

QUADLOGIC QCom NOTES AND SPECIFICATIONS:

1. THE QCom HAS THREE HALF DUPLEX (2 WIRE) RS-485 MODBUS PORTS.
2. QCom MAY HAVE A MAXIMUM 480 METERING POINTS SHARED ACROSS THE THREE RS-485 PORTS TOTALING APPROXIMATELY (80 QBrick, 80 QLIC, 20 miniQloset24, OR 30 miniQloset16 METERS).
3. FOR HARDWIRED SYSTEMS, A RS-485 REPEATER MUST BE INSTALLED AFTER EVERY 16TH DEVICE TO BOOST THE COMMUNICATION SIGNAL ACROSS THE BUS.
4. ALL METERS AND REPEATERS MUST BE DAISY CHAINED TOGETHER ON THEIR RESPECTIVE RS-485 BUS.

PREFERRED INSTALLATION GUIDELINES FOR 2W RS-485 BUS :

- USE #22 AWG SHIELDED TWISTED PAIR WIRE OR LARGER WITH A RUN NO LONGER THAN 3000 FEET.
- WIRE OPTIONS INCLUDE:
 - 2-WIRE, NO SIGNAL GROUND: BELDEN 3105A OR EQUIVALENT.
 - 2-WIRE, WITH SIGNAL GROUND: BELDEN 3106A OR EQUIVALENT.
- #24 AWG CAN BE USED BUT SHOULD ONLY BE LIMITED TO A MAX RUN OF 2000 FEET.
- CAT-5 CABLE CAN ONLY BE USED FOR RUNS UNDER 500 FEET IN A LOW ELECTRICAL NOISE ENVIRONMENT.
- CONNECT ALL SHIELDS TOGETHER THROUGHOUT THE RUN. CONNECT THE SHIELD TO THE SYSTEM GROUND AT ONLY A SINGLE POINT ON A SINGLE RS485 NETWORK.

PERFORMANCE RECOMMENDATIONS FOR CABLES RUN OVER 3000 FEET OR LONGER:

- FOR BUS LENGTHS OVER 3000 FEET, THE CABLE MUST HAVE A CHARACTERISTIC IMPEDANCE OF 120Ω OR TERMINATED WITH A 120Ω RESISTOR AND BIAS INSTALLED. NOTE THAT THIS STEP CAN BE DONE LAST, AND ONLY IF TESTING INDICATES THAT IT IS NECESSARY.
- THE RS485 BUS MUST HAVE A DIFFERENTIAL VOLTAGE OF AT LEAST 200mV WHEN NO UNITS ARE TRANSMITTING.
- IF AN EXTERNAL BIAS SUPPLY IS REQUIRED, ADD A 5VDC POWER SUPPLY CONNECTED TO THE DATA LINES. EACH LEAD FROM THE POWER SUPPLY (POSITIVE AND NEGATIVE) SHOULD HAVE A 470Ω RESISTOR IN SERIES CONNECTED TO IT.
- IF THE GROUND IS CONNECTED TO PREVENT NOISE, THE CABLE USED MUST HAVE AN ADDITIONAL CONDUCTOR. IT IS NOT CORRECT TO USE THE SHIELD IN ORDER TO INTERCONNECT THE SIGNAL GROUNDS OF THE DEVICES. INSTEAD, THE CABLE USED MUST PROVIDE AN ADDITIONAL SEPARATE CONDUCTOR WHICH IS CONNECTED TO SIGNAL GROUND AT EACH DEVICE. NOTE THAT THE SHIELD SHOULD BE CONNECTED TO THE GROUND AT ONLY ONE POINT, SO THE SHIELD IS NOT APPROPRIATE AS THE SIGNAL GROUND CONNECTION.

The image displays three orthographic views of a mechanical part, labeled BACK VIEW, SIDE VIEW, and TOP VIEW.

BACK VIEW: Shows a rectangular part with a width of 8" and a height of 10". There are two circular features on the left side, each with a diameter of 1". The distance between the centers of these two circles is 7.0". There is a small circular feature on the right side, centered vertically, with a diameter of 1". The distance from the right edge to the center of this feature is 1/2".

SIDE VIEW: Shows the side profile of the part, which is 4" wide and 10" high. There are four circular features arranged vertically. The top two are larger, with a diameter of 1 3/8". The bottom two are smaller, with a diameter of 1 1/8". The distance between the centers of the top two circles is 2 1/2". The distance between the centers of the bottom two circles is 1 3/8". The distance between the center of the top two circles and the center of the bottom two circles is 1 5/8".

TOP VIEW: Shows the top surface of the part, which is 8 1/2" wide and 4" high. There are four circular features arranged in a row. The first two are larger, with a diameter of 1 3/8". The last two are smaller, with a diameter of 1 1/8". The distance between the centers of the first two circles is 1 1/8". The distance between the centers of the last two circles is 1 1/8". The distance between the center of the first two circles and the center of the last two circles is 7/8".

Front View

The front view diagram shows the internal components of the meter enclosure. The enclosure is 10 1/4" high and 8 3/8" wide. The internal components include a QCOM module, a 4A fuse, a 120VAC to 24VDC converter, and a 120VAC 10A Fused Disconnect. The wiring is as follows:

- Power Input:** A 120VAC 10A Fused Disconnect is connected to the enclosure. The wires are labeled A (black), B (red), C (blue), and N (white). The black wire (A) goes to the 4A fuse, and the red wire (B) goes to the 120VAC to 24VDC converter.
- Internal Connections:** The 4A fuse is connected to the 120VAC to 24VDC converter. The converter's output (24VDC) is connected to the QCOM module's power input.
- QCOM Module:** The QCOM module is connected to the power input and has three modules (Module 1, Module 2, and Module 3) connected to it. Module 1 is connected to the power input, and Modules 2 and 3 are connected to the QCOM module's output.
- Outputs:** The QCOM module's output is connected to the RS-485 to Meter(s) or QRadio and the CAT5E For Internet.

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