3TX–CON-E HIGH RESOLUTION MODBUS CONDUCTIVITY TRANSMITTER SUPPLEMENT

The 3TX-CON-E series of contacting conductivity transmitters allows for high resolution MODbus output to take full advantage of the maximum internal resolution of the instrument for applications where this is advantageous. Please contact factory to determine if your application would benefit from use of the 3TX-CON-E version. All specifications not detailed below are identical to the standard 3TX-CON transmitter for the given cell constant and configuration.

Nominal Cell Constant	Calibrated Cell Range	Full Range with Temp. Comp.	Full Range Resolution MODBus Value 1 Scaling	Raw Conductivity Input Range	Raw Input Resolution MODBus Value 3 Scaling
K = 0.02/cm	0.006 to 0.034	0-2,000 µS (0-2mS)	0.1µS 0-20,000 Steps	0-5,000 µS (0-5mS)	0.1µS 0-50,000 Steps
K = 0.1/cm	0.03 to 0.17	0-5,000 µS (0-5mS)	0.5µS 0-10,000 Steps	0-25,000 µS (0-25mS)	0.5µS 0-50,000 Steps
K = 0.2/cm	0.06 to 0.34	0-20,000 µS (0-20mS)	1µS 0-20,000 Steps	0-50,000 µS (0-50mS)	1µS 0-50,000 Steps
K = 1.0/cm	0.30 to 1.70	0-50,000 µS (0-50mS)	5µS 0-10,000 Steps	0-250,000 µS (0-250mS)	5µS 0-50,000 Steps
K = 2.0/cm	0.60 to 3.40	0-200,000 µS (0-200mS)	10µS 0-20,000 Steps	0-500,000 µS (0-500mS)	10µS 0-50,000 Steps
K = 10.0/cm	3.00 to 17.0	0-500,000 µS (0-500mS)	50µS 0-10,000 Steps	0-2,500,000 µS (0-2,500mS)	50µS 0-50,000 Steps
K = 20.0/cm	6.00 to 34.0	0-1,000,000 µS (0-1,000mS)	100µS 0-10,000 Steps	0-5,000,000 µS (0-5,000mS)	100µS 0-50,000 Steps

Shared Modifications for all 3TX-CON-E series units from standard 3TX-CON transmitters:

- The second MODbus value is always the temperature. The scaling is 0-210 °C sent as 0-1,000 steps.
- Changing parameter P11 (low 0/4 mA setpoint) and/or the parameter P12 (high 20mS setpoint) will modify the scaling on the analog 0/4-20mA outputs only. The MODbus output ranges are fixed as defined above for the 3TX-CON-E version. In contast, for the standard MODbus resolution CON-CELL/RANGE-D units, the MODbus scaling follows what is set for the analog 0/4-20mA outputs via parameters P11 & P12 and sent as 0-1000 steps.
- The MODbus output of any CON-E unit is incompatible with the DAT MODbus datalogger. To interface a 3TX conductivity transmitter with a DAT, use the standard MODbus resolution CON-CELL/RANGE-D units instead.
- The CON-E high resolution units are compatible with the "ASTI Windows Datalogging & Graphing Software for 3TX Conductivity Transmitters", Version 2.3 or above.
- The CON-E high resolution units are compatible with any suitable standards compliant MODbus PLC, SCADA or data acquisition system. Please inquire to ASTI factory if you have any specific question regarding compatibility for your planned use and setup or the protocol employed.

To order the 3TX-CON-E style, simply include the desired nominal cell constant only when ordering. For example, the K=0.2/cm cell constant unit is simply ordered as 3TX-CON-E-0.2. Note that there is no need to indicate that the CON-E is a MODbus output style (typically denoted with a –D at the end of the typical 3TX transmitter part number) since this CON-E high resolution MODbus conductivity transmitter ONLY comes in the dual analog plus MODbus output configuration. There is no difference in price between the standard MODbus resolution CON-CELL/RANGE-D transmitters (and these are the DAT datalogger compatible units) and these high resolution MODbus CON-E-CELL transmitters (which are DAT incompatible). Please contact factory for assistance to ensure that you select the most appropriate unit for your desired application.

Last Modified August 11, 2014 - Revision 10