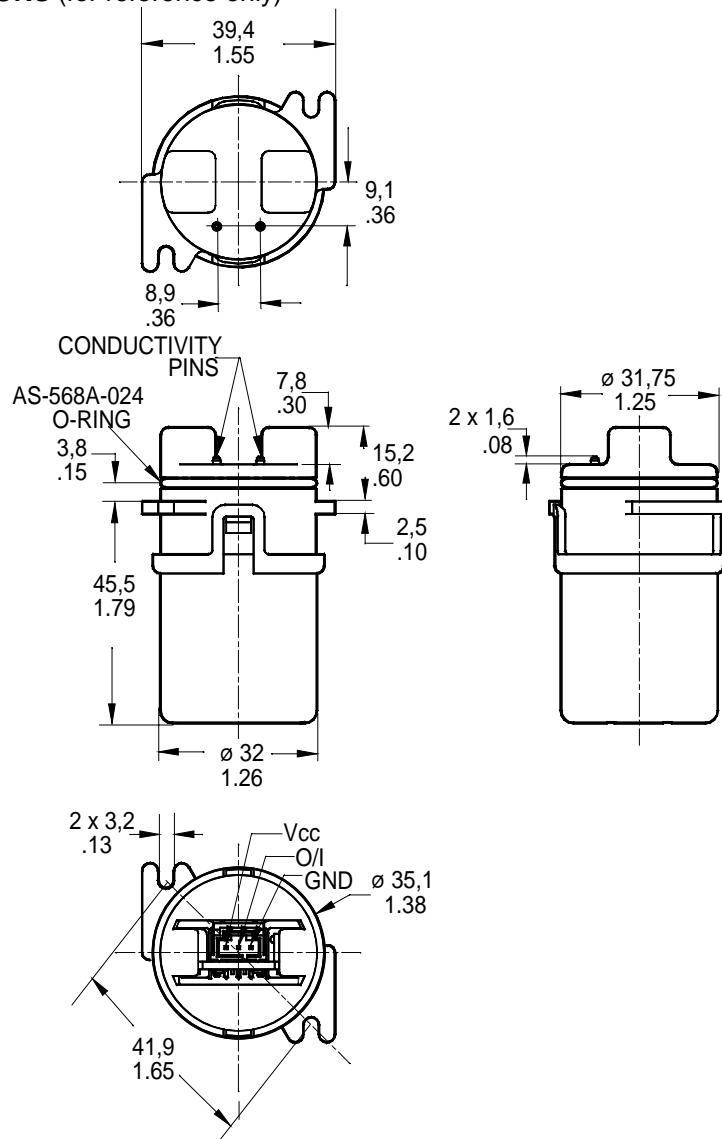
APMS-10G SERIES DESCRIPTION

Catalog Listing	Sensor Included	Flow-through Cap Installed
APMS-10GRCF	Yes	No
APMS-10GRCF-50	Yes	.50 in. OD
APMS-10GRCF-18	Yes	18 mm OD
APMS-10GRCF-KIT	Yes	Both, not installed

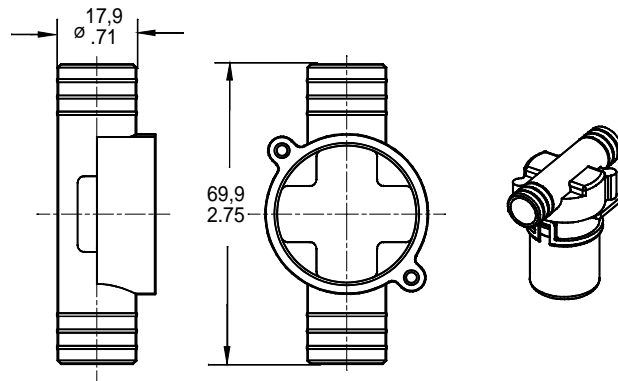
CONDUCTIVITY ACCURACY



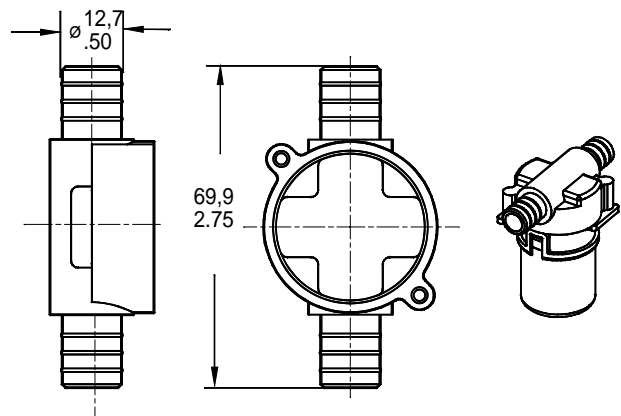
MOUNTING DIMENSIONS (for reference only)



CAP FOR APMS-10GRCF-18



CAP FOR APMS-10GRCF-50



WARRANTY/REMEDY

Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Contact your local sales office for warranty information. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace without charge those items it finds defective. The foregoing is Buyer's sole remedy and is **in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose.**

For application assistance, current specifications, pricing or name of the nearest Authorized Distributor, contact a nearby sales office. Or call:

1-800-537-6945 USA

1-800-737-3360 Canada

1-815-235-6847 International

FAX

1-815-235-6545 USA

INTERNET

<http://www.sensing.honeywell.com>

info@micro.honeywell.com

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

While we provide application assistance, personally and through our literature, it is up to the customer to determine the suitability of the product in the application.

Honeywell

MICRO SWITCH

Honeywell Inc.

11 West Spring Street

Freeport, Illinois 61032



Printed with Soy Ink
on 50% Recycled Paper



PK 80023-1-EN IL50 GLO 797 Printed in USA

Helping You Control Your World