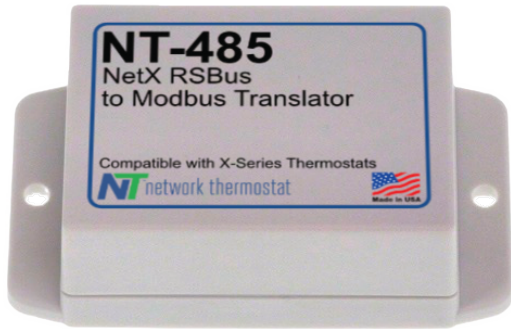# NT-485

- Modbus Translator
- Resides on NetX RSBus
- Compatible with X-Series Thermostats Only
- Simple 3-Wire Daisy Chain Connection

GENERAL DESCRIPTION:

The power and flexibility of the NetX Advanced Remote Sensor bus is the best in the industry.

The Network Thermostat NT-485 is a simple to install Modbus translator for connecting X-series thermostats to any Modbus system, regardless of the manufacturer. The translator connects via the 3-wire NetX RSBus remote sensor network and works with X-series thermostats.

The NT-485 address is configurable from the front panel of the thermostat.

The unit can act as a bridge between the X-series thermostats and any system using Modbus, including VAV/VVT controllers, BAS systems, and Industrial Automation systems.

STANDARD FEATURES:

Basic Modbus Information	Read	Write
THERMOSTAT CURRENT STATUS Indoor Temp, Indoor Hum, Mode, Fan, Current H/C Operation, Stages Active	●	
THERMOSTAT CONTROL System Mode (H/C), Fan Mode, Active Cool/Heat Setpoints; Operation in Both 'Schedules Active' and 'Manual Mode' Configurations	●	●
REMOTE SENSORS Indoor Temp, Indoor Hum, Aux1-7 Temp; Outdoor Temp, Outdoor Hum, Water Leak	●	
TEMPERATURE SCALES & MISCELLANEOUS Fahrenheit, Celsius, Hardware Rev, Software Rev, Model	●	

Rated Voltage: 20V to 30VAC, 24VAC nominal

Terminations: RS1 - Data, RS+V – Power, RS2 – Return
A - Modbus(+), B - Modbus)(-)

Dimensions: 3.6"H x 2.0"W x 1.2"D (90.4mm x 51mm x 30mm)

Approved Cable Types

NT-485 to X-Series Thermostat:
CAT5 or CAT5e unshielded, or 1-Pair Twisted Shielded Cable with Drain and nominal capacitance of 12pF/ft or less. Use riser or plenum jacket as required by local code.

Maximum 300ft Total Sensor Cable Length per Thermostat

NT-485 to Modbus Server Recommended:
CAT5 or CAT5e unshielded, or 1-Pair Twisted Shielded Cable with Drain and nominal capacitance of 12pF/ft or less. Use riser or plenum jacket as required by local code.

WIRING DIAGRAMS:

To Thermostat
RS2 RS+V RS1

NT-URS
Set as OUTDOOR Sensor

NT-485 Wiring, including NT-485 Wiring Instructions

- Only 1 Sensor for each type per thermostat except for INDOOR Sensor
- All non indoor sensors and 1st **INDOOR** sensor wired to RS1-to-RS1, RS2-to-RS2 and RS+V-to-RS+V
- Additional **INDOOR** temperature sensors must be wired AVG-to-RS1, RS2-to-RS2 and RS+V-to-RS+V
- Sensors can be placed in any order in the daisy-chain, except for multiple INDOOR sensors
- NT-485 can be placed anywhere within the vertical chain to the left, but not in the Indoor Sensor chain.

Secondary Internal Temperature Sensors

NT-URS
Set as INDOOR Sensor

NT-URS
Set as HUMIDITY Only

	OTHER SENSORS	INDOOR NT-URS #1	INDOOR NT-URS #2	INDOOR NT-URS #3	INDOOR NT-URS #4	INDOOR NT-URS #5
RS+V	RS+V	RS+V	RS+V	RS+V	RS+V	RS+V
RS2	RS2	RS2	RS2	RS2	RS2	RS2
RS1	RS1	RS1	RS1	RS1	RS1	RS1
AVG	AVG	AVG	AVG	AVG	AVG	AVG

NT-485
NetX RSBus to Modbus Translator
Compatible with X-Series Thermostats

NT-485

X-SERIES THERMOSTAT	NT-URS SENSORS	MODBUS NT-485	MODBUS SERVER
RS+V	RS+V	RS+V	
RS2	RS2	RS2	
RS1	RS1	RS1	
		A	A
		B	B

NT-DRS or NT-URS
Set as AUX1-7

NT-URS
Set as WATER LEAK
with NT-WL-H Probe

NT network thermostat