

AST50 & AST60 Contacting Conductivity Sensors for Inline, Immersion & Submersible Installations



AST60 contacting conductivity sensors shown in K=0.1, 1.0 and 2.0 cell constants from left to right, respectively.

- Double 1"MNPT threaded body can be used for either immersion/submersion or inline installation
- Redundant O-ring seals used on all versions for high on-stream reliability and long sensor service lifetime
- Can be used with most any mating conductivity transmitter simply by specifying proper TC
- For general purpose applications up to about 200,000 microSiemens with outstanding chemical resistance for a wide variety of media. Open front-end geometry resists clogging and reduces maintenance. Ideal for remote installations.
- Wetted insulator materials of construction are CPVC for AST50 or TEFLON/KYNAR for AST60 with 316SS electrodes as standard. The option to select other metals as electrode materials such as titanium, Monel and Hastelloy C-276 provides an unequalled chemical resistance capability with only minimal increase in cost.
- Dual EPDM O-ring seals ensure sensor reliability (Viton & Kalrez Optional). Front seal absorbs the brunt of chemical attack, allowing the rear O-ring to operate in a protected environment, and insure continued sealing.
- Available in cell constants of K=0.1/cm, K=1.0/cm & K=2.0/cm cover the most common conductivity ranges
 - Exact recommended conductivity range for each cell constant depends upon mating instrument. Typical area of use is 10 to 200,000 $\mu\text{S}/\text{cm}$. For use below 10 $\mu\text{S}/\text{cm}$ a cell constant of K=0.05/cm or lower is required
 - K=0.1/cm cell constant can be used for ranges as low as 10-200 $\mu\text{S}/\text{cm}$ or as high as 50-5,000 $\mu\text{S}/\text{cm}$
 - K=1.0/cm cell constant can be used for range as high as 100-100,000 $\mu\text{S}/\text{cm}$
 - K=2.0/cm cell constant can be used for range as high as 200-200,000 $\mu\text{S}/\text{cm}$
- Cable length is 10 feet standard but extended lengths as integral cable or else by means of quick-disconnect waterproof and corrosion-resistant snap connections are available for ease of removal for cleaning and/or recalibration.
- Waterproofing sealing option for completely submersible installation without the use of an immersion rod or standpipe. Ideal for corrosive environments where the seal on the back of the sensor may be degraded in the course of time.
 - Available in polypropylene (PP) and CPVC with integral vinyl or NORPRENE sealing hoses factory installed.



AST50 & AST60 Contacting Conductivity Sensors Specifications

Measurement Range:	Dependent Upon Cell Constant and Mating Transmitter Employed *
Operating Temperature:	-35 to +95 °C (-31 to +203 °F) for AST50 with CPVC insulator ** -35 to +120 °C (-31 to +248 °F) for AST60 with TEFLON insulator **
Operating Pressure:	Max 100 psig @ 95°C for AST50 Max 100 psig @ 120°C for AST60 (Max 500 psig with PEEK insulator option)
Process Connections:	1" MNPT for both Front & Rear Threads
Wetted Materials of Construction:	
Insulator:	CPVC for AST50, TEFLON for AST60 (PEEK as a Special Order Option)
O-Rings:	EPDM (Standard) or Viton/Kalrez (Optional), Redundant
Electrodes:	316SS Standard; Titanium, Monel, Hast C-276 and other upon request optional
Sensor Body:	CPVC for AST50, KYNAR for AST60 (316SS as a Special Order Option)
Temperature Element:	Standard with Pt1000 or Pt100 temperature sensor; Other TC elements such as Balco 3K resistor and 10K Thermistor are also available upon request
Cell Constants Available for Models	
AST50 & AST60:	K = 0.1, 1.0 or 2.0 /cm
Cable Length Limits:	Standard 10 feet (3 meters), Max is 100 feet (30 meters)
End of Cable Terminations:	Tinned Leads (-TL) or NEMA 6P rated waterproof and corrosion-resistant quick disconnect snap connector in 5-pole (Q5M/Q5F) or 4-pole (Q4M/Q4F) version
Storage and Shelf-Life:	One (1) year from date of dispatch from factory when stored at ambient.
Dimensional Details:	See following pages for drawing of each particular cell constant configuration.
Submersible Assemblies:	WPA, WPB, WPC Polypropylene Waterproofing Options for AST60 Sensors WPG & WPH CPVC Waterproofing Options for AST50 Sensors
Sealing Hose Options:	Braid reinforced vinyl tubing available for both WPB & WPH options High-Temperature Resistant NORPRENE tubing available only for WPB option

* Contact factory to confirm that your desired measurement range is suitable for the chosen cell constant & mating instrument.

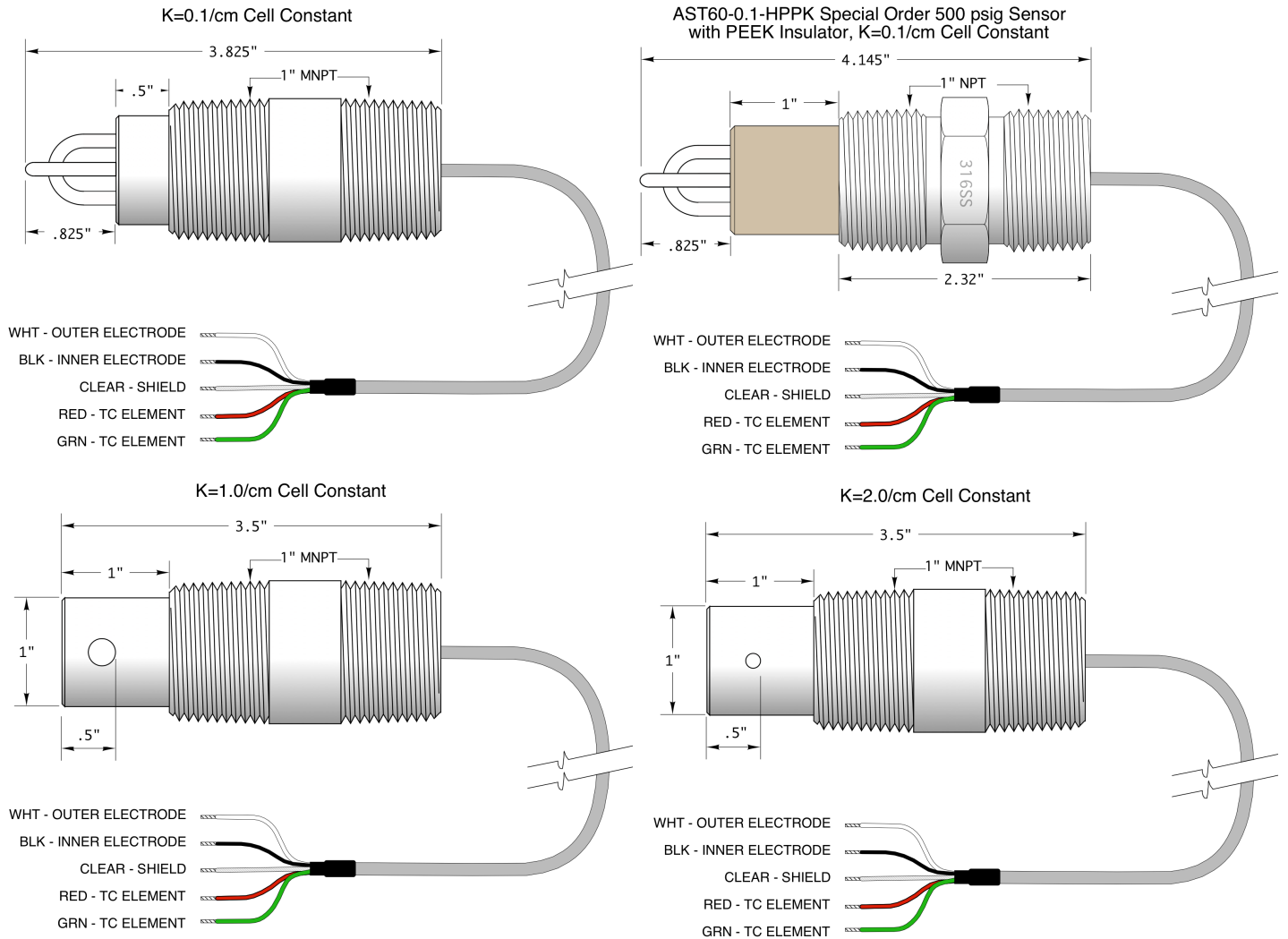
** Contact factory for applications where the measurement is below 0°C prior to specifying sensor for project or commissioning.

The table below contains the various available full conductivity ranges when the 3TX-CON transmitter is employed for various cells.

LOW RANGE OPTIMIZED			STANDARD RANGE			HIGH RANGE OPTIMIZED		
NOM CELL	CAL CELL RANGE	FULL RANGE	NOM CELL	CAL CELL RANGE	FULL RANGE	NOM CELL	CAL CELL RANGE	FULL RANGE
0.1L	0.05-0.15	0-200µS	0.1	0.03-0.17	0-5,000µS	0.2	0.06-0.34	0-20,000µS
1.0L	0.5-1.50	0-2mS	1.0	0.30-1.70	0-50mS	2.0	0.60-3.40	0-200mS
			2.0	0.60-3.40	0-100mS			

Last Revised August 11, 2017

Dimension Details for AST50/AST60 Cell Constants 0.1, 1.0 & 2.0

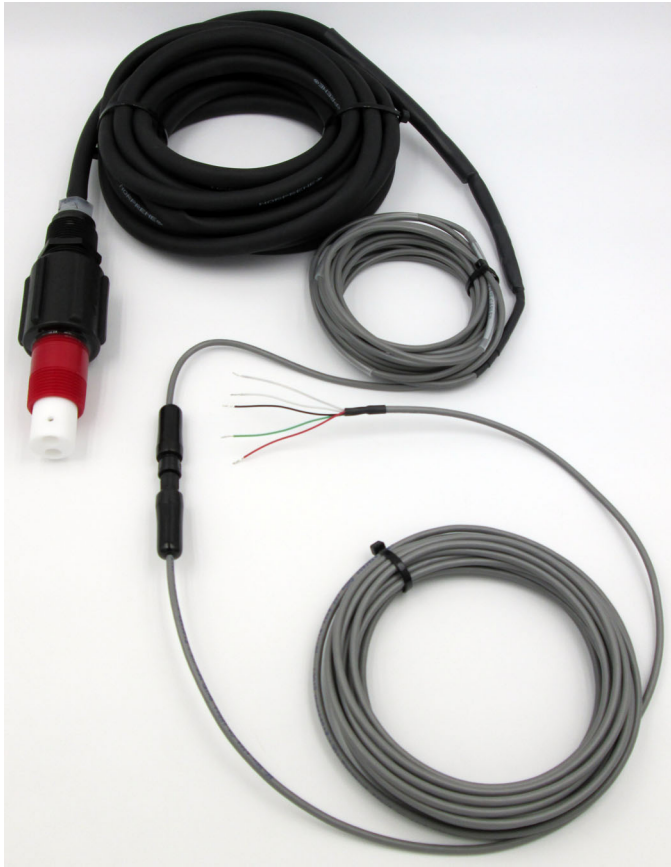


Drawings of AST50 and AST60 in the available K=0.1/cm, K=1.0/cm and K=2.0/cm cell constant configurations are shown without waterproofing option. Please inquire to factory for overall sensor length and dimensional details if a waterproofing option is to be added to sensor.



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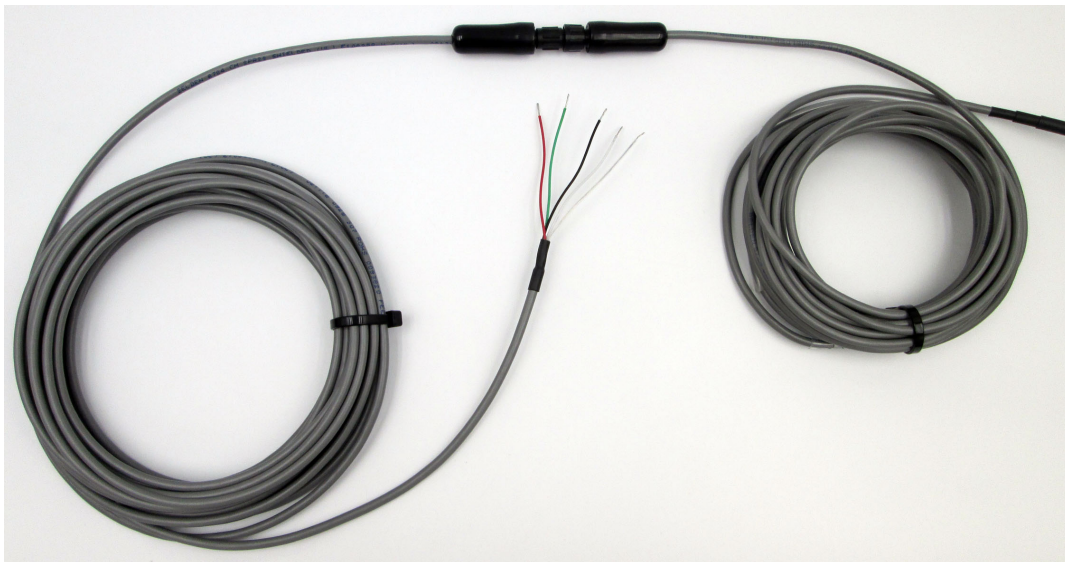
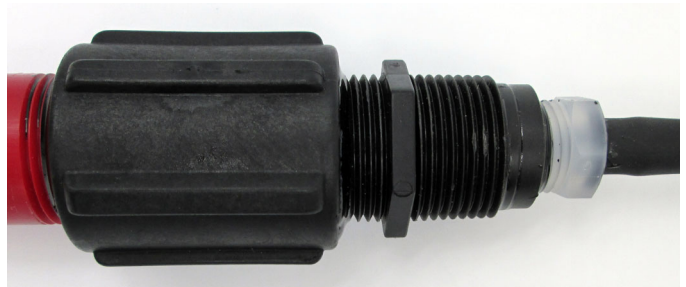
Fully Submersible AST50 & AST60 Conductivity Sensors with Waterproofing Seal & Quick-Disconnect Snap Connector



AST60-HastC-2.0-1000-40-Q5M-WPB/20PP-VITON Submersible Contacting Conductivity K=2.0/cm Sensor with Hastelloy C-276 electrodes and VITON O-rings; 40 feet cable with Q5M snap connector; 20 feet NORPRENE hose installed



Close-ups of waterproofing "B" sealing with NORPRENE tubing installed onto AST60 sensor in K=2.0/cm cell constant. Assembly is fully submersible without immersion tube.



The Q5M male snap connector (right) is interfaced with the Q5F female snap to tinned lead extension cable (left). The NEMA 6P waterproof and corrosion-resistant rating is valid when the connectors are interfaced (caps should be installed when on in use).