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Address blocks before connections

BFM136 and BFM-II | Practical checks for RS-485 and native Ethernet

On RS-485, allocate non-overlapping blocks of logical submeter addresses. On native Ethernet, assign a suitable unique IP address to each meter and confirm the client's submeter selection.

Identify the installed system

Record model, serial number, firmware, fitted port and controller or gateway. Save the existing settings before planning changes.

Record the complete submeter span

Include metering and totalisation submeters. The span ends at base address + highest configured submeter index - 1. Gaps still consume space in this conservative plan.

Match the serial format

Confirm protocol, baud, data bits and parity at both ends. The documented default is Modbus RTU, 19200 baud, 8 data bits and no parity. Confirm actual supported stop-bit requirements; these manuals do not specify a stop-bit setting.

Check the wiring, then prove the reads

Use the applicable drawing on the following pages. Arrange wiring work under the site isolation procedure. Read each intended submeter separately, then repeat the same reads with the complete network connected.

ILLUSTRATIVE ONLY: with exactly SM1-SM12 on each device and no higher submeter, bases 1, 13 and 25 reserve spans 1-12, 13-24 and 25-36. Totalisers or a higher configured submeter change the allocation.

VERIFIED: S1 pp20-21, 34, 38-39; S2 pp6-7; S3 pp38, 41, 56, 65-66; S4 pp5-6. Source register on page 5. No factory submeter count is prescribed here.

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BFM136: verify the actual wiring

Source extract - Installation and Operation Manual, BG0394 Rev. A11, printed/PDF page 16

Use the terminal labels +, minus and SHLD. Preserve the shield and earth connections shown in the source. A/B labels on another device do not establish a universal polarity mapping.

RS-485 Connection

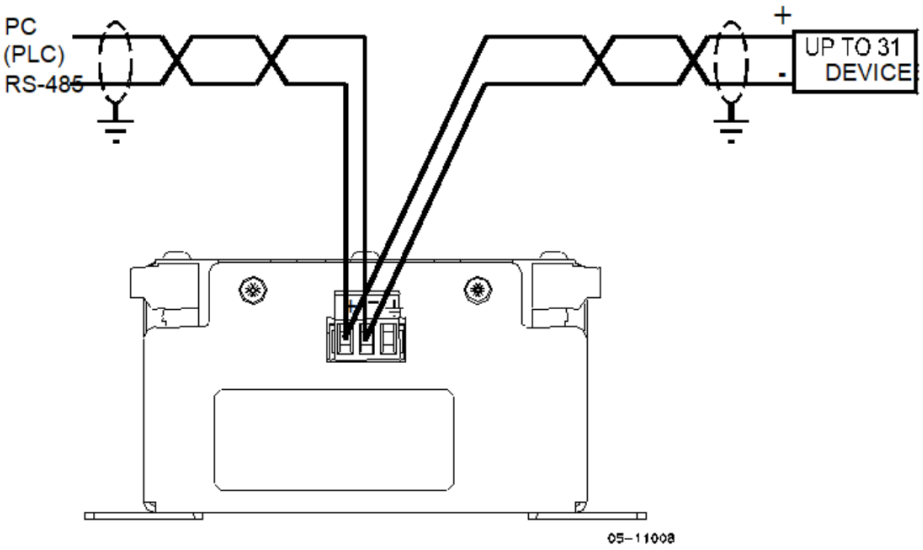


Figure 2-9 RS-485 2-wire connection

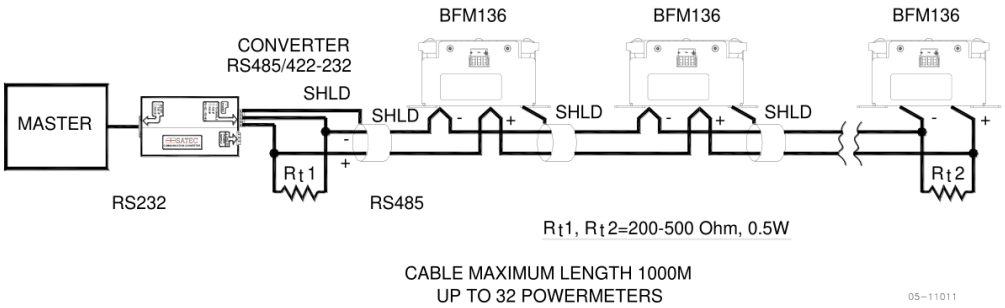


Figure 2-10 RS-485 multidrop connection

VERIFIED: Figures 2-9 and 2-10, S1 p16. The multidrop figure states Rt1/Rt2: 200-500 ohm, 0.5 W under the illustrated conditions. Check the converter and topology; do not transfer this value to BFM-II.

The HTML package includes the full original page and the complete manual. A flashing activity LED does not establish a correct addressed response.

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BFM-II: standard COM1

Source extract - Operation and Installation Manual, BG0588 Rev. A12, printed/PDF page 30

The illustrated COM1 terminal order is Sh., minus, plus. Keep the Sh. identification when checking the connection. Do not rename it as signal-common GND.

RS-485 Connection - COM1 (standard)

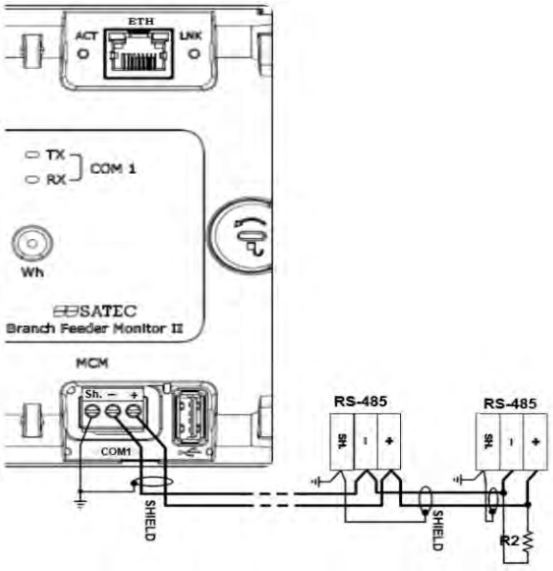


Figure 2-7a RS-485 3-wire connection – COM1

VERIFIED: Figure 2-7a, S3 p30. Shield and earth symbols are retained. R2 is labelled in the figure without a resistance value. Optional COM2 uses a separate drawing on the full page.

Apply the serial block rule

Record the highest configured submeter, including totalisers. Reserve through base + highest index - 1. Ensure every allocated address stays in 1-247 and no span overlaps another device on the same serial network.

Keep setup changes controlled

Communications setup changes use the base address and can affect the whole device. Begin with recorded settings and read tests. The manuals contain conflicting factory allocations, so confirm the installed configuration.

VERIFIED: S3 p41; S4 pp5-6. Broadcast address 0 is unsupported. Do not interpret this diagram as a terminal drawing for another BFM model or optional module.

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Ethernet and the field worksheet

Use the assigned network settings. A subnet mask or gateway may be shared.

Native Ethernet meters

Assign a suitable unique IP address to each meter on the common LAN. Record the intended Modbus TCP endpoint; the manuals list service port 502. Confirm the installed firmware and client's submeter selection. Do not assume a universal Unit-ID mapping.

Ethernet-to-serial gateway

Record the gateway model, IP and routing rules from its own manual. Check downstream serial addressing and format separately. Reaching the gateway does not prove that the intended submeter replied.

Conditional Ethernet advisory: when the eXpertPower client is used, address 99 is reserved on the Ethernet port and must not fall inside that port's submeter range. This is not a general prohibition of serial address 99. VERIFIED: S1 p21; S3 pp41, 57.

Address worksheet

Device / model	Base	Highest SM	Span end	IP / port

Span end = base + highest configured submeter index - 1. Highest index is not simply the count of active submeters. Download inventory.csv from the HTML package for the complete worksheet.

Record test evidence

Known read / target submeter: _____
Individual result: _____
Combined-network result: _____
Technician / date: _____

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Close the check with evidence

No response is an observation, not a diagnosis.

Before requesting further support, collect:

[ ] Model, serial number, firmware and clear nameplate photographs.

[ ] Terminal photographs showing labels, shield and earth connections.

[ ] Topology sketch, controller/gateway model and configuration export.

[ ] Base address, full submeter allocation and network settings.

[ ] Exact request or error, and isolated versus combined-network results.

Technical release owner: Dean. The next review uses the recorded configuration and actual read results.

Source register

S1 BFM136 Installation and Operation Manual
BG0394 Rev. A11; printed/PDF pages 16; 20-21; 34; 38-39; 41.

S2 BFM136/036 Modbus Communications Protocol Reference Guide
BG0395 Rev. A8; printed/PDF pages 6-7; 52-53.

S3 BFM II EM and DFR Operation and Installation Manual
BG0588 Rev. A12; printed/PDF pages 30-31; 38; 41; 56-57; 65-67.

S4 BFM-II Modbus Communications Protocol Reference Guide
BG0589 Rev. A12; printed/PDF pages 5-6; 73-74.

VERIFIED against the listed manufacturer copies on 6 November 2026. Printed and PDF page numbers match. Source PDFs and full-page wiring images are included in the HTML package.

Release check: BFM-II sources disagree on factory allocation, maximum occupancy and native Ethernet address handling. Those disputed defaults and Unit-ID rules are not prescribed here. Confirm the actual model, firmware, configured submeters and client behaviour for the site.