CE

REMOTE MONITORING SPECIALISTS

INSTALLATION GUIDE

Teleterm microLAN Controller
Model C2233A

The Teleterm microLAN controller controls up to 80 digital temperature and humidity sensors on a 1-wire microLAN network. MicroLAN allows sensors to be connected in a daisy chain fashion. The laser-trimmed digital microLAN sensors ensure high noise immunity and high reading accuracy.

Up to 32 microLAN controllers can be connected to the Modbus network making it easy to monitor many of these sensors on one Modbus network.

DC power to the microLAN controller is required which also powers the sensors on the LAN.

The controller is configured using Omniset software.

Each sensor must be no more than 5m from its junction. The type of sensor will depend on the monitored temperature or humidity range, Correct sensor can be identified using the selection table.

There are restrictions to the number of sensors on the microLAN network and length of the microLAN network. Refer to table for these restrictions.

The microLAN controller is equipped with two groups of 4 microLAN ports allowing sensors to be grouped together and allows failures to be limited to one group only.

Each sensor comes with its own unique ID to identify it on the microLAN. The ID number identifies the type and manufacturer and cannot be changed.

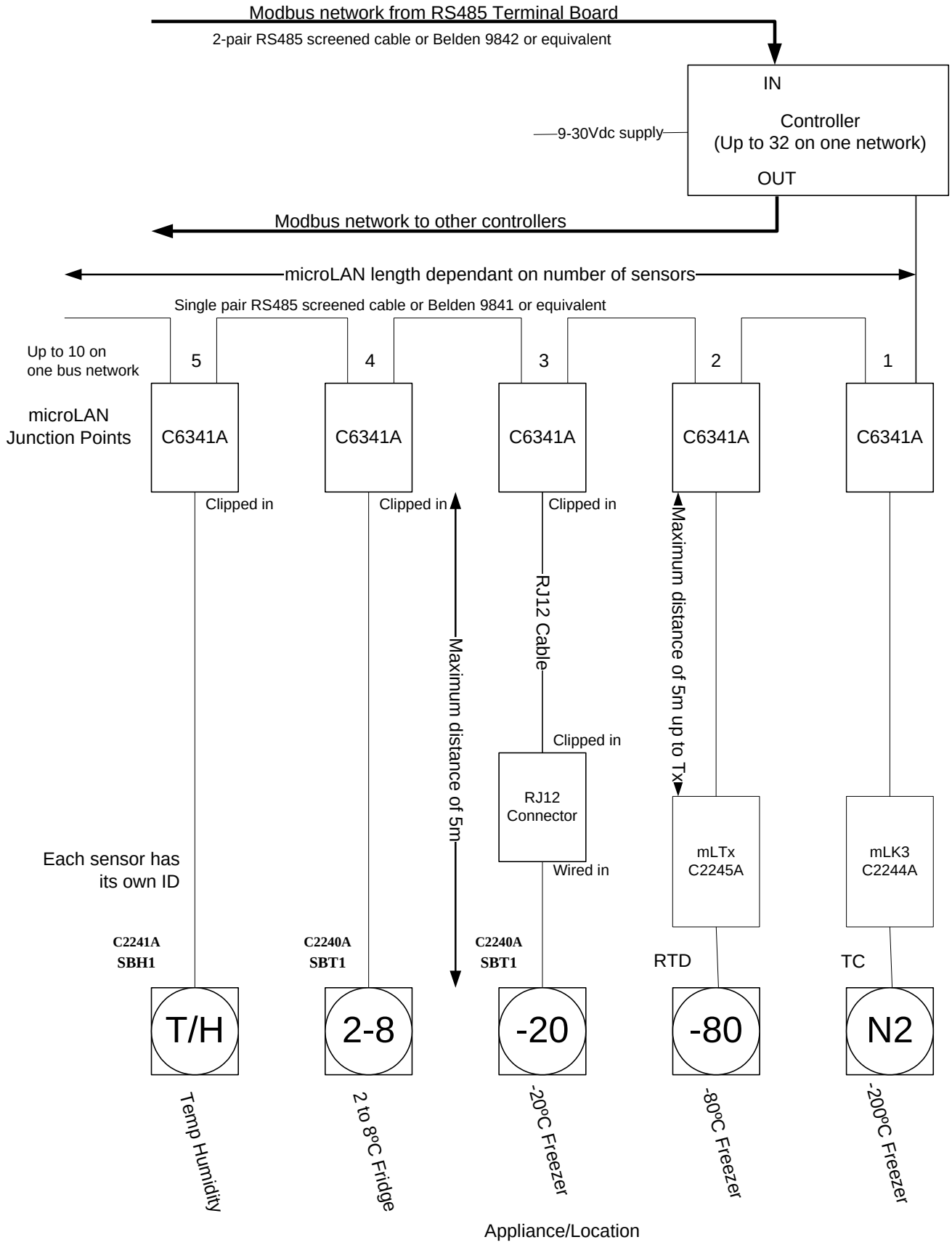
Application Examples

- Remote Temperature monitoring
- Suitable for monitoring temperature-controlled environments
- Cold storage monitoring
- For freezers down to -200°C
- Suitable for monitoring temperature-controlled environments
- Humidity monitoring

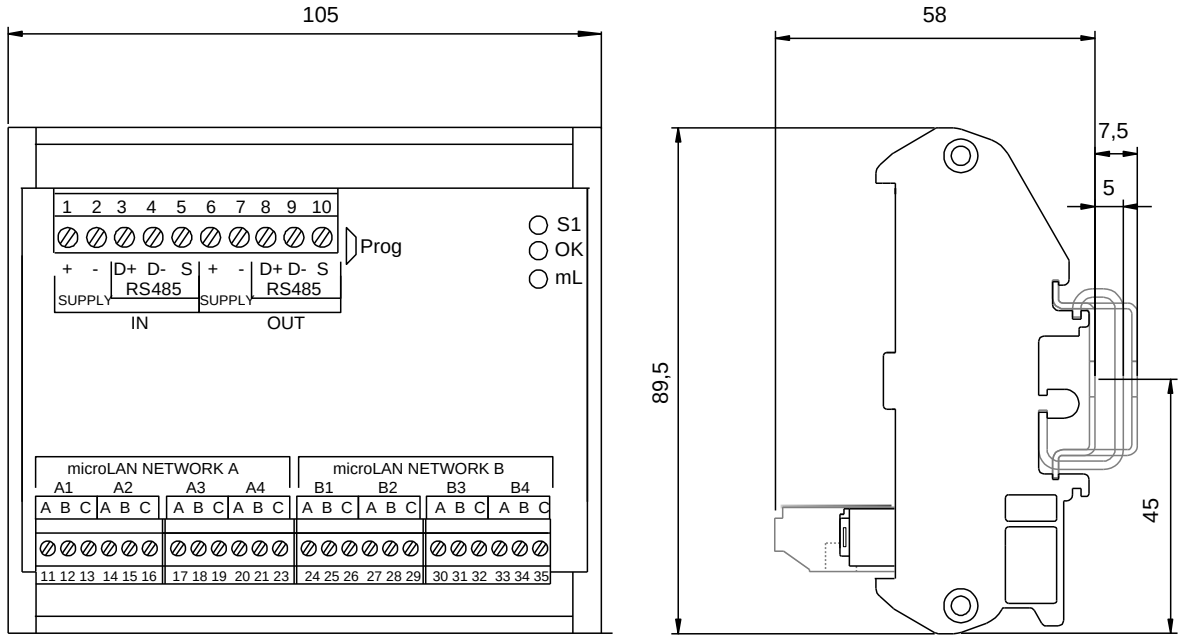
Features

- Accurate digital sensors
- Up to 10 sensors on one input
- Easy installation
- Easy-to configure using Omniset
- 1-wire bus for simple wiring
- 8 microLAN ports on one controller
- RS485 Modbus port
- DIN Rail Mounting

Typical Network Layout



Mechanical Dimensions (showing connections)



Sensor Selection Table

Application	C2240A mLT1	C2241A mLH1	C2244A mLK3 (T/C)	C2245A mLTX (RTD)
Room temp/humidity	1)	✓	3)	2)
Fridges >0°C (32°F)	✓	2)	3)	1)
Freezers -50°C (-58°F) to 0°C (32°F) to	✓	2)	3)	1)
Freezers-200°C (-328°F) to -50°C (-58°F)	2)	2)	3)	✓

Note:

1) Can be used but not first choice
2) Not recommended
3) Less accurate but faster response

Sensor vs Distance Limitations

Number of Sensor	Distance
8-10	5m or less
6-8	10m
5	15m
4	20m
1-3	25m

C6341A (Junction Point) Connections

C6341A	Colour (C6341A)	Description	microLAN
1	White	No connection	No connection
2	Black	No connection	No connection
3	Red	DATA	B
4	Green	Ground (Screen)	A
5	Yellow	+3.3V (supplied by mLC8)	C
6	Blue	No connection 1)	No connection

Note:

1) Can be used to power legacy sensors connected to mLC8 if separate power is provided using this terminal and terminal 4 but a four-wire system would be required in this instance.

Electrical Installation

1. Connect network Controller mLC8 (or HAx on legacy systems; see Note 1 above) to host using network specified for the controller (RS485).
2. After installing sensors in their required position, plug device cable into C6341A junction boxes on the network.
3. Ensure network controllers are installed. Baud rate is selectable up to 56k (9600Bd is typical).
4. Devices using programming port should be set up using Omniset software and the correct device template.
5. If using custom made device cables, use the shortest practical length. Using cable length more than required reduces network performance unnecessarily.
6. If alternative network wiring is used for whatever reason, wire gauge must comply with specifications.

Specifications

Power Supply

Supply Voltage	9 – 30Vdc

Indicators

S1 LED	Red in Tx mode Yellow in Rx mode
OK LED	ON=System OK Flashing= Internal Error| Off=NOT OK
mL LED	Off=No sensors programmed Flashing=Scanning for sensors/sensor error ON= All sensors found and no errors

Cable Specifications

microLAN	Single pair RS485 Overall screened (Belden 9841)

Sensor Accuracy

Description	Accuracy
SBT1 over -10°C	±0.5°C
SBT1 -50°C to -10°C	±2.0°C
SBH1 (temperature)	±0.5°C to -10°C, ±2.0°C -25°C
SBH1 (humidity)	+/- 3% RH
Pt100 RTD -25°C to +28°C	±0.35°C Class A, ±0.5°C Class B
RTD -28°C to +28°C (with mLTX)	±1.15°C Class A, ±1.3°C Class B
Pt100 RTD -220°C to -25°C	±0.55°C Class A, ±1.3°C Class B
RTD -220°C to -25°C (with mLTX)	±1.55°C Class A, ±2.3°C Class B
TC Type T -220°C to + 60°C (with mLTX)	±4.5°C Class 3 (only Class 3 below -40°C)

Sensor Resolution

Description	Resolution
mLT1	0.0625°C
mLH1 (temperature)	0.0625°C
mLH1 (humidity)	0.1%
RTD -28°C to +28°C (with mLTX)	0.06°C
RTD -220°C to -28°C (with mLTX)	0.25°C
TC Type T -220°C to + 60°C (with mLTX)	0.3°C

Mechanical

Weight (Unpacked)	132g
Dimensions	90mm (H including terminals) x 105mm (W)x 120mm ((L)

Environmental

Operating temperature SBT1/SBH1	-25°C – 60 °C (-13°F – 140°F)
Operating temperature MLTx	0°C – 60 °C (+32°F – 140°F)
Storage Temperature	-10°C – 70 °C (+14°F – 158°F)

Compliance to Standards

Safety	EN 60950
Emissions	EN 55011 :2008 Group I, Class A
Immunity – ESD	IEC 61326-1: 2005

Ordering Information

ORDER CODE	DESCRIPTION
C2233A	mLC8 microLAN controller (2 groups of 4 inputs)
C2240A	mLT1 Temperature Sensor
C2241A	mLH1 Temperature and Humidity Sensor
C2243A	mLT2 Flexible Temperature Sensor

C2244A	mLK3 3-way Thermocouple input Type K transmitter
C2245A	mLTX Universal transmitter with RTD and Thermocouple inputs
C6341A	Junction Point Connector