
GENERAL

The Vehicle System Interface Module (VSIM) is specifically designed to make it easy to upfit RAM ProMaster. The VSIM has many hard wired inputs and outputs. (through the VSIM jumper harnesses and the additional wiring take outs) It also has J1939 communication bus input and output signals. The VSIM allows the upfitter turn on certain features or functions with hardwired or J1939 commands. It also has outputs signals and relay driver control circuits based on the vehicle information.

All VSIM Inputs, Outputs and J1939 signals only function when the vehicle is awake and the vehicle communication bus is active except for Door Lock, Unlock, Horn Mute and Radio Mute inputs. The VSIM will not function with the key in the off position and the bus asleep except for those inputs. Outputs such as gear position, including Park Position will turn off when the VSIM goes to sleep. (vehicle communication bus goes to sleep) An example would be turning the ignition off with no other feature keeping the vehicle awake.

Relays with resistor suppressed relay coils should be used when connecting to the VSIM relay driver outputs.

The VSIM is located in the center I/P console area behind the cup holders. Shown in green below. Remove the cup holder assembly to access to the VSIM. The connectors are facing forward towards the front of the vehicle, to access the connectors, unscrew VSIM mounting bracket and move the VSIM & Bracket so there is easy access to the connectors.



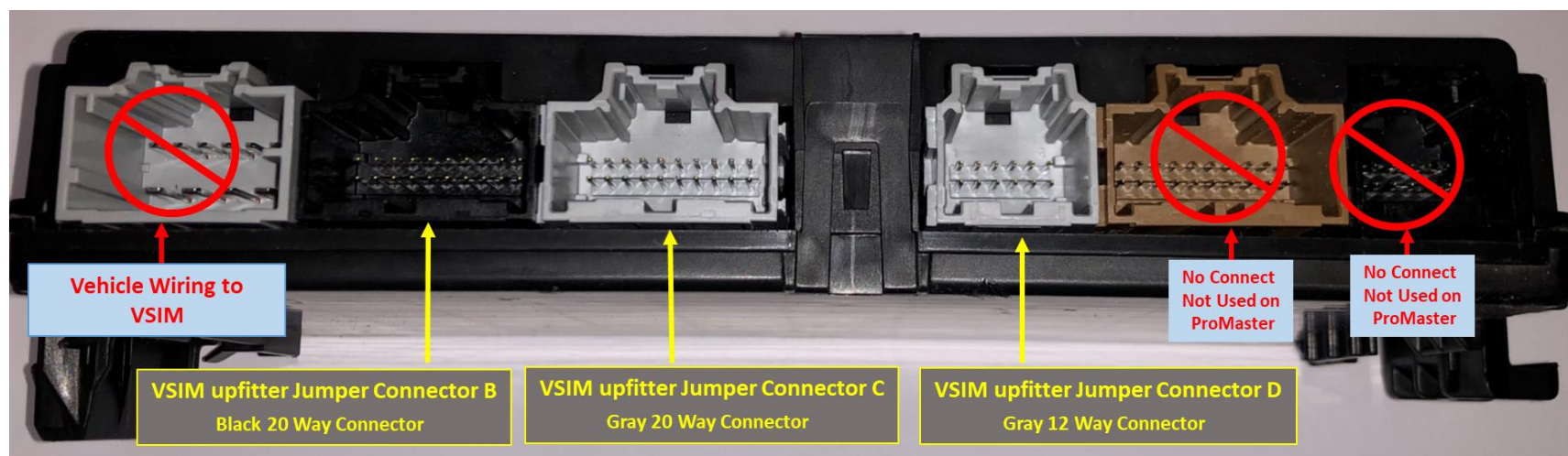
ProMaster Vehicle System Interface Module (VSIM)

VSIM JUMPER HARNESS

The VSIM jumper harness comes with the vehicle on vehicles equipped with a VSIM. The jumper contains the 3 upfitter connectors that plug into the VSIM and blunt cut wires on the opposite end. There are a Black 20 Way, Gray 20 Way and Gray 12 Way connectors as part of the jumper assembly. They must be plugged into the properly VSIM connector.

The part number for the wiring kit is **68547385A*** and is available through your local Ram dealer.

NOTE: It is recommended that when routing the harness additional harness protection such as convolute be used to protect the harness from abrasion.



ProMaster Vehicle System Interface Module (VSIM)

VSIM Jumper 20 Way Black Connector (B)

Pin	Upfitter VSIM Signal	Type	High Side or Low Side	Wire Color	Current Maximum (A)	Type of input or output	Comments
1	Right turn lamp	OUTPUT	HSD	Green	0.5	High Side Output 500 mA maximum current	High side relay driver output on and blinks when right turn signals are on.
2	High beams on	OUTPUT	HSD	Green - White	0.5	High Side Output 500 mA maximum current	Open circuit when high beams off. High Side (+12 V) turns on when high beams are on.
3	Park lamps on	OUTPUT	HSD	White - Blue	0.5	High Side Output 500 mA maximum current	Open circuit when Park Lamps are not on, battery positive voltage (+12V) when Park Lamps are on.
4	Low beam on	OUTPUT	HSD	White - Violet	0.5	High Side Output 500 mA maximum current	High side output is on when low beams are active
5	Vehicle at speed (Howler siren)	OUTPUT	HSD	Gray	0.5	High Side Output 500 mA maximum current	Open circuit when vehicle speed is below 25 MPH, battery positive voltage (+12V) when vehicle speed is 25 MPH or above.
6	Transmission out of park	OUTPUT	HSD	Green- Brown	0.5	High Side Output 500 mA maximum current	Open circuit when gear selector is in Park , battery positive voltage (+12V) when the gear selector is in any other position.
7	Any door ajar	OUTPUT	HSD	White- Red	0.5	High Side Output 500 mA maximum current	Open circuit when all the doors are closed, battery voltage (+12V) when any door is ajar.
8	Left turn lamp	OUTPUT	HSD	Violet	0.5	High Side Output 500 mA maximum current	High side relay driver output on and blinks when left turn signals are on.
9	Hazards on	OUTPUT	HSD	Brown-Green	0.5	High Side Output 500 mA maximum current	Open circuit when hazard flashers are off, battery positive voltage (+12V) when hazard flashers are selected.
10	MIL on	OUTPUT	HSD	Violet-White	0.5	High Side Output 500 mA maximum current	Open circuit when MIL is not illuminated battery positive voltage (+12V) when MIL is illuminated. The engine must be running to activate this output.
11	Rear wig wag activation	INPUT	HSD	Green - Orange	0.18	Digital Signal Input Switch to +12V to activate	When swithed to battery (+12V) , actuates rear wig wag function. Vehicle needs to be awake for this to function. Also activates rear wig wag VSIM output circuit as well (Pin 12 of VSIM Jumper Connector C Gray 20 way connector Gray /White circuit).
12	Remote A/C request	INPUT	LSD	Gray - White	0.18	Digital Signal Input Switch to Ground to activate	When grounded it commands the vehicle A/C system to be activated. If the A/C isn't on, this input will activate the A/C compressor and turn the vehicle HVAC blower to Low speed. Once this circuit is activated (grounded) the vehicles blower speed control can be used to control but the blower - A/C system cannot be turned completely off. When this circuit is deactivated (un-grounded), the vehicles A/C controls returns to normal operation.
13	Radio mute	INPUT	LSD	Gray - Yellow	0.18	Digital Signal Input Switch to Ground to activate	Mutes the vehicle audio entertainment systems (Radio, SXM, Bluetooth and USB inputs) when grounded. ADAS Chimes still function. Both 7 and 10.1 inch radios.
14	Front wig wag control activation	INPUT	HSD	Blue - Green	0.18	Digital Signal Input Switch to +12V to activate	When swithed to battery (+12V) , actuates front wig wag function. Vehicle needs to be awake for this to function. Also activates front wig wag VSIM output circuit as well (Pin 13 of VSIM Jumper Connector C Gray 20 way connector Gray/Yellow circuit).
15	Separate tail lighting	INPUT	LSD	Brown - White	0.18	Digital Signal Input Switch to Ground to activate	When grounded rear stop/turn lamps become turn only (via CAN message)
16	Horn / alarm mute	INPUT	LSD	Brown - Gray	0.18	Digital Signal Input Switch to Ground to activate	When grounded mutes the horn during panic alarm, vehicle theft alarm and normal horn function. Does not mute horn during RKE locking function muting the horn during RKE locking can be turned on through the vehicle settings menus.
17	Rear bulb out detection defeat	INPUT	LSD	Yellow	0.18	Digital Signal Input Switch to Ground to activate	When grounded, turns off rear (Turn/Tail/Brake/License/Reverse/CHMSL/Cargo) bulb fault detection: allows the use of rear LED's in place of incandescent bulbs. May be grounded before or after disconnecting the vehicles OEM incandescent bulbs.
18	J1939 low	COMM		White	0.5	J1939 Bus Circuit Low Twisted	250 Kbaud J1939 CAN Low (-), partially terminated 120 Ohms between bus low and high in the VSIM. The added J1939 device needs a 120 Ohm termination resistor between Bus Low and High for proper bus function. Refer to J1939 spreadsheet for available messages.
19	J1939 high	COMM		Orange	0.5	J1939 Bus Circuit High Twisted	250 Kbaud J1939 CAN High (+), partially terminated 120 Ohms between bus low and high in the VSIM. The added J1939 device needs a 120 Ohm termination resistor between Bus Low and High for proper bus function. Refer to J1939 spreadsheet for available messages.
20	Upfitter ground	GND		Black	2.5	Low current VSIM INPUT signal return ground	VSIM signal return ground for low current VSIM inputs. NOT TO BE USED TO GROUND OTHER DEVICES WHICH CAN DAMAGE THE VSIM

ProMaster Vehicle System Interface Module (VSIM)

VSIM Jumper 20 Way Gray Connector (C)

Pin	Upfitter VSIM Signal	Type	High Side or Low Side	Wire Color	Current	Type of input or output	Functional Description
1	Brake pedal pressed	OUTPUT	HSD	Green	0.5	High Side Output 500 mA maximum current	Open circuit when Service Brake Pedal is not active, battery positive voltage (+12V) when the Service Brake Pedal is active (key may be in any position).
2	Front airbag deployed	OUTPUT	HSD	Brown - Orange	0.5	High Side Output 500 mA maximum current	Open circuit when front airbags have not deployed during current key on cycle, battery positive (+12V) upon front airbag deployment during current key on cycle.
3	Dimmer level	OUTPUT	LSD	White - Blue	0.5	Low Side PWM Output switched to ground when activated 500 mA maximum current	Linear with Dimer level 1 = 0% PWM duty cycle & Dimer level 9 = 100% PWM duty cycle
4	Battery voltage	OUTPUT	LSD	White - Violet	0.5	Low Side PWM Output switched to ground when activated 500 mA maximum current	Battery Voltage Signal: Pulse Width Modulated (PWM) between open circuit and ground, 100 Hz, linear with 0 % duty cycle = 5Vbat & 100 % Duty cycle = 18Vbat
5	Oil pressure	OUTPUT	LSD	Gray	0.5	Low Side PWM Output switched to ground when activated 500 mA maximum current	Oil Pressure Signal: Pulse Width Modulated (PWM) between open circuit and ground, 100 Hz, linear with 0 % PWM = 0 PSI, and 100 % PWM = 147 PSI.
6	Vehicle speed	OUTPUT	LSD	Green - Brown	0.5	Low Side Output switched to ground when activated 500 mA maximum current	Vehicle Speed Signal: Modulation between open circuit and ground, output with 10 Hz/MPH (600 pulses per minute per 1 MPH) @50% duty cycle.
7	Engine speed	OUTPUT	LSD	Orange - Blue	0.5	Low Side PWM Output switched to ground when activated 500 mA maximum current	Engine RPM Signal : Pulse Width Modulated (PWM) between open circuit and ground, 0.2 HZ/RPM (12 pulses per minute per 1 RPM) @50% duty cycle.
8	Fuel level	OUTPUT	LSD	Violet	0.5	Low Side PWM Output switched to ground when activated 500 mA maximum current	Fuel Level Signal: Pulse Width Modulated (PWM) between open circuit and ground, 100 Hz, linear with 0 % PWM = empty tank, and 100 % PWM = full tank.
9	Ignition in Run	OUTPUT	HSD	Brown - Green	0.5	High Side Output 500 mA maximum current	Open circuit when key position is in "Off/Accessory", battery positive (+12) when key is in "Run or Start" position.
10	Engine is running	OUTPUT	HSD	Orange - Gray	0.5	High Side Output 500 mA maximum current	Open circuit when engin RPM < 450, battery postive voltage (+12V) when RPM > 450.
11	A/C compressor on	OUTPUT	LSD	Green - Orange	0.5	Low Side Output switched to ground when activated 500 mA maximum current	Open circuit when A/C Clutch is not engaged, grounded when engaged.
12	Rear wig wag output	OUTPUT	LSD	Gray - White	0.5	Low Side Output switched to ground (flashing) when activated 500 mA maximum current	Relay Driver for rear auxiliary light(s), open circuit when rear wig wag are off. Grounded (flash) on/off at 80 flashes per minute (1.333 Hz square wave @ 50% duty cycle) when VSIM Rear Wig Wag Input is activated (Pin 12 of VSIM Jumper Connector B Black 20 Way Connector Green/Orange Circuit).
13	Front wig wag output	OUTPUT	LSD	Gray - Yellow	0.5	Low Side Output switched to ground (flashing) when activated 500 mA maximum current	Relay driver for front auxiliary light(s), open circuit when front wig wag is off. Grounded (flash) on/off at 80 flashes per minute (1.333Hz square wave @ 50% duty cycle) when VSIM Front Wig Wag Input is activated (Pin 15 of VSIM Jumper Connector B Black 20 way connector Blue/Green Circuit).
14	Transmission in P	OUTPUT	LSD	Blue - Green	0.5	Low Side Output switched to ground when activated 500 mA maximum current	Open circuit when gear selector is not in Park, grounded when in Park.
15	Transmission in R	OUTPUT	LSD	Brown - White	0.5	Low Side Output switched to ground when activated 500 mA maximum current	Open circuit when gear selector is not in Reverse, grounded when in Reverse.
16	Transmission in N	OUTPUT	LSD	Brown - Gray	0.5	Low Side Output switched to ground when activated 500 mA maximum current	Open circuit when gear selector is not in Neutral, grounded when in Neutral.
17	Transmission in D	OUTPUT	LSD	Brown - Black	0.5	Low Side Output switched to ground when activated 500 mA maximum current	Open circuit when gear selector is not in Drive, grounded when in Drive.
18	Pass.seatbelt not latched	OUTPUT	LSD	White - Yellow	0.5	Low Side Output switched to ground when activated 500 mA maximum current	Open circuit when the front passenger seat belt is latched, grounded when front passenger seat belt is not latched (key must be in "run" position).
19	Driver's seatbelt not latched	OUTPUT	LSD	White - Red	0.5	Low Side Output switched to ground when activated 500 mA maximum current	Open circuit when the driver seat belt is latched, grounded when driver seat belt is not latched (key must be in "run" position).
20	A/C selected	OUTPUT	LSD	Yellow - Blue	0.5	Low Side Output switched to ground when activated 500 mA maximum current	Open circuit when A/C has not been selected, grounded when A/C has been selected.

ProMaster Vehicle System Interface Module (VSIM)

VSIM Jumper 12 Way Gray Connector (D)

Pin	Upfitter VSIM Signal	Type	High Side or Low Side	Wire Color	Current	Type of input or output	Functional Description
1	Park brake applied	OUTPUT	LSD	Orange-Grey	0.5	Low Side Output switched to ground when activated 500 mA maximum current	Open circuit when park brak is not applied, grounded when park brake is applied.
2	Ignition in Off	OUTPUT	HSD	Green-Brown	0.5	High Side Output 500 mA maximum current	When the VSIM is awake -- Open circuit when ignition is on, battery positive voltage (+12V) when ignition is off.
3	Horn active	OUTPUT	HSD	Brown- Violet	0.5	High Side Output 500 mA maximum current	Open circuit when horn not pressed (not energized), battery positive voltage (+12V) when pressed (energized).
4	Driver's seat occupied	OUTPUT	HSD	Brown - Gray	0.5	High Side Output 500 mA maximum current	Open circuit when driver seat is not occupied, grounded when driver seat is occupied.
5	NC					NO CONNECT	
6	Pass, seat occupied	OUTPUT	HSD	Gray - Green	0.5	High Side Output 500 mA maximum current	Open circuit when passenger seat is non occupied, grounded when passenger seat is occupied.
7	Door lock pulse	OUTPUT	LSD	Green - Black	0.5	Low Side Output switched to ground when activated 500 mA maximum current	Relay Driver, mirrors vehicle lock request with a switched ground for 500ms. The vehicle need not be awake.
8	Door unlock pulse	OUTPUT	LSD	Green - Red	0.5	Low Side Output switched to ground when activated 500 mA maximum current	Relay driver, mirrors vehicle unlock All request with a ground potential for 500 ms. The vehicle need not be awake. Driver Door only unlock request will not activate this output only an unlock all request will activate the output regardless of the personalization setting the Key Fob Unlock button must be pressed twice to activate this output.
9	Door unlock command	INPUT	LSD	Blue - Brown	0.18	Digital Signal Input Switch to Ground to activate	Unlocks Doors when grounded. This input will wake up the vehicle and will unlock the all doors as well as the VSIM unlock output.
10	Door lock command	INPUT	LSD	Brown	0.18	Digital Signal Input Switch to Ground to activate	Locks Doors when grounded. This input will wake up the vehicle and activate the door locks as well as the VSIM lock output
11	NC					NO CONNECT	
12	NC					NO CONNECT	

ProMaster Vehicle System Interface Module (VSIM)

ProMaster VSIM 12 - CAVITY GRAY CONNECTOR (Vehicle Connection)

PIN	Uplifter VSIM Signal	Circuit Name	Wire Color	Max Current (Amps)	Type of Signal	Function
1	VSIM Module Battery Feed	A807	RD/GN			Battery 12+ Not Customer Accessible
2	Not Used					
3	Not Used					
4	Any Door Ajar - HSD output	W720	VT/OG	0.5	HSD Output	Open circuit when all the doors are closed, battery voltage (+12V) when any door is ajar.
5	Hazard indicator on - HSD output	W719	WH/VT	0.5	HSD Output	Open circuit when hazard flashers are off, battery positive voltage (+12V) when hazard flashers are selected.
6	Transmission out of "Park" - HSD output	W504	BN	0.5	HSD Output	Open circuit when gear selector is in Park , battery positive voltage (+12V) when the gear selector is in any other position.
7	VSIM Module Ground - ground return	Z930	BK	--	Signal Ground Return	VSIM Module Ground to Vehicle Not Customer Accessible
8	Not Used					
9	Not Used					
10	Right Turn Signal on	W681	BN/GY	0.5	HSD Output	High side relay driver output on and blinks when right turn signals are on.
11	Not Used					Not Used
12	MIL lamp on - HSD output	W540	BN/GN	0.5	HSD Output	Open circuit when MIL is not illuminated battery positive voltage (+12V) when MIL is illuminated

ProMaster Vehicle System Interface Module (VSIM)

VSIM J1939 BUS INPUT SIGNALS

SPN	Type	Name	Message	Multiplexing / Group	Startbit	Transmitter	Length (bit)	Byte Order	Value Type	Initial Value	Factor	Offset	Minimum	Maximum	Unit	Value Table	Comment	Message ID	GenSig active	SigType	GenSig startValue	GenSig endType	GenSig's support	GenSigTVName
0	Input	ACSelect_cmd	CHY_INT_CMD	-	0	-	1	Intel	Unsigned	0	1	0	0	0		VtSig_ACSelect_cmd	Command AC select ON	0x1CFF03FF	0	Discrete	0	OnChange	Yes	Env@Nodename_@Signame
0	Input	LockCommand	CHY_DrLk_CMD	-	0	-	1	Intel	Unsigned	0	1	0	0	0		VtSig_LockCommand	Command to lock all doors	0x1CFF05FF	0	Discrete	0	OnChange	Yes	Env@Nodename_@Signame
0	Input	RrWigWag_cmd	CHY_ExLH_CMD	-	0	-	1	Intel	Unsigned	0	1	0	0	0		VtSig_RrWigWag_cmd	Command rear wig wags on	0x1CFF04FE	0	Discrete	0	OnChange	Yes	Env@Nodename_@Signame
0	Input	FtWigWag_cmd	CHY_ExLH_CMD	-	1	-	1	Intel	Unsigned	0	1	0	0	0		VtSig_FtWigWag_cmd	Command front wig wags on	0x1CFF04FE	0	Discrete	0	OnChange	Yes	Env@Nodename_@Signame
0	Input	RadioMute_cmd	CHY_INT_CMD	-	1	-	1	Intel	Unsigned	0	1	0	0	0		VtSig_RadioMute_cmd	Command to mute all entertainment audio	0x1CFF03FF	0	Discrete	0	OnChange	Yes	Env@Nodename_@Signame
0	Input	UnLockCommand	CHY_DrLk_CMD	-	1	-	1	Intel	Unsigned	0	1	0	0	0		VtSig_UnLockCommand	Command to unlock all doors	0x1CFF05FF	0	Discrete	0	OnChange	Yes	Env@Nodename_@Signame
0	Input	HornMute_cmd	CHY_ExLH_CMD	-	2	-	1	Intel	Unsigned	0	1	0	0	0		VtSig_HornMute_cmd	Command to mute all horn requests	0x1CFF04FE	0	Discrete	0	OnChange	Yes	Env@Nodename_@Signame

VSIM J1939 BUS OUTPUT SIGNALS

J1939	Type	Name	Message	Multiplexing / Group	StartBit	Transmitter	Length (Bit)	Byte Order	Value Type	Initial Value	Factor	Offset	Minimum	Maximum	Unit	Value Table	Comment	Message ID	GenSig nactive	PigType	GenSig startValue	GenSig send Type	GenSigIS support	GenSigVName
70	Output	ParkingBrakeSwitch	CCV51	-	2	VSIM	2	Intel	Unsigned	0	1	0	0	3		VSig_ParkingBrakeSwitch	Switch signal which indicates when the parking brake is set. In general the switch actuated by the operator's park brake control.							
84	Output	WheelBasedVehicleSpeed	CCV51	-	8	VSIM	16	Intel	Unsigned	0	0.004	0	0	250.996	km/h	<none>	Speed of the vehicle as calculated from wheel or tailshaft speed.	0x18FEF100	0	Range	0	Cyclic	Yes	Env@NodeName_@Signame
86	Output	CruiseCtrlSetSpeed	CCV51	-	40	VSIM	8	Intel	Unsigned	0	1	0	0	250	km/h	<none>	Value of set (chosen) velocity of velocity control system.	0x18FEF100	0	Range	0	Cyclic	Yes	Env@NodeName_@Signame
91	Output	AccelPedalPos1	EEC2	-	8	VSIM	8	Intel	Unsigned	0	0.4	0	0	100	%	<none>	The ratio of actual position of the analog engine speed/torque request input device (such as an accelerator pedal or throttle lever) to the maximum position of the input device. This parameter is intended for the primary accelerator control in an	0xCF00300	0	Range	0	Cyclic	Yes	Env@NodeName_@Signame
92	Output	EngPercentLoadAtCurrentSpeed	EEC2	-	16	VSIM	8	Intel	Unsigned	0	1	0	0	125	%	<none>	The ratio of actual engine percent torque (indicated) to maximum indicated torque available at the current engine speed.							
96	Output	FuelLevel1	DD	-	8	VSIM	8	Intel	Unsigned	0	0.4	0	0	100	%	<none>	Ratio of volume of fuel to the total volume of fuel storage container.	0x18FEFC21	0	Range	0	OnChange	Yes	Env@NodeName_@Signame
100	Output	EngOilPress	EFL_P1	-	24	VSIM	8	Intel	Unsigned	0	4	0	0	1000	kPa	<none>	Gage pressure of oil in engine lubrication system as provided by oil pump.	0x18FEED00	0	Range	0	Cyclic	Yes	Env@NodeName_@Signame
108	Output	BarometrcPress	AMB	-	0	VSIM	8	Intel	Unsigned	0	0.5	0	0	125	kPa	<none>	Absolute air pressure of the atmosphere.	0x18FEF521	0	Range	0	OnChange	Yes	Env@NodeName_@Signame
110	Output	EngCoolantTemp	ET1	-	0	VSIM	8	Intel	Unsigned	-40	1	-40	-40	210	°C	<none>	Temperature of liquid found in engine cooling system.	0x18FEED00	0	Range	0	Cyclic	Yes	Env@NodeName_@Signame
167	Output	ChargingSystemPotential	VEP1	-	16	VSIM	16	Intel	Unsigned	0	0.05	0	0	3212.75	V	<none>	Electrical potential measured at the charging system output. This includes alternators.							
171	Output	AmbientAirTemp	AMB	-	24	VSIM	16	Intel	Unsigned	-273	0.031	-273	-273	1734.97	°C	<none>	Temperature of air surrounding vehicle.	0x18FEF521	0	Range	0	OnChange	Yes	Env@NodeName_@Signame
172	Output	EngAirIntakeTemp	AMB	-	40	VSIM	8	Intel	Unsigned	-40	1	-40	-40	210	°C	<none>	Temperature of air entering vehicle air induction system.	0x18FEF521	0	Range	0	OnChange	Yes	Env@NodeName_@Signame
177	Output	TransOilTemp1	TBP1	-	32	VSIM	16	Intel	Unsigned	-273	0.031	-273	-273	1734.97	°C	<none>	First instance of transmission lubricant temperature.	0x18FEF603	0	Range	0	OnChange	Yes	Env@NodeName_@Signame
183	Output	EngFuelRate	LFE1	-	0	VSIM	16	Intel	Unsigned	0	0.05	0	0	3212.75	L/h	<none>	Amount of fuel consumed by engine per unit of time.	0x18FEF200	0	Range	0	Cyclic	Yes	Env@NodeName_@Signame
184	Output	EngInstantaneousFuelEconomy	LFE1	-	16	VSIM	16	Intel	Unsigned	0	0.002	0	0	125.5	km/L	<none>	Current fuel economy at current vehicle velocity.	0x18FEF200	0	Range	0	Cyclic	Yes	Env@NodeName_@Signame
186	Output	PowerTakeoffSpeed	PTO	-	8	VSIM	16	Intel	Unsigned	0	0.125	0	0	8031.88	rpm	<none>	Rotational velocity of device used to transmit engine power to auxiliary equipment.	0x18FEF000	0	Range	0	Cyclic	Yes	Env@NodeName_@Signame
190	Output	EngSpeed	EEC1	-	24	VSIM	16	Intel	Unsigned	0	0.125	0	0	8031.88	rpm	<none>	Actual engine speed which is calculated over a minimum crankshaft angle of 720 degrees divided by the number of cylinders.	0xCF00400	0	Range	0	Cyclic	Yes	Env@NodeName_@Signame
237	Output	VehicleIdentificationNumber	VI	-	0	VSIM	136	Intel	Unsigned	0	1	0	0	255		<none>	Vehicle Identification Number (VIN) as assigned by the vehicle manufacturer.	0x18FEEC00	0	StringDelim	0	NoSigSendType	Yes	Env@NodeName_@Signame
245	Output	TotalVehicleDistance	VD	-	32	VSIM	32	Intel	Unsigned	0	0.125	0	0	5.26E+08	km	<none>	Accumulated distance traveled by vehicle during its operation.	0x18FEE021	0	Range	0	Cyclic	Yes	Env@NodeName_@Signame
247	Output	EngTotalHoursOfOperation	HOURS	-	0	VSIM	32	Intel	Unsigned	0	0.05	0	0	2.11E+08	hr	<none>	Engine total hours of Operation: Accumulated time of operation of engine.	0x18FEE500	0	Range	0	Cyclic	Yes	Env@NodeName_@Signame
250	Output	EngTotalFuelUsed	LFC1	-	32	VSIM	32	Intel	Unsigned	0	0.5	0	0	2.11E+09	L	<none>	Accumulated amount of fuel used during vehicle operation. See SPN 5054 for alternate resolution.	0x18FEE900	0	Range	0	Cyclic	Yes	Env@NodeName_@Signame

VSIM J1939 BUS OUTPUT SIGNALS

SPN	Type	Name	Message	Multiplexing / Group	Startbit	Transmitter	Length (bit)	Byte Order	Value Type	Initial Value	Factor	Offset	Minimum	Maximum	Unit	Value Table	Comment	Message ID	GenSig nactive	SigType	GenSigStartValue	GenSigSendType	GenSigISupport	GenSigEVName
523	Output	TransCurrentGear	ETC2	-	24	VSIM	8	Intel	Unsigned	-125	1	-125	-125	125		VtSig_TransCurrentGear	The gear currently engaged in the transmission or the last gear engaged while the transmission is in the process of shifting to the new or selected gear. Transitions toward a destination gear will not be indicated. Once the selected gear has been ...	0x18F00503	0	Range	0	Cyclic	Yes	Env@Nodename_e_@Signa me
524	Output	TransSelectedGear	ETC2	-	0	VSIM	8	Intel	Unsigned	-125	1	-125	-125	125		<none>	The gear that the transmission will attempt to achieve during the current shift if a shift is in progress.							
561	Output	ASREngCtrlActive	EBC1	-	0	VSIM	2	Intel	Unsigned	0	1	0	0	3		VtSig_ASREngCtrlActive	State signal which indicates that ASR engine control has been commanded to be active. Active means that ASR actually tries to control the engine. This state signal is independent of other control commands to the engine (e.g., ...							
562	Output	ASRBrakeCtrlActive	EBC1	-	2	VSIM	2	Intel	Unsigned	0	1	0	0	3		VtSig_ASRBrakeCtrlActive	State signal which indicates that ASR brake control is active. Active means that ASR actually controls wheel brake pressure at one or more wheels of the driven axle(s).	0x18F0010B	0	Control	0	Cyclic	Yes	Env@Nodename_e_@Signa me
563	Output	AntiLockBrakingActive	EBC1	-	4	VSIM	2	Intel	Unsigned	0	1	0	0	3		VtSig_AntiLockBrakingAct	State signal which indicates that the ABS is active. The signal is set active when wheel brake pressure actually starts to be modulated by ABS and is reset to passive when all wheels are in a stable condition for a certain time. The signal can ...	0x18F0010B	0	Control	0	Cyclic	Yes	Env@Nodename_e_@Signa me
595	Output	CruiseCtrlActive	CCV51	-	24	VSIM	2	Intel	Unsigned	0	1	0	0	3		VtSig_CruiseCtrlActive	Cruise control is switched on. It is not ensured that the engine is controlled by cruise control.							
596	Output	CruiseCtrlEnableSwitch	CCV51	-	26	VSIM	2	Intel	Unsigned	0	1	0	0	3		VtSig_CruiseCtrlEnableSw	Switch signal which indicates that it is possible to manage the cruise control function.	0x18FEF100	0	Discrete	0	Cyclic	Yes	Env@Nodename_e_@Signa me
597	Output	BrakeSwitch	CCV51	-	28	VSIM	2	Intel	Unsigned	0	1	0	0	3		VtSig_BrakeSwitch	Switch signal which indicates that the driver operated brake foot pedal is being pressed. This brake foot pedal is controlling the vehicles' service brake (total vehicle braking application).							
598	Output	ClutchSwitch	CCV51	-	30	VSIM	2	Intel	Unsigned	0	1	0	0	3		VtSig_ClutchSwitch	Switch signal which indicates that the clutch pedal is being pressed. It is necessary for a safe drivetrain behavior that the clutch switch is set before the clutch is opened (cruise control function).	0x18FEF100	0	Discrete	0	Cyclic	Yes	Env@Nodename_e_@Signa me
599	Output	CruiseCtrlSetSwitch	CCV51	-	32	VSIM	2	Intel	Unsigned	0	1	0	0	3		VtSig_CruiseCtrlSetSwitch	Switch signal of the cruise control activator which indicates that the activator is in the position "set".	0x18FEF100	0	Discrete	0	Cyclic	Yes	Env@Nodename_e_@Signa me
600	Output	CruiseCtrlCoastSwitch	CCV51	-	34	VSIM	2	Intel	Unsigned	0	1	0	0	3		VtSig_CruiseCtrlCoastSwit	Switch signal of the cruise control activator which indicates that the activator is in the position "coast (decelerate)".	0x18FEF100	0	Discrete	0	Cyclic	Yes	Env@Nodename_e_@Signa me
601	Output	CruiseCtrlResumeSwitch	CCV51	-	36	VSIM	2	Intel	Unsigned	0	1	0	0	3		VtSig_CruiseCtrlResumeSw	Switch signal of the cruise control activator which indicates that the activator is in the position "resume".	0x18FEF100	0	Discrete	0	Cyclic	Yes	Env@Nodename_e_@Signa me
602	Output	CruiseCtrlAccelerateSwitch	CCV51	-	38	VSIM	2	Intel	Unsigned	0	1	0	0	3		VtSig_CruiseCtrlAccelerate	Switch signal of the cruise control activator which indicates that the activator is in the position "accelerate".	0x18FEF100	0	Discrete	0	Cyclic	Yes	Env@Nodename_e_@Signa me
619	Output	ParkingBrakeActuator	B	-	24	VSIM	2	Intel	Unsigned	0	1	0	0	3		VtSig_ParkingBrakeActuat	Signal which indicates the current state of the actuator(s) that control the parking brake (see also SPN 70 and 5275).	0x18FEFA21	0	Discrete	0	OnChange	Yes	Env@Nodename_e_@Signa me

VSIM J1939 BUS OUTPUT SIGNALS

SPN	Type	Name	Message	Multiplexing /Group	Startbit	Transmitter	Length (Bit)	Byte Order	Value Type	Initial Value	Factor	Offset	Minimum	Maximum	Unit	Value Table	Comment	Message ID	GenSig nactive	SigType	GenSig artValue	GenSigSendType	GenSigISupport	GenSigTVName
695	Output	EngOverrideCtrlMode	TSC1	-	0	VSIM	2	Intel	Unsigned	0	1	0	0	3		VSig_EngOverrideCtrlMode	The override control mode defines which sort of command is used.	0xC00FF00	0	Discrete	0	NoSigSendType	Yes	Env@NodeName_e_@SignalName
898	Output	EngineRequestedSpeed	TSC1	-	8	VSIM	16	Intel	Unsigned	0	0.125	0	0	8191.875	rpm	<none>	Parameter provided to the engine from external sources in the speed control message.	0xC00FF00	0	Discrete	0	NoSigSendType	Yes	Env@NodeName_e_@SignalName
914	Output	ServiceDistance	SERV	-	8	VSIM	16	Intel	Unsigned	#####	5	#####	-160635	167040	km	<none>	Accumulated distance traveled by the vehicle during its operation.	0x18FEC021	0	Range	0	NoSigSendType	Yes	Env@NodeName_e_@SignalName
917	Output	HighResolutionTotalVehicleDistance	VDHR	-	0	VSIM	32	Intel	Unsigned	0	5	0	0	3.88E+09	m	<none>		0x18FEC121	0	Range	0	OnChange	Yes	Env@NodeName_e_@SignalName
960	Output	Minutes	TD	-	8	VSIM	8	Intel	Unsigned	0	1	0	0	250	mins	<none>	The minutes component of the current time of day.	0x18FEE621	0	Range	0	Cyclic	Yes	Env@NodeName_e_@SignalName
961	Output	Hours	TD	-	0	VSIM	8	Intel	Unsigned	0	1	0	0	250	hr	<none>	The hours component of the current time of day.	0x18FEE621	0	Range	0	Cyclic	Yes	Env@NodeName_e_@SignalName
962	Output	Day	TD	-	32	VSIM	8	Intel	Unsigned	0.25	0.25	0	0.25	31.75	days	<none>	The day component of the current calendar date. This should be reported as the day component of the current date at UTC (Universal Time Coordinate).							
963	Output	Month	TD	-	24	VSIM	8	Intel	Unsigned	1	1	0	1	12	months	<none>	The month component of the current calendar date. This should be reported as the month component of the current date at UTC (Universal Time Coordinate).							
964	Output	Year	TD	-	40	VSIM	8	Intel	Unsigned	1985	1	1985	1985	2235	years	<none>	The year component of the current calendar date. This should be reported as the year component of the current date at UTC (Universal Time Coordinate).							
976	Output	PTOGovernorState	CCV51	-	48	VSIM	5	Intel	Unsigned	0	1	0	0	31		VSig_PTOGovernorState	This parameter is used to indicate the current state or mode of operation by the power takeoff (PTO) governor. In lieu of support for PTO Drive Engagement parameters.							
1213	Output	MalfunctionIndicatorLampStatus	DM1	-	6	VSIM	2	Intel	Unsigned	0	1	0	0	3		VSig_MalfunctionIndicator	A lamp used to relay only emissions-related trouble code information. This lamp is only illuminated when there is an emission-related trouble code active.	0x18FEC400	0	Control	0	Cyclic	Yes	Env@NodeName_e_@SignalName
1438	Output	ABS_EBSAmberWarningSignal	EBC1	-	44	VSIM	2	Intel	Unsigned	0	1	0	0	3		VSig_ABS_EBSAmberWarningSignal	This parameter commands the ABS/EBS amber/yellow optical warning signal.	0x18F0010B	0	Control	0	Cyclic	Yes	Env@NodeName_e_@SignalName
1487	Output	IlluminationBrightnessPercent	CL	-	0	VSIM	8	Intel	Unsigned	0	0.4	0	0	100	%	<none>	Commanded backlight brightness level for all cab displays.	0x18D00F21	0	Range	0	OnChange	Yes	Env@NodeName_e_@SignalName
1761	Output	Afttrtrmt1DslExhstFldTankLevel	AT1T11	-	0	VSIM	8	Intel	Unsigned	0	0.4	0	0	100	%	<none>	Ratio of volume of diesel exhaust fluid to the total volume of diesel exhaust fluid storage container.	0x18FE5600	0	Range	0	OnChange	Yes	Env@NodeName_e_@SignalName
1821	Output	PosOfDoors	OC1	-	0	VSIM	4	Intel	Unsigned	0	1	0	0	0		VSig_PosOfDoors	Used to indicate the actual position of the doors.	0x18FE4E21	0	Discrete	0	Cyclic	Yes	Env@NodeName_e_@SignalName
2348	Output	HighBeamHeadLightData	LD	-	6	VSIM	2	Intel	Unsigned	0	1	0	0	3		VSig_HighBeamHeadLight	This parameter provides measured data from the tractor high beam head light lamps.	0x18FE4021	0	Discrete	0	OnChange	Yes	Env@NodeName_e_@SignalName
2350	Output	LowBeamHeadLightData	LD	-	4	VSIM	2	Intel	Unsigned	0	1	0	0	3		VSig_LowBeamHeadLight	This parameter provides measured data from the tractor low beam head light lamps.	0x18FE4021	0	Discrete	0	OnChange	Yes	Env@NodeName_e_@SignalName
2368	Output	LeftTurnSignalLights	LD	-	14	VSIM	2	Intel	Unsigned	0	1	0	0	3		VSig_LeftTurnSignalLights	This parameter provides measured data from the tractor and attached implement left turn signal lights.	0x18FE4021	0	Discrete	0	OnChange	Yes	Env@NodeName_e_@SignalName
2370	Output	RightTurnSignalLights	LD	-	12	VSIM	2	Intel	Unsigned	0	1	0	0	3		VSig_RightTurnSignalLight	This parameter provides measured data from the tractor and attached implement right turn signal lights.	0x18FE4021	0	Discrete	0	OnChange	Yes	Env@NodeName_e_@SignalName
2372	Output	LeftStopLight	LD	-	22	VSIM	2	Intel	Unsigned	0	1	0	0	3		VSig_LeftStopLight	This parameter provides measured data from the tractor and attached implement left stop lights.	0x18FE4021	0	Discrete	0	OnChange	Yes	Env@NodeName_e_@SignalName
2374	Output	RightStopLight	LD	-	20	VSIM	2	Intel	Unsigned	0	1	0	0	3		VSig_RightStopLight	This parameter provides measured data from the tractor and attached implement right stop lights.	0x18FE4021	0	Discrete	0	OnChange	Yes	Env@NodeName_e_@SignalName

ProMaster Vehicle System Interface Module (VSIM)

VSIM J1939 BUS OUTPUT SIGNALS

SPN	Type	Name	Message	Multiplexing / Group	Startbit	Transmitter	Length (Bit)	Byte Order	Value Type	Initial Value	Factor	Offset	Minimum	Maximum	Unit	Value Table	Comment	Message ID	GenSig native	SigType	GenSigStartValue	GenSigSendType	GenSigISupport	GenSigEVName
2376	Output	CenterStopLight	LD	-	18	VSIM	2	Intel	Unsigned	0	1	0	0	3		VtSig_CenterStopLight	This parameter provides measured data from the tractor and attached implement center stop lights.	0x18FE4021	0	Discrete	0	OnChange	Yes	Env@NodeName_@SigName
2378	Output	TractorMarkerLight	LD	-	30	VSIM	2	Intel	Unsigned	0	1	0	0	3		VtSig_TractorMarkerLight	This parameter provides measured data from the tractor and attached implement marker lights.	0x18FE4021	0	Discrete	0	OnChange	Yes	Env@NodeName_@SigName
2382	Output	TractorClearanceLight	LD	-	26	VSIM	2	Intel	Unsigned	0	1	0	0	3		VtSig_TractorClearanceLight	This parameter provides measured data from the tractor high mounted clearance and center ID lights.	0x18FE4021	0	Discrete	0	OnChange	Yes	Env@NodeName_@SigName
2392	Output	BackUpLightAndAlarmHorn	LD	-	16	VSIM	2	Intel	Unsigned	0	1	0	0	3		VtSig_BackUpLightAndAlarm	This parameter provides measured data from the back up lights and/or associated alarm.	0x18FE4021	0	Discrete	0	OnChange	Yes	Env@NodeName_@SigName
2404	Output	RunningLight	LD	-	0	VSIM	2	Intel	Unsigned	0	1	0	0	3		VtSig_RunningLight	This parameter provides measured data from the vehicle's running lights.	0x18FE4021	0	Discrete	0	OnChange	Yes	Env@NodeName_@SigName
2556	Output	ControlByte	TPCM	Multiplexor	0	VSIM	8	Intel	Unsigned	0	1	0	0	255		VtSig_ControlByte	Control byte (i.e. Group Function) associated with the Transport Protocol - Connection Management (PGN 60)	0x18ECFF00	0	Reference	0	OnChange	Yes	Env@NodeName_@SigName
2560	Output	PGNNumber	TPCM	ControlByte	40	VSIM	24	Intel	Unsigned	0	1	0	0	16777200		VtSig_PGNNumber	Requested PGN in the TP.CM.RTS message.	0x18ECFF00	0	Range	0	OnChange	Yes	Env@NodeName_@SigName
2567	Output	TotalMessageSizeBAM	TPCM	ControlByte	8	VSIM	16	Intel	Unsigned	0	1	0	0	64255		VtSig_TotalMessageSizeBAM	Total message size (in bytes) for BAM message.	0x18ECFF00	0	Default	0	OnChange	Yes	Env@NodeName_@SigName
2568	Output	TotalNumberOfPacketsBAM	TPCM	ControlByte	24	VSIM	8	Intel	Unsigned	0	1	0	0	255		VtSig_TotalNumberPacketsBAM	Total number of packets for BAM message.	0x18ECFF00	0	Default	0	OnChange	Yes	Env@NodeName_@SigName
2572	Output	SequenceNumber	TPDT	ControlByte	0	VSIM	8	Intel	Unsigned	0	1	0	0	255		VtSig_SequenceNumber	Sequence Number (TP.DT).	0x18ECFF00	0	Default	0	OnChange	Yes	Env@NodeName_@SigName
2875	Output	HazardLightSwitch	OEL	-	12	VSIM	2	Intel	Unsigned	0	1	0	0	3		VtSig_HazardLightSwitch	A 2 bit parameter to indicate the selected position of the operator's hazard light switch.	0x18FDC21	0	Discrete	0	OnChange	Yes	Env@NodeName_@SigName
3038	Output	FlashMalfunctionIndicatorLamp	DM1	-	14	VSIM	2	Intel	Unsigned	0	1	0	0	3		VtSig_FlashMalfunctionIndicator	This parameter provides the capability to flash the MIL.	0x18FECAD0	0	Control	0	Cyclic	Yes	Env@NodeName_@SigName
3353	Output	Alt1Status	AS	-	16	VSIM	2	Intel	Unsigned	0	1	0	0	3		VtSig_Alt1Status	Alternator 1 operating status.	0x18FED521	0	Discrete	0	Cyclic	Yes	Env@NodeName_@SigName
3412	Output	LockStatusOfDoor1	DC2	-	0	VSIM	2	Intel	Unsigned	0	1	0	0	3		VtSig_LockStatusOfDoor1	Lock status of bus door 1.	0x18FDA521	0	Discrete	0	Cyclic	Yes	Env@NodeName_@SigName
3413	Output	OpenStatusOfDoor1	DC2	-	2	VSIM	2	Intel	Unsigned	0	1	0	0	3		VtSig_OpenStatusOfDoor1	Open status of bus door 1.	0x18FDA521	0	Discrete	0	Cyclic	Yes	Env@NodeName_@SigName
3415	Output	LockStatusOfDoor2	DC2	-	6	VSIM	2	Intel	Unsigned	0	1	0	0	3		VtSig_LockStatusOfDoor2	Lock status of bus door 2.	0x18FDA521	0	Discrete	0	Cyclic	Yes	Env@NodeName_@SigName
3416	Output	OpenStatusOfDoor2	DC2	-	8	VSIM	2	Intel	Unsigned	0	1	0	0	3		VtSig_OpenStatusOfDoor2	Open status of bus door 2.	0x18FDA521	0	Discrete	0	Cyclic	Yes	Env@NodeName_@SigName
3418	Output	LockStatusOfDoor3	DC2	-	12	VSIM	2	Intel	Unsigned	0	1	0	0	3		VtSig_LockStatusOfDoor3	Lock status of bus door 3.	0x18FDA521	0	Discrete	0	Cyclic	Yes	Env@NodeName_@SigName
3419	Output	OpenStatusOfDoor3	DC2	-	14	VSIM	2	Intel	Unsigned	0	1	0	0	3		VtSig_OpenStatusOfDoor3	Open status of bus door 3.	0x18FDA521	0	Discrete	0	Cyclic	Yes	Env@NodeName_@SigName
3421	Output	LockStatusOfDoor4	DC2	-	18	VSIM	2	Intel	Unsigned	0	1	0	0	3		VtSig_LockStatusOfDoor4	Lock status of bus door 4.	0x18FDA521	0	Discrete	0	Cyclic	Yes	Env@NodeName_@SigName
3422	Output	OpenStatusOfDoor4	DC2	-	20	VSIM	2	Intel	Unsigned	0	1	0	0	3		VtSig_OpenStatusOfDoor4	Open status of bus door 4.	0x18FDA521	0	Discrete	0	Cyclic	Yes	Env@NodeName_@SigName
3424	Output	LockStatusOfDoor5	DC2	-	24	VSIM	2	Intel	Unsigned	0	1	0	0	3		VtSig_LockStatusOfDoor5	Lock status of bus door 5 00 unlocked 01 locked10 error11 not available	0x18FDA521	0	Discrete	0	Cyclic	Yes	Env@NodeName_@SigName
3425	Output	OpenStatusOfDoor5	DC2	-	26	VSIM	2	Intel	Unsigned	0	1	0	0	3		VtSig_OpenStatusOfDoor5	Open status of bus door 5.	0x18FDA521	0	Discrete	0	Cyclic	Yes	Env@NodeName_@SigName
3948	Output	AtLeastOnePTOEngaged	PTODL	-	48	VSIM	2	Intel	Unsigned	0	1	0	0	3		VtSig_AtLeastOnePTOEngaged	Indicates that at least one PTO is engaged.	0x18FDA400	0	Control	0	Cyclic	Yes	Env@NodeName_@SigName
4952	Output	DriverBeltLockStatus	BDS	-	0	VSIM	2	Intel	Unsigned	0	1	0	0	3		VtSig_DriverBeltLockStatus	State of switch used to determine if Driver Beltlock is buckled.	0x14FD1721	0	Control	0	Cyclic	Yes	Env@NodeName_@SigName
4953	Output	PassengerBeltLockStatus	BDS	-	2	VSIM	2	Intel	Unsigned	0	1	0	0	3		VtSig_PassengerBeltLockStatus	State of switch used to determine if Passenger Beltlock is buckled.	0x14FD1721	0	Control	0	Cyclic	Yes	Env@NodeName_@SigName
5099	Output	EngOilPressLowLampData	DLC01	-	12	VSIM	2	Intel	Unsigned	0	1	0	0	3		VtSig_EngOilPressLowLamp	This parameter provides measured data from the Engine Oil Pressure Low Lamp.	0x18FD0521	0	Discrete	0	OnChange	Yes	Env@NodeName_@SigName
100000	Output	ACClutchEngel	CHY_INT	-	0	VSIM	1	Intel	Unsigned	0	1	0	0	0		<none>	Physical engagement status of the A/C clutch.	0x1CF0021	0	Discrete	0	OnChange	Yes	Env@NodeName_@SigName
100001	Output	ACSelect	CHY_INT	-	1	VSIM	1	Intel	Unsigned	0	1	0	0	0		<none>	Customer or automatic temperature control system has requested A/C. Is also activated when A/C is requested from the "upfilter remote A/C select" hardwired input on the VSIM module.	0x1CF0021	0	Discrete	0	OnChange	Yes	Env@NodeName_@SigName
100002	Output	IgnPos	CHY_INT	-	3	VSIM	3	Intel	Unsigned	0	1	0	0	0		VtSig_IgnPos	Drivers request	0x1CF0021	0	Discrete	0	OnChange	Yes	Env@NodeName_@SigName
100003	Output	AirBagDeployed	CHY_INT	-	2	VSIM	1	Intel	Unsigned	0	1	0	0	0		<none>	Indicates that an impact event has occurred resulting in airbag deployment. Active only for the current keycycle.	0x1CF0021	0	Discrete	0	OnChange	Yes	Env@NodeName_@SigName
100004	Output	PassengerODS	CHY_INT	-	6	VSIM	2	Intel	Unsigned	0	1	0	0	0		VtSig_PassengerODS	Passenger Occupant Detection Sensor Status. Active when passenger is present in the front passenger seat.	0x1CF0021	0	Discrete	0	OnChange	Yes	Env@NodeName_@SigName

ProMaster Vehicle System Interface Module (VSIM)

VSIM J1939 BUS OUTPUT SIGNALS

SPN	Type	Name	Message	Multiplexing Group	Startbit	Transmitter	Length (bit)	Byte Order	Value Type	Initial Value	Factor	Offset	Minimum	Maximum	Unit	Value Table	Comment	Message ID	GenSigActive	SigType	GenSigStartValue	GenSigSendType	GenSigLSupport	GenSigEVName
100005	Output	FtWigWag	CHY_ExLH	-	0	VSIM	1	Intel	Unsigned	0	1	0	0	0		<none>	Provides a 1.3Hz square wave at 50% duty cycle to match the front wig wag hard wire output on the VSIM. Active only when front wig wags are requested from the hard wire VSIM input.	0x1CFF0121	0	Discrete	0	OnChange	Yes	Env@Nodename_@Signame
100006	Output	RrWigWag	CHY_ExLH	-	1	VSIM	1	Intel	Unsigned	0	1	0	0	0		<none>	Provides a 1.3Hz square wave at 50% duty cycle to match the rear wig wag hard wire output on the VSIM. Active only when rear wig wags are requested from the hard wire VSIM input.	0x1CFF0121	0	Discrete	0	OnChange	Yes	Env@Nodename_@Signame
100007	Output	HowlerSiren	CHY_ExLH	-	3	VSIM	1	Intel	Unsigned	0	1	0	0	0		<none>	Signal used to disable horn/siren functions at low speeds. 0 when vehicle speed below 25mph. 1 when vehicle speed above 25mph.	0x1CFF0121	0	Discrete	0	OnChange	Yes	Env@Nodename_@Signame
100008	Output	Horn	CHY_ExLH	-	2	VSIM	1	Intel	Unsigned	0	1	0	0	0		<none>	Horn switch status.	0x1CFF0121	0	Discrete	0	OnChange	Yes	Env@Nodename_@Signame
100009	Output	LockOutput	CHY_DrLk	-	0	VSIM	1	Intel	Unsigned	0	1	0	0	0		<none>	Active for approximately 500ms when a lock request is made for the passenger doors.	0x1CFF0221	0	Discrete	0	OnChange	Yes	Env@Nodename_@Signame
100010	Output	UnLockOutput	CHY_DrLk	-	1	VSIM	1	Intel	Unsigned	0	1	0	0	0		<none>	Active for approximately 500ms when an unlock request is made for the passenger doors.	0x1CFF0221	0	Discrete	0	OnChange	Yes	Env@Nodename_@Signame