



Product Change Notification

Current Date: 27-Dec-2016

TE Connectivity

Product Change Notification: P-16-013993

PCN Date: 23-DEC-16

Customer: TTI Inc(0000139702)

Location: WORLDWIDE

Agreement: Agreement Unknown

TE would like to inform you of the following change(s) to the listed TE Connectivity Product. In case of any further questions about this change(s), please contact your TE Connectivity Sales Engineer. Affected part, drawing and/or specification numbers are listed on the attached sheet(s).

General Product Description:

Product Specification 108-18782 MCON 1.2

Description of Changes

2.1 remark for special variants added ; 2.2 referenced documents updated ; 3.3 temperature range clarification ; 3.4 additional info regarding USCAR and slow-motion tests ; 3.4 test requirements adjusted to LV 214: procedure and requirements adjusted / new values added / CuSn4-variants and small wire sizes considered (crimp resistance, pull-out forces), mating cycles adjusted, temperature electrical stress test, severity levels for dynamic stress and coastal climate test,... ; 4.1 and 4.2 derating curves added + updated ; 4.2 curves for short term current overload added + updated

Other attachments:

[Product Specification 108-18782 MCON 1.2](#)

Reason for Changes:

Document clarification.general rework incl. editorial changes, LV 214 considered, Locking Lance CuSn4-variants and small wire sizes (0.13-0.22mm) included

Estimated Dates:

Last Order Date (Obsolete Parts Only):	First Date To Ship (Changed Parts Only):
Last Ship Date (Obsolete Parts Only):	Last Date for Mixed Shipments: (Changed Parts Only):
	No Mixed Shipments

Part Number(s) being Modified:

Part Number	Part Discontinued per PCN	Customer Drawing	Customer Part Number	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
1418758-1	NO						
1418760-1	NO						
1418760-3	NO			"EF8315-000", "AMP-0-1418760-3"			
1418762-1	NO						
1418844-1	NO						
1418850-1	NO						
1418850-3	NO						
1452503-1	NO						
1452503-3	NO						
1452656-1	NO						
1452656-2	NO						
1452656-3	NO						
1452659-3	NO						
1452665-1	NO						
1452665-2	NO						
1452665-3	NO						
1452668-1	NO						
1452668-2	NO			"EG9741-000", "AMP-0-1452668-2"			
1452668-3	NO						
1452671-1	NO						

1452671-2	NO						
1534594-1	NO						
1534594-3	NO						
1563888-1	NO						
1670144-1	NO						
1670144-3	NO						
1670146-1	NO						
1670146-3	NO						
1718348-1	NO						
1718758-3	NO						
1718760-1	NO						
1718760-2	NO						
1718760-3	NO						
1718762-1	NO						
1718762-2	NO						
1718762-3	NO						
2141114-3	NO						
2141116-3	NO						
2141861-1	NO						
2141861-3	NO						
2141864-1	NO						
2141864-3	NO						
2177610-3	NO						
7-1452653-1	NO						
7-1452659-1	NO						
7-1452665-1	NO						
7-1452668-1	NO						
7-1452668-2	NO						
7-1452668-3	NO						

7-1452671-1	NO					
7-1452671-3	NO					

The documents listed below are being modified. Related parts that are not explicitly listed on this PCN are not being modified or discontinued as per the PCN. The Last Order Date, Last Ship Date, First Date to Ship Changed Parts and last date for Mixed Shipments apply only to parts explicitly listed on this PCN.

Document(s) Being Modified:

Documents Number	Related Part Number	Customer Part Number	Current Revision	New Revision
108-18782	1452656-3, 2141116-3, 7-1452668-3, 7-1452653-1, 1418850-1, 7-1452668-1, 7-1452665-1, 7-1452668-2, 1670146-3, 2177610-3		C	

Customer: TTI Inc.(1305175)

Location: Maisach-Gernlinden

Agreement Number: TTI001

Part Number(s) being Modified:

Part Number	Part Discontinued per PCN	Customer Drawing	Customer Part Number	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
1418758-1	NO		TYC1418758-1				
1418760-1	NO		TYC1418760-1				
1418760-3	NO			"EF8315-000", "AMP-0-1418760-3"			
1418762-1	NO		TYC1418762-1				
1418844-1	NO		TYC1418844-1				
1418850-3	NO		TYC1418850-3				
1452503-1	NO		TYC1452503-1				
1452503-3	NO		TYC1452503-3				
1452656-1	NO		TYC1452656-1				
1452656-2	NO		TYC1452656-2				
1452656-3	NO		TYC1452656-3				
1452659-3	NO		TYC1452659-3				

1452665-1	NO		TYC1452665-1			
1452665-2	NO		TYC1452665-2			
1452665-3	NO		TYC1452665-3			
1452668-1	NO		TYC1452668-1			
1452668-2	NO		TYC1452668-2	"EG9741-000", "AMP-0-1452668-2"		
1452668-3	NO		TYC1452668-3			
1452671-1	NO		TYC1452671-1			
1452671-2	NO		TYC1452671-2			
1534594-1	NO		TYC1534594-1			
1534594-3	NO					
1563888-1	NO					
1670144-1	NO		TYC1670144-1			
1670144-3	NO		TYC1670144-3			
1670146-1	NO		TYC1670146-1			
1718758-3	NO		TYC1718758-3			
1718760-1	NO		TYC1718760-1			
1718760-2	NO		TYC1718760-2			
1718760-3	NO		TYC1718760-3			
1718762-1	NO		TYC1718762-1			
1718762-2	NO		TYC1718762-2			
1718762-3	NO		TYC1718762-3			
2141116-3	NO		TYC2141116-3			
2141861-1	NO		TYC2141861-1			
2141861-3	NO					
2141864-1	NO		TYC2141864-1			
2141864-3	NO					
7-1452653-1	NO					

7-1452659-1	NO		TYC7-1452659-1			
7-1452665-1	NO		TYC7-1452665-1			
7-1452668-1	NO		TYC7-1452668-1			
7-1452668-3	NO		TYC7-1452668-3			
7-1452671-3	NO		TYC7-1452671-3			

The documents listed below are being modified. Related parts that are not explicitly listed on this PCN are not being modified or discontinued as per the PCN. The Last Order Date, Last Ship Date, First Date to Ship Changed Parts and last date for Mixed Shipments apply only to parts explicitly listed on this PCN.

Document(s) Being Modified:

Documents Number	Related Part Number	Customer Part Number	Current Revision	New Revision
108-18782	7-1452653-1		C	

Customer: TTI Inc(168830)

Location: Fort Worth

Agreement Number: Agreement Unknown

Part Number(s) being Modified:

Part Number	Part Discontinued per PCN	Customer Drawing	Customer Part Number	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
1418760-1	NO						
1418760-3	NO			"EF8315-000", "AMP-0-1418760-3"			
1418762-1	NO						
1418850-1	NO						
1418850-3	NO						
1452503-1	NO						

1452668-1	NO						
1452668-3	NO						
1534594-1	NO						
1670146-1	NO						
1670146-3	NO						
1718348-1	NO						
1718762-1	NO						
2141114-3	NO						
2141116-3	NO						
2177610-3	NO						
7-1452671-1	NO						
7-1452671-3	NO						

The documents listed below are being modified. Related parts that are not explicitly listed on this PCN are not being modified or discontinued as per the PCN. The Last Order Date, Last Ship Date, First Date to Ship Changed Parts and last date for Mixed Shipments apply only to parts explicitly listed on this PCN.

Document(s) Being Modified:

Documents Number	Related Part Number	Customer Part Number	Current Revision	New Revision
108-18782	2177610-3		C	

Customer: Shanghai TTI ELelectronics Co Ltd(1405773)

Location: Shanghai

Agreement Number: Agreement Unknown

Part Number(s) being Modified:

Part Number	Part Discontinued per PCN	Customer Drawing	Customer Part Number	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
2141116-3	NO						

The documents listed below are being modified. Related parts that are not explicitly listed on this PCN are not being modified or discontinued as per the PCN. The Last Order Date, Last Ship Date, First Date to Ship Changed Parts and last date for Mixed Shipments apply only to parts explicitly listed on this PCN.

Document(s) Being Modified:

Documents Number	Related Part Number	Customer Part Number	Current Revision	New Revision
108-18782	2141116-3		C	

Customer: TTI Electronics Asia Pte Ltd.(1407161)

Location: Kowloon Bay

Agreement Number: Agreement Unknown

Part Number(s) being Modified:

Part Number	Part Discontinued per PCN	Customer Drawing	Customer Part Number	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
1452656-3	NO						

Customer: TTI Inc(2752328)

Location: Fremont

Agreement Number: Agreement Unknown

Part Number(s) being Modified:

Part Number	Part Discontinued per PCN	Customer Drawing	Customer Part Number	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
7-1452665-1	NO						
7-1452668-1	NO						
7-1452671-1	NO						

The documents listed below are being modified. Related parts that are not explicitly listed on this PCN are not being modified or discontinued as per the PCN. The Last Order Date, Last Ship Date, First Date to Ship Changed Parts and last date for Mixed Shipments apply only to parts explicitly listed on this PCN.

Document(s) Being Modified:

Documents Number	Related Part Number	Customer Part Number	Current Revision	New Revision
108-18782	7-1452665-1		C	

Customer: TTI Electronics Asia Pte Ltd.(2771300)**Location:** Singapore**Agreement Number:** Agreement Unknown**Part Number(s) being Modified:**

Part Number	Part Discontinued per PCN	Customer Drawing	Customer Part Number	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
1452656-3	NO						
7-1452668-3	NO						

The documents listed below are being modified. Related parts that are not explicitly listed on this PCN are not being modified or discontinued as per the PCN. The Last Order Date, Last Ship Date, First Date to Ship Changed Parts and last date for Mixed Shipments apply only to parts explicitly listed on this PCN.

Document(s) Being Modified:

Documents Number	Related Part Number	Customer Part Number	Current Revision	New Revision
108-18782	1452656-3, 7-1452668-3		C	

Customer: TTI Inc(1281288)**Location:** Fort Worth**Agreement Number:** TTI002**Part Number(s) being Modified:**

Part Number	Part Discontinued per PCN	Customer Drawing	Customer Part Number	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
1418760-1	NO						
1418760-3	NO			"EF8315-000", "AMP-0-1418760-3"			
1418762-1	NO						

1418850-1	NO						
1418850-3	NO						
1452503-1	NO						
1452668-1	NO						
1452668-3	NO						
1534594-1	NO						
1670146-1	NO						
1670146-3	NO						
1718348-1	NO						
1718762-1	NO						
2141114-3	NO						
2141116-3	NO						
2177610-3	NO						
7-1452671-1	NO						
7-1452671-3	NO						

The documents listed below are being modified. Related parts that are not explicitly listed on this PCN are not being modified or discontinued as per the PCN. The Last Order Date, Last Ship Date, First Date to Ship Changed Parts and last date for Mixed Shipments apply only to parts explicitly listed on this PCN.

Document(s) Being Modified:

Documents Number	Related Part Number	Customer Part Number	Current Revision	New Revision
108-18782	1418850-1		C	

Customer: TTI Inc.(3057778)

Location: Olching

Agreement Number: Agreement Unknown

Part Number(s) being Modified:

Part Number	Part Discontinued per PCN	Customer Drawing	Customer Part Number	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
-------------	---------------------------	------------------	----------------------	----------------------	------------------------	---------------------------------	---------------------------

1418758-1	NO		TYC1418758-1			
1418760-1	NO		TYC1418760-1			
1418762-1	NO		TYC1418762-1			
1418844-1	NO		TYC1418844-1			
1418850-3	NO		TYC1418850-3			
1452503-1	NO		TYC1452503-1			
1452503-3	NO		TYC1452503-3			
1452656-1	NO		TYC1452656-1			
1452656-2	NO		TYC1452656-2			
1452665-1	NO		TYC1452665-1			
1452665-2	NO		TYC1452665-2			
1452665-3	NO		TYC1452665-3			
1452668-1	NO		TYC1452668-1			
1452668-2	NO		TYC1452668-2	"EG9741-000", "AMP-0-1452668-2"		
1452668-3	NO		TYC1452668-3			
1452671-1	NO		TYC1452671-1			
1534594-1	NO		TYC1534594-1			
1534594-3	NO					
1670144-1	NO		TYC1670144-1			
1670144-3	NO		TYC1670144-3			
1670146-1	NO		TYC1670146-1			
1718758-3	NO		TYC1718758-3			
1718760-1	NO		TYC1718760-1			
1718760-2	NO		TYC1718760-2			
1718760-3	NO		TYC1718760-3			
1718762-1	NO		TYC1718762-1			
1718762-2	NO		TYC1718762-2			
1718762-3	NO		TYC1718762-3			

2141116-3	NO		TYC2141116-3				
2141861-1	NO		TYC2141861-1				
2141861-3	NO						
2141864-1	NO		TYC2141864-1				
2141864-3	NO						
7-1452659-1	NO		TYC7-1452659-1				
7-1452665-1	NO		TYC7-1452665-1				
7-1452668-1	NO		TYC7-1452668-1				
7-1452668-3	NO		TYC7-1452668-3				
7-1452671-3	NO		TYC7-1452671-3				

Customer: TTI(3075935)

Location: Eden Prairie

Agreement Number: Agreement Unknown

Part Number(s) being Modified:

Part Number	Part Discontinued per PCN	Customer Drawing	Customer Part Number	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
7-1452668-1	NO						

The documents listed below are being modified. Related parts that are not explicitly listed on this PCN are not being modified or discontinued as per the PCN. The Last Order Date, Last Ship Date, First Date to Ship Changed Parts and last date for Mixed Shipments apply only to parts explicitly listed on this PCN.

Document(s) Being Modified:

Documents Number	Related Part Number	Customer Part Number	Current Revision	New Revision
108-18782	7-1452668-1		C	

Customer: Shanghai TTI Electronics Co Ltd(3084965)

Location: Shanghai

Agreement Number: Agreement Unknown

Part Number(s) being Modified:

Part Number	Part Discontinued per PCN	Customer Drawing	Customer Part Number	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
7-1452668-2	NO						

The documents listed below are being modified. Related parts that are not explicitly listed on this PCN are not being modified or discontinued as per the PCN. The Last Order Date, Last Ship Date, First Date to Ship Changed Parts and last date for Mixed Shipments apply only to parts explicitly listed on this PCN.

Document(s) Being Modified:

Documents Number	Related Part Number	Customer Part Number	Current Revision	New Revision
108-18782	7-1452668-2		C	

Customer: TTI Inc(2922318)

Location: Tustin

Agreement Number: Agreement Unknown

Part Number(s) being Modified:

Part Number	Part Discontinued per PCN	Customer Drawing	Customer Part Number	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
1670146-3	NO						
1718760-3	NO						

The documents listed below are being modified. Related parts that are not explicitly listed on this PCN are not being modified or discontinued as per the PCN. The Last Order Date, Last Ship Date, First Date to Ship Changed Parts and last date for Mixed Shipments apply only to parts explicitly listed on this PCN.

Document(s) Being Modified:

Documents Number	Related Part Number	Customer Part Number	Current Revision	New Revision
108-18782	1670146-3		C	

Customer: TTI Inc(3040144)

Location: Woodbridge

Agreement Number: Agreement Unknown

Part Number(s) being Modified:

Part Number	Part Discontinued per PCN	Customer Drawing	Customer Part Number	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
7-1452668-1	NO						

The documents listed below are being modified. Related parts that are not explicitly listed on this PCN are not being modified or discontinued as per the PCN. The Last Order Date, Last Ship Date, First Date to Ship Changed Parts and last date for Mixed Shipments apply only to parts explicitly listed on this PCN.

Document(s) Being Modified:

Documents Number	Related Part Number	Customer Part Number	Current Revision	New Revision
108-18782	7-1452668-1		C	

Customer: TTI Electronics Asia Pte Ltd.(2771300)

Location: Singapore

Agreement Number: Agreement Unknown

Part Number(s) being Modified:

Part Number	Part Discontinued per PCN	Customer Drawing	Customer Part Number	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
1452656-3	NO						
7-1452668-3	NO						

The documents listed below are being modified. Related parts that are not explicitly listed on this PCN are not being modified or discontinued as per the PCN. The Last Order Date, Last Ship Date, First Date to Ship Changed Parts and last date for Mixed Shipments apply only to parts explicitly listed on this PCN.

Document(s) Being Modified:

Documents Number	Related Part Number	Customer Part Number	Current Revision	New Revision
108-18782	1452656-3, 7-1452668-3		C	

Customer: Shanghai TTI EElectronics Co Ltd(3064990)

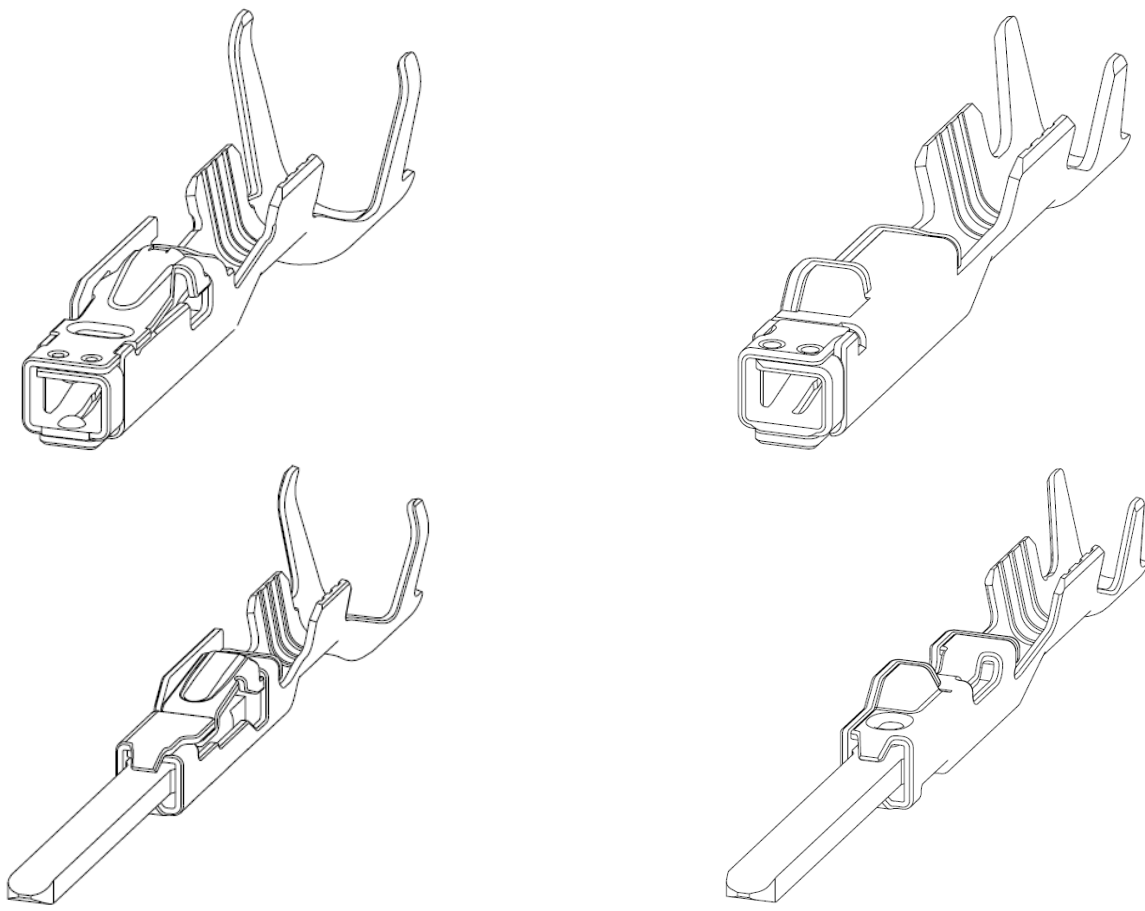
Location: Shanghai

Agreement Number: Agreement Unknown

Part Number(s) being Modified:

Part Number	Part Discontinued per PCN	Customer Drawing	Customer Part Number	Alias Part Number(s)	Substitute Part Number	Substitute Alias Part Number(s)	Description Of Difference
2141116-3	NO						

1. SCOPE 2	1. ANWENDUNGSBEREICH 2
1.1. Content..... 2	1.1. Inhalt..... 2
1.2. Qualification 2	1.2. Qualifikation..... 2
1.3. Application Area..... 2	1.3. Einsatzgebiet 2
2. APPLICABLE DOCUMENTS 2	2. ANWENDBARE UNTERLAGEN 2
2.1. TE Connectivity Documents..... 2	2.1. TE Connectivity Unterlagen..... 2
2.2. General Documents 2	2.2. Allgemeine Unterlagen 2
3. REQUIREMENTS 3	3. ANFORDERUNGEN 3
3.1. Design and construction..... 3	3.1. Entwurf und Konstruktion 3
3.2. Materials..... 3	3.2. Werkstoffe 3
3.3. Technical Data 3	3.3. Technische Daten..... 3
3.4. Performance and Test Description 3	3.4. Leistungsmerkmale und Testbeschreibung 3
3.5. Test Requirements and Procedures by Motor Vehicle Connectors Test Specification LV214 5	3.5. Anforderungen und Prüfungen nach Prüfvorschrift für KFZ-Steckverbinder LV214 8
4. APPENDIX 11	4. ANHANG 11
REVISION RECORD 20	REVISION RECORD 20



<p>1. SCOPE</p> <p>1.1. <i>Content</i></p> <p>This specification describes the characteristic, tests and quality requirements for the MCON 1.2 Contact System</p> <p>1.2. <i>Qualification</i></p> <p>When testing the named products the following specified specifications and standards shall be used. All tests have to be done using the applicable inspection plan and product.</p> <p>1.3. <i>Application Area</i></p> <p>The contact is designed to carry medium currents in motor vehicles, in which vibration and mechanical stress may affect the reliability of conventional contacts.</p>	<p>1. ANWENDUNGSBEREICH</p> <p>1.1. <i>Inhalt</i></p> <p>Diese Spezifikation beschreibt die Eigenschaften, Tests und Qualitätsanforderungen für das MCON 1.2 Kontaktsystem</p> <p>1.2. <i>Qualifikation</i></p> <p>Bei der Prüfung der genannten Produkte sind die nachfolgend genannten Richtlinien und Normen zu verwenden. Alle Prüfungen müssen nach den zugehörigen Prüfplänen und Produktzeichnungen durchgeführt werden.</p> <p>1.3. <i>Einsatzgebiet</i></p> <p>Das Kontaktsystem ist für mittlere Ströme in Kraftfahrzeugen entwickelt, bei der Vibration und mechanische Belastungen die Zuverlässigkeit herkömmlicher Kontaktsysteme auf Dauer beeinflussen kann.</p>
<p>2. APPLICABLE DOCUMENTS</p> <p>The following documents, if they are referred inside this document, are part of this specification. In case of conflict between the requirements of this specification and the product drawing or in conflict between the requirements of this specification and the referenced documents, this specification has precedence. In case of discrepancies the German text is valid.</p> <p>2.1. <i>TE Connectivity Documents</i></p> <p>A 109-1: General Requirements for Test Specifications B Customer Drawings and Naming 1452674 MCON 1.2 LL* 1534326 MCON 1.2 CB** 1418754 Tab Contact 1.2 LL* 1718398 Tab Contact 1.2 CB** 1563888 MCON 1.2 LL* for short circuit application 1718035 MCON 1.2 LL* for Tab 0.8MM C 114-18464 Application Specification D 114-94201 Contact Pins and Tabs for Shrouded Connection E 114-94022 Contact Pin 1.2x0.8 Specification</p> <p style="text-align: right;">} NOT FOR NEW APPLICATIONS</p> <p style="text-align: center;">* LL – Locking Lance / Rastfeder ** CB – Clean Body</p>	<p>2. ANWENDBARE UNTERLAGEN</p> <p>Die nachfolgend genannten Unterlagen, sofern im Dokument darauf verwiesen wird, sind Teil dieser Spezifikation. Im Falle des Widerspruches zwischen dieser Spezifikation und der Produktzeichnung oder des Widerspruches zwischen dieser Spezifikation und den aufgeführten Unterlagen hat diese Spezifikation Vorrang. Im Falle von Unstimmigkeiten gilt der deutsche Text.</p> <p>2.1. <i>TE Connectivity Unterlagen</i></p> <p>A 109-1: Generelle Anforderungen für die Testdurchführungen B Kundenzeichnungen und Benennungen 1452674 MCON 1.2 LL* 1534326 MCON 1.2 CB** 1418754 Flachstecker 1.2 LL* 1718398 Flachstecker 1.2 CB** 1563888 MCON 1.2 LL* für Kurzschlussfederanwendung 1718035 MCON-1.2 LL* für Tab 0.8mm C 114-18464 Verarbeitungsspezifikation D 114-94201 Kontaktstifte und Messer für Kragenanschluss E 114-94022 Kontaktstift 1.2x0.8 Ausführungsvorschrift</p> <p style="text-align: right;">} NICHT FÜR NEUANWENDUNGEN</p>
<p>2.2. <i>General Documents</i></p> <p>A IEC 60512 Connectors for electronic equipment, Tests and measurements B IEC 60068 Environmental testing C Test Guideline for Motor Vehicle Connectors LV214 Edition March 2010 D Test Guideline for Motor Vehicle Connectors Edition 1 - 04.96 E IEC 60760 Flat, quick-connect terminations</p>	<p>2.2. <i>Allgemeine Unterlagen</i></p> <p>A IEC 60512 Steckverbinder für elektronische Einrichtungen, Mess- und Prüfverfahren B IEC 60068 Umgebungseinflüsse C Prüfvorschrift für KFZ - Steckverbinder LV214 Ausgabe März 2010 D Prüfrichtlinie für KFZ – Steckverbinder Ausgabe 1 - 04.96 E IEC 60760 Flachsteckverbindungen</p>

<p>3. REQUIREMENTS</p> <p>3.1. Design and construction</p> <p>The product must correspond with the product drawing, concerning the design and the physical dimensions. The counterpart has to be according specification 114-94201 for Tab 1.2x0.6.</p> <p>3.2. Materials</p> <p>Information on this can be found on the product drawings.</p>	<p>3. ANFORDERUNGEN</p> <p>3.1. Entwurf und Konstruktion</p> <p>Das Produkt muss in seiner Ausführung und seinen physikalischen Abmessungen der Produktzeichnung entsprechen. Das Gegenstück muss der Spezifikation 114-94201 für Tab 1.2x0.6 entsprechen.</p> <p>3.2. Werkstoffe</p> <p>Angaben hierzu sind den Zeichnungsunterlagen zu entnehmen.</p>
<p>3.3. Technical Data</p> <p>A Nominal voltage according to IEC 664 / IEC 60664A (DIN VDE0110)</p> <p>B Current carrying capability see derating curves in appendix</p> <p>C Temperature range depends on plating of MCON 1.2 receptacle and used tab (ambient temperature plus temperature rise due to electrical heating):</p> <p>From -40 °C to 130 °C for MCON 1.2 (SnAg) mated with tab 1.2mm (Sn)</p> <p>From -40 °C to 150 °C for MCON 1.2 (SnAg) mated with tab 1.2mm (Ag) for MCON 1.2 (Ag) mated with tab 1.2mm (Ag) for MCON 1.2 (Au) mated with tab 1.2mm (Au)</p> <p>From -40 °C to 170 °C for MCON 1.2 LL (Ag) mated with tab 1.2mm (Ag with Ni-underlayer)</p> <p>For the application with limit temperature >150°C using appropriate counterpart note 5 of specification 114-94201 shall be applied</p>	<p>3.3. Technische Daten</p> <p>A Nennspannung nach IEC 60664 / IEC 60664 (DIN VDE0110)</p> <p>B Strombelastbarkeit siehe Deratingkurven im Anhang</p> <p>C Temperaturbereich ist abhängig von der Beschichtung des MCON 1.2 Buchsenkontakts und des verwendeten Tabs (Umgebungstemperatur plus Stromerwärmung):</p> <p>Von -40 °C bis 130 °C für MCON 1.2 (SnAg) gesteckt auf Tab 1.2mm (Sn)</p> <p>Von -40 °C bis 150 °C für MCON 1.2 (SnAg) gesteckt auf Tab 1.2mm (Ag) für MCON 1.2 (Ag) gesteckt auf Tab 1.2mm (Ag) für MCON 1.2 (Au) gesteckt auf Tab 1.2mm (Au)</p> <p>Von -40 °C bis 170 °C für MCON 1.2 LL (Ag) gesteckt auf Tab 1.2mm (Ag, unternickelt)</p> <p>Bei Anwendungen mit Grenztemperaturen >150°C mit entsprechendem Gegenstecker gilt Bemerkung 5 der Spezifikation 114-94201</p>
<p>3.4. Performance and Test Description</p> <p>The product fulfills the electrical, mechanical and environmental performance requirements according motor vehicle connectors test specification LV214 (edition March 2010) given in paragraph 3.5. All tests are performed at ambient environmental conditions per DIN IEC 60512 unless otherwise specified.</p> <p>The MCON 1.2 LL / CuSn4-variants correspond to the requirements according LV214-2 / slow-motion test.</p> <p>The MCON 1.2 LL / CuSn4-variants are tested acc. USCAR-2 / Rev. 6 and USCAR 21 / Rev. 2. For this purpose a separate PVP&R was created.</p>	<p>3.4. Leistungsmerkmale und Testbeschreibung</p> <p>Das Produkt erfüllt die in Abschnitt 3.5 aufgeführten elektrischen, mechanischen und klimatischen Anforderungen nach der Prüfvorschrift für KFZ-Steckverbinder LV214 (Ausgabe März 2010). Soweit nicht anders spezifiziert, sind alle Prüfungen unter den in der DIN IEC 60512 genannten Umweltbedingungen durchgeführt.</p> <p>Die MCON 1.2 LL / CuSn4-Varianten entsprechen den Anforderungen gemäß LV214-2 / Slow-Motion-Prüfung.</p> <p>Die MCON 1.2 LL / CuSn4-Varianten wurden nach USCAR-2 / Rev. 6 und USCAR 21 / Rev. 2 getestet. Hierfür wurde ein separater PVP&R erstellt.</p>

3.4.1. *General Requirements*

- All tests meet the test procedures and test guidelines.
- Number of samples: see LV214
 - The specified tools must be used for the mechanical tests
 - The specimen must be free of visible damage
 - The specimen must comply with the actual drawings
 - For testing series production parts shall be used only
 - Tests are for the tested combination only (contact, tab, wire, housings), other designs (geometry, material) must be tested separately and are consequently not released
 - The wires used must have a watertight isolation and sufficiently heat resistance, if applicable. The wires used must be free of damage, holes and grooves
 - For leak tests, standard rods whose diameter correspond to a worst-case wire shall be used instead of FLR wires. In individual cases, the transferability of the results to wire insulation materials with sufficient temperature resistance must be proved by tests
 - Mating cycles depend on various technical influences and must be confirmed in each individual case
 - Speed for mechanical tests: 50mm/min.
 - The contact parts must be processed with TE-tools
 - Processing of the contacts acc. spec. 114-18464
 - Vibration examinations are valid for the products tested only; deviating designs shall be examined separately and are consequently not released

3.4.1. *Allgemeine Testbedingungen*

- Aufgeführte Tests entsprechen den angegebenen Prüfverfahren und Prüfrichtlinien.
- Anzahl der Prüflinge: siehe LV214
 - Für die mechanischen Tests sind die genannten Hilfswerkzeuge zu verwenden
 - Die Prüflinge dürfen mit bloßem Auge keine sichtbaren Beschädigungen aufweisen
 - Die Prüflinge müssen dem aktuellen Zeichnungsstand entsprechen
 - Für Prüzzwecke sind nur Serienteile zu verwenden
 - Durchgeführte Prüfungen gelten nur für die getesteten Kombinationen (Kontakt, Tab-Kontakt, Kabel, Gehäuse), abweichende Designs (Geometrie, Materialien) sind separat zu testen und sind somit nicht freigegeben
 - Die verwendeten Leitungen müssen, wenn anwendbar, eine wasserdichte Isolation aufweisen, ausreichende Wärmeformbeständigkeit besitzen und frei von Beschädigungen, Löchern und Riefen sein
 - Bei Dichtheitsprüfungen werden anstelle der FLR-Leitungen Urstäbe, die im Durchmesser einer Worst-Case-Leitung entsprechen, als Leitungsnachbildung verwendet. Die Übertragbarkeit auf ausreichend temperaturbeständige Leitungsisolationsmaterialien muss im Einzelfall durch Tests nachgewiesen werden
 - Die Anzahl der Steckzyklen ist abhängig von vielen technischen Einflüssen und sollte für jeden Einzelfall überprüft werden
 - Prüfgeschwindigkeit für mech. Tests: 50mm/min.
 - Für die Verarbeitung der Kontaktteile sind TE-Werkzeuge zu verwenden
 - Verarbeitung der Kontakte nach Spez. 114-18464
 - Vibrationsprüfungen gelten nur für die getesteten Produkte, abweichende Designs sind separat zu prüfen und sind somit nicht freigegeben

3.5. Test Requirements and Procedures by Motor Vehicle Connectors Test Specification LV214 (Edition March 2010)

Test description	Requirement	Procedure / Notes												
PG 0 Receiving inspection E 0.1 Visual and dimensional inspection E 0.2.1 Contact resistance in contact area E 0.2.2 Contact resistance in connection area	Drawing Conformance Contact resistance in contact area (R_K) $R_K \leq 2m\Omega$ Contact resistance in connection area (R_C) <table border="1" data-bbox="555 607 1117 842"> <thead> <tr> <th>Body material [mm²]</th> <th>CuSn0.15 [mΩ]</th> <th>CuSn4 (7-... variants) [mΩ]</th> </tr> </thead> <tbody> <tr> <td>(0.13 - 0.22)</td> <td rowspan="2">$R_C \leq 1.0$</td> <td rowspan="2">$R_C \leq 1.5$</td> </tr> <tr> <td>(>0.22 - 0.5)</td> </tr> <tr> <td>(>0.5 - 1.0)</td> <td>$R_C \leq 0.8$</td> <td rowspan="2">$R_C \leq 1.0$</td> </tr> <tr> <td>(>1.0 - 1.5)</td> <td>$R_C \leq 0.6$</td> </tr> </tbody> </table>	Body material [mm ²]	CuSn0.15 [mΩ]	CuSn4 (7-... variants) [mΩ]	(0.13 - 0.22)	$R_C \leq 1.0$	$R_C \leq 1.5$	(>0.22 - 0.5)	(>0.5 - 1.0)	$R_C \leq 0.8$	$R_C \leq 1.0$	(>1.0 - 1.5)	$R_C \leq 0.6$	DIN EN 60512-1-1 DIN EN 60512-2-1 <i>Limits for R_C acc. to</i> DIN EN 60352-2 APR2014
Body material [mm ²]	CuSn0.15 [mΩ]	CuSn4 (7-... variants) [mΩ]												
(0.13 - 0.22)	$R_C \leq 1.0$	$R_C \leq 1.5$												
(>0.22 - 0.5)														
(>0.5 - 1.0)	$R_C \leq 0.8$	$R_C \leq 1.0$												
(>1.0 - 1.5)	$R_C \leq 0.6$													
PG 4 Contact overlapping	$\geq 1,0mm$ (depends on Tab and Housing design) Acc. - AK-Drawing for Contact Pins and Tabs for Shrouded Connection 114-94201 - AK-Standard Contact Cavity for <table border="1" data-bbox="587 1048 1066 1182"> <tbody> <tr> <td>MCON 1.2 LL</td> <td>Receptacle 115-18064 Tab 115-18130</td> </tr> <tr> <td>MCON 1.2 CB</td> <td>Receptacle 115-18063 Tab 115-18167</td> </tr> </tbody> </table>	MCON 1.2 LL	Receptacle 115-18064 Tab 115-18130	MCON 1.2 CB	Receptacle 115-18063 Tab 115-18167	<i>Theoretical proof front edge contact (rear edge contact in the interference)</i>								
MCON 1.2 LL	Receptacle 115-18064 Tab 115-18130													
MCON 1.2 CB	Receptacle 115-18063 Tab 115-18167													
PG 5 Mechanical and thermal relaxation behavior E 5.2 Contact normal force B 5.3 Aging in dry heat, inserted	New: min. 3.0N after temperature storage: min. 1.0N	DIN EN 60068-2-2 +150°C, 1000h												
PG 8 Contact retention force E 8.2.1 Primary lock only	from steel cavity min. 75N (Type MCON 1.2 CB) min. 60N (Type MCON 1.2 LL) min. 55N (Type TAB 1.2 LL) min. 75N (Type TAB 1.2 CB)													
PG 10 Conductor pull-out strength E 10.1 Conductor pull-out strength	Insulation crimp inactive $\geq 50N$ (0.13 - 0.22mm ²) ¹ $\geq 50N$ (0.35mm ²) $\geq 60N$ (0.5mm ²) $\geq 85N$ (0.75mm ²) $\geq 108N$ (1.0mm ²) $\geq 150N$ (1.5mm ²)													

¹ Reinforced wire according to LV 112-4

<p>PG 11 Insertion and removal forces, mating cycle frequency</p> <p>E 11.1 Mating and unmating forces</p> <p>B 11.1 Mating cycle frequency</p>	<p>Mating: max. 4.0N Unmating: max. 2.5N</p> <p>Mating cycles²</p> <p>Sn = min. 20 Ag = min. 20 Au = min. 100</p> <p>mating force variation > 25% acceptable</p> <p>Wearing through the contact surface is not permissible</p>	<p><i>with reference tab acc. TE-PN 1355893-5</i></p> <p><i>with tab terminals such as</i></p> <p>Sn: PN 5-1418760-1 Ag: PN 0-1718758-3 Au: PN 5-1418760-2</p> <p><i>Fulfilled for: Sn, Ag, Au surfaces</i></p>
<p>PG 12 Current temperature rise, derating (without housing)</p>	<p>See temperature rise and derating curves in appendix 4.1</p>	<p>DIN EN 60512-5-2</p>
<p>PG 13 Effect of housing on derating</p>	<p>depends on loading condition and used housing; the verification has to be done for each housing and each loading condition separately</p> <p>Temperature rise and derating curve for exemplary application in appendix 4.2</p>	<p>DIN EN 60512-5-1/2</p>
<p>PG 14 Thermal time constant</p>	<p>Diagrams for short term current overload in appendix 4.3</p>	<p><i>1-/2-/3-/4- and 5-times the rated current</i></p>
<p>PG 15 Electrical stress test</p> <p>B 15.2 Temperature / current cycle endurance test</p> <p>B 15.3 Humid heat, cyclic</p> <p>E 0.2 Connection resistance</p>	<p>Limit temperature for³ Sn = 130 °C; Ag, Au = 150 °C; Au = 170 °C (T_o + current temperature rise)</p> <p>$\Delta I \leq 0,2 \times I_{ini}$ at 80°C</p> <p>contact + 2x crimp resistance acc. LV214 appendix D: (0.13-0.22mm²) R_{max}=20mΩ (0.35, 0.5, 0.75, 1.0mm²) R_{max}=15mΩ (1.5mm²) R_{max}=10mΩ</p>	<p><i>Duration: 60 cycles (1 cycle = 6h) - 40°C / T_o</i> <i>T_o = upper temperature in the climate chamber</i></p> <p>DIN EN 60068-2-30 T_U=25°C / T_o=55°C rel. humidity 95% 1 cycle = 24h, 21 cycles</p> <p>DIN EN 60512-2-1</p>
<p>PG 17 Dynamic stress</p> <p>B 17.1 Sinusoidal</p> <p>B 17.2 Broadband random vibration</p> <p>B 17.3 Endurance shock test</p> <p>E 0.2 Connection resistance</p>	<p>Potential severity levels for</p> <p>Sn: up to severity 2 Ag: up to severity 4 Au: up to severity 3</p> <p>The dynamic stress severity depends on operational area and the housing used; the verification has to be done for each housing and each site of operation separately</p> <p>Circuit interruption monitoring: no interruptions $\geq 7\Omega$ / $\geq 1\mu s$</p> <p>contact + 2x crimp resistance acc. LV214 appendix D: (0.13-0.22mm²) R_{max}=20mΩ (0.35, 0.5, 0.75, 1.0mm²) R_{max}=15mΩ (1.5mm²) R_{max}=10mΩ</p>	<p>DIN EN 60068-2-6 DIN EN 60068-2-64 DIN EN 60068-2-27</p> <p><i>Severity levels acc. LV 214 PG 17, table 7:</i></p> <p><i>Severity 1: „Body unsealed“</i> <i>Severity 2: „Body sealed“</i> <i>Severity 3: „Applications close to Powertrain“</i> <i>Severity 4: „Engine-mounted parts“</i></p> <p>DIN EN 60512-2-1</p>

² The maximum number of mating cycles is dependent on the tribological properties of the surfaces used in each case. Only when using the TE Connectivity produced and delivered surfaces and contact geometries, female and male side, the maximum number of mating cycles can be assured.

³ See 3.3 which variants and tabs shall be used



<p>PG 18A Coastal climate test</p> <p>B 18.2 Salt spray, cyclic</p> <p>E 0.2 Connection resistance</p>	<p>Severity 3</p> <p>contact + 2x crimp resistance acc. LV214 appendix D: (0.13-0.22mm²) R_{max}=20mΩ (0.35, 0.5, 0.75, 1.0mm²) R_{max}=15mΩ (1.5mm²) R_{max}=10mΩ</p>	<p>DIN EN 60068-2-52</p> <p><i>1 cycle = 2h salt spray / 35°C + 22h 40°C / 93% rel. humidity</i></p> <p><i>4 cycles + 72h storage at 23°C</i></p> <p>DIN EN 60512-2-1</p>
<p>PG 19 Environmental simulation</p> <p>B 19.1 Temperature shock</p> <p>B 19.2 Temperature cycle</p> <p>B 19.3 Aging in dry heat</p> <p>B 19.4 Industrial climate (multiple-component climate)</p> <p>B 19.5 Humidity heat, cyclic</p> <p>E 0.2 Connection resistance</p>	<p>No corrosion must occur in the area of the contact zone</p> <p>Rubbing through is not permissible in the contact area</p> <p>contact + 2x crimp resistance acc. LV214 appendix D: (0.13-0.22mm²) R_{max}=20mΩ (0.35, 0.5, 0.75, 1.0mm²) R_{max}=15mΩ (1.5mm²) R_{max}=10mΩ</p> <p>Requirements of procedure B 19.1 – B 19.5 fulfilled</p>	<p>DIN EN 60068-2-14 Na <i>-40°C / +130°C each 15min, 144 cycles</i></p> <p>DIN EN 60068-2-14 Nb <i>-40°C / +130°C each 3h, 20 cycles</i></p> <p>DIN EN 60068-2-2 Bb <i>130°C / 120h</i></p> <p>DIN EN 60068-2-60 / method 4 <i>0.2ppm SO₂, 0.01ppm H₂S, 0.2ppm NO₂, 0.01ppm Cl₂ 25°C / 75% rel. humidity 21d, Volume flow = 1m³/h</i></p> <p>DIN EN 60068-2-30 Db Var. 2 <i>25°C / 55°C, rel. humidity 95%, 10 cycles each 24h</i></p> <p>DIN EN 60512-2-1</p>

3.5. Anforderungen und Prüfungen nach Prüfvorschrift für KFZ-Steckverbinder LV214 (Ausgabe März 2010)

Beschreibung	Anforderung	Prüfverfahren / Bemerkungen																	
PG 0 Eingangsprüfung E 0.1 Sicht- und Maßprüfung E 0.2.1 Durchgangswiderstand im Kontaktbereich E 0.2.2 Durchgangswiderstand im Anschlussbereich	Zeichnungskonformität Kontaktdurchgangswiderstand (R_K) $R_K \leq 2\text{m}\Omega$ Crimpdurchgangswiderstand (R_C) <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Body material</th> <th style="text-align: center;">CuSn0.15</th> <th style="text-align: center;">CuSn4 (7-... Varianten)</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">[mm²]</td> <td style="text-align: center;">[mΩ]</td> <td style="text-align: center;">[mΩ]</td> </tr> <tr> <td style="text-align: center;">(0.13 - 0.22)</td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">(>0.22 - 0.5)</td> <td style="text-align: center;">$R_C \leq 1.0$</td> <td rowspan="2" style="text-align: center;">} $R_C \leq 1.5$</td> </tr> <tr> <td style="text-align: center;">(>0.5 - 1.0)</td> <td style="text-align: center;">$R_C \leq 0.8$</td> </tr> <tr> <td style="text-align: center;">(>1.0 - 1.5)</td> <td style="text-align: center;">$R_C \leq 0.6$</td> <td style="text-align: center;">$R_C \leq 1.0$</td> </tr> </tbody> </table>	Body material	CuSn0.15	CuSn4 (7-... Varianten)	[mm ²]	[mΩ]	[mΩ]	(0.13 - 0.22)			(>0.22 - 0.5)	$R_C \leq 1.0$	} $R_C \leq 1.5$	(>0.5 - 1.0)	$R_C \leq 0.8$	(>1.0 - 1.5)	$R_C \leq 0.6$	$R_C \leq 1.0$	DIN EN 60512-1-1 DIN EN 60512-2-1 Grenzwerte für R_C nach DIN EN 60352-2 APR2014
Body material	CuSn0.15	CuSn4 (7-... Varianten)																	
[mm ²]	[mΩ]	[mΩ]																	
(0.13 - 0.22)																			
(>0.22 - 0.5)	$R_C \leq 1.0$	} $R_C \leq 1.5$																	
(>0.5 - 1.0)	$R_C \leq 0.8$																		
(>1.0 - 1.5)	$R_C \leq 0.6$	$R_C \leq 1.0$																	
PG 4 Kontaktüberdeckung	$\geq 1,0\text{mm}$ (abhängig von Flachstecker- und Gehäusekonstruktion) Nach - AK-Zeichnung für Kontaktstifte und Messer für Kra- genanschluss 114-94201 - AK-Standard Kontaktkammer für <table style="width: 100%; border: none;"> <tr> <td style="padding-right: 20px;">MCON 1.2 LL</td> <td style="padding-right: 20px;">Buchse</td> <td>115-18064</td> </tr> <tr> <td></td> <td>Tab</td> <td>115-18130</td> </tr> <tr> <td>MCON 1.2 CB</td> <td>Buchse</td> <td>115-18063</td> </tr> <tr> <td></td> <td>Tab</td> <td>115-18167</td> </tr> </table>	MCON 1.2 LL	Buchse	115-18064		Tab	115-18130	MCON 1.2 CB	Buchse	115-18063		Tab	115-18167	<i>Theoretischer Nachweis Vorderer Kontaktpunkt (hinterer Kontaktpunkt im Eingriff)</i>					
MCON 1.2 LL	Buchse	115-18064																	
	Tab	115-18130																	
MCON 1.2 CB	Buchse	115-18063																	
	Tab	115-18167																	
PG 5 Mechanisches und thermisches Relaxationsverhalten E 5.2 Kontaktnormalkraft B 5.3 Lagerung bei trockener Wärme, gesteckt	Neuzustand: min. 3.0N Nach Temperaturlagerung: min. 1.0N	DIN EN 60068-2-2 +150°C, 1000h																	
PG 8 Kontakthaltekraft E 8.2.1 nur Primärverriegelung	Aus Stahlkammer min. 75N (Typ MCON 1.2 CB) min. 60N (Typ MCON 1.2 LL) min. 55N (Typ TAB 1.2 LL) min. 75N (Typ TAB 1.2 CB)																		
PG 10 Leiterausreißkraft E 10.1 Leiterausreißkraft	Isolationscrimp nicht aktiv <table style="width: 100%; border: none;"> <tr> <td style="padding-right: 20px;">$\geq 50\text{N}$</td> <td>(0.13 - 0.22mm²)⁴</td> </tr> <tr> <td>$\geq 50\text{N}$</td> <td>(0.35mm²)</td> </tr> <tr> <td>$\geq 60\text{N}$</td> <td>(0.5mm²)</td> </tr> <tr> <td>$\geq 85\text{N}$</td> <td>(0.75mm²)</td> </tr> <tr> <td>$\geq 108\text{N}$</td> <td>(1.0mm²)</td> </tr> <tr> <td>$\geq 150\text{N}$</td> <td>(1.5mm²)</td> </tr> </table>	$\geq 50\text{N}$	(0.13 - 0.22mm ²) ⁴	$\geq 50\text{N}$	(0.35mm ²)	$\geq 60\text{N}$	(0.5mm ²)	$\geq 85\text{N}$	(0.75mm ²)	$\geq 108\text{N}$	(1.0mm ²)	$\geq 150\text{N}$	(1.5mm ²)						
$\geq 50\text{N}$	(0.13 - 0.22mm ²) ⁴																		
$\geq 50\text{N}$	(0.35mm ²)																		
$\geq 60\text{N}$	(0.5mm ²)																		
$\geq 85\text{N}$	(0.75mm ²)																		
$\geq 108\text{N}$	(1.0mm ²)																		
$\geq 150\text{N}$	(1.5mm ²)																		

⁴ Zugverstärkte Leitung nach LV 112-4

<p>PG 11 Steck- und Ziehkräfte, Stechkäufigkeit</p> <p>E 11.1 Steck- und Ziehkraft</p> <p>B 11.1 Stechkäufigkeit</p>	<p>Steckkraft: max. 4.0N Ziehkraft: max. 2.5N</p> <p>Steckzyklen⁵</p> <p>Sn = min. 20 Ag = min. 20 Au = min. 100</p> <p>Steckkraftveränderung > 25% zulässig</p> <p>Durchrieb der Kontaktoberfläche ist nicht zulässig</p>	<p>Mit Prüfflachstecker nach TE-PN 1355893-5</p> <p>Mit Flachsteckern wie bspw.</p> <p>Sn: PN 5-1418760-1 Ag: PN 0-1718758-3 Au: PN 5-1418760-2</p> <p>Erfüllt für: Sn, Ag, Au surfaces</p>
<p>PG 12 Stromerwärmung, Derating (ohne Gehäuse)</p>	<p>Siehe Stromerwärmung und Deratingkurven in Anhang 4.1</p>	<p>DIN EN 60512-5-2</p>
<p>PG 13 Gehäuseeinfluss auf das Derating</p>	<p>abhängig vom Lastfall und verwendetem Gehäuse; die Prüfung ist jeweils für die eingesetzten Gehäuse und den Lastfall speziell durchzuführen</p> <p>Stromerwärmung und Deratingkurve für Anwendungsbeispiel in Anhang 4.2</p>	<p>DIN EN 60512-5-1/2</p>
<p>PG 14 Thermische Zeitkonstante</p>	<p>Diagramme für thermische Zeitkonstante in Anhang 4.3</p>	<p>1-/2-/3-/4- und 5-facher Nennstrom</p>
<p>PG 15 Elektrischer Stresstest</p> <p>B 15.2 Temperatur- / Stromwechselfeldauer-test</p> <p>B 15.3 Feuchte Wärme, zyklisch</p> <p>E 0.2 Durchgangswiderstand</p>	<p>Grenztemperatur für⁶ Sn = 130 °C; Ag, Au = 150 °C; Ag = 170 °C (T_o + Stromerwärmung)</p> <p>$\Delta I \leq 0,2 \times I_{ini}$ bei 80°C</p> <p>Kontakt- + 2x Crimpdurchgangswiderstand nach LV214 Anhang D: (0.13-0.22mm²) R_{max}=20mΩ (0.35, 0.5, 0.75, 1.0mm²) R_{max}=15mΩ (1.5mm²) R_{max}=10mΩ</p>	<p>Dauer: 60 Zyklen (1 Zyklus = 6h) -40°C / T_o T_o = obere Temperatur im Klimaschrank</p> <p>DIN EN 60068-2-30 T_u=25°C / T_o=55°C rel. Feuchte 95% 1 Zyklus = 24h, 21 Zyklen</p> <p>DIN EN 60512-2-1</p>
<p>PG 17 Dynamische Beanspruchung</p> <p>B 17.1 Sinusförmig</p> <p>B 17.2 Breitbandrauschen</p> <p>B 17.3 Dauerschocken</p> <p>E 0.2 Durchgangswiderstand</p>	<p>Potenzielle Schärfegrade (SG) für</p> <p>Sn: bis zu SG 2 Ag: bis zu SG 4 Au: bis zu SG 3</p> <p>Der Schärfegrad ist abhängig von dem Einsatzbereich und dem verwendeten Gehäuse; die Prüfung ist jeweils für die eingesetzten Gehäuse und den Einsatzort speziell durchzuführen</p> <p>Überwachung auf Stromunterbrechung: Keine Unterbrechungen $\geq 7\Omega / \geq 1\mu s$</p> <p>Kontakt- + 2x Crimpdurchgangswiderstand nach LV214 Anhang D: (0.13-0.22mm²) R_{max}=20mΩ (0.35, 0.5, 0.75, 1.0mm²) R_{max}=15mΩ (1.5mm²) R_{max}=10mΩ</p>	<p>DIN EN 60068-2-6 DIN EN 60068-2-64 DIN EN 60068-2-27</p> <p>Schärfegrade nach LV 214 PG 17, Tabelle 7: SG 1: „Karosserie ungedichtet“ SG 2: „Karosserie gedichtet“ SG 3: „Aggregatenahe Anwendung“ SG 4: „Motor-Anbauteile“</p> <p>DIN EN 60512-2-1</p>

⁵ Die zulässige Anzahl der Steckzyklen ist abhängig von den tribologischen Eigenschaften der jeweils eingesetzten Oberflächen. Nur bei Verwendung der von TE Connectivity produzierten und gelieferten Oberflächen und Kontaktgeometrien, buxsen- und stiftseitig, kann die zulässige Anzahl Steckzyklen sichergestellt werden.

⁶ See 3.3 which variants and tabs shall be used

PG 18A Küstenklimabeanspruchung		
B 18.2 Salznebel, zyklisch	Schärfegrad 3	DIN EN 60068-2-52 <i>1 Zyklus = 2h Salznebel / 35°C + 22h 40°C / 93% rel. Feuchte</i> <i>4 Zyklen + 72h Lagerung bei 23°C</i>
E 0.2 Durchgangswiderstand	Kontakt- + 2x Crimpdurchgangswiderstand nach LV214 Anhang D: (0.13-0.22mm ²) $R_{max}=20m\Omega$ (0.35, 0.5, 0.75, 1.0mm ²) $R_{max}=15m\Omega$ (1.5mm ²) $R_{max}=10m\Omega$	DIN EN 60512-2-1
PG 19 Umweltsimulation		
B 19.1 Temperaturschock		DIN EN 60068-2-14 Na <i>-40°C / +130°C je 15min, 144 Zyk- len</i>
B 19.2 Temperaturwechsel		DIN EN 60068-2-14 Nb <i>-40°C / +130°C je 3h, 20 Zyklen</i>
B 19.3 Lagerung bei trockener Wärme		DIN EN 60068-2-2 Bb <i>130°C / 120h</i>
B 19.4 Industrieklima (Mehrkomponen- tenklima)		DIN EN 60068-2-60 / Methode 4 <i>0.2ppm SO₂, 0.01ppm H₂S, 0.2ppm NO₂, 0.01ppm Cl₂ 25°C / 75% rel. Feuchte 21d, Volumenstrom = 1m³/h</i>
B 19.5 Feuchte Wärme, zyklisch	Im Bereich der Kontaktzone darf keine Korrosion auf- treten Es ist kein Durchrieb im Kontaktbereich zulässig	DIN EN 60068-2-30 Db Var. 2 <i>25°C / 55°C, rel. Feuchte 95%, 10 Zyklen zu je 24h</i>
E 0.2 Durchgangswiderstand	Kontakt- + 2x Crimpdurchgangswiderstand nach LV214 Anhang D: (0.13-0.22mm ²) $R_{max}=20m\Omega$ (0.35, 0.5, 0.75, 1.0mm ²) $R_{max}=15m\Omega$ (1.5mm ²) $R_{max}=10m\Omega$ Anforderungen erfüllt für B 19.1 – B 19.5	DIN EN 60512-2-1

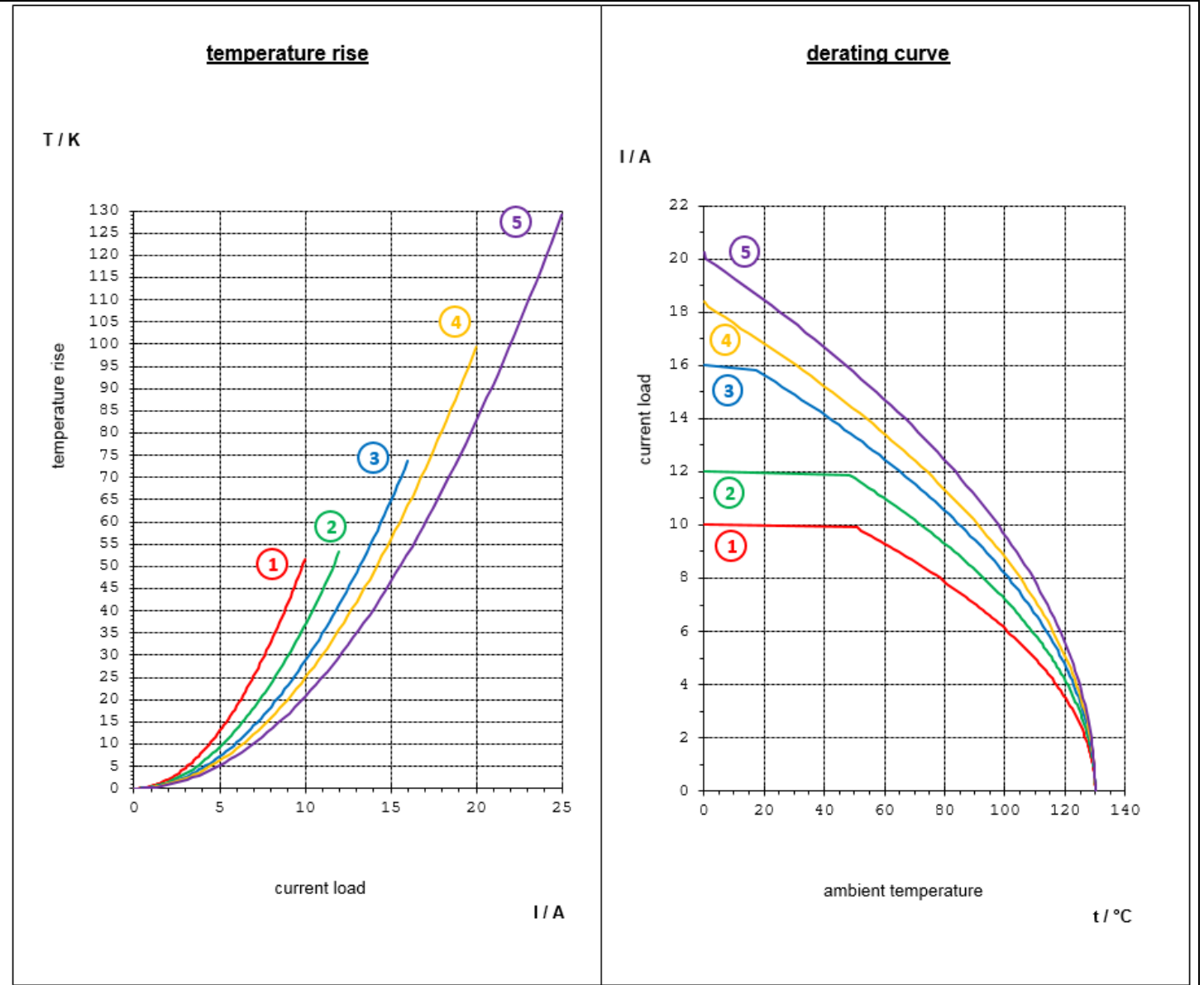
4. APPENDIX

4. ANHANG

4.1. Temperature rise / derating free in air

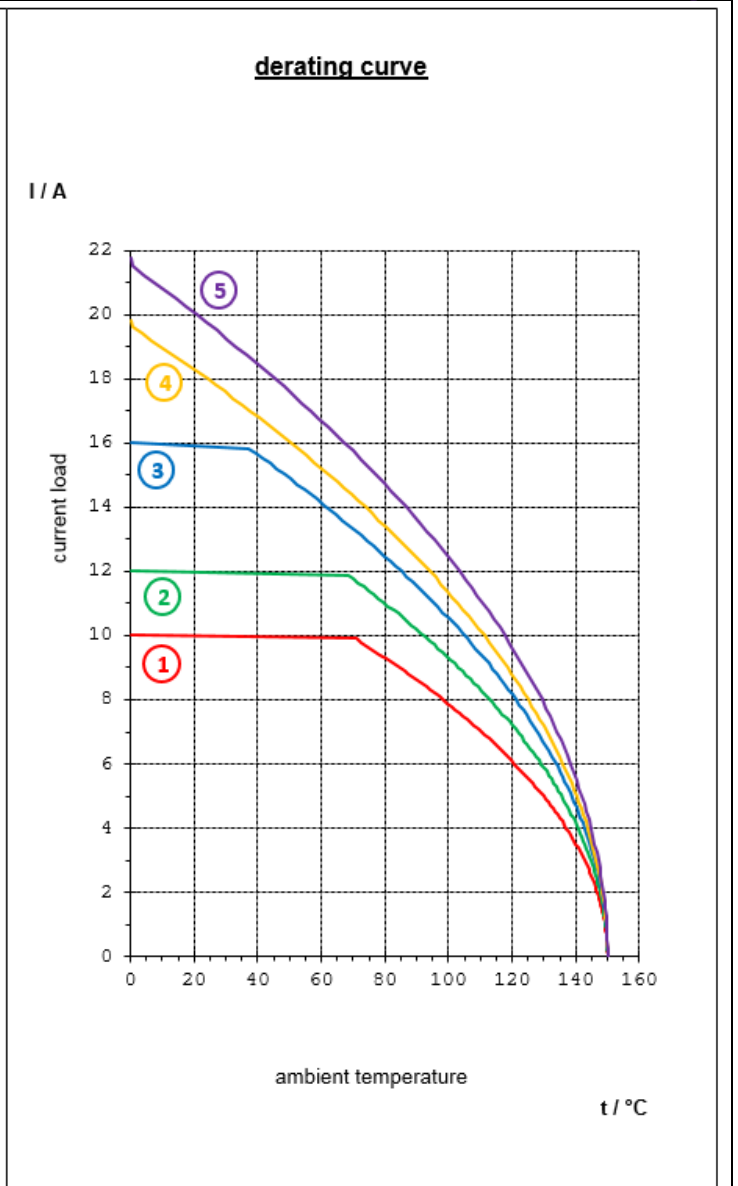
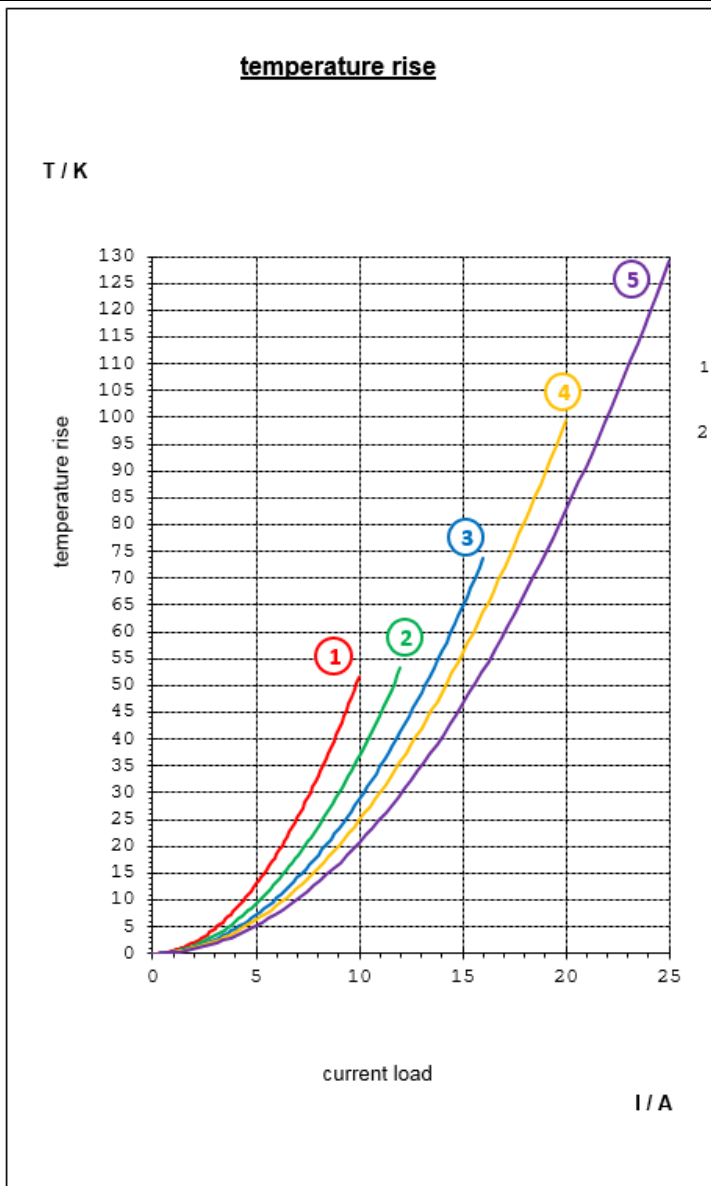
4.1. Stromerwärmung / Derating frei an Luft

Temperature rise / derating free in air Stromerwärmung / Derating frei in Luft		MCON 1.2 CB, 0.35 – 1.50 mm ²		
Wire/Leitung: *)	MCON 1.2 CB Material Body: CuSn0.15 / SnAg Insert: CuNiSi	Tab / Flachstecker 1.2 mm Material: CuSn4 / Ag	Note / Bemerkung	Graph
0.35 mm ² FLR	1534594-3 / Ag	154 pol. Header mit angelötenen FLR-Leitungen / 154 pos. Header with soldered FLR wires	For 130°C applications derived from 150°C applications / Für 130°C Anwendungen von 150°C Anwendungen abgeleitet	①
0.50 mm ² FLR	1394897-3 / Ag (superseded by / ersetzt durch 1670144-3)			②
0.75 mm ² FLR				③
1.00 mm ² FLR	1452503-3 / Ag			④
1.50 mm ² FLR	1452503-3 / Ag			⑤



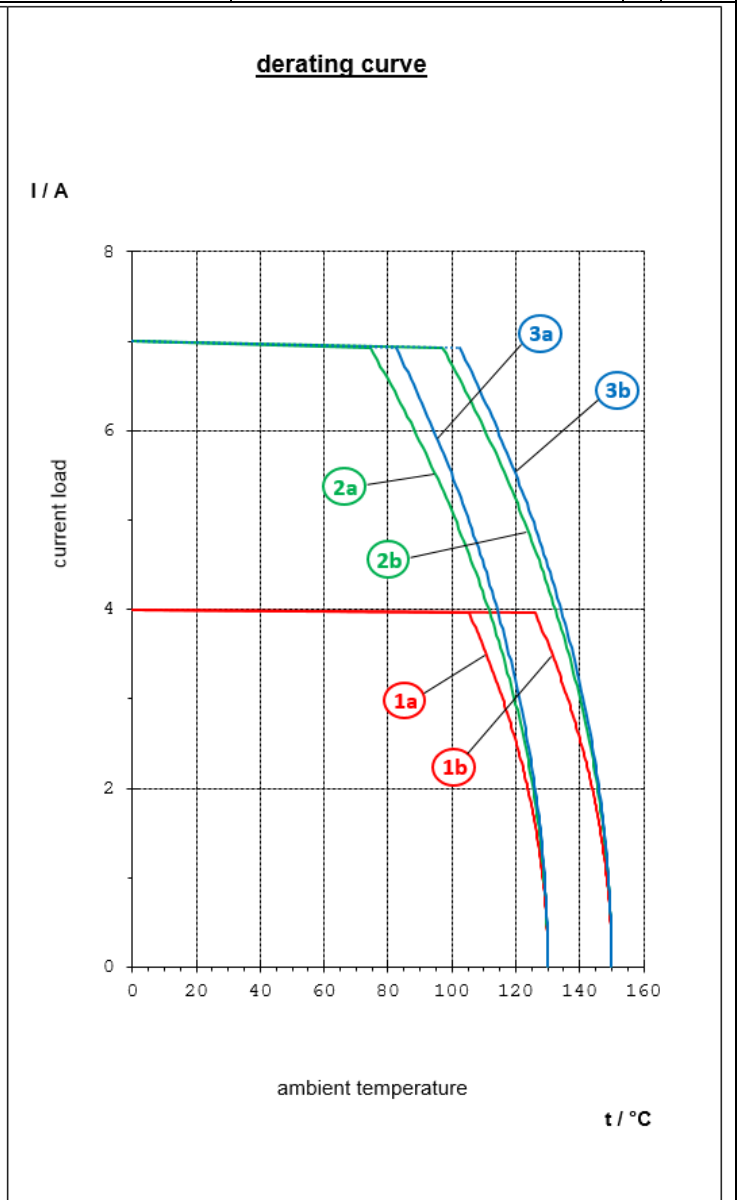
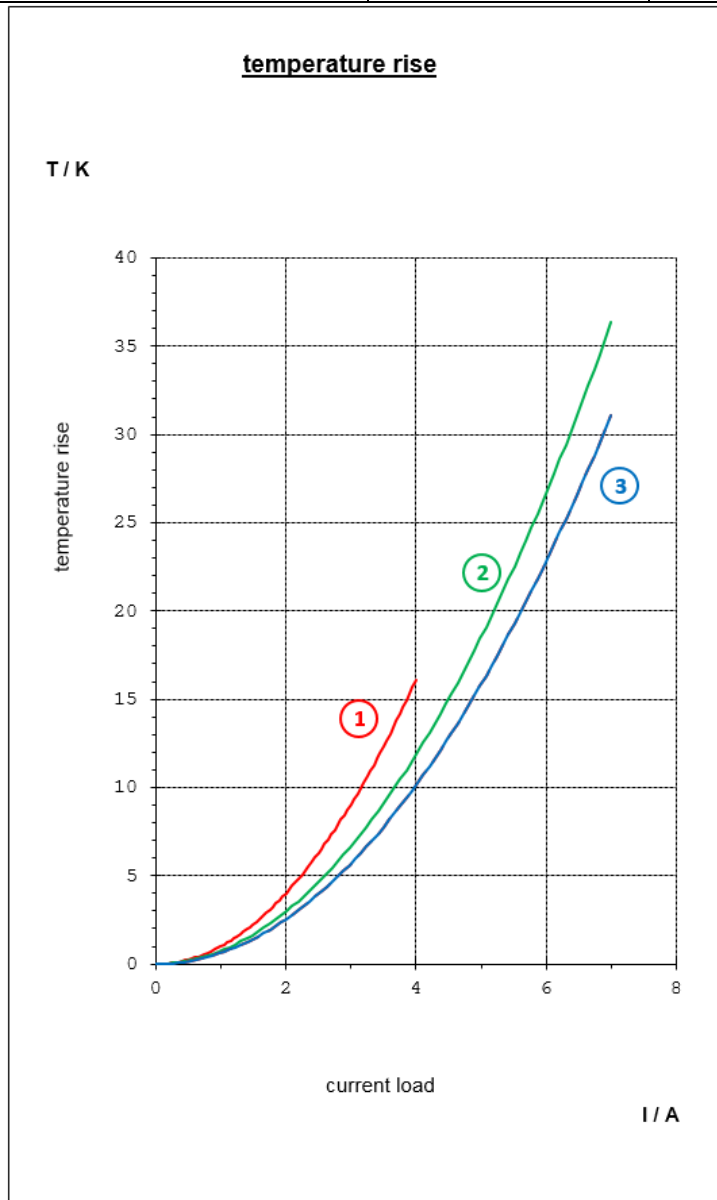
*) The limit temperatures as well as the maximum current carrying capacity of the used wires have to be considered /
 Die Grenztemperaturen sowie die maximale Stromtragfähigkeit der verwendeten Leitungen sind zu berücksichtigen

Temperature rise / derating free in air Stromerwärmung / Derating frei in Luft		MCON 1.2 CB, 0.35 – 1.50 mm ²		
Wire/Leitung: *)	MCON 1.2 CB Material Body: CuSn0.15 / SnAg Insert: CuNiSi	Tab / Flachstecker 1.2 mm Material: CuSn4 / Ag	Note / Bemerkung	Graph
0.35 mm ² FLR	1534594-3 / Ag	154 pol. Header mit angelötenen FLR-Leitungen / 154 pos. Header with soldered FLR wires	For 150°C applications / Für 150°C Anwendungen	1
0.50 mm ² FLR	1394897-3 / Ag (superseded by / ersetzt durch 1670144-3)			2
0.75 mm ² FLR				3
1.00 mm ² FLR	1452503-3 / Ag			4
1.50 mm ² FLR	1452503-3 / Ag			5



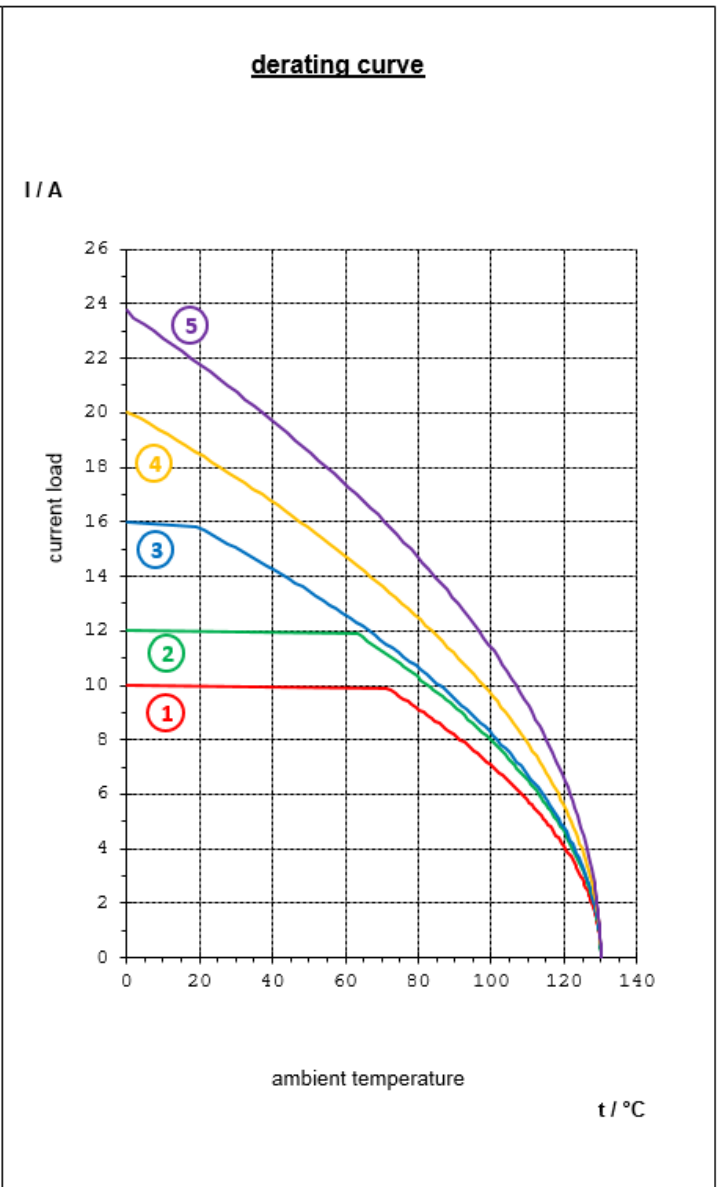
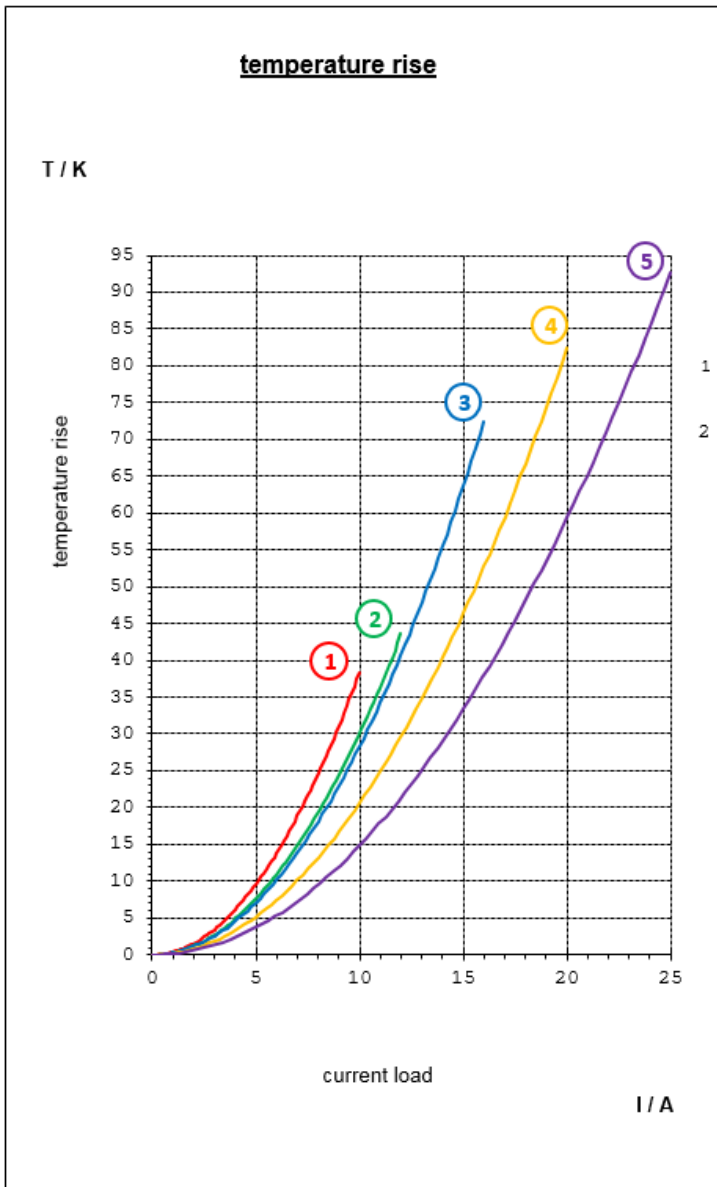
*) The limit temperatures as well as the maximum current carrying capacity of the used wires have to be considered /
 Die Grenztemperaturen sowie die maximale Stromtragfähigkeit der verwendeten Leitungen sind zu berücksichtigen

Temperature rise / derating free in air Stromerwärmung / Derating frei in Luft		MCON 1.2 LL, 0.13 – 0.22 mm ²		
Wire/Leitung: *)	MCON 1.2 LL Material Body: CuSn4 / Sn Insert: CuNiSi	Tab / Flachstecker 1.2 mm Material Body: CuNiSi / Sn Insert-Tab: CuSn0.15	Note / Bemerkung	Graph
0.13 mm² FLR Type B Reinforced wire acc. to LV 112-4 Zugverstärkte Leitung nach LV 112-4	0-2141861-1 / SnAg 0-2141861-2 / Au	0-2141864-1 / Sn 0-2141864-2 / Au	For 130°C curve For 150°C curve	a b 1
0.17 mm² FLR Type B Reinforced wire acc. to LV 112-4 Zugverstärkte Leitung nach LV 112-4	0-2141861-1 / SnAg 0-2141970-2 / Au	0-2141864-1 / Sn 0-2141868-2 / Au	For 130°C curve For 150°C curve	a b 2
0.22 mm² ACW Wire for Tabs soldered Leitung an Flachstecker angelötet	0-2141970-3 / Ag	0-1418758-3 / Ag	130°C derived from 150°C curve For 150°C curve	a b 3



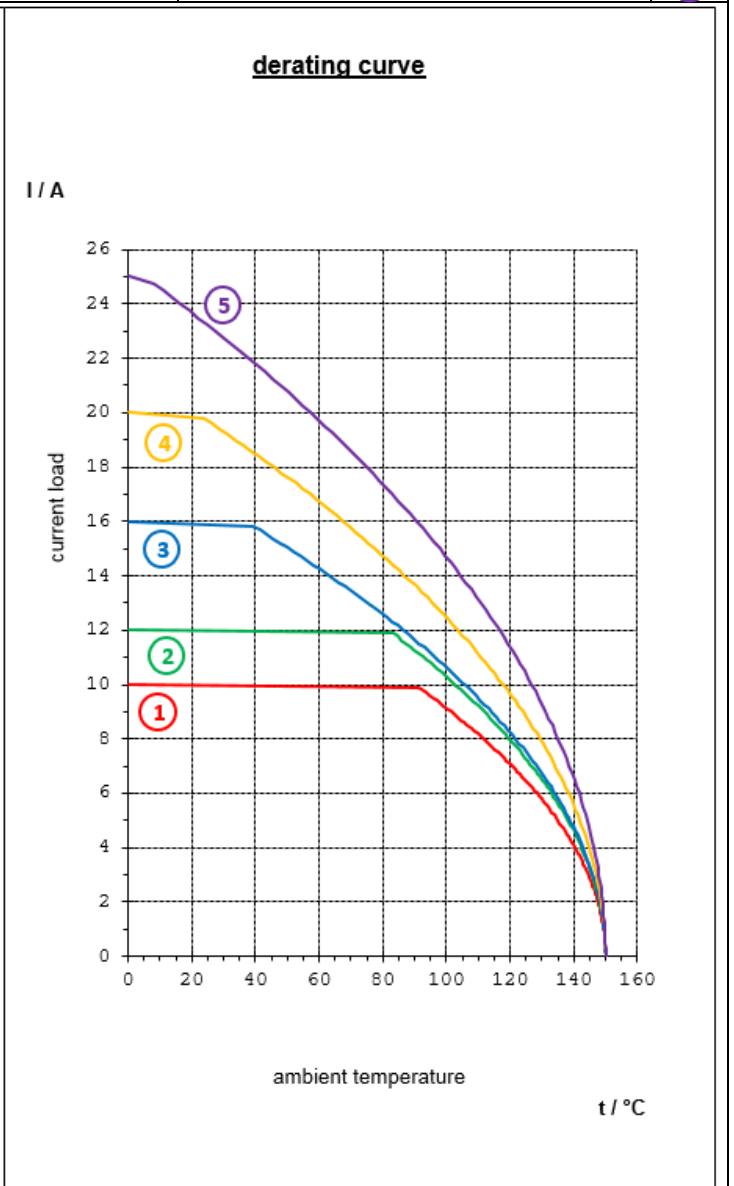
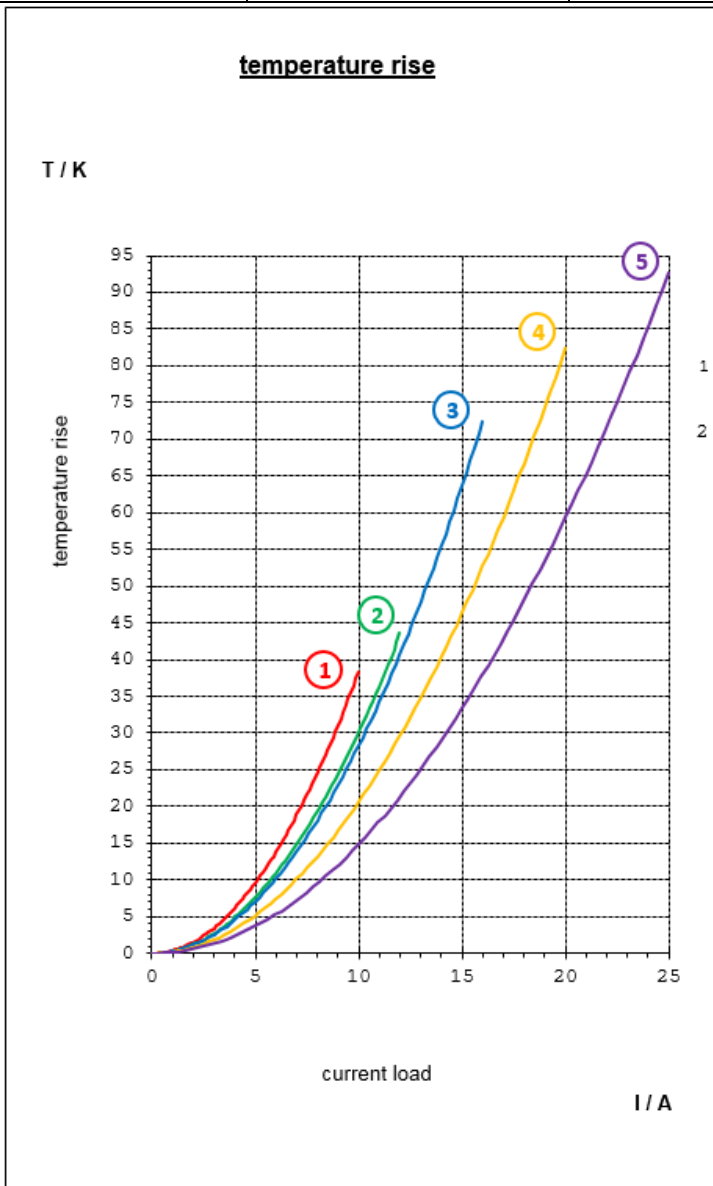
*) The limit temperatures as well as the maximum current carrying capacity of the used wires have to be considered /
 Die Grenztemperaturen sowie die maximale Stromtragfähigkeit der verwendeten Leitungen sind zu berücksichtigen

Temperature rise / derating free in air Stromerwärmung / Derating frei in Luft		MCON 1.2 LL, 0.35 – 1.50 mm ² Body Material CuSn4		
Wire/Leitung: *)	MCON 1.2 LL Material Body: CuSn4 / Sn Insert: CuNiSi	Tab / Flachstecker 1.2 mm Material Body: CuNiSi / Sn Insert-Tab: CuSn0.15	Note / Bemerkung	Graph
0.35 mm ² FLR Typ A	7-1452653-1 / SnAg	5-1418758-1 / Sn	For 130°C applications / Für 130°C Anwendungen	①
0.50 mm ² FLR Typ B	7-1452656-1 / SnAg	0-1718350-1 / Sn		②
0.75 mm ² FLR Typ B	7-1452656-1 / SnAg	0-1718350-1 / Sn		③
1.00 mm ² FLR Typ B	7-1452659-1 / SnAg	0-1418762-1 / Sn		④
1.50 mm ² FLR Typ B	7-1452659-1 / SnAg	0-1418762-1 / Sn		⑤



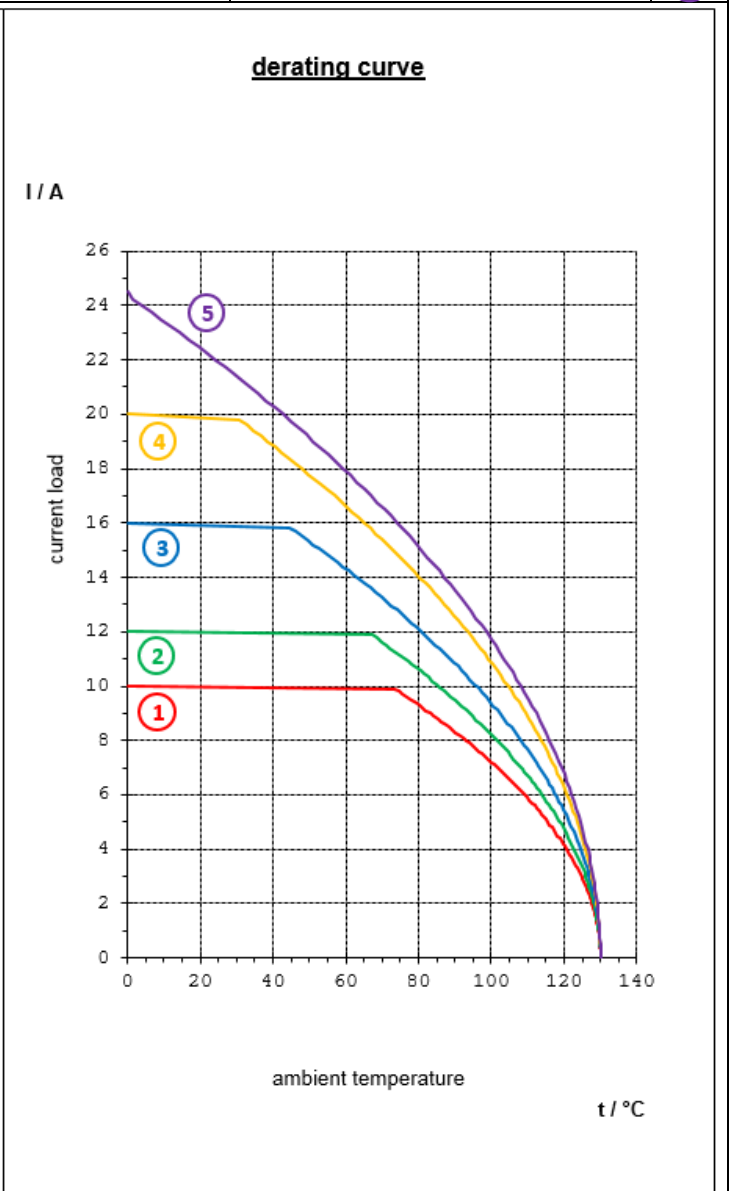
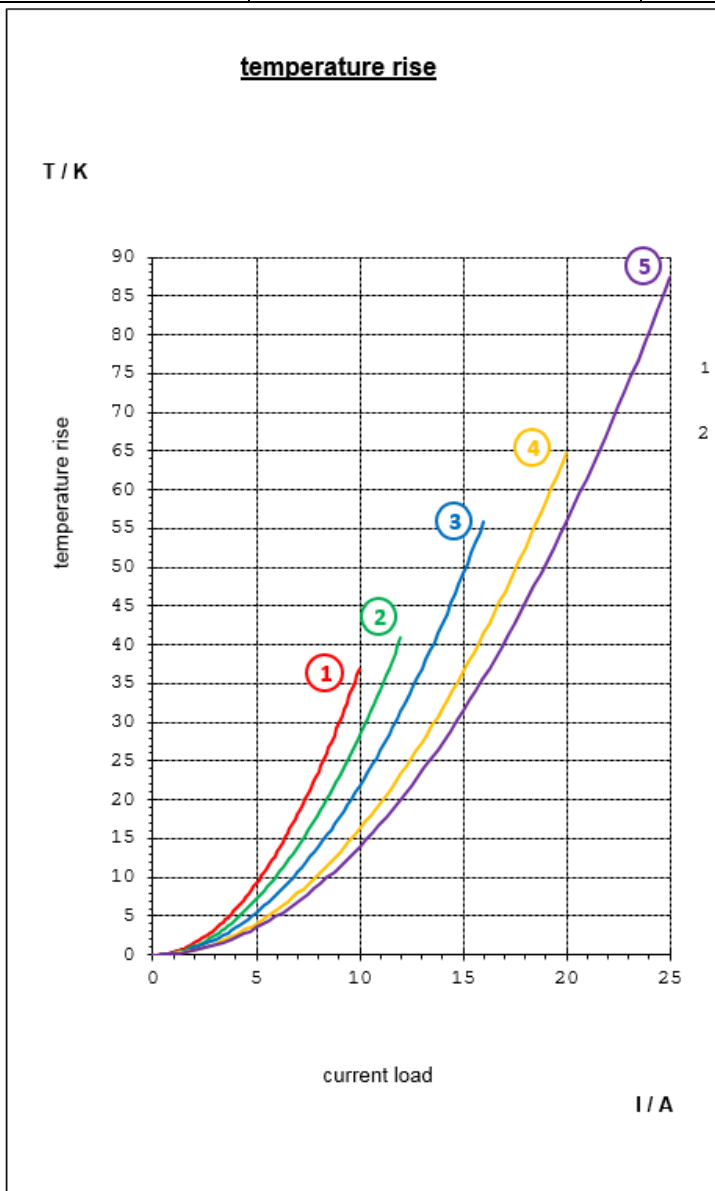
*) The limit temperatures as well as the maximum current carrying capacity of the used wires have to be considered /
 Die Grenztemperaturen sowie die maximale Stromtragfähigkeit der verwendeten Leitungen sind zu berücksichtigen

Temperature rise / derating free in air Stromerwärmung / Derating frei in Luft		MCON 1.2 LL, 0.35 – 1.50 mm ² Body Material CuSn4		
Wire/Leitung: *)	MCON 1.2 LL Material Body: CuSn4 / Sn Insert: CuNiSi	Tab / Flachstecker 1.2 mm Material Body: CuNiSi / Sn Insert-Tab: CuSn0.15	Note / Bemerkung	Graph
0.35 mm ² FLR Typ A	7-1452653-1 / SnAg	5-1418758-1 / Sn	<p>For 150°C applications derived from 130°C applications / Für 150°C Anwendungen von 130°C Anwendungen abgeleitet</p>	①
0.50 mm ² FLR Typ B	7-1452656-1 / SnAg	0-1718350-1 / Sn		②
0.75 mm ² FLR Typ B	7-1452656-1 / SnAg	0-1718350-1 / Sn		③
1.00 mm ² FLR Typ B	7-1452659-1 / SnAg	0-1418762-1 / Sn		④
1.50 mm ² FLR Typ B	7-1452659-1 / SnAg	0-1418762-1 / Sn		⑤



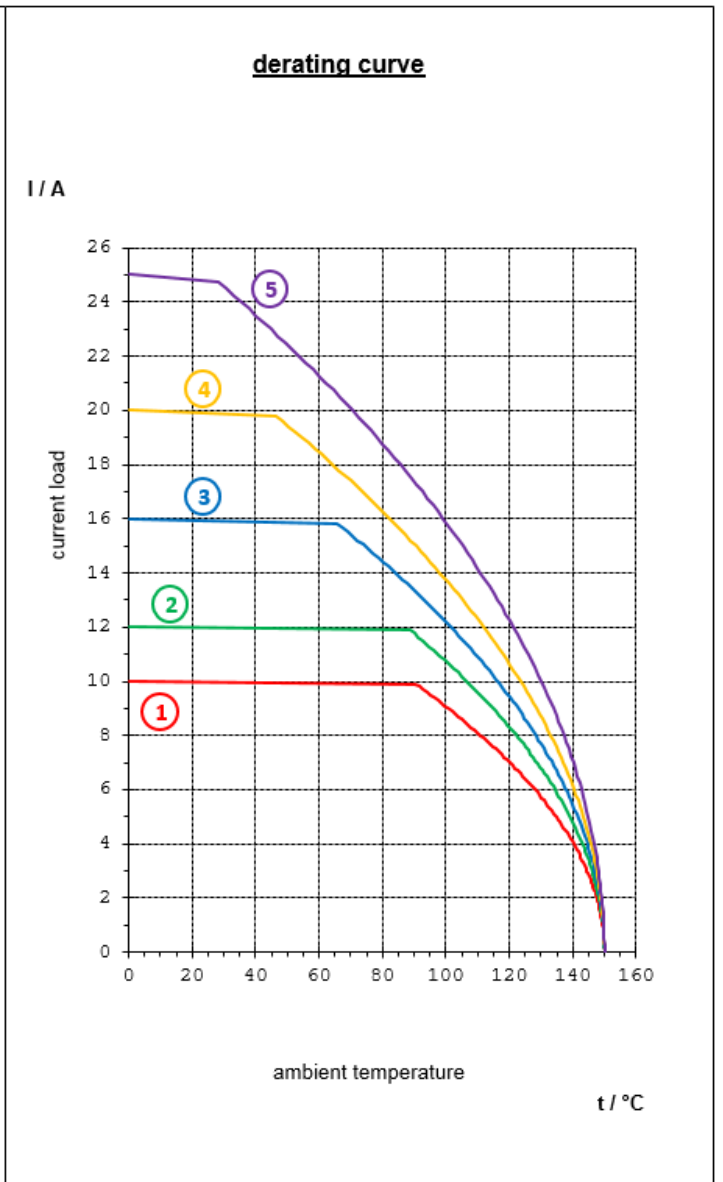
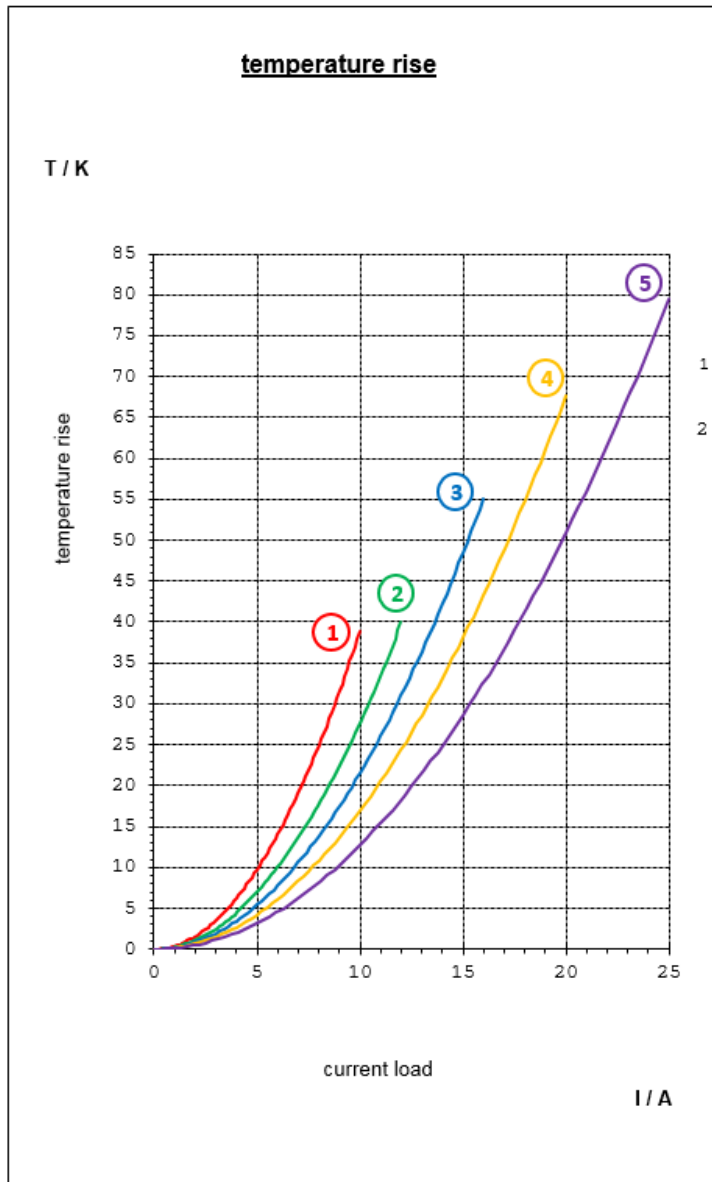
*) The limit temperatures as well as the maximum current carrying capacity of the used wires have to be considered /
 Die Grenztemperaturen sowie die maximale Stromtragfähigkeit der verwendeten Leitungen sind zu berücksichtigen

Temperature rise / derating free in air Stromerwärmung / Derating frei in Luft		MCON 1.2 LL, 0.35 – 1.50 mm ² Body Material CuSn0.15		
Wire/Leitung: *)	MCON 1.2 LL Material Body: CuSn0.15 / Sn Insert: CuNiSi	Tab / Flachstecker 1.2 mm Material Body: CuNiSi / Sn Insert-Tab: CuSn0.15	Note / Bemerkung	Graph
0.35 mm ² FLR	0-1452653-1 / SnAg	0-1418758-1 / Sn	For 130°C applications / Für 130°C Anwendungen	①
0.50 mm ² FLR	0-1452656-1 / SnAg	0-1418760-1 / Sn		②
0.75 mm ² FLR	0-1452656-1 / SnAg	0-1418760-1 / Sn		③
1.00 mm ² FLR	0-1452659-1 / SnAg	0-1418762-1 / Sn		④
1.50 mm ² FLR	0-1452659-1 / SnAg	0-1418762-1 / Sn		⑤



*) The limit temperatures as well as the maximum current carrying capacity of the used wires have to be considered /
 Die Grenztemperaturen sowie die maximale Stromtragfähigkeit der verwendeten Leitungen sind zu berücksichtigen

Temperature rise / derating free in air Stromerwärmung / Derating frei in Luft		MCON 1.2 LL, 0.35 – 1.50 mm ² Body Material CuSn0.15		
Wire/Leitung: *)	MCON 1.2 LL Material Body: CuSn0.15 / Sn Insert: CuNiSi	Tab / Flachstecker 1.2 mm Material: CuNiSi / Ag	Note / Bemerkung	Graph
0.35 mm ² FLR	0-1452653-1 / SnAg	20 pol. Header mit angelöteten FLR-Leitungen / 20 pos. Header with soldered FLR wires	For 150°C applications / Für 150°C Anwendungen	①
0.50 mm ² FLR	0-1452656-1 / SnAg			②
0.75 mm ² FLR	0-1452656-1 / SnAg			③
1.00 mm ² FLR	0-1452659-1 / SnAg			④
1.50 mm ² FLR	0-1452659-1 / SnAg			⑤

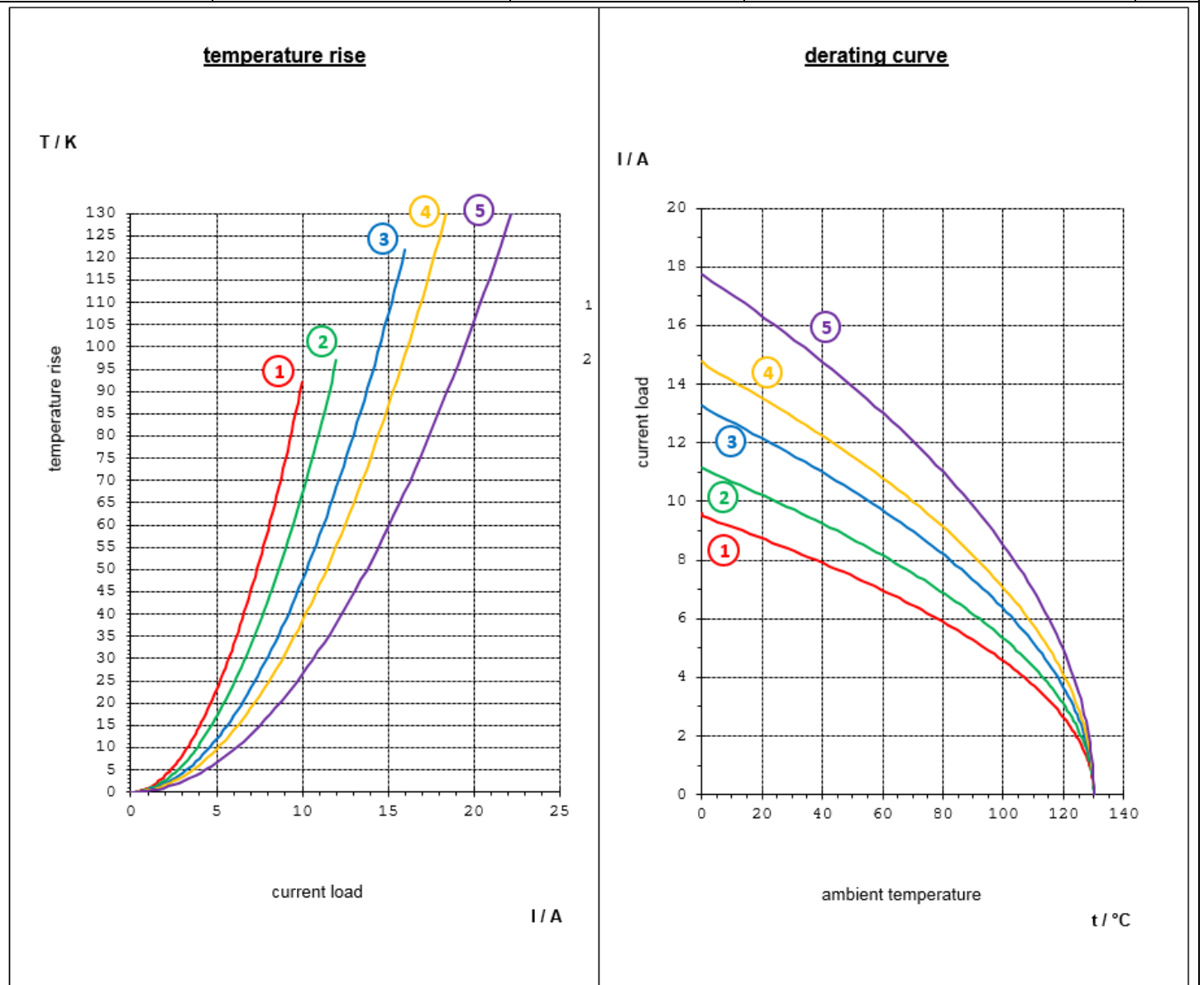


*) The limit temperatures as well as the maximum current carrying capacity of the used wires have to be considered /
 Die Grenztemperaturen sowie die maximale Stromtragfähigkeit der verwendeten Leitungen sind zu berücksichtigen

4.2. Effect of housing on derating

4.2. Gehäuseeinfluss auf das Derating

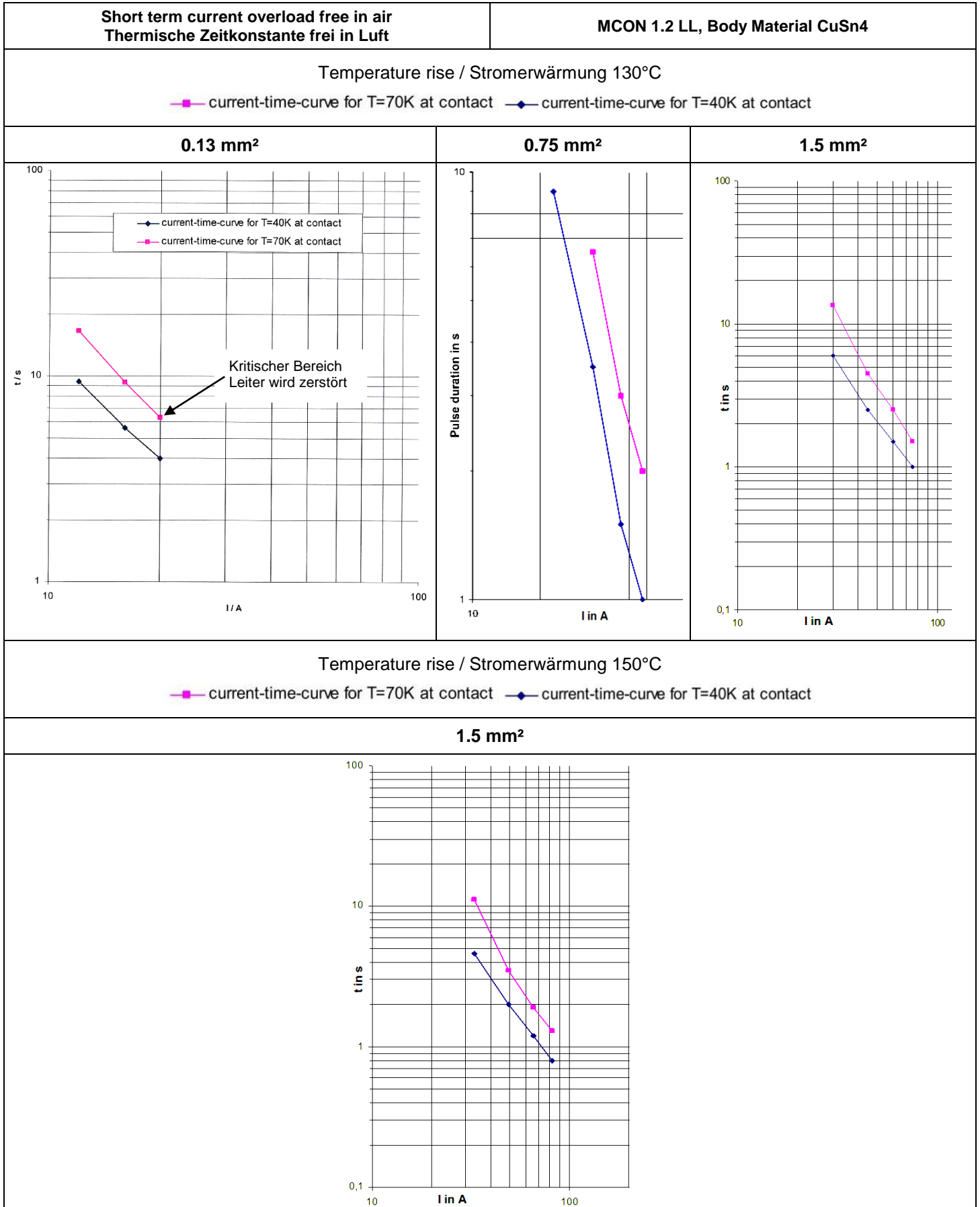
Effect of housing on derating / Gehäuseeinfluss auf das Derating		MCON 1.2 LL, 0.35 – 1.50 mm ² Body Material CuSn0.15		
Wire/Leitung: *)	MCON 1.2 LL Material Body: CuSn0.15 / Sn Insert: CuNiSi	Tab / Flachstecker 1.2 mm Material: CuNiSi / Ag	Note / Bemerkung	Graph
0.35 mm ² FLR	0-1452653-1 / SnAg	0-1418758-1 / Sn	Test setup: 7 contacts per wire loaded equally Housing sample of PBT GF10, unsealed: cavity 1-7 equipped + loaded cavity 8-14 unequipped + not loaded cavity 15-17 equipped + not loaded / Messaufbau: 7 Kontakte pro Leitung gleich belastet Gehäusemuster aus PBT GF10, ungedichtet: Kammer 1-7 bestückt + belastet Kammer 8-14 unbestückt + unbelastet Kammer 15-17 bestückt + unbelastet	①
0.50 mm ² FLR	0-1452656-1 / SnAg	0-1418760-1 / Sn		②
0.75 mm ² FLR	0-1452656-1 / SnAg	0-1418760-1 / Sn		③
1.00 mm ² FLR	0-1452659-1 / SnAg	0-1418762-1 / Sn		④
1.50 mm ² FLR	0-1452659-1 / SnAg	0-1418762-1 / Sn		⑤



*) The limit temperatures as well as the maximum current carrying capacity of the used wires have to be considered /
 Die Grenztemperaturen sowie die maximale Stromtragfähigkeit der verwendeten Leitungen sind zu berücksichtigen

4.3. Short term current overload

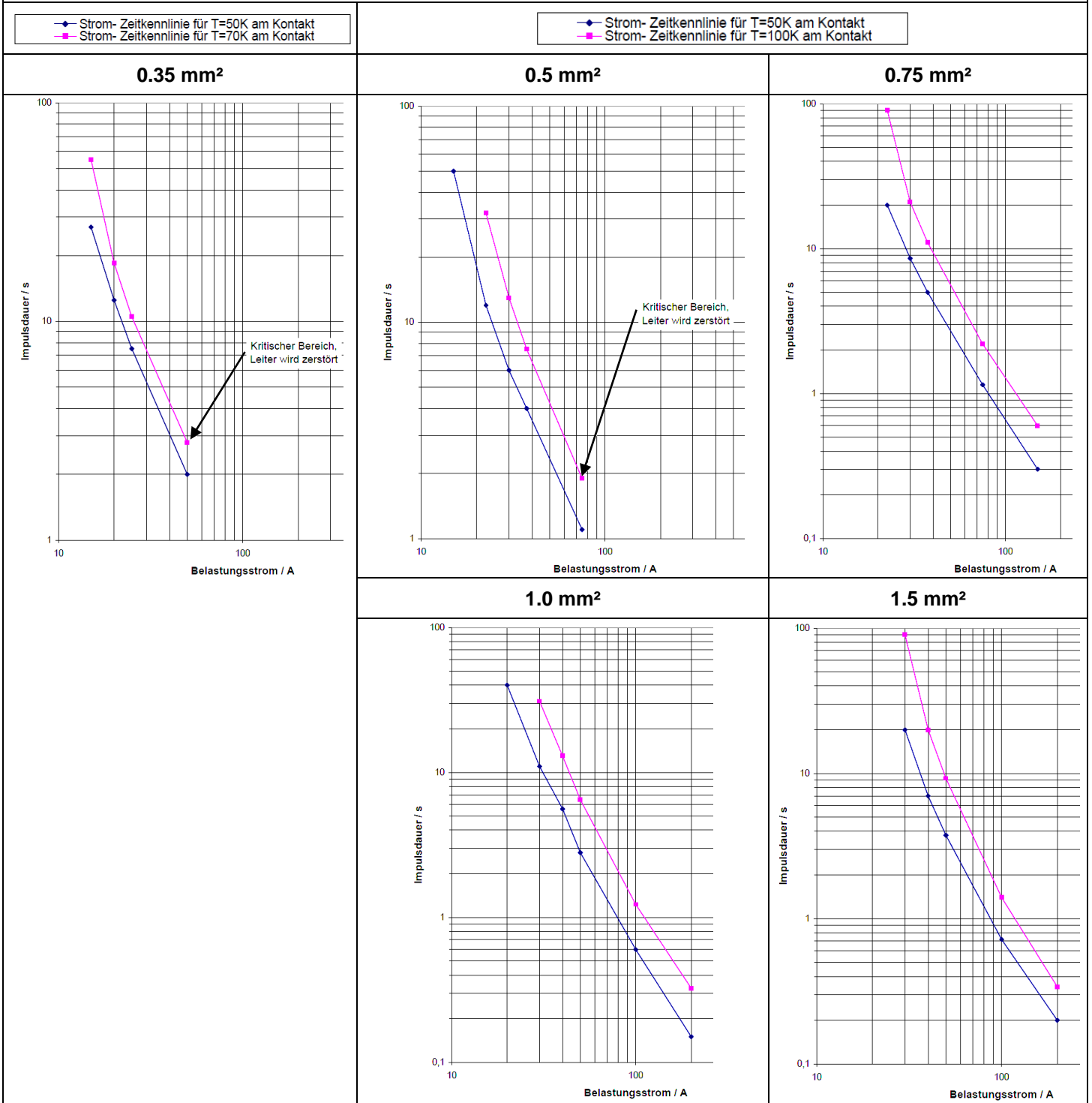
4.3. Thermische Zeitkonstante



Short term current overload free in air
 Thermische Zeitkonstante frei in Luft

MCON 1.2 LL, Body Material CuSn0.15

Temperature rise / Stromerwärmung 150°C



				DR: J. KURFISS 06.12.2016	TE Connectivity Germany GmbH a TE Connectivity Ltd. Company Ampèrestr. 12 – 14 64625 Bensheim		
				CHK: C. GOEPEL 06.12.2016			
C	Berücksichtigung LL-CuSn4 Varianten, Anpassung Leistungsmerkmale, Deratings hinzugef., div. red. Änderungen, etc.	JK	06.12.16	APP: M. JOST 06.12.2016			
LTR	REVISION RECORD	APP	DATE		TITLE: MCON 1.2 CONTACT SYSTEM MCON 1.2 KONTAKTSYSTEM		