

# Environmental/Process Air Transmitters

## RH and Temperature with Dew Point or Pressure Outputs

### HX80A Series



HX85A shown smaller than actual size.

- ✓ 316 SS Housing
- ✓ ±1% RH Accuracy
- ✓ ±0.5°C (1.0°F) Temperature Accuracy
- ✓ High Temperature [120°C (248°F)]
- ✓ Removable Stainless Steel Sensor Cap
- ✓ RS232 Standard
- ✓ Adjustable 3/4 NPT Fitting

The HX80A Series is a family of humidity probes that offer a variety of measurement parameters with precision accuracy: relative humidity and temperature, with dew point or pressure. The probe is easily adaptable for most applications via a 3/4 NPT fitting that can be adjusted to any desired position, including high temperature and high pressure conditions. This remote type transmitter comes standard with a 1.8 m (6') cable and is ideally suited for many different applications such as environmental chambers, compressed air, and industrial applications.

Models offer a stainless steel probe with a removable sinter stainless steel filter and RS232 (which allows for reading of data, scaling output, and for HX86A type units, changing the digital display and setting the alarms). All models have 3 outputs, with output 1 scaled for 0 to 100% RH, output 2 scaled for -20 to 120°C (-4 to 248°F), and output 3 determined by the model number. Output 3 for HX85A and HX86A is -60 to 40°C



(-76 to 104°F) dew point, for HX85BA and HX86BA is 750 to 1100 mb, and for HX85PA and HX86PA is 0 to 200 psia. RH measurement range is 5 to 95% with an accuracy of ±1%. temperature accuracy is ±0.5°C (33°F).

HX85A (probe only) models (HX85A, HX85BA, HX85PA) offer 0 to 10V signals on the outputs via a 1.8 m (6') cable. The HX86A models (HX86A, HX86BA, HX86PA) include a display box attached to the end of the cable from the probe, and offers a 2 line digital display, 2 alarms, three 4 to 20 mA output signals, and an RS232 serial output.

### SPECIFICATIONS

- RH Accuracy:** ±1% RH
- RH Measurement Range:** 5 to 95%
- Time Constant:** <15 sec, air flow dependent (for 66.6% response)
- Temp Accuracy:** ±0.5°C (1.0°F)
- Temp Measurement Range:** -20 to 120°C (-4 to 248°F)
- Pressure Rating:** 317 kg (700 lb) (47.6 bar) max
- Serial Output:** RS232C (bi-directional) to DTE device, 19.2 kilo baud, 8 bits data, 1 stop bit, no parity
- Power Requirements:** 18 to 30 Vdc unregulated, 50 mA max

**Display Box (HX86A, HX86BA, HX86PA Only):****Dimensions:** 130 x 94 x 56 mm (5.1 x 3.7 x 2.2")**Mounting Centers:** 115 x 79 mm (4.52 x 3.11")**Digital Display:** LCD, 2-line**Electrical Analog Outputs (HX85A, HX85BA, HX85PA Only):**

0 to 10 Vdc (x3) @ 10 mA max

**Electrical Outputs (HX86A, HX86BA, HX86PA Only):****Analog Outputs:** 4 to 20 mA (x3) into 500 Ω max**Alarm Relay (x2):** Form A (SPST, NO) rated at 3 A/250 Vac**Barometric Pressure (HX85BA, HX86BA Only):****Range\*:** 750 to 1100 mb**Accuracy:** ±5 mb*\* Although the unit is scaled 750 to 1100 mb, the unit actual measurement range is 10 to 1100 mb and can be reprogrammed in the field if the range needs to be expanded.***High Pressure (HX85PA, HX86PA Only):****Range:** 0 to 200 psia**Accuracy:** ±0.75 psi**Sensor Dimensions:****Probe:** 19 Dia. x 203 mm (¾ x 8")**Cable Length:** 1.8 m (6')**Filter:** Sinter stainless steel (removable and cleanable)**Probe Material:** Stainless steel**Fitting:** Adjustable ¾ NPT**Weight:** 0.9 kg (2 lb)

Standard Scaling of Analog Outputs			
Model	Output 1 (RH)	Output 2 (Air Temp)	Output 3 (Dew Point or Pressure)
HX85A	0 to 100%	-20 to 120°C (-4 to 248°F)	-60 to 40°C (-76 to 104°F) DP
HX85BA	0 to 100%	-20 to 120°C (-4 to 248°F)	750 to 1100 mb
HX85PA	0 to 100%	-20 to 120°C (-4 to 248°F)	0 to 200 psia
HX86A	0 to 100%	-20 to 120°C (-4 to 248°F)	-60 to 40°C (-76 to 104°F) DP
HX86BA	0 to 100%	-20 to 120°C (-4 to 248°F)	750 to 1100 mb
HX86PA	0 to 100%	-20 to 120°C (-4 to 248°F)	0 to 200 psia

To Order	
Model No.	Description
HX85A	RH/temperature/dew point transmitter, 0 to 10 Vdc outputs
HX85BA	RH/temperature/barometric pressure transmitter, 0 to 10 Vdc outputs
HX85PA	RH/temperature/pressure transmitter, 0 to 10 Vdc outputs
HX86A	RH/temperature/dew point transmitter with remote display and 2 alarms, 4 to 20 mA outputs
HX86BA	RH/temperature/barometric transmitter with remote display and 2 alarms, 4 to 20 mA outputs
HX86PA	RH/temperature/pressure transmitter with remote display and 2 alarms, 4 to 20 mA outputs

**Accessories**

Model No.	Description
PSU-93	Unregulated power supply, 16 to 23 Vdc, 300 mA max, screw terminal
PSR-24S	Regulated power supply, US plug, 90 to 264 Vac input, 24 Vdc output, 400 mA, screw terminals, UL
PSR-24L	Regulated power supply, US plug, 90 to 264 Vac input, 24 Vdc output, 400 mA, screw terminals, UL
PSR-24L-230	Regulated power supply, European plug, 230 Vac input, 24 Vdc output, 400 mA, stripped leads, CE
HX86A-DIS	Remote electronics module with two-line LCD digital display, three 4 to 20 mA analog outputs, RS232C, and 2 programmable alarm relays; this display module can be added to existing probes (HX86A series) in the field
HX80-SENSOR	Field-replaceable sensor module for RH/temperature
HXP80-SENSOR	Field-replaceable sensor module for RH/temperature/pressure
HXB80-SENSOR	Field-replaceable sensor module for RH/temperature/barometric pressure
HX80-CHAMBER	Sample chamber with inlet and outlet fittings

Come complete with operator's manual (on CD) and NIST certificate.

**Ordering Example:** HX85A, RH/air temperature/dew point transmitter with 0 to 10 Vdc outputs, and PSR-24S, regulated power supply 90 to 264 Vac input with 24 Vdc output.