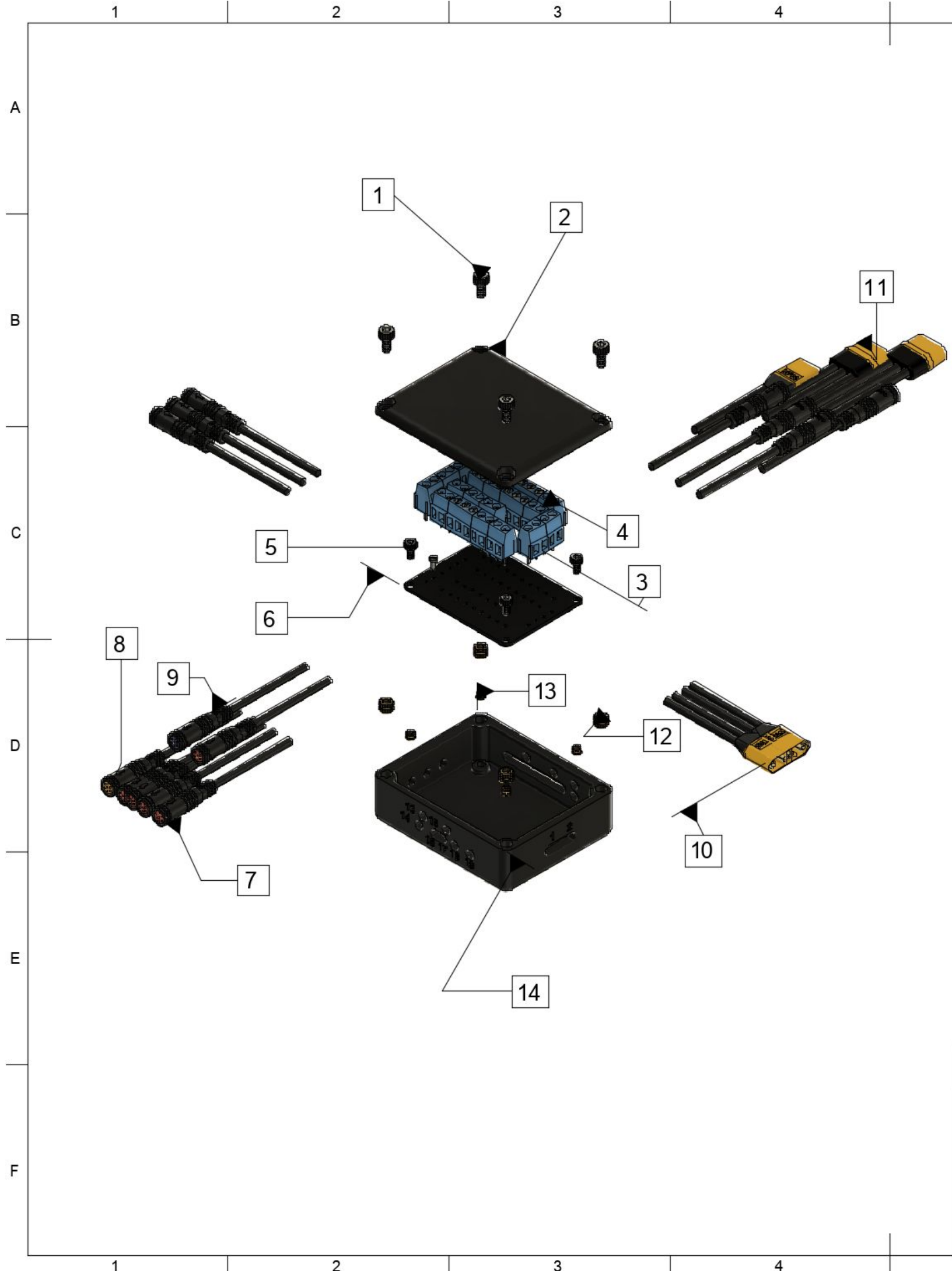


12v V2 DOT Street Legal System Assembly & Wiring/Pinout Diagram



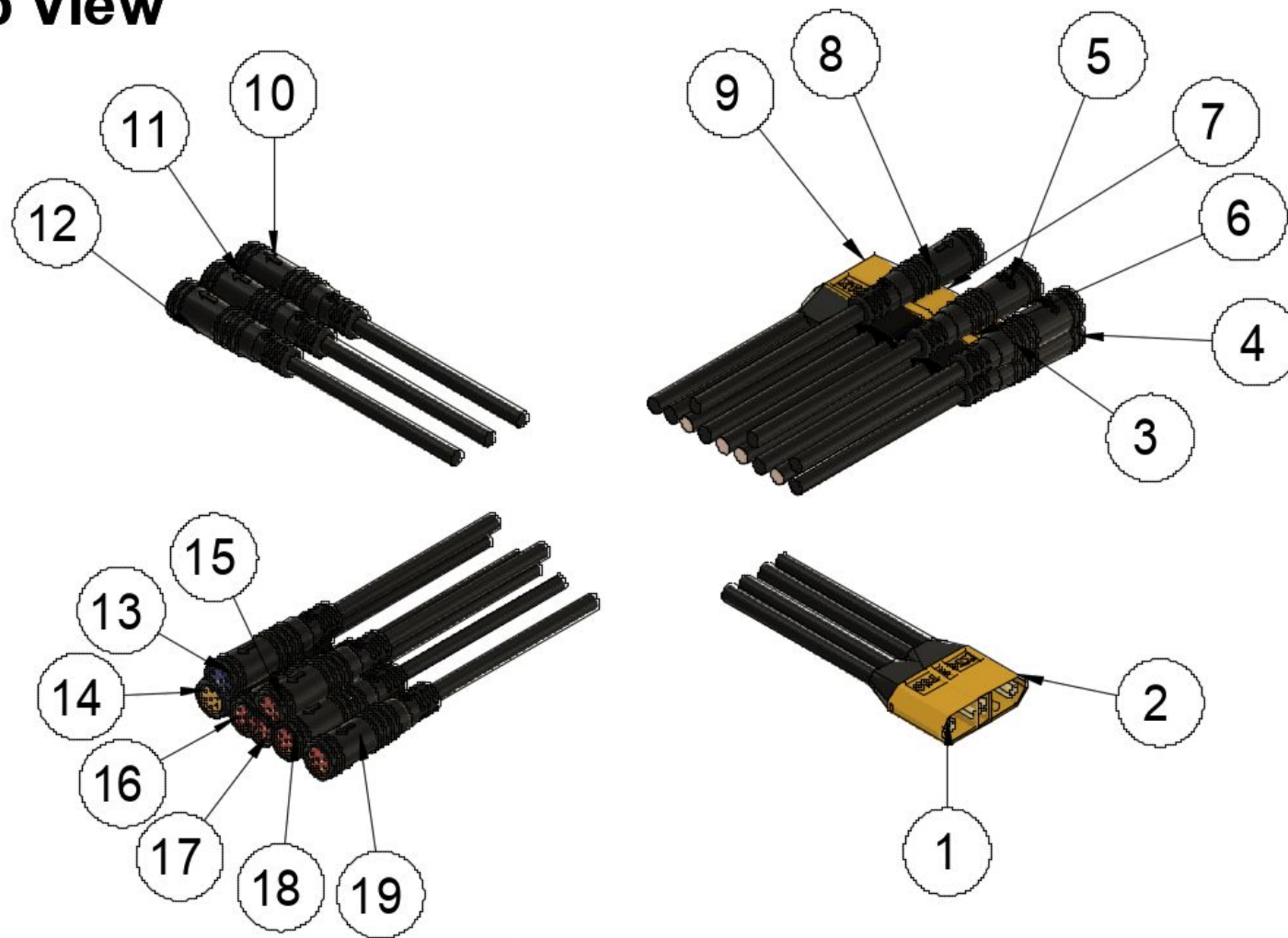
EM Engineering Solutions LLC



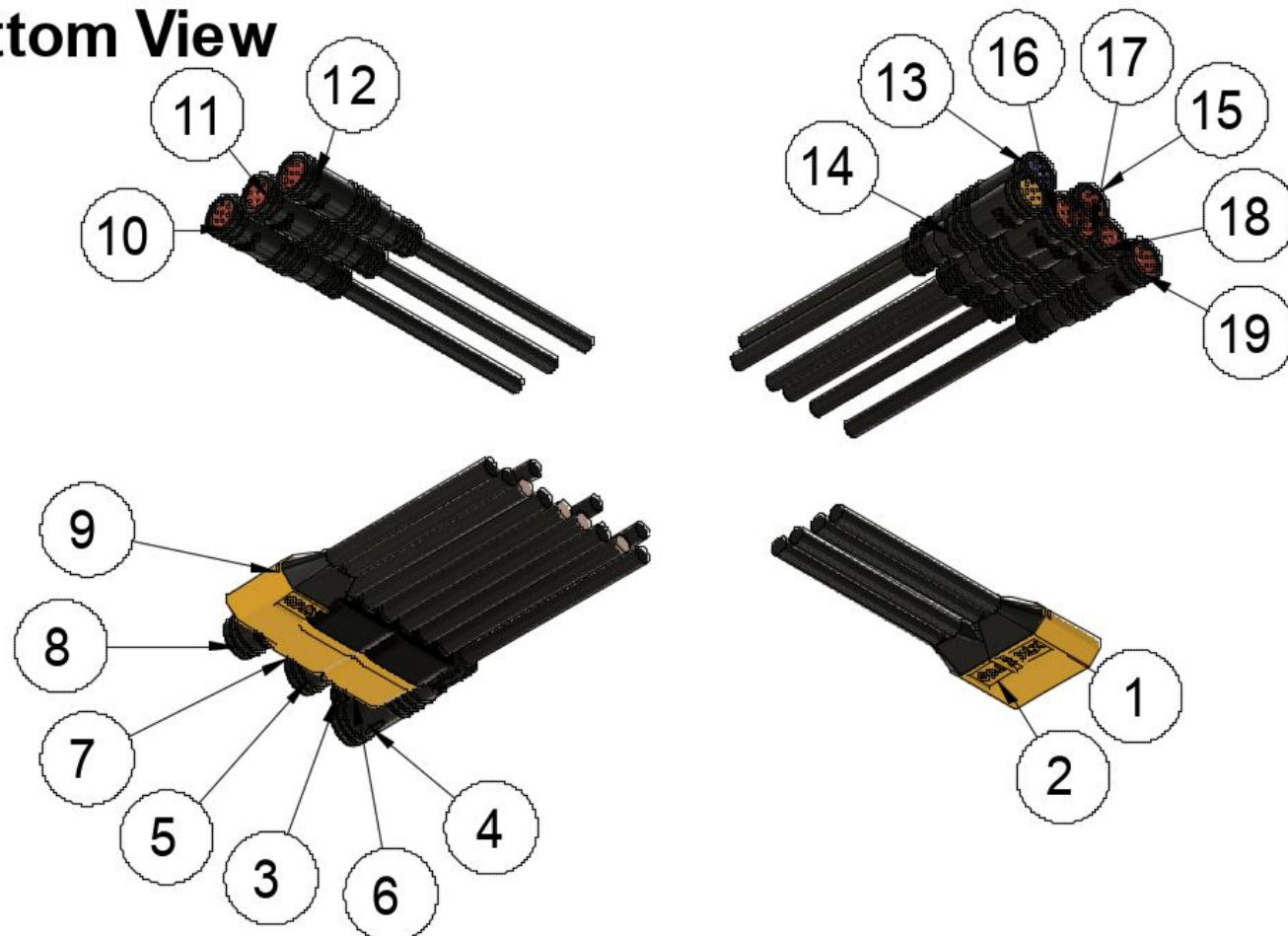
Assembly Table				
#	Qty	Name	Description	Material
1	4	M4x8 Socket Head Screw	Lid Retainemnt Bdts	6061T Aluminum
2	1	Top Case Lid	Case Lid	PETG
3	16	2 Pin Terminal Block	2 Pin terminal blocks soldered to PCB	AI/ABS
4	4	3 Pin Terminal Block	3 Pin Terminal Blocks Soldered to PCB	AI/ABS
5	4	M3x8 Socket Head Screw	PCB-Case Retainement Bdts	6061T Aluminum
6	1	PCB	Main 12v V2 DOT Street Legal SYstem PCB for Switching and Power Distrobution	Fr-4 PCB
7	10	2 Pin HiGo Female Connector	Ferruled 2 Pin HiGo Female Output Connector	PVC
8	2	3 Pin HiGo Female COnnector	Ferruled 3 Pin HiGo Female Output Connector	PVC
9	2	4 Pin HiGo Female Connector	Ferruled 4 Pin HiGo Female Output Connector	PVC
10	3	XT-60 Female Connector	Ferruled 2 Pin XT-60 Female Output Connector	Silicone/CC Wire, PVC
11	2	MR-60 Male Connector	Ferruled 3 Pin MR-60 Male Output Connector	Silicone/CC Wire, PVC
12	4	M4 Heat Set Insert Thread	M4 Brass Heat Set Insert for Threading	Brass
13	4	M3 Heat Set Insert Thread	M3 Brass Heat Set Insert for Threading	Brass
14	1	Main Casing	Main Casing	PETG

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		Document type PDF	Document status FINAL		
		Title 12v V2 DOT Street Legal System Exploded View EM Engineering Solutions LLC		DWGNo. 1	
		Rev. 1	Date of Issue 6/19/23	Sheet 2/9	

Top View



Bottom View



Parts List

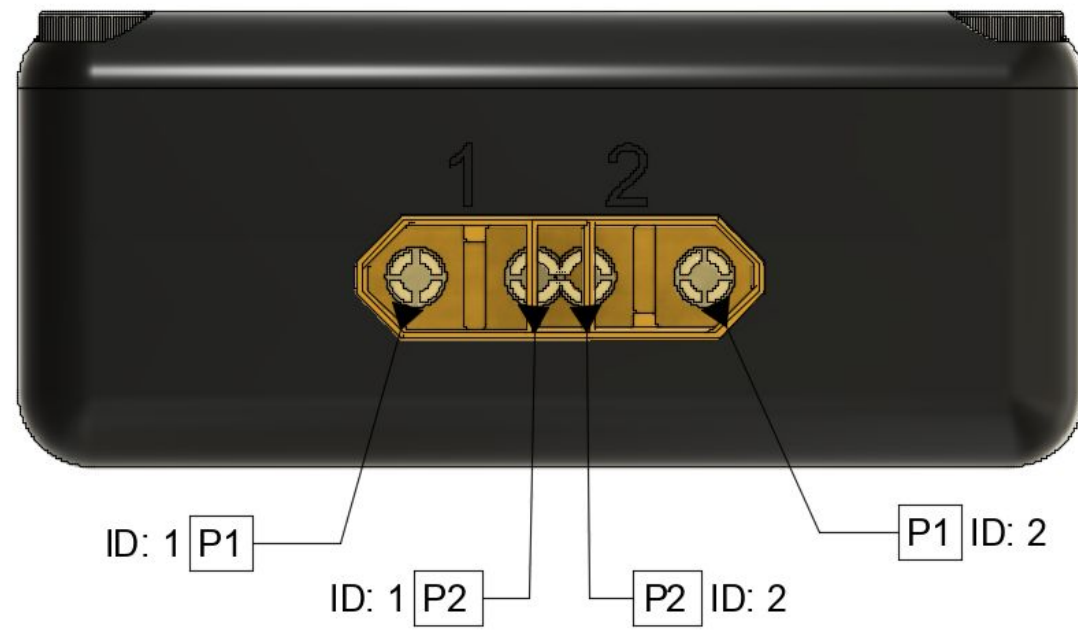
Item	Part Number	Description
1	Main Power Input (12v) Cable	XT-60 Female Connector
2	Mains Killswitch Cable	XT-60 Female Connector
3	Right Front Turn Signal Cable	HiGo 2-Pin Female Connector
4	Left Front Turn Signal Cable	HiGo 2-Pin Female Connector
5	Turn Signal Switch Cable	HiGo 3-Pin Female Connector
6	Headlight Switch Cable	MR-60 Male Connector
7	Headlight Cable	MR-60 Male Connector
8	Left Eggrider Dashboard Cable	HiGo 4-Pin Female Connector
9	Night Light Switch Cable	XT-60 Female Connector
10	Horn Cable	HiGo 2-Pin Female Connector
11	Horn Switch Cable	HiGo 2-Pin Female Connector
12	USB/Accessory Out Cable	HiGo 2-Pin Female Connector
13	Right Eggrider Dashboard Cable	HiGo 4-Pin Female Connector
14	Tailight Cable	HiGo 3-Pin Female Connector
15	Lisense Plate Light Cable	HiGo 2-Pin Female Connector
16	Left Rear Turn Signal Cable	HiGo 2-Pin Female Connector
17	Right Rear Turn Signal Cable	HiGo 2-Pin Female Connector
18	Left Brakeswitch Cable	HiGo 2-Pin Female Connector
19	Right Brakeswitch Cable	HiGo 2-Pin Female Connector

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		Title 12v V2 DOT SLS Wiring Diagram Expanded View Connectors EM Engineering Solutions LLC		DWGNo. 1	
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ID: 1			ID: 2		
Power In (12v)			Mains Killswitch		
Pin #	Connection Name	Wire Color	Pin #	Connection Name	Wire Color
1	Power In (-)	Black (Corner Side)	1	Power In (+)	Black (Corner Side)
2	Power In (+)	Black (Square Side)	2	Power Out (+)	Black (Square Side)




****Please Note: The CAD Model Incorrectly Shows the ID: 2 Connector, In real life, the Corner Sides will Align, Please follow the Pinout Above which shows the pin in relation to connector shape, Thank you****




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		Title 12v V2 DOT SLS Front View EM Engineering Solutions LLC		DWG No. 1	
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ID: 3		Front Right Turn Signal	
Pin #	Connection Name	Wire Color	
1	Power In (G+)	Blue	
2	Power In (-)	Black	




ID: 4		Front Left Turn Signal	
Pin #	Connection Name	Wire Color	
1	Power In (G+)	Blue	
2	Power In (-)	Black	




ID: 5		Turn Signal Switch	
Pin #	Connection Name	Wire Color	
1	Power In (+)	Red	
2	Left Turn Signal	Blue	
3	Right Turn Signal	Black	




ID: 6		Headlights	
Pin #	Connection Name	Wire Color	
1	High Beams	Black (Indent Pin)	
2	Low Beams	Black (Leftmost Pin)	
3	Power In (-)	Black (Center Pin)	




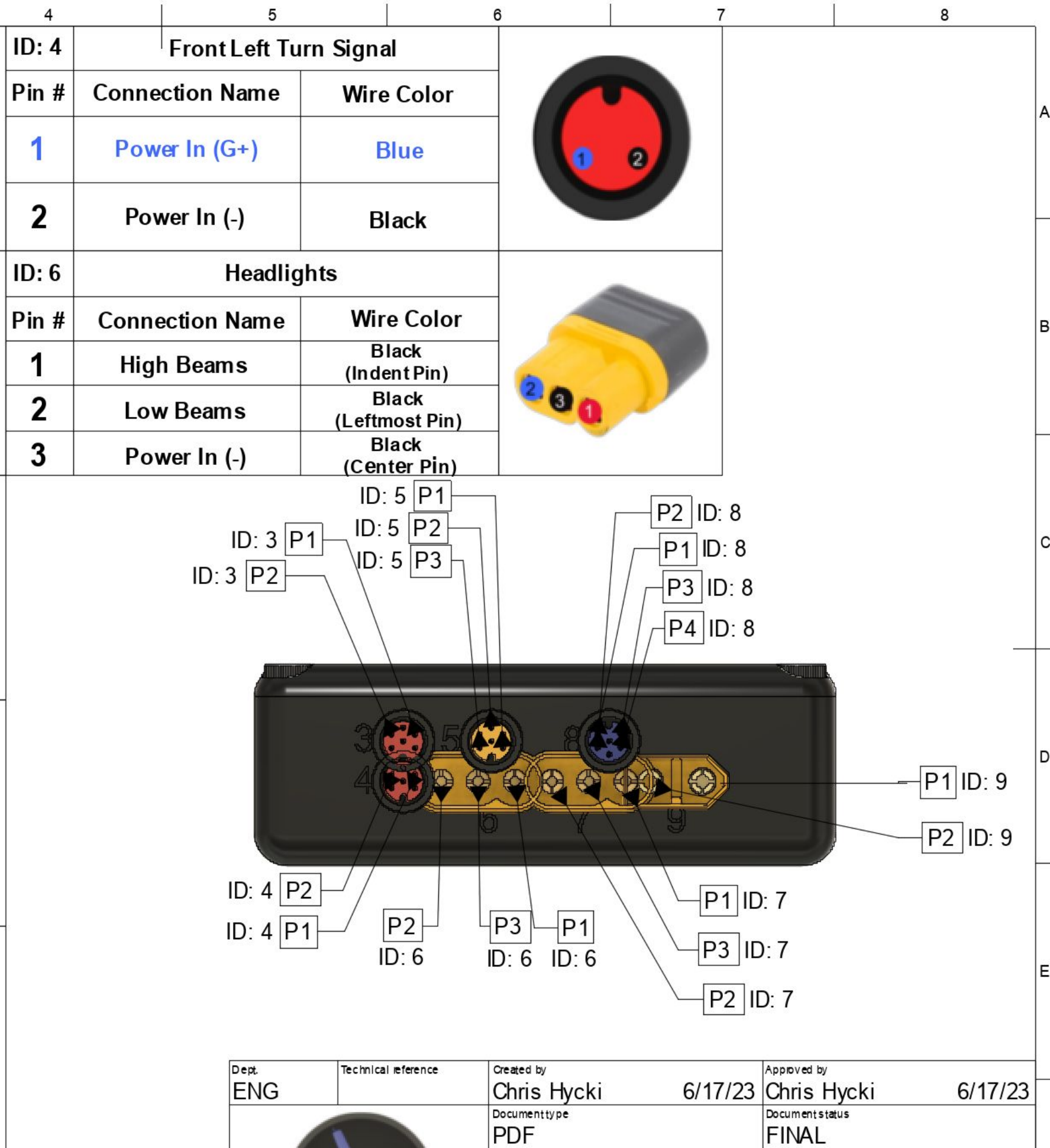
ID: 7		Headlight Switch	
Pin #	Connection Name	Wire Color	
1	High Beam	Black (Indent Pin)	
2	Low Beams	Black (Leftmost Pin)	
3	Power In (+)	Black (Center Pin)	



ID: 8		Eggrider Dashboard (Left)	
Pin #	Connection Name	Wire Color	
1	Brake Lights	Red	
2	Night Light	Blue	
3	Power In (-)	Black	
4	Left Turn Signal	Yellow	



ID: 9		Night Light Switch	
Pin #	Connection Name	Wire Color	
1	Power In (+)	Black (Corner Side)	
2	Power Out (+)	Black (Square Side)	

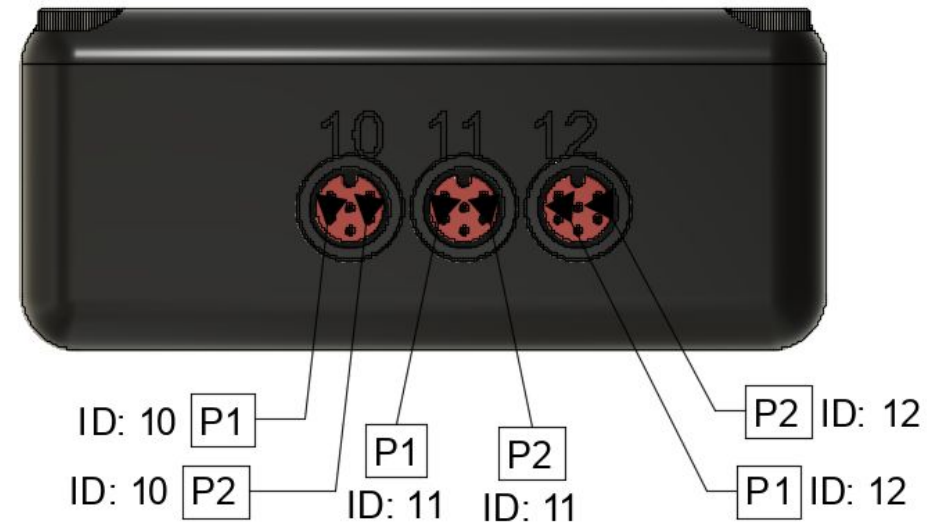



****Please Note: Connector ID: 7 is flipped in production for effeincy, please refer to the Pinout Diagram for Connections****

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		Documenttype PDF	Documentstatus FINAL		
		Title 12v V2 DOT SLS Left Side View EM Engineering Solutions LLC	DWG No. 1		
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ID: 10			ID: 11		
Horn			Horn Switch		
Pin #	Connection Name	Wire Color	Pin #	Connection Name	Wire Color
1	Power In (+)	Blue	1	Power Out (+)	Blue
2	Power In (-)	Black	2	Power In (+)	Black

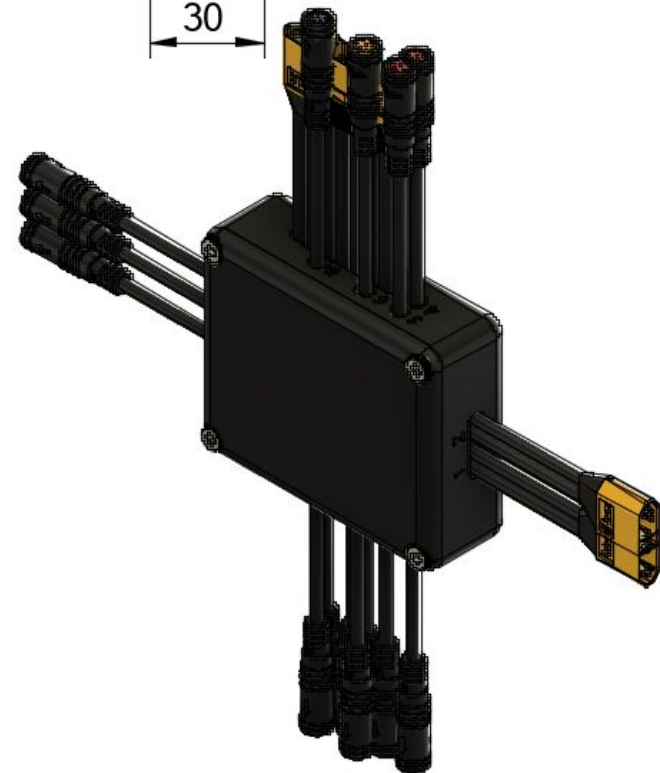
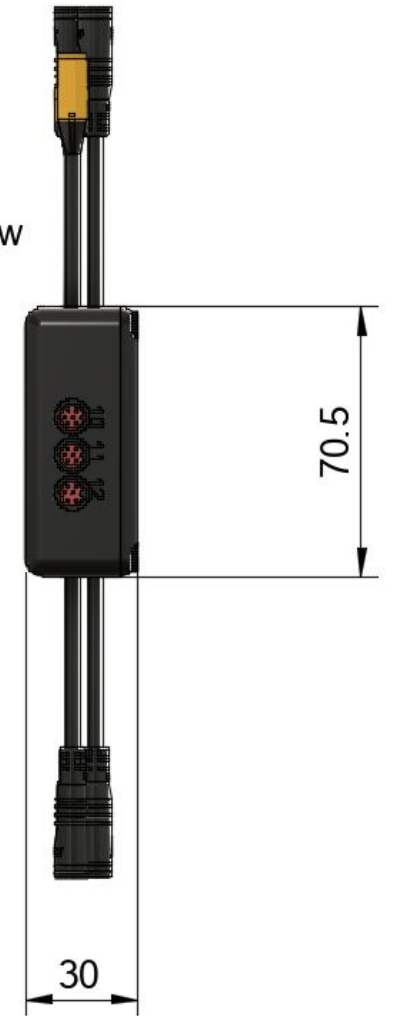
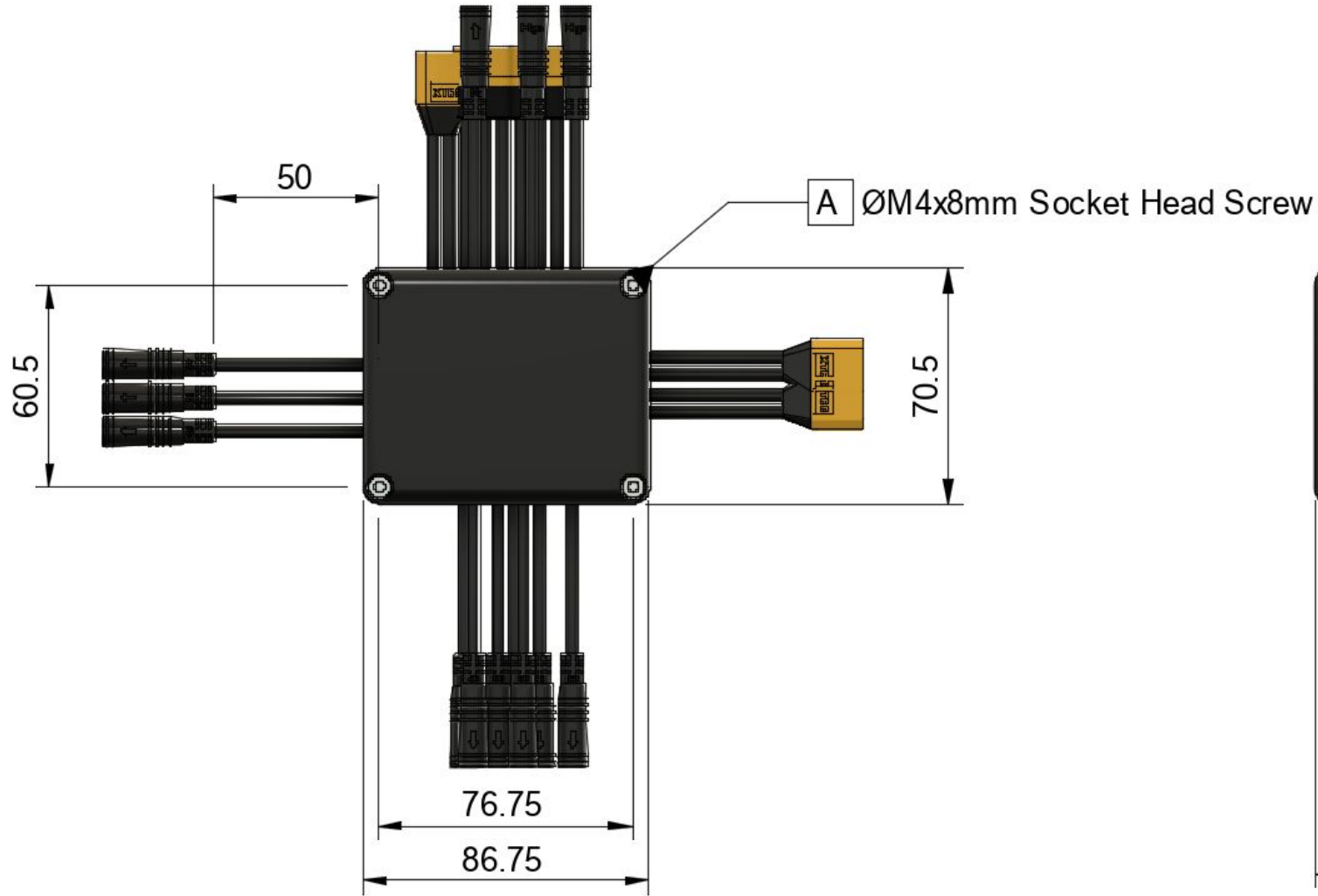
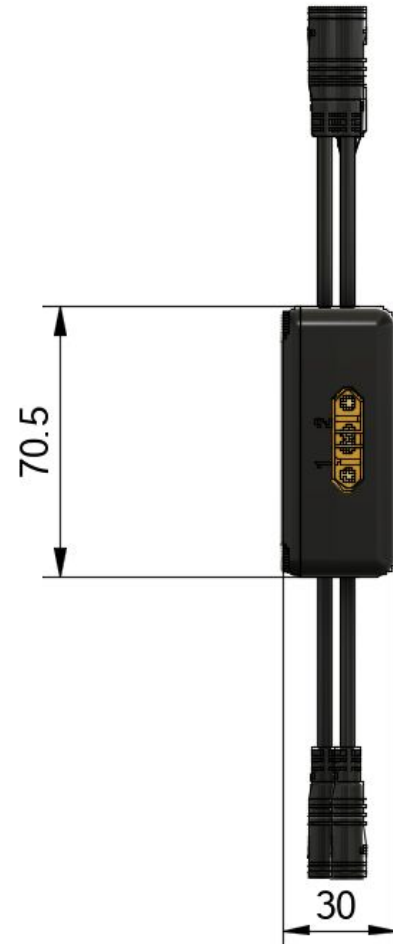
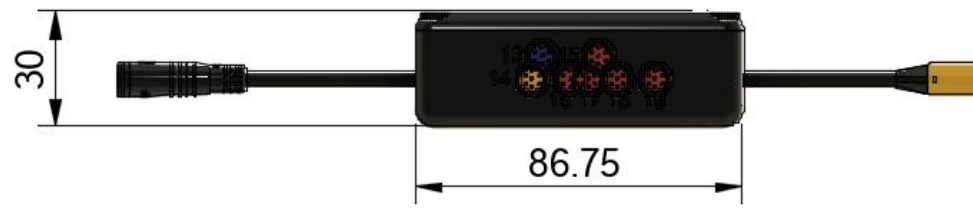
ID: 12		
USB / Accessory Out		
Pin #	Connection Name	Wire Color
1	Power In (+)	Blue
2	Power In (-)	Black




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		Title 12v V2 DOT SLS Rear View EM Engineering Solutions LLC		DWG No. 1	
		Rev. 1	Date of Issue 6/19/23	Sheet 6/9	

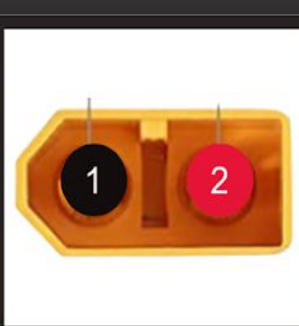
	1	2	3	4	5	6	7	8																																						
A	ID: 13 Eggrider Dashboard (Right)			ID: 14 Taillight																																										
	Pin #	Connection Name		Wire Color	Pin #		Connection Name	Wire Color																																						
	1	System Power (+)		Red	1		Night Lights	Red																																						
	2	Night Light		Blue	2		Brake Lights	Blue																																						
	3	System Power (-)		Black	3		Power In (-)	Black																																						
B	ID: 15 License Plate Light			ID: 16 Rear Left Turn Signal																																										
	Pin #	Connection Name		Wire Color	Pin #		Connection Name	Wire Color																																						
	1	Power In (+)	Blue	1	Power In (G+)	Blue																																								
	2	Power In (-)	Black	2	Power In (-)	Black																																								
C	ID: 17 Rear Right Turn Signal			<p> ID: 13 P3 ID: 13 P4 ID: 13 P1 ID: 13 P2 ID: 14 P1 ID: 14 P2 ID: 14 P3 ID: 15 P1 ID: 15 P2 ID: 16 P1 ID: 16 P2 ID: 17 P1 ID: 17 P2 ID: 18 P1 ID: 18 P2 ID: 19 P1 ID: 19 P2 </p>																																										
	Pin #	Connection Name							Wire Color																																					
	1	Power In (G+)							Blue																																					
	2	Power In (-)	Black																																											
D	ID: 18 Left Brakeswitch																																													
	Pin #	Connection Name							Wire Color																																					
	1	Power Out (+)							Blue																																					
	2	Power In (+)	Black																																											
E	ID: 19 Right Brakeswitch																																													
	Pin #	Connection Name							Wire Color																																					
	1	Power Out (+)		Blue																																										
	2	Power In (+)	Black																																											
F				<table border="1"> <tr> <td>Dept</td> <td>Technical reference</td> <td>Created by</td> <td>Approved by</td> </tr> <tr> <td>ENG</td> <td></td> <td>Chris Hycki</td> <td>Chris Hycki</td> </tr> <tr> <td colspan="2"></td> <td>Document type</td> <td>Document status</td> </tr> <tr> <td colspan="2"></td> <td>PDF</td> <td>FINAL</td> </tr> <tr> <td colspan="2"></td> <td>Title</td> <td>DWG No.</td> </tr> <tr> <td colspan="2"></td> <td>12v V2 DOT SLS</td> <td>1</td> </tr> <tr> <td colspan="2"></td> <td>Right View</td> <td></td> </tr> <tr> <td colspan="2"></td> <td>EM Engineering Solutions LLC</td> <td></td> </tr> <tr> <td>Rev.</td> <td>Date of Issue</td> <td colspan="2">Sheet</td> </tr> <tr> <td>1</td> <td>6/19/23</td> <td colspan="2">7/9</td> </tr> </table>		Dept	Technical reference	Created by	Approved by	ENG		Chris Hycki	Chris Hycki			Document type	Document status			PDF	FINAL			Title	DWG No.			12v V2 DOT SLS	1			Right View				EM Engineering Solutions LLC		Rev.	Date of Issue	Sheet		1	6/19/23	7/9		
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Rev.	Date of Issue	Sheet																																												
1	6/19/23	7/9																																												
	1	2	3	4	5	6	7	8																																						

****Please Note: It shows 50mm as wire length, 80mm is standered length, customizable up to 1m****



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		Document type PDF	Document status FINAL		
		Title 12v V2 DOT SLS Dimensioned View EM Engineering Solutions LLC		DWGNo. 1	
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Night Light Switch		
Connection #	Connection	Wire Color
1	Power in (+)	Black
2	Power out (+)	Red



Headlights		
Connection #	Connection	Wire Color
1	Power in (-)	Black
2	Low Beams	Yellow
3	High Beams	Red



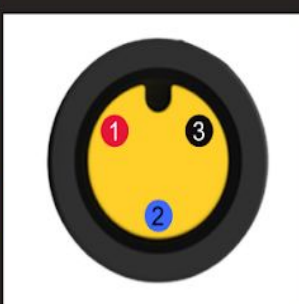
Headlight Switch		
Connection #	Connection	Wire Color
1	Power in (+)	Black
2	Low Beams	Blue
3	High Beams	Red



Front Left Turn Signal		
Connection #	Connection	Wire Color
1	Power in (G+)	Blue
2	Power in (-)	Black



Turn Signal Switch		
Connection #	Connection	Wire Color
1	Power in (+)	Red
2	Left Turn Signal	Blue
3	Right Turn Signal	Black



12v V2 DOT Street Legal System Wiring/Pinout Diagram

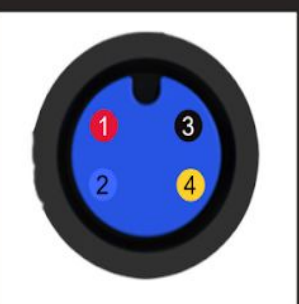
Front Right Turn Signal		
Connection #	Connection	Wire Color
1	Power in (G+)	Blue
2	Power in (-)	Black



Dashboard Left		
Connection #	Connection	Wire Color
1	Brake Lights	Red
2	Night Light	Blue
3	Power in (-)	Black
4	Left Turn Signal	Yellow



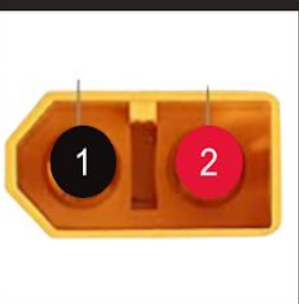
Dashboard Right		
Connection #	Connection	Wire Color
1	System Power (+)	Red
2	High Beams	Blue
3	Power in (-)	Black
4	Right Turn Signal	Yellow



Killswitch		
Connection #	Connection	Wire Color
1	Power in (+)	Black
2	Power Out (+)	Red



Main Power In		
Connection #	Connection	Wire Color
1	Power in (-)	Black
2	Power in (+)	Red



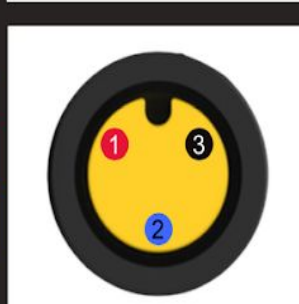
Horn Switch		
Connection #	Connection	Wire Color
1	Power Out (+)	Blue
2	Power in (+)	Black



Horn		
Connection #	Connection	Wire Color
1	Power in (+)	Blue
2	Power in (-)	Black



Tailight		
Connection #	Connection	Wire Color
1	Night Lights	Red
2	Brake Lights	Blue
3	Power In (-)	Black



License Plate Light		
Connection #	Connection	Wire Color
1	Power in (+)	Blue
2	Power in (-)	Black



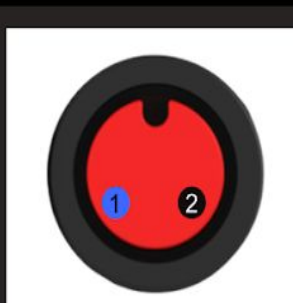
USB/Accessory Out		
Connection #	Connection	Wire Color
1	Power in (+)	Blue
2	Power in (-)	Black



Rear Left Turn Signal		
Connection #	Connection	Wire Color
1	Power in (G+)	Blue
2	Power in (-)	Black



Left Brakeswitch		
Connection #	Connection	Wire Color
1	Power Out (+)	Blue
2	Power in (+)	Black



Right Brakeswitch		
Connection #	Connection	Wire Color
1	Power Out (+)	Blue
2	Power in (+)	Black



Rear Right Turn Signal		
Connection #	Connection	Wire Color
1	Power in (G+)	Blue
2	Power in (-)	Black

