





## VDE Prüfbericht / VDE Test Report

Prüfbericht Nr. <i>Report No.</i> .....	243453-TL3-1
VDE-Aktenzeichen <i>VDE File No.</i> .....	5012897-1494-0001/243453
Ausstellungsdatum <i>Date of issue</i> .....	2018-01-29
Labor <i>Laboratory</i> .....	<b>VDE Prüf- und Zertifizierungsinstitut GmbH</b> <b>VDE Testing and Certification Institute</b>
Adresse <i>Address</i> .....	Merianstrasse 28 63069 Offenbach/Main; Germany
Prüfört / Adresse <i>Testing location/ address</i> .....	IPH Institut "Prüffeld für elektrische Hochleistungstechnik" GmbH Landsberger Allee 378A, 12681 Berlin, Germany
Auftraggeber <i>Applicant's name</i> .....	HORA - Werk GmbH
Auftraggeber Adresse <i>Applicant's address</i> .....	Lange Str. 65; 32257 Bünde; Germany
Angewandte Norm(en) <i>Applied standard(s)</i> .....	According to customer specification based on: DIN EN 61439-1:2012-06 DIN EN 61439-6:2013-06
Art des Prüflings <i>Test item description</i> .....	Miniature Circuit Breaker Busbar
Warenzeichen <i>Trade Mark</i> .....	 or 
Typenbezeichnungen(en) <i>Type reference(s)</i> .....	Miniature Circuit Breaker Busbar: Fork / Pin Type;1-, 2-, 3- & 4-pole, 10 mm <sup>2</sup> & 16 mm <sup>2</sup>
Bemessungsdaten <i>Ratings</i> .....	Rated Operational Voltage (U <sub>e</sub> ):..... 400 V Rated Current of a circuit (I <sub>nc</sub> ) 10mm <sup>2</sup> : ..... Middle Feed in:..... 100 A Side Feed in: ..... 63 A Rated Current of a circuit (I <sub>nc</sub> ) 16mm <sup>2</sup> : ..... Middle Feed in:..... 130 A Side Feed in: ..... 80 A Rated Frequency (f <sub>n</sub> ):..... 50 / 60 Hz

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<b>Haftungsausschluss / Disclaimer:</b>					
<p>Dieser Prüfbericht enthält das Ergebnis einer einmaligen Untersuchung an dem zur Prüfung vorgelegten Erzeugnis. Ein Muster dieses Erzeugnisses wurde geprüft, um die Übereinstimmung mit den nachfolgend aufgeführten Normen bzw. Abschnitten von Normen festzustellen. Der Prüfbericht berechtigt Sie nicht zur Benutzung eines Zertifizierungszeichens des VDE und berücksichtigt ausschließlich die Anforderungen der unten genannten Regelwerke. Wenn gegenüber Dritten auf diesen Prüfbericht Bezug genommen wird, muss dieser Prüfbericht in voller Länge an gleicher Stelle verfügbar gemacht werden.</p> <p><i>This test report contains the result of a singular investigation carried out on the product submitted. A sample of this product was tested to found the accordance with the thereafter listed standards or clauses of standards resp.</i></p> <p><i>The test report does not entitle for the use of a VDE Certification Mark and considers solely the requirements of the specifications mentioned below. Whenever reference is made to this test report towards third party, this test report shall be made available on the very spot in full length.</i></p>					

**Result:**

Test object: MCB Busbar; Side feeder; 10mm<sup>2</sup>  
 Date of Test: 2017-12-04  
 Test current: L1 / L2 / L3 / L4:  
 Side feeder: 63,1 A / 63,0 A / 63,1 A / 63,3 A  
 Outgoing circuit 1: 31,6 A / 31,5 A / 31,6 A / 31,7 A  
 Outgoing circuit 2: 31,6 A / 31,6 A / 31,5 A / 31,8 A  
 Ambient temperature: 26,5 °C

Measuring points		Classification / Designation	Temperature rise limit for mean / maximum ambient temperature of 35 °C (K)	Final temperature (°C)	Final temperature rise (K)
1	L1	Terminals side feeder	not specified by customer	72,8	46,3
	L2			77,0	50,5
	L3			71,4	44,9
	L4			83,9	57,4
2	L1	Outgoing circuit 1 MCB B40 1-4	not specified by customer	74,8	48,3
	L2			81,7	55,2
	L3			75,5	49,0
	L4			83,8	57,3
3	L1	Outgoing circuit 2 MCB B40 5-8	not specified by customer	80,0	53,5
	L2			82,7	56,2
	L3			74,8	48,3
	L4			75,8	49,3

Notes: —

Test object: MCB Busbar; Middle feeder; 10mm<sup>2</sup>  
 Date of Test: 2017-12-05  
 Test current: L1 / L2 / L3 / L4:  
 Side feeder: 100,2 A / 101,0 A / 100,3 A / 100,1 A  
 Outgoing circuit 1: 50,0 A / 50,5 A / 50,0 A / 50,0 A  
 Outgoing circuit 2: 50,3 A / 50,7 A / 50,4 A / 50,2 A  
 Ambient temperature: 25,5 °C

Measuring points		Classification / Designation	Temperature rise limit for mean / maximum ambient temperature of 35 °C (K)	Final temperature (°C)	Final temperature rise (K)
1	L1	Outgoing circuit 1 MCB B63 1-4	not specified by customer	83,3	57,8
	L2			93,7	68,2
	L3			81,2	55,7
	L4			88,6	63,1
2	L1	Terminals side feeder	not specified by customer	84,2	58,7
	L2			93,6	68,1
	L3			78,1	52,6
	L4			84,1	58,6
3	L1	Outgoing circuit 2 MCB B63 5-8	not specified by customer	83,2	57,7
	L2			93,6	68,1
	L3			84,4	58,9
	L4			81,5	56,0

Notes: —

**Result (continuation):**

Test object: MCB Busbar; Side feeder; 16mm<sup>2</sup>  
 Date of Test: 2017-12-05  
 Test current: L1 / L2 / L3 / L4:  
 Side feeder: 80,0 A / 80,1 A / 80,3 A / 81,3 A  
 Outgoing circuit 1: 40,3 A / 40,3 A / 40,2 A / 40,7 A  
 Outgoing circuit 2: 40,0 A / 40,1 A / 40,3 A / 40,8 A  
 Ambient temperature: 26,1 °C

Measuring points	Classification / Designation	Temperature rise limit for mean / maximum ambient temperature of 35 °C (K)	Final temperature (°C)	Final temperature rise (K)	
1	L1	Terminals side feeder	not specified by customer	74,1	48,0
	L2			80,4	54,3
	L3			72,6	46,5
	L4			83,9	57,8
2	L1	Outgoing circuit 1 MCB B50 1-4	not specified by customer	75,5	49,4
	L2			85,1	59,0
	L3			77,9	51,8
	L4			86,6	60,5
3	L1	Outgoing circuit 2 MCB B50 5-8	not specified by customer	78,9	52,8
	L2			83,2	57,1
	L3			76,5	50,4
	L4			78,1	52,0

Notes: —

**Result:**

Test object: MCB Busbar; Middle feeder; 16mm<sup>2</sup>  
 Date of Test: 2017-12-06  
 Test current: L1 / L2 / L3 / L4:  
 Side feeder: 130,2 A / 131,0 A / 130,3 A / 130,7 A  
 Outgoing circuit 1: 43,5 A / 44,2 A / 43,7 A / 43,7 A  
 Outgoing circuit 2: 43,6 A / 43,7 A / 43,3 A / 43,7 A  
 Outgoing circuit 3: 43,3 A / 43,3 A / 43,5 A / 43,6 A  
 Ambient temperature: 25,5 °C

Measuring points	Classification / Designation	Temperature rise limit for mean / maximum ambient temperature of 35 °C (K)	Final temperature (°C)	Final temperature rise (K)	
1	L1	Outgoing circuit 1 MCB B63 1-4	not specified by customer	81,5	56,0
	L2			81,9	56,4
	L3			78,3	52,8
	L4			76,9	51,4
2	L1	Terminals side feeder	not specified by customer	84,7	59,2
	L2			82,6	57,1
	L3			81,6	56,1
	L4			76,7	51,2
3	L1	Outgoing circuit 2 MCB B63 5-8	not specified by customer	88,9	63,4
	L2			85,9	60,3
	L3			87,7	62,2
	L4			78,4	52,9
4	L1	Outgoing circuit 3 MCB B63 9-12	not specified by customer	89,4	63,9
	L2			80,3	54,8
	L3			83,5	58,0
	L4			72,4	46,9

Notes: —