



PRODUCT SPECIFICATION



**MXP120 SEALED ASSEMBLY
CABLE SEAL**

REVISION:	ECR/ECN INFORMATION:	TITLE:		SHEET No.
4	EC No: UAU2016-1371 DATE: 03/23/2016	MXP120 SEALED ASSEMBLY CABLE SEAL		1 of 10
DOCUMENT NUMBER:		CREATED / REVISED BY:	CHECKED BY:	APPROVED BY:
PS-34900-0001		Shrish Rajendranath	Mike Vanslambrouck	Vijy Koshy



PRODUCT SPECIFICATION

Table of Contents

1.0	Scope	2
2.0	Product Description.....	3
2.1.	DIRECT CONNECT (WIRE TO BOARD APPLICATION).....	3
2.2.	INLINE APPLICATIONS (WIRE TO WIRE APPLICATION).....	3
2.3.	RECEPTACLE ASSEMBLY	4
2.4.	BLADE ASSEMBLY	4
2.5.	PRODUCT NAME AND SERIES NUMBER	5
3.0	Integral Components and Accessories.....	6
3.1.1.	Receptacle Terminals.....	6
3.1.2.	Blade Terminals	6
3.1.3.	Applicable Wires	7
3.1.4.	Terminal Service Tool	7
3.2.	ACCESSORIES	7
3.2.1.	Wire Harness Retention Clip - Recommended	7
3.2.2.	Backshell - Recommended.....	7
3.2.3.	Cavity Plugs	7
4.0	Applicable Documents and Specifications.....	7
5.0	Ratings	8
5.1.	VOLTAGE - OPERATING	8
5.2.	VOLTAGE - ISOLATION RESISTANCE	8
5.3.	CURRENT RATING	8
5.4.	TEMPERATURE.....	8
5.5.	FLAMMABILITY	8
6.0	Performance	8
6.1.1.	Vibration Performance.....	8
6.1.2.	Electrical Performance	9
6.1.3.	Mechanical Performance.....	9
6.1.4.	Sealing Performance.....	10
7.0	Packaging	10
8.0	Gages and Fixtures.....	10
9.0	OTHER INFORMATION	10

1.0 SCOPE

REVISION:	ECR/ECN INFORMATION:	TITLE:	SHEET No.
4	EC No: UAU2016-1371 DATE: 03/23/2016	MXP120 SEALED ASSEMBLY CABLE SEAL	2 of 10
DOCUMENT NUMBER:	CREATED / REVISED BY:	CHECKED BY:	APPROVED BY:
PS-34900-0001	Shrish Rajendranath	Mike Vanslambrouck	Vijy Koshy

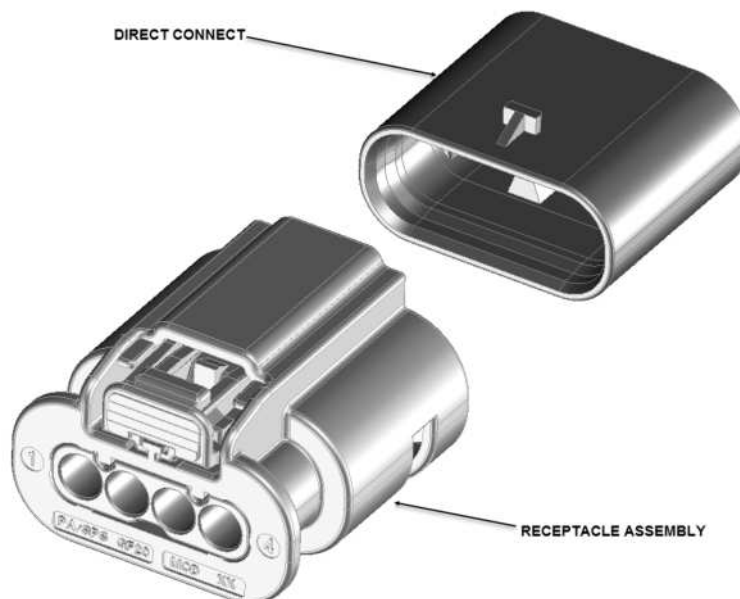


PRODUCT SPECIFICATION

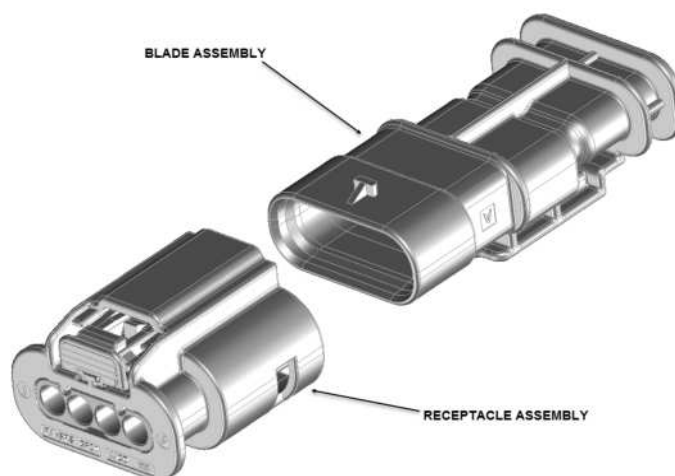
This product specification covers the 4 mm (0.157 inch) centerline (pitch) cable seal single row MXP120 (previously called 1.2mm sealed inline connection system.) The MXP120 connection system uses crimp technology.

2.0 PRODUCT DESCRIPTION

2.1. DIRECT CONNECT (WIRE TO BOARD APPLICATION)



2.2. INLINE APPLICATIONS (WIRE TO WIRE APPLICATION)

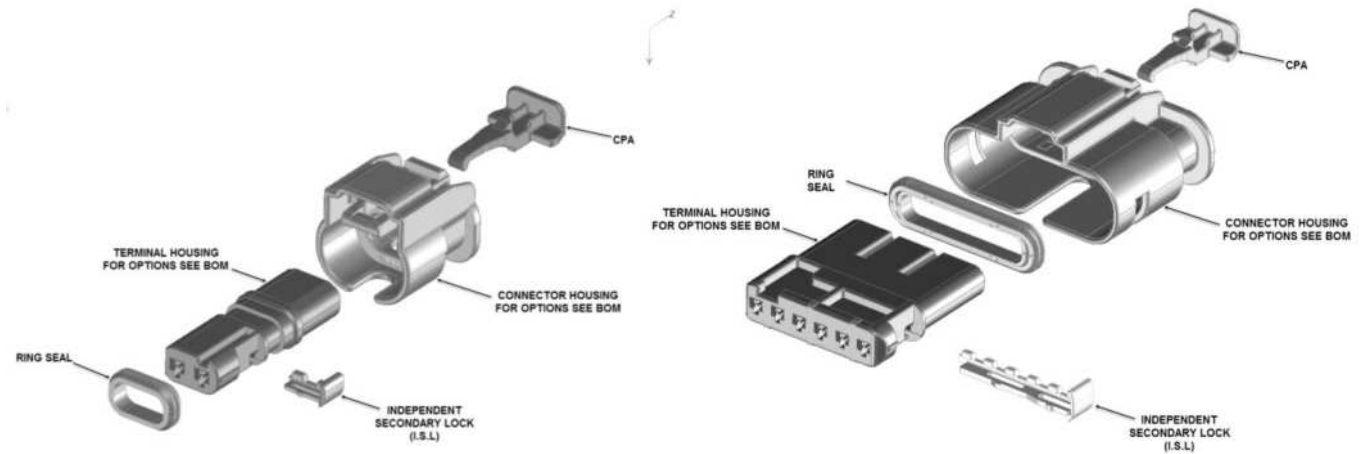


REVISION:	ECR/ECN INFORMATION:	TITLE:	SHEET No.
4	EC No: UAU2016-1371 DATE: 03/23/2016	MXP120 SEALED ASSEMBLY CABLE SEAL	3 of 10
DOCUMENT NUMBER:	CREATED / REVISED BY:	CHECKED BY:	APPROVED BY:
PS-34900-0001	Shrish Rajendranath	Mike Vanslambrouck	Vijy Koshy

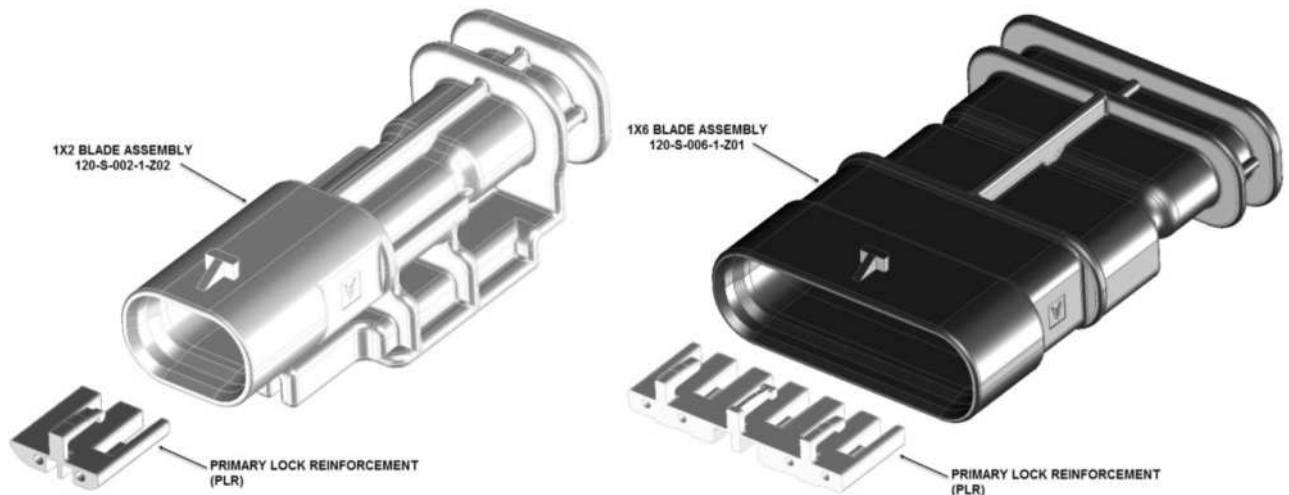


PRODUCT SPECIFICATION

2.3. RECEPTACLE ASSEMBLY



2.4. BLADE ASSEMBLY



REVISION:	ECR/ECN INFORMATION:	TITLE:	SHEET No.
4	EC No: UAU2016-1371 DATE: 03/23/2016	MXP120 SEALED ASSEMBLY CABLE SEAL	4 of 10
DOCUMENT NUMBER:	CREATED / REVISED BY:	CHECKED BY:	APPROVED BY:
PS-34900-0001	Shrish Rajendranath	Mike Vanslambrouck	Vijy Koshy



PRODUCT SPECIFICATION

2.5. PRODUCT NAME AND SERIES NUMBER

Refer to listed document number for part availability, dimensions, material, marking information, packaging information, interface definition, and configuration options etc.

Product Name	Document Number	Series
MXP120 1x2 Receptacle Assembly	SD-34900-2001	34900
MXP120 1x3 Receptacle Assembly		
MXP120 1x4 Receptacle Assembly	SD-34900-6001	
MXP120 1x6 Receptacle Assembly		
MXP120 1x2 Blade Assembly	SD-34899-2001	34899
MXP120 1x3 Blade Assembly		
MXP120 1x4 Blade Assembly	SD-34899-6001	
MXP120 1x6 Blade Assembly		

REVISION:	ECR/ECN INFORMATION:	TITLE:	SHEET No.
4	EC No: UAU2016-1371 DATE: 03/23/2016	MXP120 SEALED ASSEMBLY CABLE SEAL	5 of 10
DOCUMENT NUMBER:	CREATED / REVISED BY:	CHECKED BY:	APPROVED BY:
PS-34900-0001	Shrish Rajendranath	Mike Vanslambrouck	Vijy Koshy



PRODUCT SPECIFICATION

3.0 INTEGRAL COMPONENTS AND ACCESSORIES

Integral components and accessories are sold separately.

3.1 INTEGRAL COMPONENTS

3.1.1. Receptacle Terminals

For crimping information see the Terminal Application Specification listed in section [4.0](#).

Terminal Information	Manufacturer	Terminal Description	Cable Seal	Document Number	Document Revision
MCON-1.2 LL (Locking-Lance) terminal	TYCO	7-1452665-1, 0.25mm ² - 0.35mm ²	967067-2	C-1452674	C6
		7-1452665-3, 0.25mm ² - 0.35mm ²			
		7-1452668-1, 0.50mm ² - 0.75mm ²	967067-1		
		7-1452668-3, 0.50mm ² - 0.75mm ²			
		7-1452671-1, 1.0mm ² - 1.5mm ²			
MLK-1.2mm Single wire seal LL (Locking-Lance) terminal	KOSTAL	3 21 24 73411 0, 0.35mm ²	1 08 00 50725 0	DOC00079128	03
		3 21 24 73412 0, 0.50mm ² - 0.75mm ²			
		3 21 24 73413 0, 0.75mm ² - 1.0mm ²			

3.1.2. Blade Terminals

For crimping information see the Terminal Application Specification listed in section [4.0](#).

Terminal Information	Manufacturer	Terminal Description	Cable Seal	Document Number	Document Revision
MCON-1.2 CB (Clean-Body) terminal	TYCO	2141114-3 0.25mm ² - 0.35mm ²	967067-2	C-1718398	B7
		2141116-3 0.50mm ² - 0.75mm ²	967067-1		
		2177610-3 1.0mm ² - 1.5mm ²			

REVISION:	ECR/ECN INFORMATION:	TITLE:	SHEET No.
4	EC No: UAU2016-1371 DATE: 03/23/2016	MXP120 SEALED ASSEMBLY CABLE SEAL	6 of 10
DOCUMENT NUMBER:	CREATED / REVISED BY:	CHECKED BY:	APPROVED BY:
PS-34900-0001	Shrish Rajendranath	Mike Vanslambrouck	Vijy Koshy



PRODUCT SPECIFICATION

3.1.3. Applicable Wires

3.1.3.1. Wire size

See section [6.0](#) for temperature range and recommended wire type within this system.

3.1.3.2. ISO Wire

Per the listed wire specifications where the insulation diameter is within 1.20mm to 2.10mm.

- GMW15626 February 2008

3.1.3.3. SAE Wire

Not Applicable

3.1.4. Terminal Service Tool

See the Connector Application Specification listed in section [4.0](#). Accessories

3.2. ACCESSORIES

3.2.1. Wire Harness Retention Clip - Recommended

For further information contact your sales engineer.

3.2.2. Backshell - Recommended

For further information contact your sales engineer.

3.2.3. Cavity Plugs

- For Molex cavity seal plug, reference drawing SD-34996-1501 for Cavity Plug and SD-34996-1901 for Cavity Plug Seal.
- For Tyco cavity seal plug part number 967056-1, refer to www.te.com for application details.

4.0 APPLICABLE DOCUMENTS AND SPECIFICATIONS

Document Title	Document Number
UL File Number	Not Applicable
CSA File Number	Not Applicable
TUV License number	Not Applicable
IMDS Report	Available upon request
Environmental Compliance	Available on molex.com
Connector Application Specification	AS-34900-0001
Connector Test Summary	TS-34900-0002

REVISION:	ECR/ECN INFORMATION:	TITLE:	SHEET No.
4	EC No: UAU2016-1371 DATE: 03/23/2016	MXP120 SEALED ASSEMBLY CABLE SEAL	7 of 10
DOCUMENT NUMBER:	CREATED / REVISED BY:	CHECKED BY:	APPROVED BY:
PS-34900-0001	Shrish Rajendranath	Mike Vanslambrouck	Vijy Koshy



PRODUCT SPECIFICATION

5.0 RATINGS

5.1. VOLTAGE - OPERATING

Operating Voltage: 14 Volts DC Maximum

5.2. VOLTAGE - ISOLATION RESISTANCE

100MΩ Minimum when 500 Volts DC between adjacent terminals and terminals to ground.

5.3. CURRENT RATING

See the Terminal Product Specification listed in section [4.0](#).

5.4. TEMPERATURE

Non-operating: - 40 C° to + 125 C°

Operating: - 40 C° to + 125 C°

5.5. FLAMMABILITY

The burn rate of the plastic material when tested to ISO 3795 shall not exceed 100 mm/min.

6.0 PERFORMANCE

For a list of completed tests reference the test summary document listed in section [4.0](#).

6.1 This Product Conforms To GMW3191 Dec 2007 with the Following Conditions

6.1.1. Vibration Performance

Circuit Size	Operating Conditions	Wire Range	Designed to Mate with	Connectors Used	Terminal Used	Recommended Wire Type*	Recommended Terminal Plating Type
1X2	Temperature Class 3 Vibration Class 2	1.20mm – 2.10mm	Inline	Molex Receptacle Assembly	Tyco LL Recpt.	FLR2X	Ag
1X3		1.20mm – 1.90mm		Molex Blade Assembly	Tyco CB Blade		
1X4							
1X6							
1X2	Temperature Class 3 Vibration Class 1	1.20mm – 2.10mm	Inline	Molex Receptacle Assembly	Tyco LL Recpt.	FLR2X	Sn
1X3				Tyco Blade Assembly	Tyco LL Blade		
1X4							
1X6							
1X2	Temperature Class 4 Vibration Class 4	1.40mm – 1.60mm	Inline	Molex Receptacle Assembly	Kostal LL Recpt.	FLR91X	Ag
1X3				Kostal Blade Assembly	Kostal LL Blade		

*Must be compliant to the wire specifications listed in section [3.1.3](#)

REVISION:	ECR/ECN INFORMATION:	TITLE:	SHEET No.
4	EC No: UAU2016-1371 DATE: 03/23/2016	MXP120 SEALED ASSEMBLY CABLE SEAL	8 of 10
DOCUMENT NUMBER:	CREATED / REVISED BY:	CHECKED BY:	APPROVED BY:
PS-34900-0001	Shrish Rajendranath	Mike Vanslambrouck	Vijy Koshy



PRODUCT SPECIFICATION

6.1.2. Electrical Performance

Circuit Size	Operating Conditions	Wire Range	Designed to Mate with	Connectors Used	Terminal Used	Recommended Wire Type*	Recommended Terminal Plating Type
1X2	Temperature Class 3	1.20mm – 2.10mm	Inline	Molex Receptacle Assembly	Tyco LL Recpt.	FLR2X	Ag
1X3		1.20mm – 1.90mm		Molex Blade Assembly	Tyco CB Blade		
1X4							
1X6							
1X2	Temperature Class 3	1.20mm – 2.10mm	Inline	Molex Receptacle Assembly	Tyco LL Recpt.	FLR2X	Sn
1X3				Tyco Blade Assembly	Tyco LL Blade		
1X4							
1X6							
1X2	Temperature Class 4	1.20mm – 2.10mm	Inline	Molex Receptacle Assembly	Kostal LL Recpt.	FLR91X	Ag
1X3				Kostal Blade Assembly	Kostal LL Blade		

*Must be compliant to the wire specifications listed in section [3.1.3](#)

6.1.3. Mechanical Performance

- 1X2,1X3,1x4, 1x6 Blade Assy: Terminal to Connector Extraction Force (Post Moisture Conditioning) shall be 47N Min
- 1X2,1X3 Recpt ISL Extraction Force, Removal from Pre-Lock shall be 7N Min
- 1X2,1X3 Recpt ISL Disengage Force, Final-Lock to Pre-Lock (with terminals) shall be 5N Min
- 1X4,1X6 Recpt ISL Disengage Force, Final-Lock to Pre-Lock (with terminals) shall be 14N Min
- 1X2,1X3 Blade PLR Extraction Force, Removal from Pre-Lock shall be 9N Min
- 1X2,1X3 Blade PLR Disengage Force, Final-Lock to Pre-Lock (with terminals) shall be 4N Min
- 1X4,1X6 Blade PLR Disengage Force, Final-Lock to Pre-Lock (with terminals) shall be 11N Min
- CPA Disengage Force, Final-Lock to Pre-Lock (Mated Connector) shall be 9N Min.
- CPA Engage Force, Pre-Lock to Final-Lock (Mated Connector) shall be 32N Max.

REVISION:	ECR/ECN INFORMATION:	TITLE:	SHEET No.
4	EC No: UAU2016-1371 DATE: 03/23/2016	MXP120 SEALED ASSEMBLY CABLE SEAL	9 of 10
DOCUMENT NUMBER:	CREATED / REVISED BY:	CHECKED BY:	APPROVED BY:
PS-34900-0001	Shrish Rajendranath	Mike Vanslambrouck	Vijy Koshy



PRODUCT SPECIFICATION

6.1.4. Sealing Performance

Circuit Size	Operating Conditions	Wire Range	Designed to Mate with	Connectors Used	Terminal Used	Recommended Wire Type*
1X2	Temperature Class 3 Sealing Class 3	1.20mm – 2.10mm	Inline	Molex Receptacle Assembly	Tyco LL Recpt.	FLR2X
1X3				Molex Blade Assembly	Tyco CB Blade	
1X4	Temperature Class 3 Sealing Class 2	1.20mm – 1.90mm	Inline	Molex Receptacle Assembly	Tyco LL Recpt.	FLR2X
1x6				Molex Blade Assembly	Tyco CB Recpt.	
1X2	Temperature Class 4 Sealing Class 3	1.40mm – 2.10mm	Inline	Molex Receptacle Assembly	Kostal LL Recpt.	FLR91X
1X3				Kostal Blade Assembly	Kostal LL Blade	

*Must be compliant to the wire specifications listed in section [3.1.3](#)

7.0 PACKAGING

- Molex packaging drawing numbers are located on the Assembly Drawing listed in section [2.5](#)
- Parts should be packaged to protect against damage during handling, transit and storage.

8.0 GAGES AND FIXTURES

All applicable gages and fixtures are referenced in the appropriate control plans.

9.0 OTHER INFORMATION

Not Applicable

MOLEX REPRESENTS AND WARRANTS TO BUYER FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF DELIVERY OF THE PRODUCTS TO BUYER THAT

- 1) THE PRODUCTS SHALL CONFORM TO THE MOLEX SPECIFICATIONS FOR THE PRODUCTS IN FORCE AT THE DATE OF DELIVERY OF THE PRODUCTS TO BUYER, AND
- 2) THE PRODUCTS SHALL BE OF FREE FROM MATERIAL DEFECTS IN MATERIALS AND MANUFACTURING.

EXCEPT AS EXPRESSLY PROVIDED ABOVE, MOLEX MAKES NO WARRANTY, EXPRESS OR IMPLIED, REGARDING THE PRODUCTS. ALL IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY DISCLAIMED. IN ADDITION, MOLEX EXPRESSLY DISCLAIMS ANY WARRANTY OBLIGATIONS IN THOSE INSTANCES WHERE THE FAILURES RESULTED FROM THE MODIFICATION OF THE PRODUCTS BY BUYER OR ITS CUSTOMERS, IMPROPER HANDLING, USE OR INSTALLATION OF THE PRODUCTS BY BUYER OR ITS CUSTOMERS, OR ANY OTHER CAUSE BEYOND THE CONTROL OF MOLEX.

REVISION:	ECR/ECN INFORMATION:	TITLE:	SHEET No.
4	EC No: UAU2016-1371 DATE: 03/23/2016	MXP120 SEALED ASSEMBLY CABLE SEAL	10 of 10
DOCUMENT NUMBER:	CREATED / REVISED BY:	CHECKED BY:	APPROVED BY:
PS-34900-0001	Shrish Rajendranath	Mike Vanslambrouck	Vijy Koshy