

µPDB Module System Application Specification

REVISION:	ECR/ECN INFORMATION:	TITLE:			SHEET No.			
E	<u>EC No:</u> 656665	µPDB Ger	µPDB General Market Application Specification					
E	<u>DATE:</u> 02/25/2021	_						
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2003161000AS		Scott Walker	Matthew Young	Kushan	Vasant			
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Table of Contents

- 1.0 Scope
- 2.0 Product Description
 - 2.1 Module Exploded View
 - 2.2 System View
 - 2.3 Product Summary
- 3.0 Procedure
 - 3.1 Connector Mating/Unmating
 - 3.2 Mounting Micro-PDB
 - 3.2.1 Mounting by Clip
 - 3.2.2 Mounting to Sheet Metal/Bracket
 - 3.2.3 Mounting to Wire Harness by Cable Tie Clip
 - 3.3 Module Serviceability

4.0 Troubleshooting

- 4.1 **2003161101** (1 Relay, 1 Resistor Module)
- 4.2 **2003161102** (1 Relay, 1 Slow Blow Fuse, 1 Resistor Module)
- 4.3 **2003161103** (1 Relay, 3 Fast Blow Fuses, 1 Resistor Module)
- 4.4 2003161121 (2 Relays, 4 Fast Blow Fuses, 1 Resistor Module)
- 4.5 2003161122 (2 Relays, 4 Fast Blow Fuses, 1 Resistor Module)
- 4.6 **Test 1** Continuity Check
- 4.7 **Test 2** Resistance Check

REVISION:	ECR/ECN INFORMATION:	TITLE:			SHEET No.		
E	<u>EC No:</u> 656665	µPDB Gen	eral Market Appli	cation	2 of 17		
E	<u>DATE:</u> 02/25/2021	•	Specification				
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1.0 SCOPE

This Application Specification covers the relay and fuse μ PDB modules that utilize the MX150 hybrid (8, 9, 10 way) connector system. Within this document a provided guideline is detailed for connector mating, mounting, and troubleshooting of the μ PDB.

2.0 PRODUCT DESCRIPTION

2.1 Module Exploded view







2 3 Pro	duct Summary				
Part Number	Description	Example Applications	Figure		Page Number
2003161101	1 Relay 1 Resistor	-Cooling Fan -Blower Motor -Headlights -Convertible Car Roof Control			
2003161102	1 Relay 1 Slow Blow Fuse 1 Resistor	-All Wheel Drive Module -Headlights -Aftermarket Headlights -Front/Rear Defogger -Power Liftgate			
2003161103	1 Relay 3 Fast Blow Fuses 1 Resistor	-UREA System (Module, Pump Heater, Line Heater) -Wiper Motor (Two Loads) -Tail Lights (Two/Three Loads) -Day Light Running Light (DRL)			
2003161121	2 Relays 4 Fast Blow Fuses 1 Resistor	-4 CYL Diesel Engine Glow Plugs (Can Combine Multiple Modules for 6 and 8 CYL) -Day Light Running Light (DRL)			
2003161122	2 Relays 4 Fast Blow Fuses 1 Resistor	-4 CYL Diesel Engine Glow Plugs (Can Combine Multiple Modules for 6 and 8 CYL) -Day Light Running Light (DRL)			
REVISION: E	CR/ECN INFORMATION:	TITLE:			SHEET No.
	<u>C No:</u> 656665 DATE: 02/25/2021	µPDB Ge	neral Market Appli Specification	cation	5 of 17
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2003	161000AS	Scott Walker	Matthew Young	Kushan	



3.0 Procedure

- 3.1 Connector Mating/Unmating
 - 1) Verify the Connector and Header Key Codes



- 2) Engage connector to header shroud until audible click and lock feeling
- 3) Push the sliding CPA to the CPA lock position to verify that the connector is locked on the header





4) To remove the connector from the module, pull the sliding CPA back to the unlocked position



5) Depress the latch on the connector while simultaneously pulling the connector back to remove the module



REVISION:	ECR/ECN INFORMATION:	TITLE:			SHEET No.			
E	<u>EC No:</u> 656665	µPDB Gen	cation	7 of 17				
E	<u>DATE:</u> 02/25/2021	-	. Specification					
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- 3.2 Mounting Micro-PDB
 - 3.2.1 Mounting by Clip
 - 1) Verify clip slot location: The Micro-PDB has two clip slots which are located in the wider plane and narrow plane of the cover.
 - 2) Select a clip slot location to fully insert a mounting clip. The mounting clip must be compliant with the USCAR 11.0mm standard clip slot per EWCAP-005-11



3) The mounting clip on the Micro-PDB should be fully inserted into the sheet metal hole that is located within the vehicle.

Vehicle Sheet Metal

- Preferred connector orientation: Positioned in the downward orientation
 - o Engage Force: ≤45N
 - Clip Slot: EWCAP-005-11

NOTE: Make sure that the clip is fully inserted within the clip slot on the Micro-PDB cover before mounting the Micro-PDB.





- 3.2.2 Mounting to Sheet Metal/Bracket
- 1) Applicable to both mounting methods, Top Down or Bottom Up.
- 2) Select a clip slot location to insert a fully assembled Micro-PDB into the sheet metal or bracket within the vehicle. The sharkfin lock should be fully seated within the bracket hole.
 - Preferred connector orientation: Positioned in the downward orientation





- 3.2.3 Mounting on Wire Harness by Cable Tie Clip
- 1) Select either clip slot located on the wide or narrow plane of the cover. Insert a cable tie clip that is compliant with the USCAR 11.0mm standard clip slot per EWCAP-005-11.
- 2) With the cable tie clip fully inserted into the clip slot located on the cover, place the Micro-PDB to be aligned with the center of the wiring harness. Fasten the cable tie around the wire harness until the cable tie is fully fastened. Trim excess cable tie.





3.3 Module Serviceability

The Micro PDB module utilizes adhesive to permanently seal with the cover. As a result, the module is **not serviceable**.

If the module experiences a failure it is advised to disconnect the module from the connector and replace with a new module. Reference section 3.1 for further instruction for connector mating/unmating.

REVISION:	ECR/ECN INFORMATION:	TITLE:			SHEET No.			
E	<u>EC No:</u> 656665	µPDB Gen	cation	10 of 17				
E	<u>DATE:</u> 02/25/2021	-	Specification					
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4.0 Trouble Shooting

Un-mate the Micro-PDB from the connector, measure the resistance of the corresponding blades/pins

4.1 2003161101 (1 Relay, 1 Resistor Module)







			Test 1			Test 2	
Molex		Continuity Check (Relay-OFF)		Resistance Check (Relay-ON)			
Part	Part Description			Input		Output	
Number		Circuit Pin No.	Pass Criteria (mΩ)	V1 (VDC)	Circuits Pin No.	Circuit Pin No.	Pass Criteria (mΩ)
	1 Relay	Pin 1-2	239Ω - 288Ω			Pin 7-8	Not to exceed 100 mΩ
2003161101	1 Resistor	Pin 1-7	Open, Greater than 1MΩ	7.3 -	Pin 1-2		
		Pin 2-7	Open, Greater than $1M\Omega$	16			
		Pin 1-8	Open, Greater than $1M\Omega$				
		Pin 2-8	Open, Greater than $1M\Omega$				
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 11 of 17

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 Scott Walker
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 Kushan Vasant



4.2 2003161102 (1 Relay, 1 Slow Blow Fuse, 1 Resistor Module)







			Test 1	Test 2				
Molex	Description	Continuity Check (Relay-OFF)		Resistance Check (Relay-ON)				
Part				Input		Output		
Number		Circuit		V1	Circuits	Circuit	Pass Criteria	
		Pin No.	Pass Criteria (mΩ)	(VDC)	Pin No.	Pin No.	(mΩ)	
		Pin 1-2	2300 - 2880			Pin 7-8	Not to exceed	
	1 Relay	1 111 1-2	2390 - 2000			1 11 7-0	100 mΩ	
2003161102	1 Slow Blow	Pin 1-7	Open, Greater than $1M\Omega$	7.3 -	Pin 1-2			
	Fuse	Pin 2-7	Open, Greater than 1MΩ	16				
	1 Resistor	Pin 1-8	Open, Greater than $1M\Omega$					
Í		Pin 2-8	Open, Greater than $1M\Omega$					

REVISION:	ECR/ECN INFORMATION:	TITLE:			SHEET No.			
E	<u>EC No:</u> 656665	µPDB Gen	cation	10 of 17				
E	DATE: 02/25/2021	-						
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4.3 2003161103 (1 Relay, 3 Fast Blow Fuses, 1 Resistor Module)



			Test 1		Test 2				
Molex		Contin	uity Check (Relay-OFF)		Resistance	e Check (Re	elay-ON)		
Part	Description			Input		Output			
Number		Circuit		V1	Circuits	Circuit	Pass Criteria		
		Pin No.	Pass Criteria (mΩ)	(VDC)	Pin No.	Pin No.	(mΩ)		
		Pin 7-1	185Ω - 230Ω			Pin 7-8	Not to exceed 100 mΩ		
	1 Relay 3 Fast Blow	Pin 7-2	Open, Greater than 1MΩ			Pin 7-2	Not to exceed 100 mΩ		
2003161103	Fuses 1 Resistor	Pin 7-3	Open, Greater than 1MΩ	7.3 - 16	Pin 7-1	Pin 7-3	Not to exceed 100 mΩ		
		Pin 7-8	Open, Greater than $1M\Omega$						
		Pin 1-2	Open, Greater than $1M\Omega$						
		Pin 1-3	Open, Greater than $1M\Omega$						
		Pin 1-8	Open, Greater than $1M\Omega$						
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Partial Exploded View of 2 Relays, 4 Fast Blow Fuses, 1 Resistor ModuleImage: Carteria Control of the second seco										
	FUSE W.ASM W.GA	GE TERM PIN# 6.3 8		NO COM RELAY	FUSE 25A	B B B B B B B B B B B B B B B B B B B	TERM W.GAGE W 1.5 1.5 1 1.5 1.5 1	ASM FUSE BD 25A BD 25A		
TBD 0.75 1.5 5 2 1.5 0.75 TBD										
	25A TBD 1.5	1.5 1	A							
	25A TBD 1.5	1.5 4	FUSE 25A	COM RELAY NO		7	6.3 6.0 1	BD		
				Test 1				Test 2		
Molex Part	Description	Cor	ntinuity Check (Relay-OFF)			F	Resistance Check (Relay-ON)			
Number	Description	Circuit Pin No					Circuite	Circuit	Bass Critoria	
			ni NO.	Pass Criteria (r	nΩ)	(VDC)	Pin No.	Pin No.	(mΩ)	
		Pin 2	2-5	185Ω - 230Ω				Pin 7-1	Not to exceed	
		Pin 7	A II							
	2 Relays		-All	Open, Greater than	1MΩ			Pin 7-4	Not to exceed	
	2 Relays 4 Fast Blow	Pin 8	-All	Open, Greater than Open, Greater than	1ΜΩ 1ΜΩ			Pin 7-4 Pin 8-3	Not to exceed $100 \text{ m}\Omega$ Not to exceed $100 \text{ m}\Omega$	
2003161121	2 Relays 4 Fast Blow Fuses 1 Resistor	Pin 8- Pin 1	-All -4	Open, Greater than Open, Greater than Less than 1Ω	n 1ΜΩ n 1ΜΩ	7.3 -	Pin 2-5	Pin 7-4 Pin 8-3 Pin 8-6	Not to exceed $100 \text{ m}\Omega$ Not to exceed $100 \text{ m}\Omega$ Not to exceed $100 \text{ m}\Omega$ Not to exceed	
2003161121	2 Relays 4 Fast Blow Fuses 1 Resistor	Pin 8 Pin 1 Pin 3	-All -All 1-4 3-6	Open, Greater than Open, Greater than Less than 1Ω Less than 1Ω	1 ΜΩ 1 ΜΩ	7.3 - 16	Pin 2-5	Pin 7-4 Pin 8-3 Pin 8-6	Not to exceed $100 \text{ m}\Omega$	
2003161121	2 Relays 4 Fast Blow Fuses 1 Resistor	Pin 8 Pin 1 Pin 3 Pin 3	-All -4 -6 3-6	Open, Greater than Open, Greater than Less than 1Ω Less than 1Ω Open, Greater than	1 ΜΩ 1 ΜΩ	7.3 - 16	Pin 2-5	Pin 7-4 Pin 8-3 Pin 8-6	Not to exceed 100 mΩ Not to exceed 100 mΩ Not to exceed 100 mΩ	
2003161121	2 Relays 4 Fast Blow Fuses 1 Resistor	Pin 8 Pin 1 Pin 3 Pin 1-2/ Pin 1-2/ Pin 4-2/	-All -All 1-4 3-6 /3/5/6 /3/5/6	Open, Greater than Open, Greater than Less than 1Ω Less than 1Ω Open, Greater than Open, Greater than	1 ΜΩ 1 ΜΩ 1 ΜΩ	7.3 - 16	Pin 2-5	Pin 7-4 Pin 8-3 Pin 8-6	Not to exceed 100 mΩ Not to exceed 100 mΩ Not to exceed 100 mΩ	
2003161121	2 Relays 4 Fast Blow Fuses 1 Resistor	Pin 8 Pin 1 Pin 3 Pin 1-2/ Pin 4-2/ Pin 3-	-All -All 3-6 /3/5/6 /3/5/6 /3/5/6 -2/5	Open, Greater than Open, Greater than Less than 1Ω Less than 1Ω Open, Greater than Open, Greater than Open, Greater than	1 ΜΩ 1 ΜΩ 1 ΜΩ 1 ΜΩ 1 ΜΩ	7.3 - 16	Pin 2-5	Pin 7-4 Pin 8-3 Pin 8-6	Not to exceed 100 mΩ Not to exceed 100 mΩ Not to exceed 100 mΩ	
2003161121	2 Relays 4 Fast Blow Fuses 1 Resistor	Pin 8 Pin 1 Pin 3 Pin 1-2/ Pin 4-2/ Pin 3- Pin 6-	-All -All -4 -3-6 /3/5/6 /3/5/6 -2/5 -2/5	Open, Greater than Open, Greater than Less than 1Ω Less than 1Ω Open, Greater than Open, Greater than Open, Greater than Open, Greater than	1 ΜΩ 1 ΜΩ 1 ΜΩ 1 ΜΩ 1 ΜΩ 1 ΜΩ	7.3 - 16	Pin 2-5	Pin 7-4 Pin 8-3 Pin 8-6	Not to exceed 100 mΩ Not to exceed 100 mΩ Not to exceed 100 mΩ	
2003161121	2 Relays 4 Fast Blow Fuses 1 Resistor	Pin 8 Pin 1 Pin 3 Pin 1-2/ Pin 4-2/ Pin 3- Pin 3- Pin 6-	-All -All -4 3-6 /3/5/6 /3/5/6 -2/5 -2/5 -2/5	Open, Greater than Open, Greater than Less than 1Ω Less than 1Ω Open, Greater than Open, Greater than Open, Greater than Open, Greater than	1 ΜΩ 1 ΜΩ 1 ΜΩ 1 ΜΩ 1 ΜΩ 1 ΜΩ	7.3 - 16	Pin 2-5	Pin 7-4 Pin 8-3 Pin 8-6	Not to exceed 100 mΩ Not to exceed 100 mΩ Not to exceed 100 mΩ	
2003161121 <u>REVISION:</u>	2 Relays 4 Fast Blow Fuses 1 Resistor <u>ECR/ECN INFOR</u>	Pin 8 Pin 1 Pin 3 Pin 1-2/ Pin 4-2/ Pin 3- Pin 6- 2 MATION:	-All -All -4 3-6 /3/5/6 /3/5/6 -2/5 -2/5 <u>TITLE:</u>	Open, Greater than Open, Greater than Less than 1Ω Less than 1Ω Open, Greater than Open, Greater than Open, Greater than Open, Greater than	1 ΜΩ 1 ΜΩ 1 ΜΩ 1 ΜΩ 1 ΜΩ 1 ΜΩ	7.3 - 16	Pin 2-5	Pin 7-4 Pin 8-3 Pin 8-6	Not to exceed 100 mΩ SHEET No.	
2003161121 REVISION:	2 Relays 4 Fast Blow Fuses 1 Resistor <u>ECR/ECN INFOR</u> <u>EC No:</u> 656665	Pin 8 Pin 1 Pin 3 Pin 1-2/ Pin 4-2/ Pin 3- Pin 6- SMATION:	-All -All -4 3-6 /3/5/6 /3/5/6 -2/5 -2/5 -2/5 TITLE:	Open, Greater than Open, Greater than Less than 1Ω Open, Greater than Open, Greater than Open, Greater than Open, Greater than Open, Greater than	1 ΜΩ 1 ΜΩ 1 ΜΩ 1 ΜΩ 1 ΜΩ 1 ΜΩ 1 ΜΩ 1 ΜΩ	7.3 - 16 Marke	Pin 2-5	Pin 7-4 Pin 8-3 Pin 8-6	Not to exceed 100 mΩ SHEET No. 14 of 17	
2003161121 REVISION: E	2 Relays 4 Fast Blow Fuses 1 Resistor <u>ECR/ECN INFOR</u> <u>EC No:</u> 656665 <u>DATE:</u> 02/25/20	Pin 8 Pin 1 Pin 3 Pin 1-2/ Pin 4-2/ Pin 3- Pin 6- SMATION:	-All -All -4 -4 -3-6 -3/5/6 -2/5 -2/5 <u>TITLE:</u>	Open, Greater than Open, Greater than Less than 1Ω Den, Greater than Open, Greater than Open, Greater than Open, Greater than Open, Greater than	1 ΜΩ 1 ΜΩ 1 ΜΩ 1 ΜΩ 1 ΜΩ 1 ΜΩ 1 ΜΩ 1 ΜΩ 1 ΜΩ 1 ΜΩ	7.3 - 16 Marke	Pin 2-5	Pin 7-4 Pin 8-3 Pin 8-6	SHEET No. 14 of 17	
2003161121 REVISION: E	2 Relays 4 Fast Blow Fuses 1 Resistor <u>ECR/ECN INFOR</u> <u>EC No:</u> 656665 <u>DATE:</u> 02/25/20 <u>I NUMBER:</u> 0316100000	Pin 8 Pin 1 Pin 3 Pin 1-2/ Pin 4-2/ Pin 3- Pin 6- MATION:	-All -All -4 -3-6 /3/5/6 -2/5 -2/5 <u>TITLE:</u> <u>CREAT</u>	Open, Greater than Open, Greater than Less than 1Ω Open, Greater than Open, Greater than Open, Greater than Open, Greater than Open, Greater than Den, Greater than Den, Greater than Open, Greater than Open, Greater than Open, Greater than Open, Greater than	1 ΜΩ 1 ΜΩ	Marke	Pin 2-5 et Applie	Pin 7-4 Pin 8-3 Pin 8-6 Cation	Not to exceed 100 mΩ SHEET No. 14 of 17 COVED BY: an Vasant	



	4.5 2003161	122 (2 Re	elays, 4	Fast Blow Fuses,	1 Res	istor Mo	dule)		
	Partial Exploded Fuse	d View of	2 Relay stor Moo	rs, 4 Fast Blow dule		7	1 2 :	3 8 8 8 8 8 8 8 8 8 8 8 8 8	
	SCHEMATI FUSE W.ASM W.GA TBD	C IGE TERM PIN# 6.3 8		COM NO RELAY	A FUSE A FUSE	B PII	N# TERM W.GAGE 3 1.5 3 1.5	W.ASM FUSE TBD 15A	
	TBD	1.5 5		TVS D1			2 1.5	TBD	
	15A TBD	1.5 1							
	15A TBD	1.5 4	FUSE 15A	NO COM RELAY	:		7 6.3	TBD	
Molox		Co	ntinuitu	Test 1 Check (Below OFF)	<u> </u>		Desistance	Test 2	
Molex Part	Description	Co	ntinuity	<u>Test 1</u> Check (Relay-OFF))	F In	Resistance put	Test 2 Check (R	elay-ON) Output
Molex Part Number	Description	Co Circuit	ntinuity Pin No.	Test 1 Check (Relay-OFF) Pass Criteria (r) nΩ)	F In V1 (VDC)	Resistance put Circuits Pin No.	Circuit Pin No.	elay-ON) Output Pass Criteria (mΩ)
Molex Part Number	Description	Co Circuit I Pin	ntinuity Pin No. 2-5	Test 1 Check (Relay-OFF) Pass Criteria (r 185Ω - 230Ω) nΩ)	F Ir V1 (VDC)	Resistance put Circuits Pin No.	Circuit Pin No. Pin 7-1	elay-ON) Output Pass Criteria (mΩ) Not to exceed 100 mΩ
Molex Part Number	Description	Co Circuit I Pin Pin 7	ntinuity Pin No. 2-5 7-All	Test 1 Check (Relay-OFF) Pass Criteria (r 185Ω - 230Ω Open, Greater than) mΩ)	V1 (VDC)	Resistance put Circuits Pin No.	Test 2 Check (R Circuit Pin No. Pin 7-1 Pin 7-4	elay-ON) Output Pass Criteria (mΩ) Not to exceed 100 mΩ Not to exceed 100 mΩ
Molex Part Number	2 Relays 4 Fast Blow	Co Circuit I Pin Pin 7 Pin 8	ntinuity Pin No. 2-5 7-All	Test 1 Check (Relay-OFF) Pass Criteria (r 185Ω - 230Ω Open, Greater than Open, Greater than) nΩ) 1ΜΩ	V1 (VDC)	Resistance put Circuits Pin No.	Pin 7-4 Pin 8-3	elay-ON) Output Pass Criteria (mΩ) Not to exceed 100 mΩ Not to exceed 100 mΩ Not to exceed 100 mΩ Not to exceed 100 mΩ
Molex Part Number 2003161122	2 Relays 4 Fast Blow Fuses 1 Resistor	Co Circuit I Pin Pin 7 Pin 8 Pin 8	ntinuity Pin No. 2-5 7-All 3-All 1-4	Test 1 Check (Relay-OFF) Pass Criteria (r 185Ω - 230Ω Open, Greater than Open, Greater than Less than 1Ω	η Ω) 1 ΜΩ	F In V1 (VDC) 7.3 - 16	Resistance put Circuits Pin No. Pin 2-5	Pin 7-4 Pin 8-3 Pin 8-6	elay-ON) Output Pass Criteria (mΩ) Not to exceed 100 mΩ
Molex Part Number 2003161122	2 Relays 4 Fast Blow Fuses 1 Resistor	Co Circuit I Pin Pin 7 Pin 8 Pin Pin	ntinuity Pin No. 2-5 7-All 3-All 1-4 3-6	Test 1 Check (Relay-OFF) Pass Criteria (r 185Ω - 230Ω Open, Greater than Open, Greater than Less than 1Ω Less than 1Ω) nΩ) 1ΜΩ	V1 (VDC) 7.3 - 16	Resistance put Circuits Pin No. Pin 2-5	Pin 7-4 Pin 8-3 Pin 8-6	elay-ON) Output Pass Criteria (mΩ) Not to exceed 100 mΩ Not to exceed 100 mΩ Not to exceed 100 mΩ
Molex Part Number 2003161122	2 Relays 4 Fast Blow Fuses 1 Resistor	Co Circuit I Pin Pin 7 Pin 8 Pin Pin Pin Pin 1-2	ntinuity 1 Pin No. 2-5 7-All 3-All 1-4 3-6 2/3/5/6	Test 1 Check (Relay-OFF) Pass Criteria (r 185Ω - 230Ω Open, Greater than Open, Greater than Less than 1Ω Less than 1Ω Open, Greater than	ηΩ) 1ΜΩ 1ΜΩ	V1 (VDC) 7.3 - 16	Resistance put Circuits Pin No. Pin 2-5	Pin 7-4 Pin 8-3 Pin 8-6	elay-ON) Output Pass Criteria (mΩ) Not to exceed 100 mΩ Not to exceed 100 mΩ Not to exceed 100 mΩ
Molex Part Number 2003161122	Description 2 Relays 4 Fast Blow Fuses 1 Resistor	Co Circuit I Pin Pin 7 Pin 8 Pin Pin 1-2 Pin 1-2 Pin 4-2	ntinuity Pin No. 2-5 7-All 3-All 1-4 3-6 2/3/5/6 2/3/5/6	Test 1 Check (Relay-OFF) Pass Criteria (r 185Ω - 230Ω Open, Greater than Open, Greater than Less than 1Ω Less than 1Ω Open, Greater than Open, Greater than) mΩ) 1MΩ 1MΩ 1MΩ	V1 (VDC) 7.3 - 16	Resistance put Circuits Pin No.	Pin 7-4 Pin 8-3 Pin 8-6	elay-ON) Output Pass Criteria (mΩ) Not to exceed 100 mΩ Not to exceed 100 mΩ Not to exceed 100 mΩ
Molex Part Number	Description 2 Relays 4 Fast Blow Fuses 1 Resistor	Co Circuit I Pin Pin 7 Pin 8 Pin Pin 1-2 Pin 4-2 Pin 3	ntinuity Pin No. 2-5 7-All 3-All 1-4 3-6 2/3/5/6 2/3/5/6 3-2/5	Test 1 Check (Relay-OFF) Pass Criteria (r 185Ω - 230Ω Open, Greater than Open, Greater than Less than 1Ω Open, Greater than Open, Greater than Open, Greater than Open, Greater than) mΩ) 1 MΩ 1 MΩ 1 MΩ 1 MΩ 1 MΩ	7.3 - 16	Resistance put Circuits Pin No.	Pin 7-4 Pin 8-3 Pin 8-6	elay-ON) Output Pass Criteria (mΩ) Not to exceed 100 mΩ Not to exceed 100 mΩ Not to exceed 100 mΩ
Molex Part Number	Description 2 Relays 4 Fast Blow Fuses 1 Resistor	Co Circuit I Pin Pin 7 Pin 8 Pin 8 Pin Pin 1-2 Pin 4-2 Pin 3	ntinuity Pin No. 2-5 7-All 3-All 1-4 2/3/5/6 2/3/5/6 2/3/5/6 3-2/5	Test 1 Check (Relay-OFF) Pass Criteria (r 185Ω - 230Ω Open, Greater than Open, Greater than Less than 1Ω Open, Greater than Open, Greater than Open, Greater than Open, Greater than	nΩ) 1ΜΩ 1ΜΩ 1ΜΩ 1ΜΩ 1ΜΩ	7.3 - 16	Resistance put Circuits Pin No. Pin 2-5	Pin 8-3	elay-ON) Output Pass Criteria (mΩ) Not to exceed 100 mΩ Not to exceed 100 mΩ Not to exceed 100 mΩ Not to exceed 100 mΩ
Molex Part Number 2003161122 2003161122	Description 2 Relays 4 Fast Blow Fuses 1 Resistor ECR/ECN INFOR	Co Circuit I Pin Pin 7 Pin 8 Pin Pin 1-2 Pin 1-2 Pin 3	ntinuity Pin No. 2-5 7-All 3-All 1-4 2/3/5/6 2/3/5/6 2/3/5/6 2/3/5/6 2/3/5/6 2/3/5/6	Test 1 Check (Relay-OFF) Pass Criteria (r 185Ω - 230Ω Open, Greater than Open, Greater than Less than 1Ω Den, Greater than Open, Greater than Open, Greater than Open, Greater than	n Ω) 1ΜΩ 1ΜΩ 1ΜΩ 1ΜΩ 1ΜΩ	7.3 - 16	Resistance put Circuits Pin No. Pin 2-5	Pin 7-4 Pin 8-3 Pin 8-6	elay-ON) Output Pass Criteria (mΩ) Not to exceed 100 mΩ Not to exceed 100 mΩ Not to exceed 100 mΩ Not to exceed 100 mΩ
Molex Part Number 2003161122 2003161122 REVISION: E	Description 2 Relays 4 Fast Blow Fuses 1 Resistor <u>ECR/ECN INFOR EC No:</u> 656665 <u>DATE:</u> 02/25/20	Co Circuit I Pin Pin 7 Pin 8 Pin Pin 1-2 Pin 4-2 Pin 3	ntinuity Pin No. 2-5 7-All 3-All 1-4 2/3/5/6 2/3/5/6 3-2/5 <u>TITLE:</u>	Test 1 Check (Relay-OFF) Pass Criteria (r 185Ω - 230Ω Open, Greater than Open, Greater than Less than 1Ω Open, Greater than Open, Greater than Open, Greater than Open, Greater than	nΩ) 1MΩ 1MΩ 1MΩ 1MΩ 1MΩ 1MΩ	7.3 - 16 Marke	Resistance put Circuits Pin No. Pin 2-5	Test 2 2 Check (R Circuit Pin No. Pin 7-1 Pin 7-4 Pin 8-3 Pin 8-6	elay-ON) Output Pass Criteria (mΩ) Not to exceed 100 mΩ Not to exceed 100 mΩ Not to exceed 100 mΩ Not to exceed 100 mΩ SHEET No. 15 of 17
Molex Part Number 2003161122 2003161122 <u>REVISION:</u> E	Description 2 Relays 4 Fast Blow Fuses 1 Resistor ECR/ECN INFOR EC No: 656665 DATE: 02/25/20 FNUMBER:	Co Circuit I Pin Pin 7 Pin 8 Pin Pin 1-2 Pin 4-2 Pin 3 CMATION:	ntinuity Pin No. 2-5 7-All 3-All 1-4 3-6 2/3/5/6 2/3 2/5 2/5 2/5 2/5 2/5 2/5 2/5 2/5	Test 1 Check (Relay-OFF) Pass Criteria (r 185Ω - 230Ω Open, Greater than Open, Greater than Less than 1Ω Open, Greater than Open, Greater than Open, Greater than Open, Greater than Den, Greater than Den, Greater than	nΩ) 1MΩ 1MΩ 1MΩ 1MΩ 1MΩ 1MΩ	V1 (VDC) 7.3 - 16 Marke cificati	Resistance put Circuits Pin No. Pin 2-5 Pin 2-5	Cation	elay-ON) Output Pass Criteria (mΩ) Not to exceed 100 mΩ Not to exceed 100 mΩ Not to exceed 100 mΩ Not to exceed 100 mΩ SHEET No. 15 of 17 ROVED BY:
Molex Part Number	Description 2 Relays 4 Fast Blow Fuses 1 Resistor <u>ECR/ECN INFOR EC No:</u> 656665 <u>DATE:</u> 02/25/20 <u>I NUMBER:</u> 03161000AS	Co Circuit I Pin Pin 7 Pin 8 Pin Pin 1-2 Pin 4-2 Pin 3 CMATION:	ntinuity Pin No. 2-5 7-All 3-All 1-4 3-6 2/3/5/6 2/3 2/5 2/5 2/5 2/5 2/5 2/5 2/5 2/5	Test 1 Check (Relay-OFF) Pass Criteria (r 185Ω - 230Ω Open, Greater than Open, Greater than Less than 1Ω Open, Greater than Open, Greater than Open, Greater than Open, Greater than ED/ REVISED BY: cott Walker	nΩ) 1MΩ 1MΩ 1MΩ 1MΩ 1MΩ 1MΩ Spec M	Trink V1 (VDC) 7.3 - 16 Marke cificati CHECKEI	Resistance put Circuits Pin No. Pin 2-5 Pin 2-5	Cation	elay-ON) Output Pass Criteria (mΩ) Not to exceed 100 mΩ Not to exceed 100 mΩ Not to exceed 100 mΩ Not to exceed 100 mΩ SHEET NO. 15 of 17 ROVED BY: an Vasant



4.6 Test 1 Continuity Check (Relay-OFF)

- 1) Continuity check: Measure resistance pin to pin. See corresponding table per each module
- 2) Reference criteria resistance. See corresponding table per each module

4.7 Test 2 Resistance Check (Relay-ON)

- 1) Relay ON: Apply V1 to specified pins listed in the reference tables above
- 2) Measure the resistance from pin to pin
- 3) Refer criteria resistance
- 4) If the standard criteria is not met, replacement of the Micro-PDB is necessary



5.0	5.0 Traceability								
REVISION:	ECR/ECN INFORMATION:	TITLE:			SHEET No.				
F	<u>EC No:</u> 656665	µPDB Ger	µPDB General Market Application						
	<u>DATE:</u> 02/25/2021								
DOCUMEN	T NUMBER:	CREATED / REVISED BY:	CHECKED BY:	APPROVED BY:					
2003161000AS		Scott Walker	Matthew Young	Kushan	Vasant				
	TEMPLATE FILENAME: ENGINEERING SPECISIZE AI(V.1).DOC								



Traceability Laser Marking:



- 2D Data Matrix Code (2D DMC)
 - o Marking and reading standard: Data Matrix (ECC200)
 - o 14mm x 14mm Size
 - Information to be encoded:
 - PPPP = Last Four Digits of Molex Part Number
 - YY = Year
 - DDD = Day of the Year
 - SSSS = Incremental Serial Number
- Human Readable Code (HRC)
 - 10 Digits Molex Part Number
 - 5 Digits Julian Manufacturing Date (DDDYY)
 - 4 Digits Incremental Serial Number

REVISION:	ECR/ECN INFORMATION:	TITLE:			SHEET No.
Е	<u>EC No:</u> 656665	µPDB General Market Application		17 of 17	
	DATE: 02/25/2021	Specification			
DOCUMENT NUMBER:		CREATED / REVISED BY:	CHECKED BY:	APPROVED BY:	
2003161000AS		Scott Walker	Matthew Young	Kushan Vasant	
TEMPLATE FILENAME: ENGINEERING_SPEC[SIZE_A](V.1).DOC					