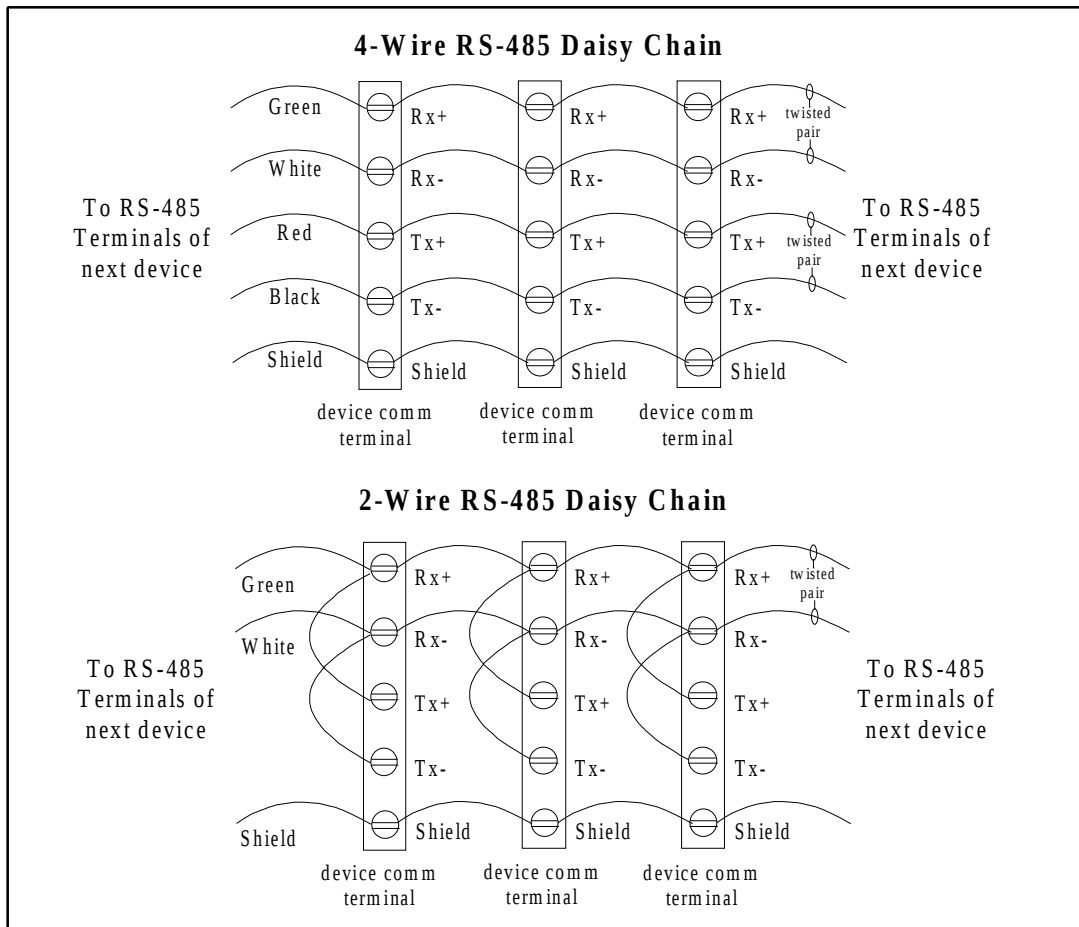


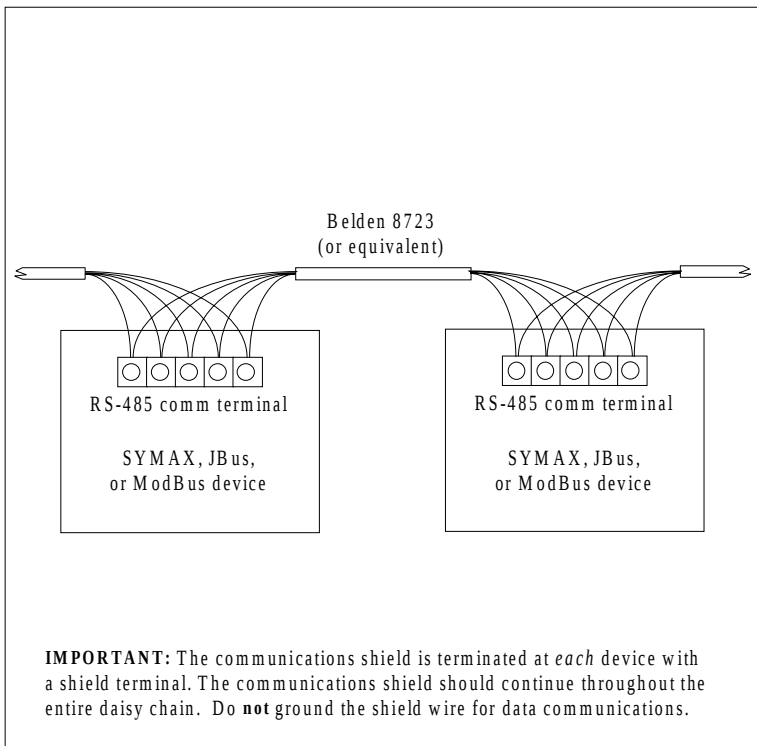
General Communications Notes

1. Subnet-Initiated ModBus/JBus comms is not supported through the PowerLogic Ethernet Gateway RS-485 ports.
2. CM2000 firmware version 17.008 or later is required for Circuit Monitors connected to "mixed mode" daisy chains. "Mixed mode" daisy chains consist of devices speaking different protocols (i.e. Symax, JBus or ModBus.)
3. On "mixed mode" daisy chains: Symax devices cannot use address 1, JBus or Modbus devices cannot use address 16. Use of these addresses can result in comms losses.
4. PowerLogic Ethernet Gateway firmware version 2.0 or later is required for JBus or ModBus 2-wire or 4-wire communications.
5. The RS-232 to RS-422/485 converter shown on the communications drawings is a Black Box RS-232 to RS-485/422 Converter Plus model IC108A.
6. The modem shown on the communications drawings is a Multitech ModemII model MT2834BA.
7. The MCT485 terminator shown on the communications drawings is designed to be connected to the comms terminal on a PowerLogic Circuit Monitor or a PMO Product Interface via a 5 connection terminal block equivalent (in dimensions) to the one used on the Circuit Monitor. The MCTAS485 is the terminator used for connecting to a PowerLogic PowerMeter or PowerLink panel. The two are electrically equivalent, but have different mechanical connections. If the last device on a daisy chain is something other than a PMO product, use the MCT485 with a 5 connection terminal block equivalent (in dimensions) to the terminal block used on a PowerLogic Circuit Monitor.
8. For wiring distance, number of connected devices, and baud rate refer to the Communications Wiring Specifications sheet.
9. For RS-232 to RS-485/422 converter setup refer to the Black Box IC108A Converter Settings sheet.

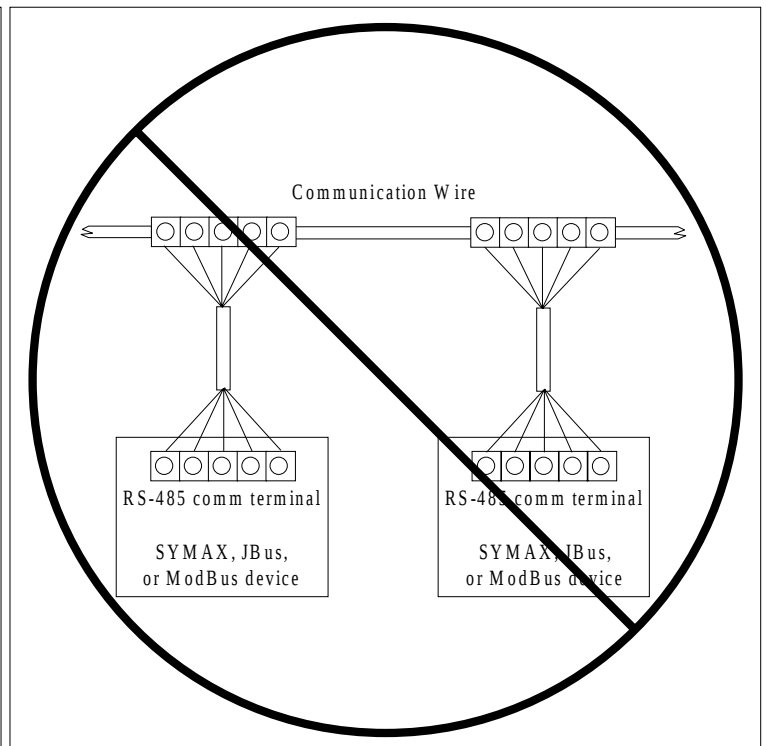
General Communications Notes



Daisychaining the RS-485 communications terminals



CORRECT RS-485 communications wiring



INCORRECT RS-485 communications wiring

Black Box IC108A Converter Settings

BLACKBOX RS-232 to RS-485/422 Converter Plus (Model #IC108A)

Settings for “PowerLogic/ModBus/JBus (4-wire)” daisy-chain or “Sy/Max to NIM/PNIM” are:

S2= On
S3= On
W5= A-B (RTS/CTS)
W8= A-B (4 wire full duplex)*
W9= C (0 msec)
W15= A-B (RTS/CD Enabled)
W16= B (0.1ms)
W17= B (7ms)

Settings for “Modbus/JBus (2-wire with no echo)” daisy-chain are:

S2= On
S3= On
W5= A-B (RTS/CTS)
W8= B-C (2 wire half duplex)*
W9= C (0 msec)
W15= B-C (Data Enabled)
W16= B (0.1ms)
W17= C (2ms)

Settings for “Modbus/JBus (2-wire with echo)” daisy-chain are:

S2= On
S3= On
W5= A-B (RTS/CTS)
W8= A-B (4 wire full duplex)*
W9= C (0 msec)
W15= B-C (Data Enabled)
W16= B (0.1ms)
W17= B (7ms)

Settings (common to all the above) for PC Direct or Modem connection are:

XW1A (DCE) when connected direct to RS232 port on PC (local site)

XW1B (DTE) when connected to modem (remote site)

Care should be taken when moving the 16 pin DIP jumper between XW1A & XW1B to insure that the pins don't get bent. Use of an IC extraction tool is highly recommended.

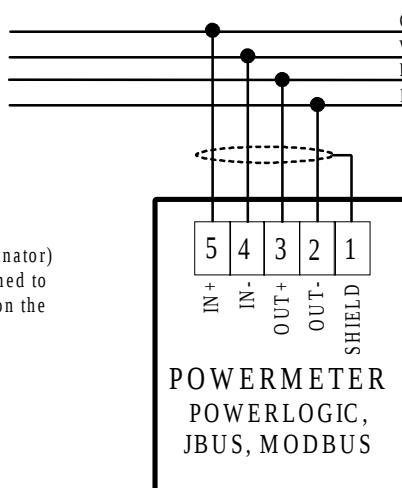
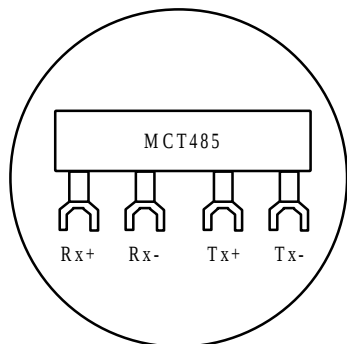
*=W8 is the setting that alters 2 wire (half duplex) and 4 wire (full duplex) connections for the POWERLOGIC/Modbus/Jbus setting

Notes:

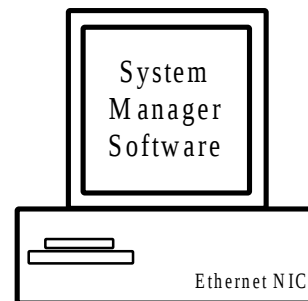
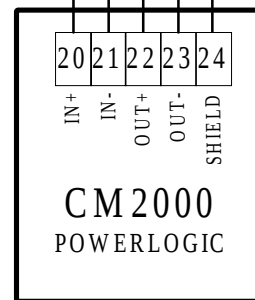
1. 2-wire with echo is faster than 2-wire with no echo. Typically 2-wire with no echo would only be used when using a converter (other than an IC108A) which can't handle echo.
2. The only Square D PMO device that can be connected 2-wire is the Power Meter. Connect a jumper from OUT+ (Tx+) to IN+ (Rx+), and a jumper from OUT- (Tx-) to IN- (Rx-), and set the protocol at the meter front panel to ModBus or JBus.

To other
PowerLogic,
Jbus, or
Modbus
devices.

Note:
MCT485 (terminator)
should be attached to
the last device on the
daisy chain.



Belden 8723

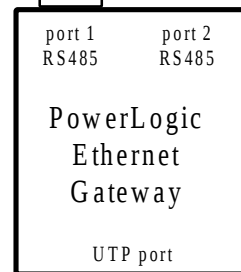


Important!
Before Wiring see General
Communications Notes

PINOUT	
For cable >10-ft.	
PowerLogic Device	Male DB9 Connector
IN+ (Rx+) Green	1
IN- (Rx-) White	2
OUT+ (Tx+) Red	3
OUT- (Tx-) Black	4
	5
	6
	7
	8
SHIELD	9

CAB107

MCA485

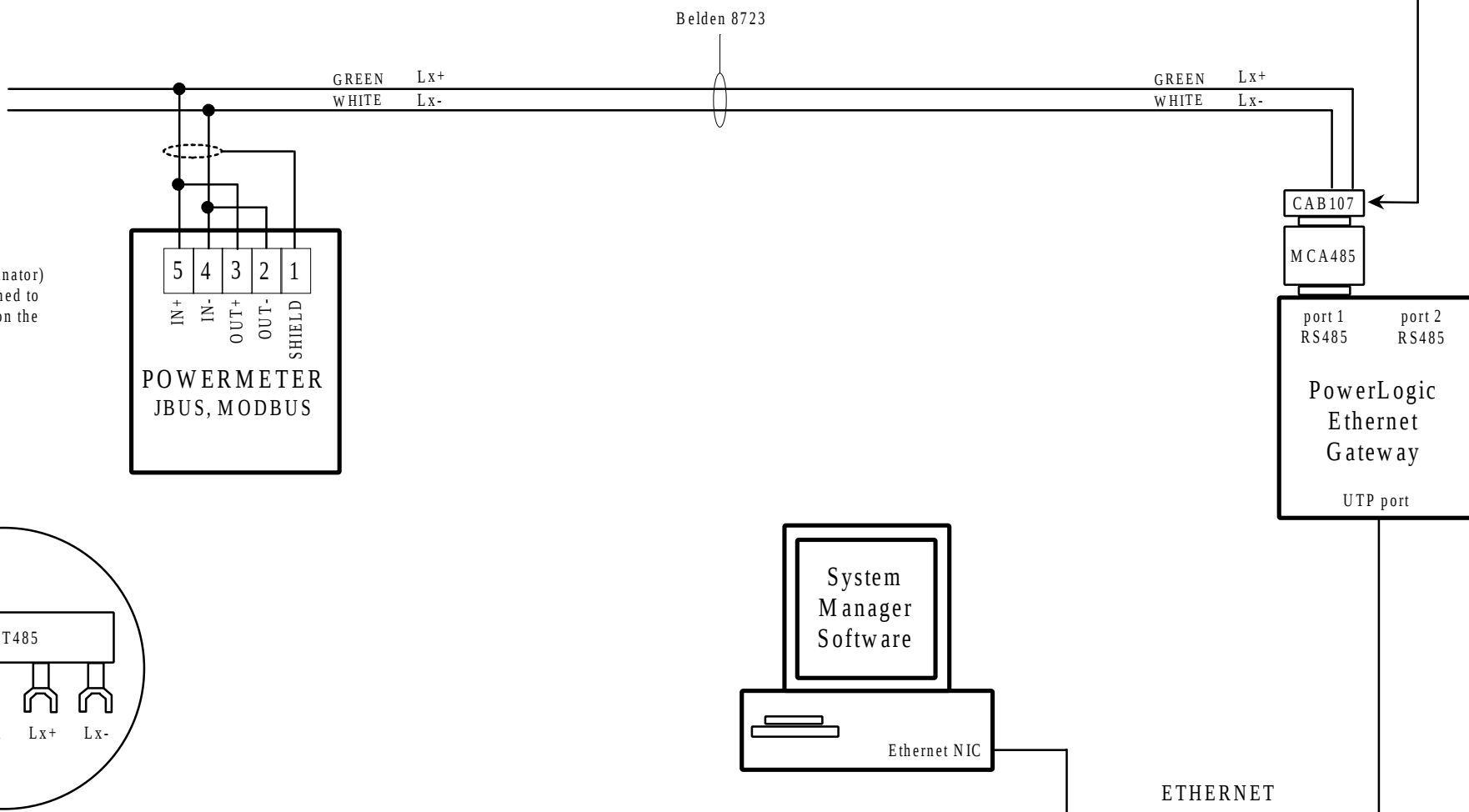
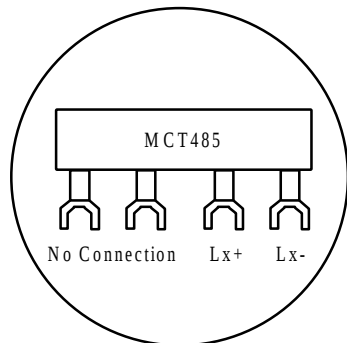


ETHERNET

RS485 Mixed Mode Network using Ethernet Gateway 4-wire topology

To other
Jbus, or
Modbus
devices.

Note:
MCT485 (terminator)
should be attached to
the last device on the
daisy chain.



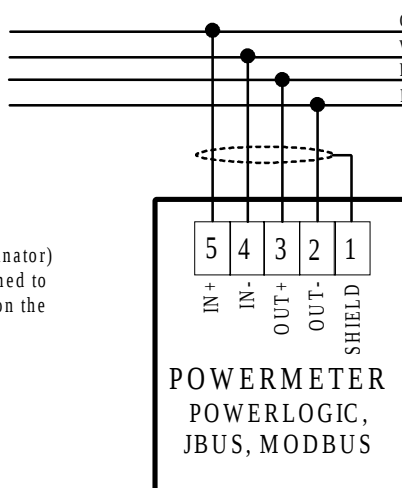
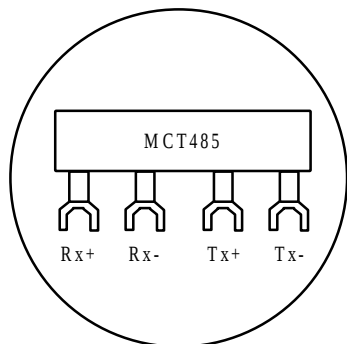
Important!
Before Wiring see General
Communications Notes

PINOUT	
For cable >10-ft.	
PowerLogic Device	Male DB9 Connector
IN+ (Rx+) Green	1
IN- (Rx-) White	2
OUT+ (Tx+) Red	3
OUT- (Tx-) Black	4
	5
	6
	7
	8
SHIELD	9

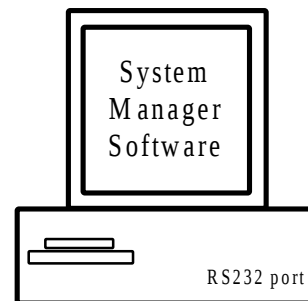
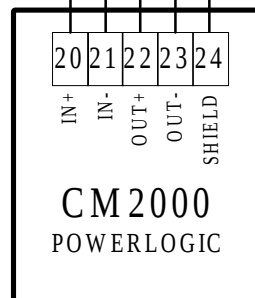
RS485 Mixed Mode Network using Ethernet Gateway 2-wire topology

To other
PowerLogic,
Jbus, or
Modbus
devices.

Note:
MCT485 (terminator)
should be attached to
the last device on the
daisy chain.

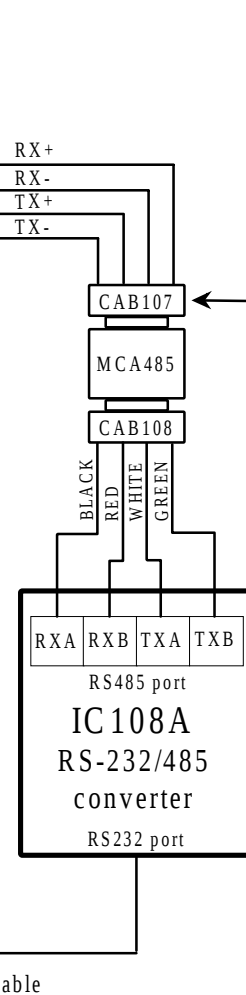


Belden 8723



PINOUT	
For cable >10-ft.	
PowerLogic Device	Male DB9 Connector
IN+ (Rx+) Green	1
IN- (Rx-) White	2
OUT+ (Tx+) Red	3
OUT- (Tx-) Black	4
	5
	6
	7
	8
SHIELD	9

Important!
Before Wiring see General
Communications Notes



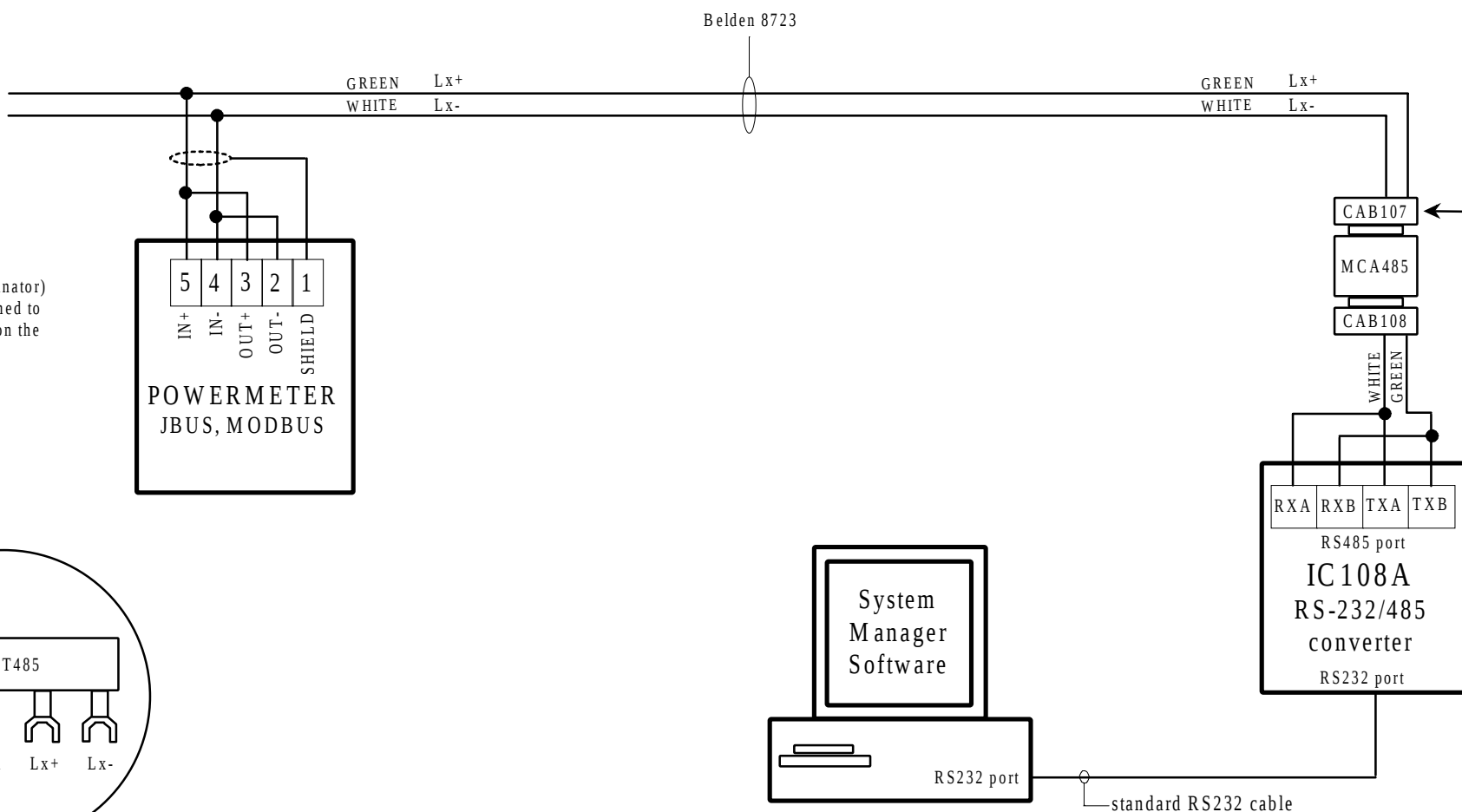
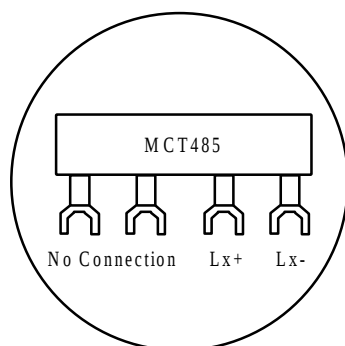
RS485 Mixed Mode Network using IC108A converter 4-wire topology

PINOUT	
For cable >10-ft.	
PowerLogic Device	Male DB9 Connector
IN+ (Rx+) Green	1
IN- (Rx-) White	2
OUT+ (Tx+) Red	3
OUT- (Tx-) Black	4
	5
	6
	7
	8
SHIELD	9

Important!
Before Wiring see General
Communications Notes

To other
Jbus, or
Modbus
devices.

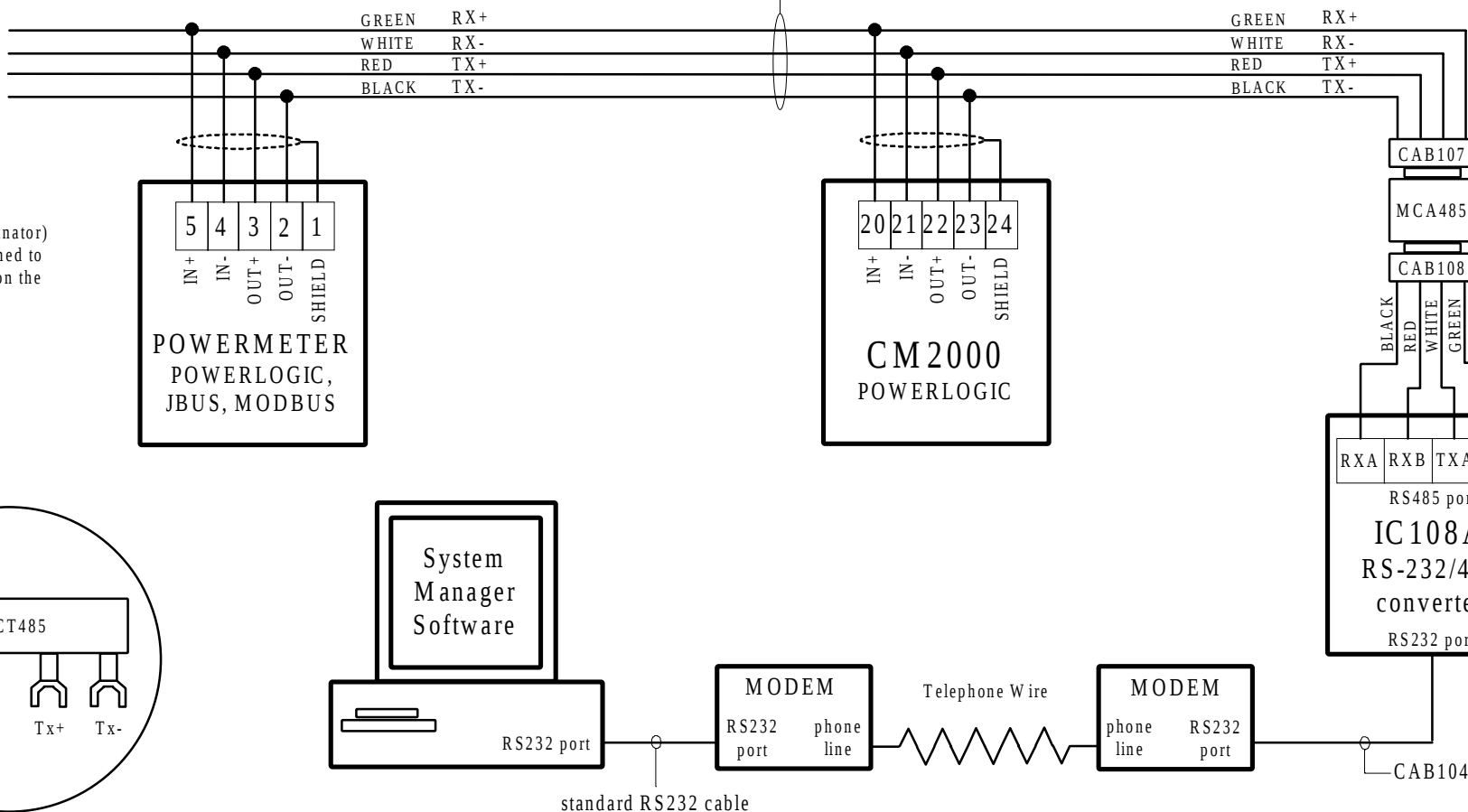
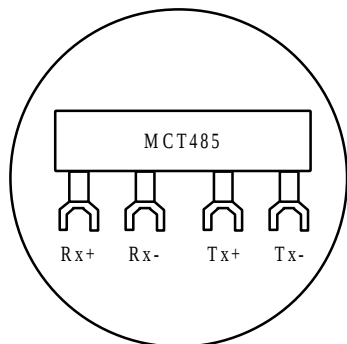
Note:
MCT485 (terminator)
should be attached to
the last device on the
daisy chain.



**RS485 Mixed Mode Network using IC108A converter
2-wire topology**

To other
PowerLogic,
Jbus, or
Modbus
devices.

Note:
MCT485 (terminator)
should be attached to
the last device on the
daisy chain.



Important!
Before Wiring see General
Communications Notes

PINOUT		
For cable >10-ft.		
PowerLogic Device		Male DB9 Connector
IN+ (Rx+) Green	——	1
IN- (Rx-) White	——	2
OUT+ (Tx+) Red	——	3
OUT- (Tx-) Black	——	4
		5
		6
		7
		8
SHIELD	——	9

**RS485 Mixed Mode Network using Modem and IC108A Converter
4-wire topology**