

DUCT AVERAGE COPPER NETWORK TEMPERATURE SENSOR

TNDC Series

The multi point duct average network temperature sensor incorporates numerous precision sensors at equal distances encapsulated in a 7.94 mm (0.3125”) OD, soft copper probe that is available in various lengths. All probes provide excellent heat transfer, fast response and resist moisture penetration. The transmitter provides a BACnet® or Modbus signal for network connection. A compact ABS enclosure with a hinged and gasketed cover is provided for ease of installation.

PRODUCT HIGHLIGHTS

* Precision Thermistor sending element
* High accuracy transmitter
* Compact ABS enclosure

ENGINEERING SPEC’S

* Shall be IP65 (NEMA 4X) with a UL94-V0 rated enclosure
* External mounting tabs must be slotted & tapered away from enclosure to ease field installation
* Enclosure shall be complete with neoprene gasket for duct to enclosure seal
* Probe – Enclosure connection shall be fully potted to eliminate probe condensation and guarantee IP65 (NEMA4X rating)
* Enclosure shall be complete with threaded (1/2 NPT and/or M16) conduit connection
* Cover must be hinged and securely attached in the open position
* Probe must be 7.94mm (0.315”) O.D soft pliable copper tubing with FT-6 plenum rated 22 AWG cable
* Sensing range must be -40 to 50°C (-40 to 122°F)
* Cover must contain security screw as extra protection from opening
* Product shall be CE approved

SPECIFICATIONS

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| DESCRIPTION | ENGINEERING SPEC |
| POWER SUPPLY | BACnet®: 24 Vac/dc ±10% (non-isolated half-wave rectified)  Modbus: 24 Vac/dc ±20% (non-isolated half-wave rectified) |
| CONSUMPTION | BACnet®: 25 mA max @ 24 Vdc  Modbus: 10 mA max @ 24 Vdc |
| PROTECTION CIRCUITRY | Reverse voltage protected, transient protected |
| OPERATING ENVIRONMENT | -40 to 50°C (-40 to 122°F), 5 to 95 %RH non-condensing |
| TEMPERATURE SENSOR | 20 KΩ NTC thermistor |
| SENSOR ACCURACY | ±0.2°C (±0.36°F) @ 0 to 70°C (32 to 158°F) |
| PROBE SENSING RANGE | -40 to 60°C (-40 to 140°F) |
| RESOLUTION | 0.1°C/°F |
| PROBE MATERIAL | Soft copper |
| PROBE DIAMETER | 7.94mm (0.3125”) |
| BACnet® INTERFACE | MS/TP, 2-wire RS-485 |
| MODBUS INTERFACE | MS/TP (RTU), 2-wire RS-485 |
| BAUD RATE | 9600, 19200, 38400, 57600, 76800 or 115200 (auto-detect) |
| ADDRESS RANGE | BACnet®: 0 to 127 (switch selectable)  Modbus: 1 to 255 (switch selectable) |
| SERIAL CONFIGURATION | 8N1 |
| MODBUS ERROR CHECKING | CRC-16 reverse (A001) |
| WIRING CONNECTION | Screw terminal block (14 to 22 AWG) |
| ENCLOSURE | ABS, UL94-V0, IP65  E style includes thread adapter (1/2” NPT to M16) and cable gland fitting |
| DIMENSIONS | 82.5mm W x 76.2mm H x 52.0mm D (3.25” x 3.0” x 2.05”) |
| PROBE LENGTHS | 1800mm, 3600mm, 6100mm, 7300mm (6’, 12’, 20’, 24’) |
| COUNTRY OF ORIGIN | Canada |





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