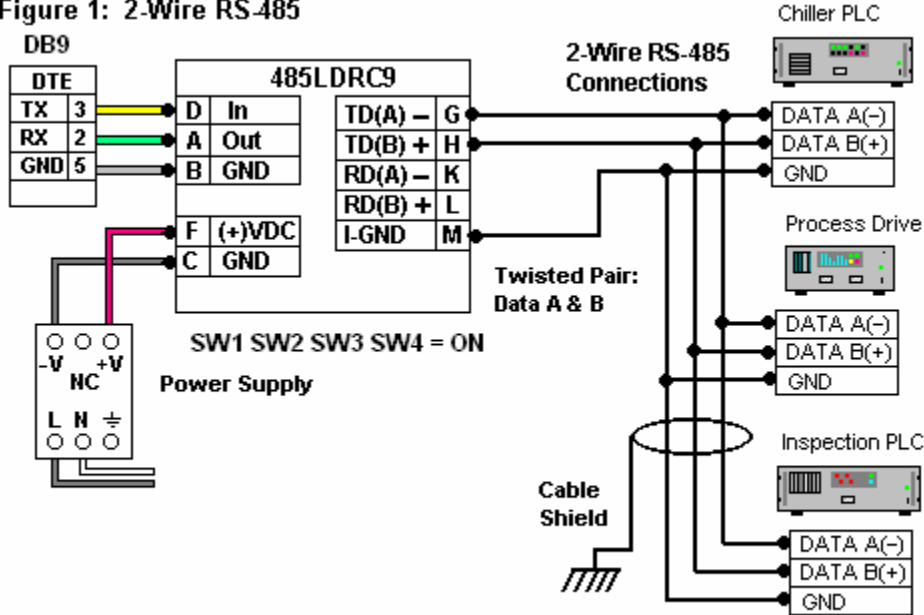**Q: What Terminals are used when connecting the 485LDRC9 for RS-485 or RS-422?**

A: Refer to Figures 1 to 4 for the most common connections. RS-232 Connections start at Figure 5.

Figure 1: 2-Wire RS-485

Figure 2: 4-Wire RS485
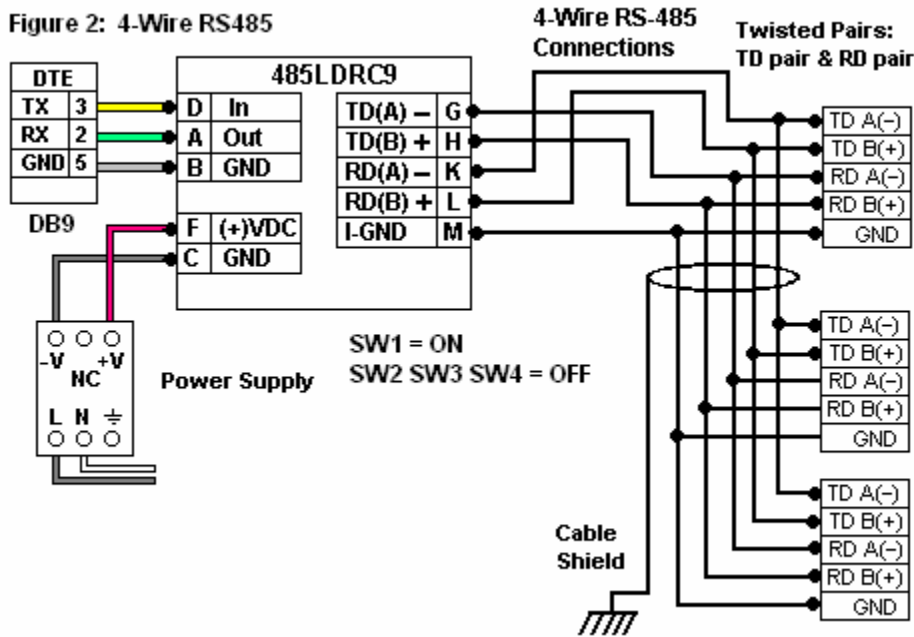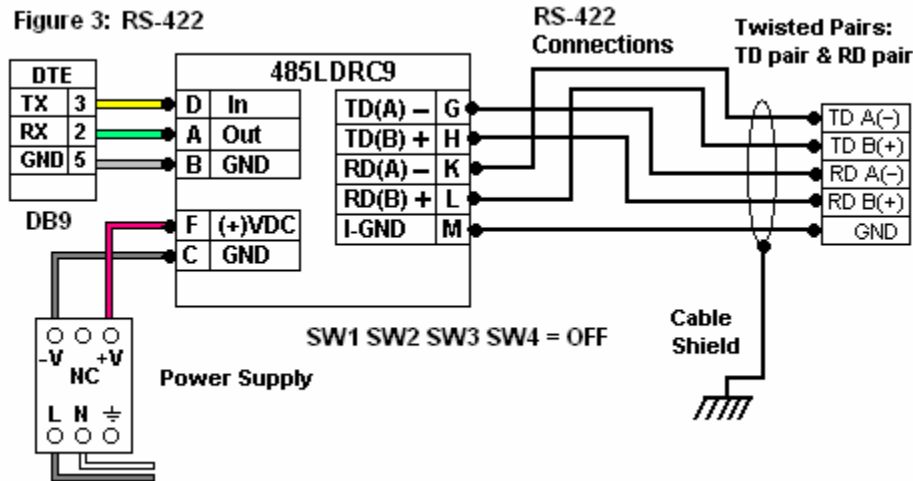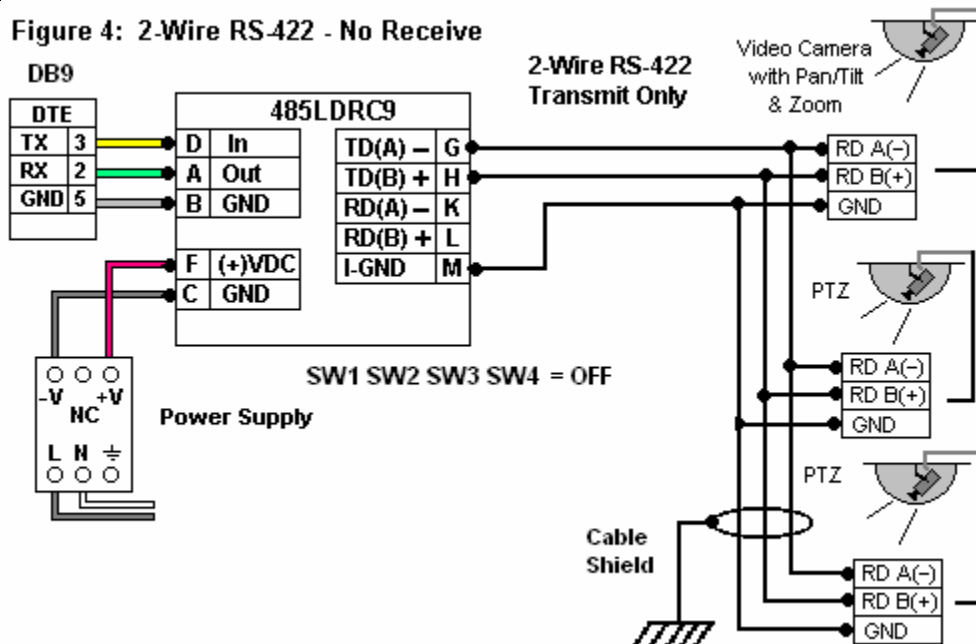
Figure 3: RS-422

Figure 4: 2-Wire RS-422 - No Receive

RS-232 Connections

Figures 1 to 4 show terminal block connections to the DB9 connector of a computer, but the DB9 female connector on the 485LDRC9 will make the same connections using a straight through DB9F to DB9M cable. If the device is wired like a modem as DCE, then pins #2 & #3 must be cross-connected (swapped). The DB9F connector also includes loopbacks for DTR/DSR and RTS/CTS. Measure the DC voltage on pin #3 relative to pin #5, if none, measure pin #2. If pin #2 has voltage, a crossover connection is needed to use the DB9.

Many common installation problems are due to the RS-232 connections being reversed. When the converter has a Transmit LED, if it never flashes, check the RS-232 pinouts/wiring.

How to identify which of two lines is the output from the device:

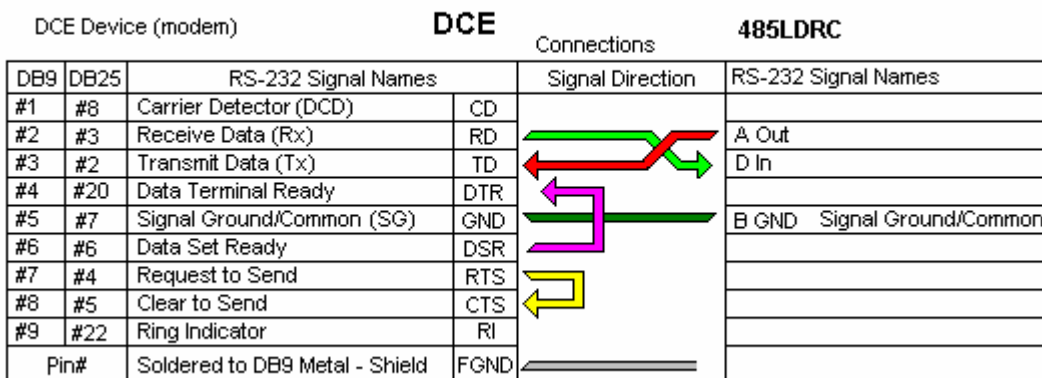Use a DC voltmeter, measure from the ground wire to each of the other two RS232 wires, while the RS232 device is powered up. Usually one lead has a minus (-) DC voltage, usually between –11 volts and –3 volts. Whichever lead has a minus voltage is the lead to connect to our Terminal D. The other lead usually has nothing or noise relative to ground. If neither lead has a minus (or positive) voltage on it relative to ground, recheck for OPEN cable connections to the RS232 device or the device pinouts. If the device can be configured multiple ways, make sure all the jumpers and such are set to RS-232.

A few devices may use very low power RS-232 ports which switch only between Ground and positive, so to identify which is line is active, the device must be set to transmit, then connect the ground wire to the 485LDRC and one of the wires to D, see if the TD indicator flashes. If not, try the other wire.   If the data request is coming from the other end, and all that wiring is correct, and if it is being polled, the RD indicator should be flashing. Some DC meters may show a slight flicker of DC or AC voltage on a data line with changing data.

DTE

DTE Device (Computer) — Connections — 485LDRC

DB9	DB25	RS-232 Signal Names		Signal Direction	RS-232 Signal Names
#1	#8	Carrier Detector (DCD)	CD		
#2	#3	Receive Data (Rx)	RD		A Out
#3	#2	Transmit Data (Tx)	TD		D In
#4	#20	Data Terminal Ready	DTR		
#5	#7	Signal Ground/Common (SG)	GND		B GND Signal Ground/Common
#6	#6	Data Set Ready	DSR		
#7	#4	Request to Send	RTS		
#8	#5	Clear to Send	CTS		
#9	#22	Ring Indicator	RI		
Pin#		Soldered to DB9 Metal - Shield	FGND		

RTS/CTS & DTR/DSR/CD loopbacks may be needed.

DCE

DCE Device (modem) — Connections — 485LDRC

DB9	DB25	RS-232 Signal Names		Signal Direction	RS-232 Signal Names
#1	#8	Carrier Detector (DCD)	CD		
#2	#3	Receive Data (Rx)	RD		A Out
#3	#2	Transmit Data (Tx)	TD		D In
#4	#20	Data Terminal Ready	DTR		
#5	#7	Signal Ground/Common (SG)	GND		B GND Signal Ground/Common
#6	#6	Data Set Ready	DSR		
#7	#4	Request to Send	RTS		
#8	#5	Clear to Send	CTS		
#9	#22	Ring Indicator	RI		
Pin#		Soldered to DB9 Metal - Shield	FGND		

RTS/CTS & DTR/DSR/CD loopbacks may be needed.

This information should help you make the needed connections.