

Rev. 11/30/06

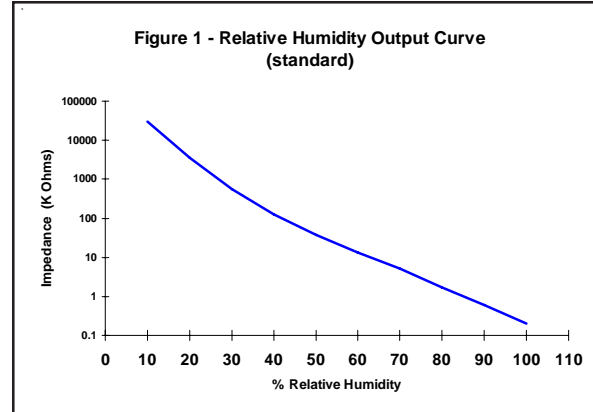
Humidity Transmitter Description

BAPI humidity transmitters provide a high accuracy 4 to 20mA, 0 to 5V or 0 to 10V humidity measurement. Accuracies of 2% or 3% RH are available. Room units are protected by a molded housing with an integral filter, while duct and outside air units come with a removeable 100 micron sintered stainless steel filter. On duct and outside air units the filter may be cleaned with warm, distilled water.

These units are microprocessor based and do not require any field calibration. In addition, replacement sensors (room units) and probes (duct and outside air units) can be purchased and installed without calibration. In fact, installing a replacement part will result in the unit having the accuracy of the replacement and not necessarily the original unit. For example, a 3% room unit could be made into a 2% unit simply by purchasing and installing a 2% sensor.

For all non-room configurations, BAPI humidity transmitters come standard in a ruggedized package. Ruggedized transmitters are suitable for locations where moisture or condensation may be a problem. The potting material used to ruggedize the transmitters has a high thermal conductivity to eliminate circuit overheating and a low thermal expansion to minimize the stress on the circuit components. Due to the extremely low moisture absorption properties of the epoxy, a ruggedized transmitter will remain operational even if temporarily immersed in water.

Many tests and studies have been conducted on the sensor incorporated into these humidity transmitters to assure that they provide long-term accuracy and durability. For applications requiring even higher accuracy, however, certified units are available which have been tested and offset against an NIST traceable reference. Please call for details or with specific requirements.



Specifications

Output Ranges:

4 to 20 mA, 0 to 5 V, or 0 to 10 V

Power:

10 to 35 VDC (0 -5 VDC or 4 - 20 mA outputs)

15 to 35 VDC (0 - 10 VDC Output)

12 to 24 VAC (0 -5 VDC or 4 - 20 mA outputs)

15 to 24 VAC (0 - 10 VDC Output)

Power Consumption:

22 mA max. DC (0 -5 VDC or 4 - 20 mA Outputs)

6 mA max. DC (0 - 10 VDC Output)

0.53 VA max. AC (0 -5 VDC or 4 - 20 mA Outputs)

0.14 VA max. AC (0 -10 VDC Output)

Sensing Element:

Impedance type humidity sensor

Operating RH Range:

0 to 100 %RH (non-condensing)

Operating Temperature Range:

Room: 0 to 70 °C (32 to 158 °F)

Duct & Outside: -23 to 71 °C (-10 to 160 °F)

Accuracy Range: from 15 to 95% RH at 25°C

Response Time: 20 seconds for a 63% step

Drift: <2% RH over 5 years



Humidity Transmitter Output Table

Temperature, Humidity & Pressure Sensors & Transmitters

Rev. 11/30/06

Humidity Transmitter Output Table

%RH	mA	5V	10V
0	4.000	0.00	0.00
1	4.160	0.05	0.10
2	4.320	0.10	0.20
3	4.480	0.15	0.30
4	4.640	0.20	0.40
5	4.800	0.25	0.50
6	4.960	0.30	0.60
7	5.120	0.35	0.70
8	5.280	0.40	0.80
9	5.440	0.45	0.90
10	5.600	0.50	1.00
11	5.760	0.55	1.10
12	5.920	0.60	1.20
13	6.080	0.65	1.30
14	6.240	0.70	1.40
15	6.400	0.75	1.50
16	6.560	0.80	1.60
17	6.720	0.85	1.70
18	6.880	0.90	1.80
19	7.040	0.95	1.90
20	7.200	1.00	2.00
21	7.360	1.05	2.10
22	7.520	1.10	2.20
23	7.680	1.15	2.30
24	7.840	1.20	2.40
25	8.000	1.25	2.50
26	8.160	1.30	2.60
27	8.320	1.35	2.70
28	8.480	1.40	2.80
29	8.640	1.45	2.90
30	8.800	1.50	3.00
31	8.960	1.55	3.10
32	9.120	1.60	3.20
33	9.280	1.65	3.30
34	9.440	1.70	3.40
35	9.600	1.75	3.50
36	9.760	1.80	3.60
37	9.920	1.85	3.70
38	10.080	1.90	3.80
39	10.240	1.95	3.90
40	10.400	2.00	4.00
41	10.560	2.05	4.10
42	10.720	2.10	4.20
43	10.880	2.15	4.30
44	11.040	2.20	4.40
45	11.200	2.25	4.50
46	11.360	2.30	4.60
47	11.520	2.35	4.70
48	11.680	2.40	4.80
49	11.840	2.45	4.90

%RH	mA	5V	10V
50	12.000	2.50	5.00
51	12.160	2.55	5.10
52	12.320	2.60	5.20
53	12.480	2.65	5.30
54	12.640	2.70	5.40
55	12.800	2.75	5.50
56	12.960	2.80	5.60
57	13.120	2.85	5.70
58	13.280	2.90	5.80
59	13.440	2.95	5.90
60	13.600	3.00	6.00
61	13.760	3.05	6.10
62	13.920	3.10	6.20
63	14.080	3.15	6.30
64	14.240	3.20	6.40
65	14.400	3.25	6.50
66	14.560	3.30	6.60
67	14.720	3.35	6.70
68	14.880	3.40	6.80
69	15.040	3.45	6.90
70	15.200	3.50	7.00
71	15.360	3.55	7.10
72	15.520	3.60	7.20
73	15.680	3.65	7.30
74	15.840	3.70	7.40
75	16.000	3.75	7.50
76	16.160	3.80	7.60
77	16.320	3.85	7.70
78	16.480	3.90	7.80
79	16.640	3.95	7.90
80	16.800	4.00	8.00
81	16.960	4.05	8.10
82	17.120	4.10	8.20
83	17.280	4.15	8.30
84	17.440	4.20	8.40
85	17.600	4.25	8.50
86	17.760	4.30	8.60
87	17.920	4.35	8.70
88	18.080	4.40	8.80
89	18.240	4.45	8.90
90	18.400	4.50	9.00
91	18.560	4.55	9.10
92	18.720	4.60	9.20
93	18.880	4.65	9.30
94	19.040	4.70	9.40
95	19.200	4.75	9.50
96	19.360	4.80	9.60
97	19.520	4.85	9.70
98	19.680	4.90	9.80
99	19.840	4.95	9.90
100	20.000	5.00	10.00