

The power module has several connection points that are individually labeled on the face of the module itself. Please read the following section for detailed information on the function of these terminals.

**J1-** Main Power Input, Relay Outputs, Air Conditioning Control

**J2-** Electronic Coolant Control, Blower Motor Control

**J3-** Cabin Control Power and Communication

**J4-** Sensor Inputs

**J5-** External Temperature Sensor



## J1 Connector

- Main Power Input, Relay Outputs, Air Conditioning Control

PIN #	TYPE	COLOR
<b>1</b>	OUTPUT	White - <b>Engine Run Solenoid</b> 12V=ON, 0V=OFF (Max current 2A)
<b>2</b>	OUTPUT	Green - <b>A/C Clutch Control.</b> 12V=ON, 0V=OFF. (Max current 4A)
<b>3</b>		Not In Use
<b>4</b>	POWER	Black - <b>Ground</b> = 0V
<b>5</b>	POWER	Red/Black Stripe - <b>Positive Supply</b> = 12V
<b>6</b>	OUTPUT	Brown - <b>Glow Plug Relay</b> 12V=ON, 0V=OFF (Max current 200 mA)
<b>7</b>	OUTPUT	White - <b>Block Heater Relay</b> NOT USED
<b>8</b>	OUTPUT	Yellow - <b>Starter Relay</b> 12V=ON, 0V=OFF (Max 200mA)
<b>9</b>	POWER	Red- <b>Positive Supply</b> = 12V
<b>10</b>	POWER	Red- <b>Positive Supply</b> = 12V

**J1**  
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<b>6</b>	<b>1</b>
<b>7</b>	<b>2</b>
<b>8</b>	<b>3</b>
<b>9</b>	<b>4</b>
<b>10</b>	<b>5</b>

**Note**

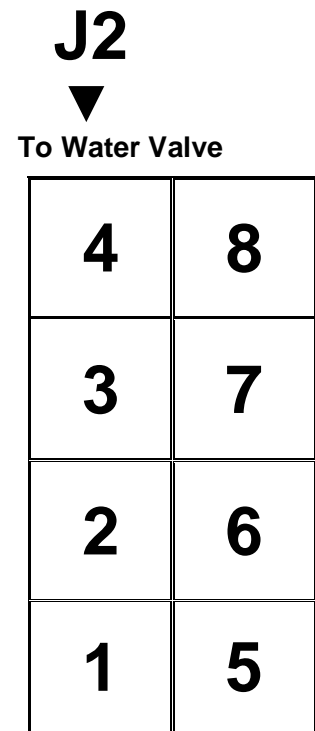
Pin output 7 is an option for a block heater for the engine and has a short white wire with a bullet connector.

## J2 Connector

### Electronic Coolant Control, Blower Motor Control

Note: "Cooling Only" Systems will not have an "Electric Coolant Control (Water) Valve"

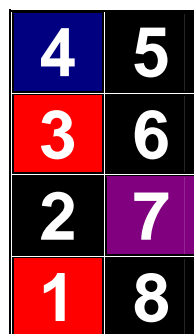
J2 PIN #	TYPE	COLOR
1	INPUT	White- <b>Feedback Signal from Water Valve.</b> 12V= Valve Open, 0V= Valve Closed
2	OUTPUT	Black - <b>Fan Control Signal</b> Max Current 9A, 12V=ON, 0V=OFF (output is 50% duty cycle for low speed)
3	OUTPUT	White – <b>Drive Motor</b> to Open/Close Water Valve. (Max 2A) 12V=ON, 0V=OFF
4	POWER	White – <b>Water Valve Control Power</b> =12V (Max 7A)
5	OUTPUT	Black - <b>Fan Control Signal.</b> Max Current 9A, 12V=ON, 0V=OFF (output is 75% duty cycle for medium speed)
6	OUTPUT	Black - <b>Fan Control Signal.</b> Max Current 9A, 12V=ON, 0V=OFF (output is 100% duty cycle for high speed)
7	OUTPUT	White- <b>Drive Motor</b> to Open/Close Water Valve. (Max 2A) 12V=ON, 0V=OFF
8		NOT IN USE



### Harness Pin Outs



### Power Module J2 Connection Point



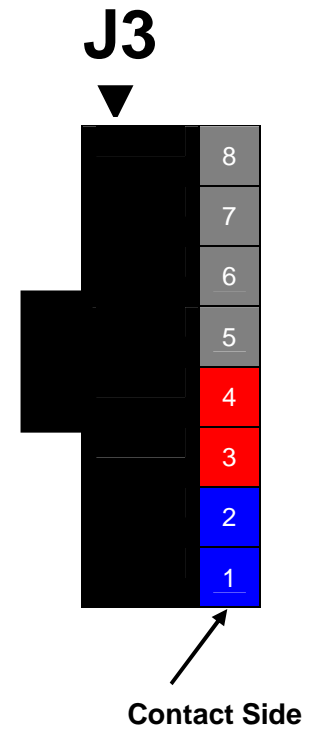
### Water Valve Connection Point



## J3 Connector

### Cabin Control Power and Communication

J2 PIN #	TYPE	COLOR
<b>1</b>	INPUT/OUTPUT	(-) RS485 TRANSCIEVER (half duplex)
<b>2</b>	INPUT/OUTPUT	(+) RS485 TRANSCIEVER (half duplex)
<b>3</b>	POWER	=7V (LOGIC)
<b>4</b>	POWER	=7V (LOGIC)
<b>5</b>	GROUND	ISOLATED GROUND
<b>6</b>	GROUND	ISOLATED GROUND
<b>7</b>		NOT IN USE
<b>8</b>	SHEILD	NON-ISOLATED GROUND



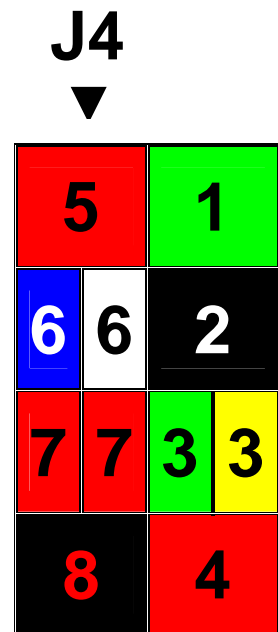
#### Note

The communication cable is a 28 AWG/Category 5 cable which uses the RJ-45 modular connector. The transceiver is half duplex and powered by 7Vdc logic voltage.

## J4 Connector

### - Sensor inputs

J4	TYPE	COLOR
1	INPUT	Green - <b>Oil Pressure Sensor.</b> 12V = Normal pressure, 0V = Low oil pressure
2	INPUT	Black - <b>Safety Cover Sensor.</b> 12V = Cover OFF 0V = Cover ON
3 3	INPUT	Green/Yellow - <b>Pickup Speed Sensor</b> 7 - 10V AC = Engine ON 0V AC = Engine OFF
4	INPUT	Red - <b>Main Engine Running.</b> (Optional) 12V = Main engine ON 0V = Main engine OFF
5	INPUT	Orange - <b>Coolant Temperature Sensor.</b> 12V normal temperature 0V = high temperature
6 6	INPUT	Blue/White – <b>DPF (Optional)</b> 0V = Normal backpressure 12 V Pulse = Level 1 Cleaning 12 V Constant = Level 2 Cleaning
7 7	INPUT	Red/Orange- <b>Pickup Speed Sensor</b> Ground
8		Not in Use (Plugged)



#### NOTE

Main Engine Running is optional and is spliced to a truck ignition source near the HVAC box. The source is usually from the truck's factory HVAC box. When 12V ignition is applied to this input on pin number 4 it will NOT allow the LG 200 APU to start in any mode while the truck's main engine is running.

#### NOTE

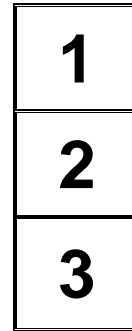
The Speed Sensor uses pin 7 as a return ground

**J5-Pin**

**External Temperature Sensor**

J3	TYPE	COLOR
<b>1</b>	INPUT	Red
<b>2</b>	INPUT	Black
<b>3</b>	GROUND	Black (heavier gage wire)

**J5**



**Temperature Sensor**



**Figure 9-7**

**Note**

The sensor hangs through the cabin floor with the other electrical wiring.