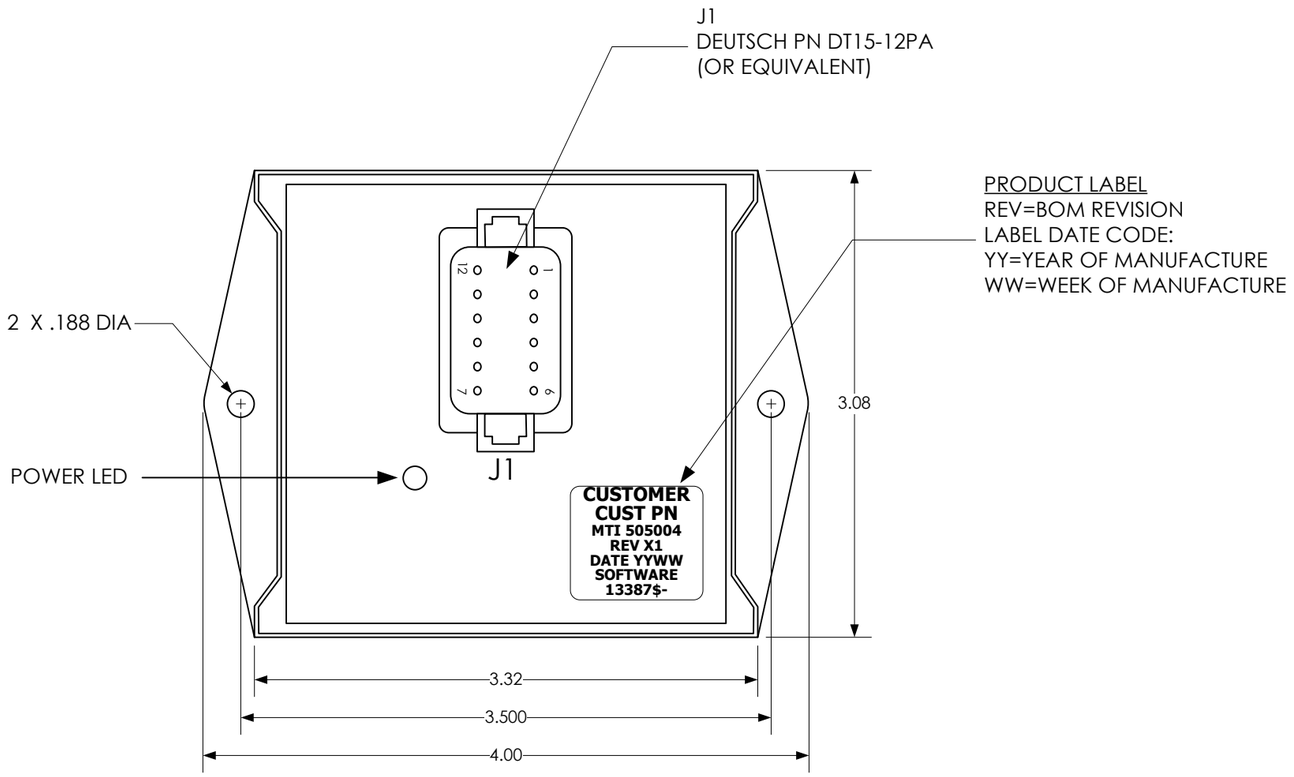
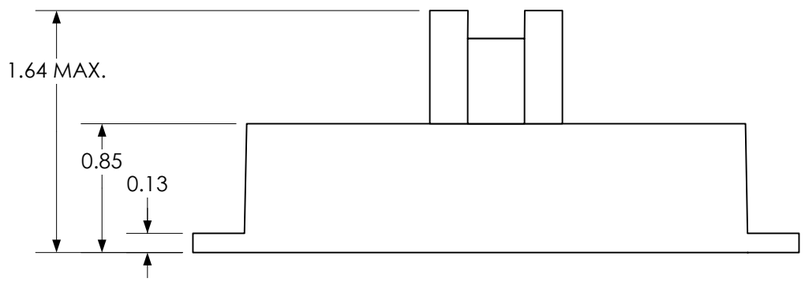
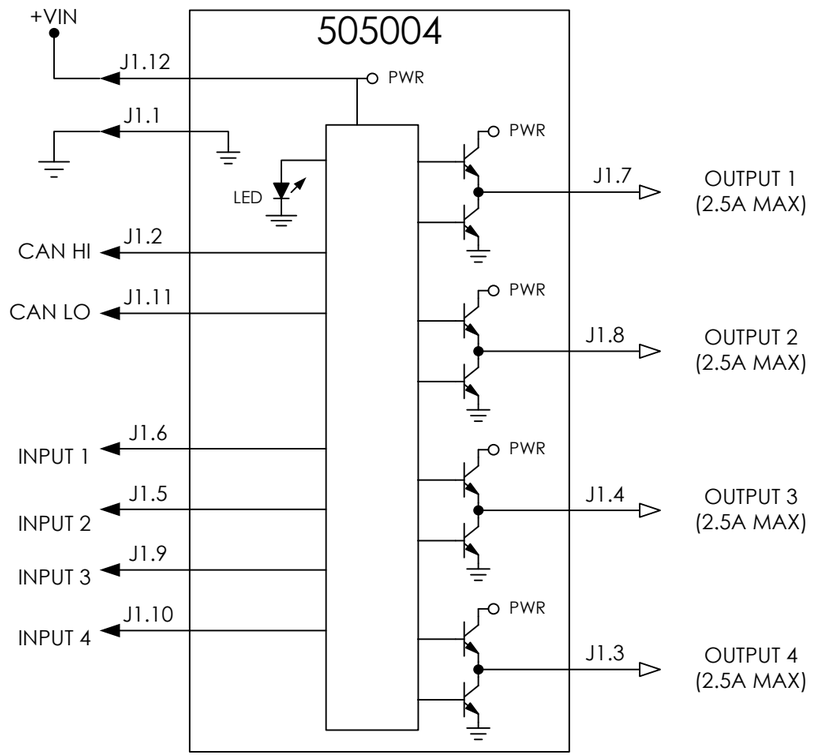
REVISIONS				
REV	DATE	ECN	DESCRIPTION	APVD
				-







OPERATING VOLTAGE: +9VDC TO +36VDC (+12VDC OR 24VDC NOMINAL).
REFERENCE CAN COMMUNICATION SPECIFICATION: XXXXXS_
REFERENCE FUNCTIONAL SPECIFICATION: 13388S_
CANBUS PROTOCOL: SAE J1939/ISO 11783, 250KBS/500KBS
505004 SOURCE ADDRESS: 0x99 (DEFAULT)
TERMINATION: NONE

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES AND TOLERANCES ARE

TWO PLACE DECIMAL	THREE PLACE DECIMAL	ANGLES
+/-	+/-	+/-

DO NOT SCALE DRAWING

CHECKED	NAME	DATE XX/XX/XX
APPROVED	NAME	DATE XX/XX/XX

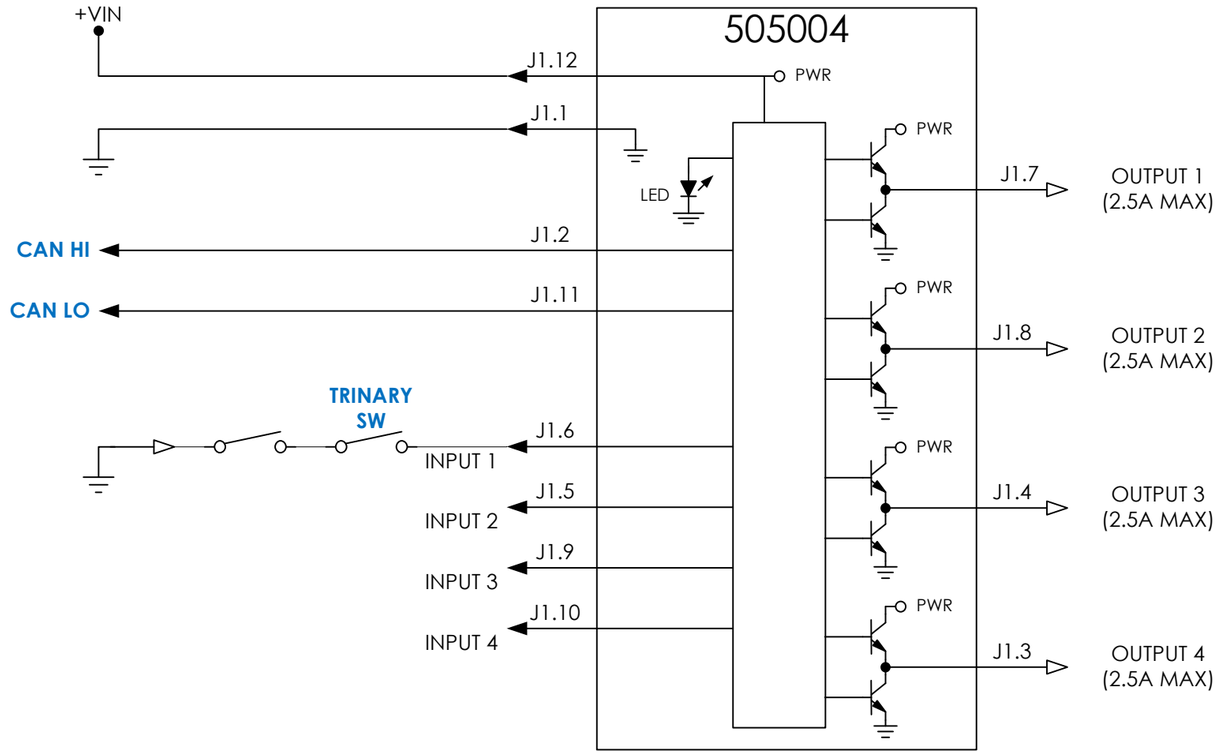
MARLIN TECHNOLOGIES INC.

TITLE
OUTLINE, 505004
MFLEX 4IN/4OUT CAN MODULE

SIZE	DRAWING NUMBER	TYPE	REV
B	013xxx	O	X1

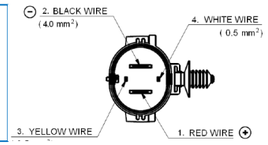
DRAWN M. SCHELL	DATE 05/20/20	SHEET 1 OF 4

REVISIONS				
REV	DATE	ECN	DESCRIPTION	APVD
				-



EV200AAANA
High Voltage Relay
9-36V (1.7W regulated)
(0.07A at 24VDC)

Yazaki Hybrid 7282-8497-90
(4 pins) [?A] 1.5/9.5 size
DC Blower Fan Connector
1) Power 3)Ain
2) Ground 4)PWM **(J4-6)**



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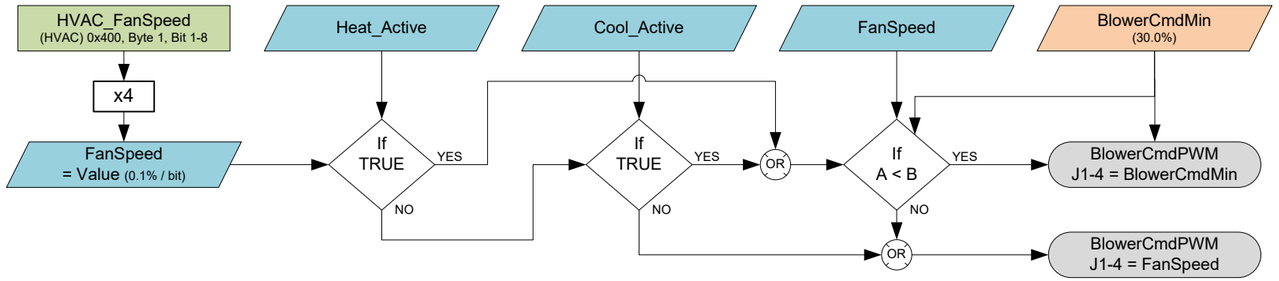
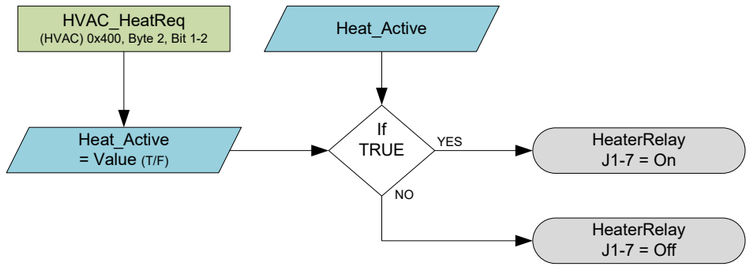
DRAWN M. SCHELL	DATE 05/20/20	SHEET 2 OF 4

REVISIONS				
REV	DATE	ECN	DESCRIPTION	APVD
				-

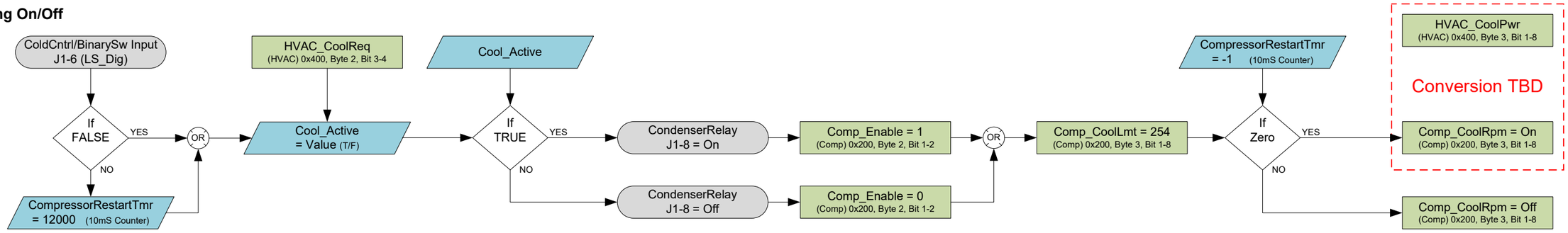
Blower Fan Speed



Heating On/Off



Cooling On/Off



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DRAWN M. SCHELL	DATE 05/20/20	SHEET 3 OF 4

Inst#	A_Type	A_Index	OPERAND	B_Type	B_Index	C_Type	C_Index	Comment
	Set Configuration and CAN Msg info							
1	Phy	63	SetVar			0		XML Mode
2	Phy	53	SetVar			100		100 Hz PWMs
3	Phy	54	SetVar			1		Heater Relay (HS_Dig)
4	Phy	55	SetVar			1		Comp Relay (HS_Dig)
5	Phy	56	SetVar			6		Blower Fan (LS_DC)
6	Phy	57	SetVar			0		Not Used
7	Can	0	SetVar			62464		Rx1: (Cmds)
8	Can	1	SetVar			64		Rx1: SID
9	Can	12	SetVar			62208		Rx2: 0x300(Status Info)
10	Can	13	SetVar			64		Rx2: SID
11	Can	24	SetVar			62209		Rx2: 0x301(Fault Flags)
12	Can	25	SetVar			64		Rx2: SID
13	Can	6	SetVar			61952		Tx1: 0x200(Comp Cmds)
14	Can	7	SetVar			100		Tx1: SID, 100mS
15	Can	18	SetVar			62465		Tx2: 0x401 (Status Info)
16	Can	19	SetVar			100		Tx2: SID, 100mS
	Set Constants and Variables needed							
17	Tmp	6	SetVar			255		LSB Mask
18	Tmp	7	SetVar			65280		MSB Mask
19	Tmp	8	SetVar			768		Heat Flag Mask
20	Tmp	9	SetVar			3072		Cool Flag Mask
21	Tmp	10	SetVar			10		x10 Scalar
22	Tmp	11	SetVar			256		Heat On Flag
23	Tmp	12	SetVar			1024		Cool On Flag
24	Tmp	13	SetVar			256		CANout: Cool On Flag
25	Tmp	14	SetVar			254		CompSpd Ratio Numerator
26	Tmp	15	SetVar			10		CompSpd Ratio Denominator
27	Tmp	16	SetVar			300		MinFanSpdRequired
28	CAN	11	SetVar			13330		value to plug into CAN msg
	Heat On Flag							
29	Can	2	AND	Tmp	8	Par	2	Heat Cmd = Rx1:D2:Bit1-2
30	Par	2	IF_EQ	Tmp	11	Phy	24	Heat On if True
	Cooling On Flag, with Input1 safety logic							
31	Can	2	AND	Tmp	9	Par	3	CoolCmd = Rx1:D2:Bit1-2
32	Par	3	IF_EQ	Tmp	12	Phy	25	Cool On if True (T/F)
33	Phy	6	NOT			Par	5	NOT(In1_Lo)
34	Par	5	IF(SET)	Tmp	0	Phy	25	Disable Cool if In1 isn't Gnd
	Blower Fan Command with MinSpd if Heat or Cool is on							
35	Can	2	AND	Tmp	6	Par	1	FanSpd = Rx1:D1
36	Par	1	U_MUL	Tmp	10	Phy	30	Blower_DC = FanSpd * 10
37	Phy	24	OR	Phy	25	Par	7	Is FanSpdLimitReq
38	Phy	30	IF(LT)	Tmp	16	Par	8	Is FanSpd < MinSpd? (T/F)
39	Par	7	AND	Par	8	Par	9	Is FanSpdLimitReq
40	Par	9	IF(SET)	Tmp	16	Phy	30	then FanSpd = MinSpd
	Convert TempCmd to CompCmd							
41	Can	3	AND	Tmp	6	Par	6	TempCmd=Rx1:D3
42	Par	6	U_MUL	Tmp	14	Par	6	Par6 = Par6 * 2.54
43	Par	6	U_DIV	Tmp	15	Par	6	CompCmd[50rpm/bit]
	Setup Tx1 for CompCmd,CoolingFlag,PwrLimit							
44	Tmp	0	BUF			Can	8	Clear Tx1:D0-1
45	Par	4	IF(SET)	Par	6	Can	8	Tx1:D1 = TempCmd[1%/bit]
46	Par	4	IF(OR)	Tmp	13	Can	8	Tx1:D2 = Cool Cmd Flag
47	Tmp	14	BUF			Can	9	Tx1:D3 = Pwr Limit
	End of Commands							End of XML logic

REVISIONS				
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