CERTIFICATE

Issued to:
Applicant:
WAGO GmbH & Co. KG
Hansastrasse 27
32423 Minden/westfalen, Germany

Licensee:
WAGO GmbH & Co. KG
Hansastrasse 27
32423 Minden/westfalen, Germany

Product	:	Terminal block for copper conductors
Trade name(s)	:	WAGO
Type(s)/model(s)	:	TOPJOB S 2001

The product and any acceptable variation thereto is specified in the Annex to this certificate and the documents therein referred to.

DEKRA hereby declares that the above-mentioned product has been certified on the basis of:
- a type test according to the standard(s) EN 60947-7-1:2009 and EN 60947-7-2:2009
- an inspection of the factory location according to CENELEC Operational Document CIG 021
- a DEKRA certification agreement with the number 900220

DEKRA hereby grants the right to use the KEMA-KEUR certification mark.

The KEMA-KEUR certification mark may be applied to the product as specified in this certificate for the duration and under the conditions of the KEMA-KEUR certification agreement.

This certificate is issued on 26 January 2023 and expires upon withdrawal of one of the above mentioned standards.

Certificate number: 71-125954

DEKRA Certification B.V.

B.T.M. Holtus
Managing Director

H.R.M. Barends
Certification Manager

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DUTCH ACCREDITATION
COUNCIL

PRODUCTS
RvA C 001

KEMA KEUR

SPECIFICATION OF THE CERTIFIED PRODUCT

Product data

Product	:	Terminal block for copper conductors
Trade name(s)	:	WAGO
Type(s)/model(s)	:	2001-1207, 2001-12xx, 2001-1307, 2001-13xx, 2001-1407, 2001-1441 and 2001-14xx
Material	:	thermoplastic material
Rated connecting capacity	:	1,5 mm² / 2,5 mm²
Connectable conductors	:	0,2 mm² - 2,5 mm² rigid and flexible
Method of mounting	:	top hat rail 35 mm

Product data – type 2001-1207

Desciption	:	two conductor earth terminal block, with screwless-type clamping units, 1-pole

Product data – type 2001-12xx

Types	:	2001 with suffixes -1201, -1202, -1203, -1204, -1205, -1206, -1208, -1209
Rated insulation voltage	:	800 V
Rated impulse withstand voltage	:	8 kV
Conventional free air thermal current	:	17,5 A (1,5 mm²) 24 A (2,5 mm²)
Description	:	two-conductor through terminal block, with screwless-type clamping units 1-pole

Product data – type 2001-1307

Description	:	three conductor earth terminal block, with screwless-type clamping units, 1-pole

Product data – type 2001-13xx

Types	:	2001 with suffixes -1301, -1302, -1303, 1304, -1305, -1306, -1308, -1309
Rated insulation voltage	:	800 V
Rated impulse withstand voltage	:	8 kV
Conventional free air thermal current	:	17,5 A (1,5 mm²) 24 A (2,5 mm²
Description	:	three conductor through terminal block, with screwless-type clamping units, 1-pole

Product data – type 2001-1407

Description	:	four conductor earth terminal block, with screwless-type clamping units, 1-pole

Product data – type 2001-1441

Rated insulation voltage	:	800 V
Rated impulse withstand voltage	:	8 kV
Conventional free air thermal current	:	17,5 A (1,5 mm²) 24 A (2,5 mm²)
Description	:	four conductor double potential terminal blocks, with screwless-type clamping units, 2-poles

Product data – type 2001-14xx

Types	:	2001 with suffixes -1401, -1402, -1403, -1404, -1405, -1406, -1408, -1409
Description	:	four conductor through terminal block, with screwless-type clamping units, 1-pole

TESTS

Test requirements
EN 60947-7-1:2009
EN 60947-7-2:2009

Test result
The test results are laid down in DEKRA test file 226664800.

Additional information
This certificate replaces certificate No. 2160584.07 which we hereby declare invalid.

Conclusion
The examination proved that all requirements were met.

Factory locations
WAGO GmbH & Co. KG
Hansastrasse 27
32423 Minden/westfalen, Germany

WAGO Contact S.A.
Route de l'Industrie 19 CP 168
1564 Domdidier, Switzerland

WAGO GmbH & Co KG Werk Sondershausen
Waldstrasse 1
99706 Sondershausen, Germany

Wago Electronic (Tianjin) Co. Ltd.
No. 5 Quanhui Road Wu Qing Development Area
301700 Tianjin, China

Wago Elwag sp.z.o.o.
Ul. Piekna 58 a
50-506 Wroclaw, Poland

Wago Elwag
Innowacyjna 2
55-330 Wroblowice, Poland

WAGO GmbH & Co. KG
Cammer Str. 17
32423 Minden, Germany

Wago Private Limited
Block No. 94 National Highway 8Village Vadsala-Varnama
391243 Vadodara, India

Test Report issued under the responsibility of:

DEKRA

TEST REPORT
IEC 60947-7-1
Low-voltage switchgear and controlgear
Part 7: Ancillary equipment
Section One: Terminal blocks for copper conductors

Report Number.....:	**2266648.57**
Date of issue .....:	**2023-01-09**
Total number of pages	**32**
Name of Testing Laboratory preparing the Report .....:	**DEKRA Certification B.V.** **Meander 1051, 6825 MJ Arnhem, The Netherlands**
Applicant's name.....:	**WAGO GmbH & Co. KG**
Address .....:	**Hansastrasse 27, 32423 Minden/Westfalen, Germany**
Test specification:	
Standard.....:	IEC 60947-7-1:2009 (Third Edition) in conjunction with IEC 60947-1 (Fifth Edition) + A1:2012 + A2:2014
Test procedure.....:	CB Scheme
Non-standard test method .....:	N/A
Test Report Form No. .....:	IEC60947_7_1B
Test Report Form(s) Originator ...:	DEKRA Certification B.V.
Master TRF .....:	Dated 2015-10

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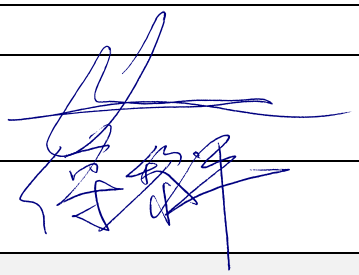
This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.

General disclaimer:

The test results presented in this report relate only to the object tested.
This report shall not be reproduced, except in full, without the written approval of the Issuing CB Testing Laboratory. The authenticity of this Test Report and its contents can be verified by contacting the NCB, responsible for this Test Report.

Test item description ..... :	**Terminal blocks for copper conductors**
Trade Mark..... :	
Manufacturer ..... :	**WAGO GmbH & Co. KG**
Model/Type reference..... :	**TOPJOB S 2001**
Ratings..... :	**800 V, 8 kV, 1,5 mm² or 2,5 mm², 17,5 A (1,5 mm²), 24 A (2,5 mm²)**

Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):			
☒	**CB Testing Laboratory:**	**DEKRA Certification B.V.**	
Testing location/ address .....:		**Meander 1051, 6825 MJ Arnhem, The Netherlands**	
☐	**Associated CB Testing Laboratory:**		
Testing location/ address .....:			
Tested by (name, function, signature) .....:		**B. Veenvliet** (Technician Industrial Safety)	
Approved by (name, function, signature) ..:		**F. Fu** (Project Manager Industrial Safety)	
☐	**Testing procedure: CTF Stage 1:**		
Testing location/ address .....:			
Tested by (name, function, signature) .....:			
Approved by (name, function, signature) ..:			
☐	**Testing procedure: CTF Stage 2:**		
Testing location/ address .....:			
Tested by (name + signature) .....:			
Witnessed by (name, function, signature) .:			
Approved by (name, function, signature) ..:			
☐	**Testing procedure: CTF Stage 3:**		
☐	**Testing procedure: CTF Stage 4:**		
Testing location/ address .....:			
Tested by (name, function, signature) .....:			
Witnessed by (name, function, signature) .:			
Approved by (name, function, signature) ..:			
Supervised by (name, function, signature) .....:			

List of Attachments (including a total number of pages in each attachment): N/A

Summary of testing:

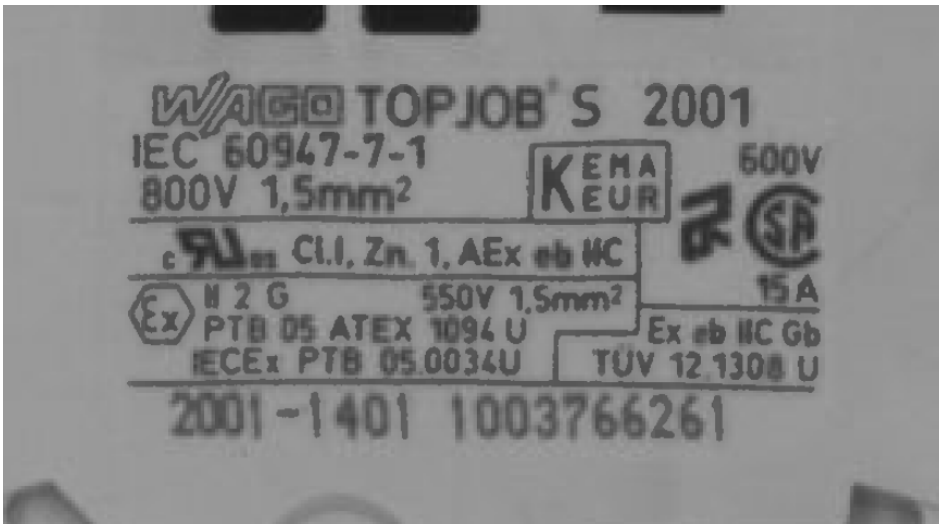
Tests performed (name of test and test clause):	**Testing location:**
<u>Project 2160584.58</u> **Complete examination** **All tests are carried out on 2001-1401 unless otherwise stated.** **<u>Project 2266648.57</u>** **This test report replaces test report 2160584.58 issued on 2013-03-06, due to the fact that new factory locations were added.** **The following tests are performed:** **Clause 8.3.3.1 Mechanical strength of clamping unit**	**DEKRA Certification B.V.** **Meander 1051, 6825 MJ Arnhem** **The Netherlands**

Summary of compliance with National Differences (List of countries addressed): N/A

☒ **The product fulfils the requirements of EN 60947-7-1: 2009.**

Copy of marking plate:

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.



Test item particulars ..... :	
Classification of installation and use ..... :	
Supply Connection ..... :	**N/A**
Particulars: test item vs. test requirements	
- method of fixing ..... :	**mounting on top hat rail 35 mm**
- number of poles ..... :	**1 pole**
- type of clamping units ..... :	**screwless-type clamping unit**
- ability to receive conductors ..... :	**unprepared conductors, flexible or rigid**
- number of terminals on terminal assembly ..... :	**2, 3 and 4**
- rated cross-section (mm²) ..... :	**1,5 mm² or 2,5 mm²**
- rated connecting capacity (mm²) ..... :	**0,2 mm² - 2,5 mm² rigid and flexible**
- rated insulation voltage (U_i) ..... :	**800 V**
- rated impulse withstand voltage (U_{imp}) ..... :	**8 kV**
- Conventional free air thermal current (I_{th}) ..... :	**17,5 A (1,5 mm²), 24 A (2,5 mm²)**

Possible test case verdicts:	
- test case does not apply to the test object ..... :	N/A
- test object does meet the requirement ..... :	P (Pass)
- test object does not meet the requirement ..... :	F (Fail)
Testing ..... :	
Date of receipt of test item ..... :	**05-2022**
Date (s) of performance of tests ..... :	**06-2022**

General remarks:

"(See Enclosure #)" refers to additional information appended to the report.
"(See appended table)" refers to a table appended to the report.

Throughout this report a ☒ comma / ☐ point is used as the decimal separator.

Manufacturer's Declaration per sub-clause 4.2.5 of IECEE 02:

The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided ..... :	☒ **Yes** ☐ **Not applicable**

When differences exist; they shall be identified in the General product information section.

Name and address of factory (ies) .....:	**Wago Elwag sp.z.o.o.** **ul. Piekna 58 a** **50-506, Wroclaw, Poland** **Wago Elwag** **Innowacyjna 2** **55-330 Wroblowice, Poland** **WAGO Private Limited** **Block No. 94, National Highway-8** **Village Vadsala – Varnama, Vadodara,** **Gujarat-391243, India** **Wago Electronic (Tianjin) Co. Ltd.** **No. 5 Quanhui Road** **Wu Qing Development Area** **301700 Tianjin, China** **WAGO GmbH & Co. KG** **Hansastrasse 27, 32423 Minden/Westfalen** **Germany** **WAGO GmbH & Co. KG, Werk Sondershausen** **Waldstrasse 1, 99706, Sondershausen** **Germany** **WAGO Contact S.A.** **Route de l'Industrie 19, CP 168, 1564,** **Domdidier, Switzerland** **WAGO GmbH & Co. KG** **Cammer Str. 17,** **32423 Minden** **Germany**
General product information: **See pages 28- 29.**	

5.1	**MARKING**		
	Terminal block shall be marked with:		
	- manufacturer's name or trademark	WAGO	**P**
	- type designation	**TOPJOB S 2001**	**P**
5.2	The following information shall be stated by the manufacturer if applicable, e.g. in the manufacturer's data sheet, or his catalogue or on the packing unit:		

IEC 60947-7-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- manufacturer's claim for compliance with IEC 60 947-7-1	**IEC 60947-7-1**	**P**
	- rated cross-section	**1,5 mm² or 2,5 mm²**	**P**
	- rated connecting capacity	**0,2 mm² - 2,5 mm²** **rigid and flexible**	**P**
	- rated insulation voltage (Ui)	**800 V**	**P**
	- rated impulse withstand voltage (Uimp)	**8 kV** **in catalogue**	**P**
	- conventional free air thermal current (Ith)	**17,5 A or 24 A** **in catalogue**	**P**
	- service conditions if different from those of Cl. 6.		**N/A**
7.	**CONSTRUCTION**		
7.1	Constructional requirements		
7.1.1	Clamping units		
7.1.7.1	All parts of clamping units which maintain contact and carry current shall be of metal having adequate mechanical strength		**P**
	Clamping units connections shall be such that necessary contact pressure is maintained		**P**
	Clamping units shall be so constructed that the conductor is clamped between suitable surfaces without damage to the conductor and terminal		**P**
	Clamping units shall not allow the conductor to be displaced or to be displaced themselves in a manner detrimental to the operation of equipment and the insulation voltage shall not be reduced below the rated value		**P**
	Clamping units shall allow the conductor to be connected by means ensuring that a reliable mechanical linkage and electrical contact is properly maintained		**P**
	Clamping units shall be able to withstand the forces that can be applied through the connected conductors		**P**

IEC 60947-7-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Contact pressure is not transmitted through insulation materials		**P**
7.1.2	Mounting		
	Terminal blocks shall be provided with means that allow them to be securely attached to a rail or a mounting surface (see 8.3.2)		**P**
7.1.3	Clearances and creepage distances		
	For clearances and creepage distances see 8.4.2		**P**
7.1.4	Terminal identification and marking:		
	- terminals intended exclusively for the neutral conductor		**N/A**
	- other terminals		**P**
	- terminal blocks shall have provision, or at least space, for identification marks or numbers for each terminal or terminal assembly to be related to the circuit of which it is to form a part		**P**
	- For the identification of the terminal block the colour combination green-yellow is not allowed		**P**
7.1.5	Resistance to abnormal heat and fire		
	Needle flame test for insulation materials of terminal blocks (see 8.5)		**P**
7.1.6	Rated cross-section and rated connecting capacity		
	Terminal blocks are so designed that conductors of the rated cross-section and/or the rated connecting capacity can be accepted	**0,2 mm² - 2,5 mm² rigid and flexible**	**P**

8	**TESTS**		
8.3	Verification of mechanical characteristics		
8.3.2	Attachment of the terminal block on its support		
	mounting rail ..... :	**Top hat rail 35 mm**	—
	Tighting torque (Nm) ..... :	**Screwless clamping units**	—
	steel pin diameter (mm) ..... :	**1 mm**	—
	force (N) ..... :	**1 N**	—

IEC 60947-7-1			
Clause	Requirement + Test	Result - Remark	Verdict
	During the test, no terminal block shall work free from its rail or support, nor suffer any other damage		**P**
8.3.3	Mechanical properties of clamping units		
8.3.3.1	Test of mechanical strength of clamping units		
8.2.4.1	Mechanical strength of clamping units (IEC60947-1)		
	rated cross-section of a rigid conductor (mm²) ... :	**1,5 mm²**	—
	diameter of thread (mm) ..... :	**-**	—
	torque (Nm) ..... :	**-**	—
	5 times on 2 clamping units at the centre terminal block out of 5 terminal blocks		**P**
	Voltage drop before and after mechanical strength test		
	rated cross-section of a rigid conductor (mm²) ... :	**1,5 mm²**	—
	test current (A) d.c. ..... :	**1,75 A**	—
	voltage drop (mV) before mechanical strength test not exceeding 3,2 mV ..... :	**2,13 mV and 2,13 mV**	**P**
	If the measured value exceeds 3,2 mV, the voltage drop is determined on each individual clamping unit separately, which shall not exceed 1,6 mV		**N/A**
	voltage drop (mV) after mechanical strength test not exceeding 150% of the value measured before mechanical strength test :	**1,98 mV and 2,12 mV**	**P**
8.2.4.1	Mechanical strength of clamping units (IEC60947-1)		
	rated cross-section of a rigid conductor (mm²) ... :	**2,5 mm²**	—
	diameter of thread (mm) ..... :	**-**	—
	torque (Nm) ..... :	**-**	—
	5 times on 2 clamping units at the centre terminal block out of 5 terminal blocks		**P**
	Voltage drop before and after mechanical strength test		
	rated cross-section of a rigid conductor (mm²) ... :	**2,5 mm²**	—
	test current (A) d.c. ..... :	**2,4 A**	—
	voltage drop (mV) before mechanical strength test not exceeding 3,2 mV ..... :	**2,96 mV and 2,48 mV**	**P**

IEC 60947-7-1			
Clause	Requirement + Test	Result - Remark	Verdict
	If the measured value exceeds 3,2 mV, the voltage drop is determined on each individual clamping unit separately, which shall not exceed 1,6 mV		**N/A**
	voltage drop (mV) after mechanical strength test not exceeding 150% of the value measured before mechanical strength test :	**2,78 mV and 2,61 mV**	**P**
	minimum cross-section of a flexible conductor (mm²) ..... :	**0,2 mm²**	—
	test current (A) d.c. ..... :	**0,4 A**	—
	voltage drop (mV) before mechanical strength test not exceeding 3,2 mV ..... :	**0,91 mV and 0,84 mV**	**P**
	If the measured value exceeds 3,2 mV, the voltage drop is determined on each individual clamping unit separately, which shall not exceed 1,6 mV		**N/A**
	voltage drop (mV) after mechanical strength test not exceeding 150% of the value measured before mechanical strength test ..... :	**0,87 mV and 0,86 mV**	**P**
8.3.3.2	Testing for damage to and accidental loosening of conductors of a terminal block (flexion test)		
	conductor of the smallest cross-section (mm²) ... :	**0,2 mm² rigid and flexible**	—
	number of conductors of the smallest cross-section ..... :	**1**	—
	torque (Nm)	**screwless**	
	diameter of bushing hole (mm) ..... :	**6,5 mm**	—
	height between the equipment and the platen (mm) ..... :	**260 mm**	—
	mass at the conductor(s) (kg) ..... :	**0,3 kg**	—
	135 continuous revolutions: the conductor shall neither slip out of the terminal nor break near the clamping unit		**P**
	Pull-out test		
	force (N) ..... :	**10 N**	—
	1 min, the conductor shall neither slip out of the terminal nor break near the clamping unit		**P**

IEC 60947-7-1			
Clause	Requirement + Test	Result - Remark	Verdict
	conductor of the rated cross-section (mm²) ..... :	**1,5 mm² rigid and flexible**	—
	number of conductors of the rated cross-section :	**1**	—
	torque (Nm)	**screwless**	
	diameter of bushing hole (mm) ..... :	**6,5 mm**	—
	height between the equipment and the platen (mm) ..... :	**260 mm**	—
	mass at the conductor(s) (kg) ..... :	**0,4 kg**	—
	135 continuous revolutions: the conductor shall neither slip out of the terminal nor break near the clamping unit		**P**
	Pull-out test		
	force (N) ..... :	**40 N**	—
	1 min, the conductor shall neither slip out of the terminal nor break near the clamping unit		**P**
	conductor of the largest cross-section (mm²) ..... :	**2,5 mm² rigid and flexible**	—
	number of conductors of the largest cross-section:	**1**	—
	diameter of bushing hole (mm) ..... :	**9,5 mm**	—
	height between the equipment and the platen (mm) ..... :	**280 mm**	—
	mass at the conductor(s) (kg) ..... :	**0,7 kg**	—
	135 continuous revolutions: the conductor shall neither slip out of the terminal nor break near the clamping unit		**P**
	Pull-out test		
	force (N) ..... :	**50 N**	—
	1 min, the conductor shall neither slip out of the terminal nor break near the clamping unit		**P**
	conductor of the largest or smallest cross-section (mm²) ..... :		—
	number of conductors of the largest or smallest cross-section ..... :		—
	torque (Nm) ..... :		—
	diameter of bushing hole (mm) ..... :		—
	height between the equipment and the platen (mm) ..... :		—
	mass at the conductor(s) (kg) ..... :		—

IEC 60947-7-1			
Clause	Requirement + Test	Result - Remark	Verdict
	135 continuous revolutions: the conductor shall neither slip out of the terminal nor break near the clamping unit		**N/A**
	Pull-out test		
	force (N) ..... :		—
	1 min, the conductor shall neither slip out of the terminal nor break near the clamping unit		**N/A**
8.3.3.4	Verification of rated cross section and rated connecting capacity		
	One conductor of the two next smaller cross-sections can be unhindered and connected in each clamping unit of one terminal block (up to 35 mm²)	**0,75 mm²**	**P**
8.4.2	Verification of clearances and creepage distances **(type 2001-1401)**		
	Conductor type and conductor cross-section	**2,5 mm² rigid**	—
	Conductor end length (mm)	**9 – 11 mm**	—
	Type of support	**Top hat rail 35 mm**	—
8.4.2.2	Clearances		
	Case A (mm) ..... : Case B (mm) ..... : Measured (mm) ..... :	**8 mm** **3 mm** **12,58 mm**	**P**
	Rated impulse withstand voltage Uimp (kV)	**8 kV**	
8.4.2.3	Creepage distances:		
	- pollution degree ..... :	**3**	—
	- comparative tracking index (V) ..... :	**600 V**	—
	- material group ..... :	**I**	—
	- rated insulation voltage Ui (V) ..... :	**800 V**	—
	- minimum creepage distances (mm) ..... :	**10 mm**	—
	- measured creepage distances (mm) ..... :	**12,76 mm**	—
8.4.2	Verification of clearances and creepage distances **(type 2001-1441)**		
	Conductor type and conductor cross-section	**2,5 mm² rigid**	—
	Conductor end length (mm)	**9 – 11 mm**	—

IEC 60947-7-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Type of support	**Top hat rail 35 mm**	—
8.4.2.2	Clearances		
	Case A (mm) ..... : Case B (mm) ..... : Measured (mm) ..... :	**8 mm** **3 mm** **> 10 mm**	**P**
	Rated impulse withstand voltage Uimp (kV)	**8 kV**	
8.4.2.3	Creepage distances:		
	- pollution degree ..... :	**3**	—
	- comparative tracking index (V) ..... :	**600 V**	—
	- material group ..... :	**I**	—
	- rated insulation voltage Ui (V) ..... :	**800 V**	—
	- minimum creepage distances (mm) ..... :	**10 mm**	—
	- measured creepage distances (mm) ..... :	**> 10 mm**	—
8.4.3	Dielectric tests **(types 2001-1401 and 2001-1441)**		
	Dielectric test, Uimp indicated:		
	- five terminal blocks connected with unfavourable cross-section (mm²) / type / conductor end length (mm) ..... :	**2,5 mm², rigid, 9 – 11 mm**	—
	- rated impulse withstand voltage (kV) ..... :	**8 kV**	—
	- test Uimp main circuits (kV) ..... :	**9,8 kV**	**P**
	Dielectric test, Uimp not indicated:		
	- five terminal blocks connected with unfavourable cross-section (mm²) / type / conductor end length (mm) :	***2,5 mm², rigid, 9 – 11 mm***	—
	- rated insulation voltage (V) ..... :	***800 V***	—
	- test voltage for 60 sec (V) ..... :	***2000 V***	**P**
8.4.5	Temperature-rise test **(type 2001-1401)**		
	Temperature-rise conditions		
	- test current (A) ..... :	**17,5 A**	—
	- cross-section of the conductor (mm²) ..... :	**1,5 mm²**	—
	- torque (Nm) ..... :	**screwless**	—

IEC 60947-7-1			
Clause	Requirement + Test	Result - Remark	Verdict
	- temperature-rise does not exceed 45 K	see appended table 8.4.5	**P**
	Voltage drop before and after temperature-rise test:		
	- test current (A) d.c. ..... :	**1,75 A**	—
	- voltage drop (mV) before temperature-rise test not exceeding 3,2 mV ..... :	**1,56 mV – 1,92 mV**	**P**
	If the measured value exceeds 3,2 mV, the voltage drop is determined on each individual clamping unit separately, which shall not exceed 1,6 mV		**N/A**
	- voltage drop (mV) after temperature-rise test not exceeding 150% of the value measured before temperature-rise test ..... :	**1,50 mV – 1,78 mV**	**P**
8.4.5	Temperature-rise test **(type 2001-1401)**		
	Temperature-rise conditions		
	- test current (A) ..... :	**24 A**	—
	- cross-section of the conductor (mm²) ..... :	**2,5 mm²**	—
	- torque (Nm) ..... :	**screwless**	—
	- temperature-rise does not exceed 45 K	see appended table 8.4.5	**P**
	Voltage drop before and after temperature-rise test:		
	- test current (A) d.c. ..... :	**2,4 A**	—
	- voltage drop (mV) before temperature-rise test not exceeding 3,2 mV ..... :	**2,50 mV – 2,79 mV**	**P**
	If the measured value exceeds 3,2 mV, the voltage drop is determined on each individual clamping unit separately, which shall not exceed 1,6 mV		**N/A**
	- voltage drop (mV) after temperature-rise test not exceeding 150% of the value measured before temperature-rise test ..... :	**2,50 mV – 2,83 mV**	**P**
8.4.5	Temperature-rise test **(type 2001-1441)**		
	Temperature-rise conditions		
	- test current (A) ..... :	**24 A**	—
	- cross-section of the conductor (mm²) ..... :	**2,5 mm²**	—
	- torque (Nm) ..... :	**screwless**	—

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Clause	Requirement + Test	Result - Remark	Verdict
	- temperature-rise does not exceed 45 K	see appended table 8.4.5	**P**
	Voltage drop before and after temperature-rise test:		
	- test current (A) d.c. ..... :	**2,4 A**	—
	- voltage drop (mV) before temperature-rise test not exceeding 3,2 mV ..... :	**left clamping unit** **0,74 mV – 1,01 mV** **right clamping unit** **0,62 mV – 0,98 mV**	**P**
	If the measured value exceeds 3,2 mV, the voltage drop is determined on each individual clamping unit separately, which shall not exceed 1,6 mV	**left clamping unit** **0,72 mV – 1,03 mV** **right clamping unit** **0,65 mV – 0,96 mV**	**P**
	- voltage drop (mV) after temperature-rise test not exceeding 150% of the value measured before temperature-rise test ..... :		**N/A**
8.4.6	Short-time withstand current test **(type 2001-1401)**		
	- rated cross-section of the conductor (mm²) ..... :	**1,5 mm²**	—
	- torque (Nm) ..... :	**-**	—
	- test current (A) ..... :	**180 A**	—
	- duration of the test current (s) ..... :	**1 s**	—
	At the end of the test, continuity shall exist on the test sample assembly and the terminal blocks shall not show any cracking, breakage or other critical damage		**P**
	Voltage drop before and after short-time withstand current test		
	- test current (A) d.c. ..... :	**1,75 A**	—
	- voltage drop (mV) before short-time withstand current test not exceeding 3,2 mV ..... :	**1,65 mV**	**P**
	If the measured value exceeds 3,2 mV, the voltage drop is determined on each individual clamping unit separately, which shall not exceed 1,6 mV		**N/A**
	- voltage drop (mV) after short-time withstand current test not exceeding 150% of the value measured before short-time withstand current test ..... :	**1,79 mV**	**P**

IEC 60947-7-1			
Clause	Requirement + Test	Result - Remark	Verdict
8.4.6	Short-time withstand current test **(type 2001-1401)**		
	- rated cross-section of the conductor (mm²) ..... :	**2,5 mm²**	—
	- torque (Nm) ..... :	**-**	—
	- test current (A) ..... :	**300 A**	—
	- duration of the test current (s) ..... :	**1 s**	—
	At the end of the test, continuity shall exist on the test sample assembly and the terminal blocks shall not show any cracking, breakage or other critical damage		**P**
	Voltage drop before and after short-time withstand current test		
	- test current (A) d.c. ..... :	**2,4 A**	—
	- voltage drop (mV) before short-time withstand current test not exceeding 3,2 mV ..... :	**2,41 mV**	**P**
	If the measured value exceeds 3,2 mV, the voltage drop is determined on each individual clamping unit separately, which shall not exceed 1,6 mV		**N/A**
	- voltage drop (mV) after short-time withstand current test not exceeding 150% of the value measured before short-time withstand current test ..... :	**2,48 mV**	**P**
8.4.7	Ageing test for screwless-type terminal blocks		
	Maximum ambient temperature (°C) ..... :	**40° C**	—
	Rated cross-section rigid or stranded < 10 mm² solid, > 10 mm² stranded (mm²) ..... :	**1,5 mm²**	—
	Heating cabinet is increased, in each cycle to (°C) ..... :	**40° C**	—
	Test current (A) d.c. for measurement of the voltage drop ..... :	**1,8 A**	—
	Voltage drop after 0 cycles:		
	- requirement: ≤ 3,2 mV (mV) ..... :	**1 – 2,00 mV** **2 – 2,40 mV** **3 – 2,10 mV** **4 – 2,10 mV** **5 – 1,90 mV**	**P**

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Clause	Requirement + Test	Result - Remark	Verdict
	If the measured value exceeds 3,2 mV, the voltage drop is determined on each individual clamping unit separately, which shall not exceed 1,6 mV		**N**
	Voltage drop after the 24th cycle:		
	- requirement: 4,8 mV (mV) ..... :	**1 – 2,10 mV** **2 – 2,40 mV** **3 – 2,10 mV** **4 – 2,10 mV** **5 – 1,90 mV**	**P**
	Voltage drop after the 48th cycle		
	- requirement: ≤ 4,8 mV or 1,5 times the value measured after the 24th cycle (mV) ..... :	**1 – 2,10 mV** **2 – 2,40 mV** **3 – 2,10 mV** **4 – 2,10 mV** **5 – 1,90 mV**	**P**
	Voltage drop after the 72th cycle:		
	- requirement: ≤ 4,8 mV or 1,5 times the value measured after the 24th cycle (mV) ..... :	**1 – 2,10 mV** **2 – 2,40 mV** **3 – 2,10 mV** **4 – 2,10 mV** **5 – 1,90 mV**	**P**
	Voltage drop after the 96th cycle:		
	- requirement: ≤ 4,8 mV or 1,5 times the value measured after the 24th cycle (mV) ..... :	**1 – 2,10 mV** **2 – 2,40 mV** **3 – 2,10 mV** **4 – 2,10 mV** **5 – 1,90 mV**	**P**
	Voltage drop after the 120th cycle:		
	- requirement: ≤ 4,8 mV or 1,5 times the value measured after the 24th cycle (mV) ..... :	**01 – 2,10 mV** **2 – 2,40 mV** **3 – 2,10 mV** **4 – 2,10 mV** **5 – 1,90 mV**	**P**
	Voltage drop after the 144th cycle:		

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Clause	Requirement + Test	Result - Remark	Verdict
	- requirement: ≤ 4,8 mV or 1,5 times the value measured after the 24th cycle (mV) ..... :	**1 – 2,10 mV** **2 – 2,40 mV** **3 – 2,10 mV** **4 – 2,10 mV** **5 – 1,90 mV**	**P**
	Voltage drop after the 168th cycle:		
	- requirement: ≤ 4,8 mV or 1,5 times the value measured after the 24th cycle (mV) ..... :	**1 – 2,10 mV** **2 – 2,40 mV** **3 – 2,10 mV** **4 – 2,10 mV** **5 – 1,90 mV**	**P**
	Voltage drop after the 192th cycle:		
	- requirement: ≤ 4,8 mV or 1,5 times the value measured after the 24th cycle (mV) ..... :	**1 – 2,10 mV** **2 – 2,40 mV** **3 – 2,10 mV** **4 – 2,10 mV** **5 – 1,90 mV**	***P***
	Pull-out test		
	force (N) ..... :	**40 N**	—
8.4.7	Ageing test (for screwless-type terminal block)		
	Maximum ambient temperature (°C) ..... :	**40° C**	—
	Rated cross-section rigid or stranded < 10 mm² solid, > 10 mm² stranded (mm²) ..... :	**2,5 mm²**	—
	Heating cabinet is increased, in each cycle to (°C) ..... :	**40° C**	—
	Test current (A) d.c. for measurement of the voltage drop ..... :	**2,4 A**	—
	Voltage drop after 0 cycles:		
	- requirement: ≤ 3,2 mV (mV) ..... :	**1 – 2,07 mV** **2 – 2,36 mV** **3 – 2,73 mV** **4 – 2,73 mV** **5 – 2,87 mV**	**P**

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Clause	Requirement + Test	Result - Remark	Verdict
	If the measured value exceeds 3,2 mV, the voltage drop is determined on each individual clamping unit separately, which shall not exceed 1,6 mV		**N/A**
	Voltage drop after the 24th cycle:		
	- requirement: 4,8 mV (mV) ..... :	**1 – 2,27 mV** **2 – 2,42 mV** **3 – 2,46 mV** **4 – 2,59 mV** **5 – 2,91 mV**	**P**
	Voltage drop after the 48th cycle		
	- requirement: ≤ 4,8 mV or 1,5 times the value measured after the 24th cycle (mV) ..... :	**1 – 2,26 mV** **2 – 2,41 mV** **3 – 2,44 mV** **4 – 2,59 mV** **5 – 2,91 mV**	**P**
	Voltage drop after the 72th cycle:		
	- requirement: ≤ 4,8 mV or 1,5 times the value measured after the 24th cycle (mV) ..... :	**1 – 2,24 mV** **2 – 2,39 mV** **3 – 2,43 mV** **4 – 2,54 mV** **5 – 2,90 mV**	**P**
	Voltage drop after the 96th cycle:		
	- requirement: ≤ 4,8 mV or 1,5 times the value measured after the 24th cycle (mV) ..... :	**1 – 2,23 mV** **2 – 2,37 mV** **3 – 2,43 mV** **4 – 2,52 mV** **5 – 2,90 mV**	**P**
	Voltage drop after the 120th cycle:		
	- requirement: ≤ 4,8 mV or 1,5 times the value measured after the 24th cycle (mV) ..... :	**1 – 2,23 mV** **2 – 2,36 mV** **3 – 2,43 mV** **4 – 2,52 mV** **5 – 2,89 mV**	**P**
	Voltage drop after the 144th cycle:		

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Clause	Requirement + Test	Result - Remark	Verdict
	- requirement: ≤ 4,8 mV or 1,5 times the value measured after the 24th cycle (mV) ..... :	**1 – 2,23 mV** **2 – 2,35 mV** **3 – 2,42 mV** **4 – 2,52 mV** **5 – 2,88 mV**	**P**
	Voltage drop after the 168th cycle:		
	- requirement: ≤ 4,8 mV or 1,5 times the value measured after the 24th cycle (mV) ..... :	**1 – 2,23 mV** **2 – 2,35 mV** **3 – 2,42 mV** **4 – 2,52 mV** **5 – 2,88 mV**	**P**
	Voltage drop after the 192th cycle:		
	- requirement: ≤ 4,8 mV or 1,5 times the value measured after the 24th cycle (mV) ..... :	**1 – 2,23 mV** **2 – 2,33 mV** **3 – 2,42 mV** **4 – 2,51 mV** **5 – 2,87 mV**	**P**
	Pull-out test		
	force (N) ..... :	**50 N**	—
	1 min, the conductor shall neither slip out of the terminal nor break near the clamping unit		***P***
8.5	Verification of thermal characteristics is checked by the needle flame test.		**P**
	Before the test, the terminal blocks are stored for 24 h in an atmosphere having a temperature between 15°C and 35°C and a relative humidity between 45% and 75%		**P**
	The flame is applied for 10 s. for insulation walls <1 mm and / or an area < 100 mm², the flame is applied for 5 s.	**10 s**	**P**
	The terminal blocks are considered to have passed the test if the duration of burning is < 30s in case of ignition. Moreover, the tissue paper on the pinewood board shall not ignite if burning or glowing		**P**

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Clause	Requirement + Test	Result - Remark	Verdict
	particles fall from the terminal block.		
8.6	Verification of EMC characteristics		
	Subclause 8.4 of EN 60947-1 applies with the following addition:		**N/A**
8.6.1	Immunity		
	Terminal blocks within the scope of this standard are not sensitive of electromagnetic disturbances and therefore no immunity tests are necessary.		**N/A**
8.6.2	Emission		
	Terminal blocks within the scope of this standard do not generate electromagnetic disturbances and therefore no emission tests are necessary.		**N/A**

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Clause	Requirement + Test	Result - Remark	Verdict
Annex A	**vacant**		
Annex B	**informative**		
	Items subject to agreement between manufacturer and user		**N/A**
Annex C	**vacant**		
Annex D	**ADDITIONAL REQUIREMENTS FOR TEST DISCONNECT TERMINALBLOCKS**		
D5	Product information		
	- service life in number of cycles		**N/A**
D6.	Normal service, mounting and transport conditions		
	Clause 6 applies.		**N/A**
D7	Construction and performance conditions		
	Clause 7 applies with the following additions		
D7.1	Constructional requirements		
D7.1.3	Clearances and creepages are not required to be measured over the open disconnect contacts (Gap). However, the rated impulse withstand voltage (Uimp) stated by the manufacturer according to table 13 of IEC 60947-1, without using the altitude correction factor, shall be verified across the open disconnect contacts (gap) (see D.7.2.2)		**N/A**
D7.1.7	Disconnect unit		
	For longitudinal and perpendicular disconnection, test disconnect terminal blocks may be equipped with disconnect units, for instance of the following type: - plug - knife - slide (with or without busbar)		**N/A**

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Clause	Requirement + Test	Result - Remark	Verdict
	the position of the disconnect unit shall be recognizable in normal use and shall not be changed unintentionally		**N/A**
D.7.2.2	Dielectric properties		
	Dielectric test, Uimp indicated:		
	- five terminal blocks connected with unfavourable cross-section (mm²) / type / conductor end length tested over open disconnect contacts (gap) (mm) ..... :		—
	- rated impulse withstand voltage (kV) ..... :		—
	- test Uimp without altitude correction factor (kV) :		**N/A**
D 8.4.5	Temperature rise test		
	Temperature rise conditions:		
	- test current (A) ..... :		—
	- cross-section of the conductor (mm²) ..... :		—
	- torque (Nm) ..... :		—
	- temperature rise does not exceed 45 K		**N/A**
	Voltage drop before and after temperature rise test:		
	- test current (A) d.c. ..... :		—
	- voltage drop (mV) before temperature rise test not exceeding 3,2 mV ..... :		**N/A**
	If the measured value exceeds 3,2 mV, the voltage drop is determined on each individual clamping unit separately, which shall not exceed 1,6 mV		**N/A**
	- voltage drop (mV) after temperature rise test not exceeding 150% of the value measured before temperature rise test ..... :		**N/A**
D.8.4.6	Short-time withstand current test		
	- rated cross-section of the conductor (mm²) ..... :		—
	- torque (Nm) ..... :		—
	- torque disconnect unit (Nm) ..... :		—
	- test current (A) ..... :		—
	- duration of the test current (s) ..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
	At the end of the test, continuity shall exist on the test sample assembly and the terminal blocks shall not show any cracking, breakage or other critical damage		**N/A**
	Voltage drop before and after short-time withstand current test		
	- test current (A) d.c. ..... :		—
	- voltage drop (mV) before temperature-rise test not exceeding 1,6 mV times the total of conductor clamping unit and disconnect unit contact points ..... :		**N/A**
	If the measured value exceeds this calculated value, the voltage drop is measured on each individual conductor clamping unit and disconnect unit contact point. it shall not exceed 1,6 mV on any conductor clamping unit and disconnect unit contact point		**N/A**
	- voltage drop (mV) after temperature-rise test not exceeding 150% of the value measured before temperature-rise test ..... :		**N/A**
D.8.4.7	Ageing test for test disconnect terminal blocks with screwless-type clamping		
	Maximum ambient temperature (°C) ..... :	40 °C /	—
	Rated cross-section rigid or stranded < 10 mm² solid, > 10 mm² stranded (mm²) ..... :		—
	Test current (A) according D.8.4.5 ..... :		—
	Torque disconnect unit (Nm) ..... :		—
	Heating cabinet is increased, in each cycle to (°C) ..... :		—
	Test current (A) d.c. for measurement of the voltage drop ..... :		—
	Voltage drop after 0 cycles:		
	- requirement: ≤ 1,6 mV (mV) ..... : the voltage drop is determined on each individual clamping unit separately		**N/A**
	Voltage drop after the 24th cycle:		
	- requirement: 2,4 mV (mV) ..... :		**N/A**

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Clause	Requirement + Test	Result - Remark	Verdict
	Voltage drop after the 48th cycle		
	- requirement: ≤ 2,4 mV or 1,5 times the value measured after the 24th cycle, whichever is the lower (mV) ..... :		**N/A**
	Voltage drop after the 72th cycle:		
	- requirement: ≤ 2,4 mV or 1,5 times the value measured after the 24th cycle, whichever is the lower (mV) ..... :		**N/A**
	Voltage drop after the 96th cycle:		
	- requirement: ≤ 2,4 mV or 1,5 times the value measured after the 24th cycle, whichever is the lower (mV) ..... :		**N/A**
	Voltage drop after the 120th cycle:		
	- requirement: ≤ 2,4 mV or 1,5 times the value measured after the 24th cycle, whichever is the lower (mV) ..... :		**N/A**
	Voltage drop after the 144th cycle:		
	- requirement: ≤ 2,4 mV or 1,5 times the value measured after the 24th cycle, whichever is the lower (mV) ..... :		**N/A**
	Voltage drop after the 168th cycle:		
	- requirement: ≤ 2,4 mV or 1,5 times the value measured after the 24th cycle, whichever is the lower (mV) ..... :		**N/A**
	Voltage drop after the 192th cycle:		
	- requirement: ≤ 2,4 mV or 1,5 times the value measured after the 24th cycle, whichever is the lower (mV) ..... :		**N/A**
	Pull-out test		
	force (N) ..... :		—
	1 min, the conductor shall neither slip out of the terminal nor break near the clamping unit		**N/A**
D.8.5.1	Service life		
	- rated cross-section of the conductor (mm²) ..... :		—
	- torque (Nm) ..... :		—
	- torque disconnect unit (Nm) ..... :		—

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Clause	Requirement + Test	Result - Remark	Verdict
	- number of operating cycles ..... :		—
	Entire test apparatus is stored for 168 h in dry heat at a temperature of 85 °C		**N/A**
	Voltage drop before and after service life		
	- test current (A) d.c. ..... :		—
	- voltage drop (mV) before service life test not exceeding 1,6 mV times the total of conductor clamping unit and disconnect unit contact points :		**N/A**
	If the measured value exceeds this calculated value, the voltage drop is measured on each individual conductor clamping unit and disconnect unit contact point. it shall not exceed 1,6 mV on any conductor clamping unit and disconnect unit contact point		**N/A**
	- voltage drop (mV) after service life test not exceeding 150% of the value measured before service life test ..... :		**N/A**
D.8.4.5	Emission		
	Terminal blocks within the scope of this standard are not sensitive of electromagnetic disturbances and therefore no immunity tests are necessary.		**N/A**
8.6.2	Emission		
	Terminal blocks within the scope of this standard do not generate electromagnetic disturbances and therefore no emission tests are necessary.		**N/A**

IEC 60947-7-1			
Clause	Requirement + Test	Result - Remark	Verdict

8.4.2	TABLE: Clearance And Creepage Distance Measurements					
clearance cl and creepage distance dcr at/of:	**Uimp (V)**	**U r.m.s. (V)**	**Required cl (mm)**	**cl (mm)**	**required dcr (mm)**	**dcr (mm)**
Between levels and terminal blocks and support	**8000**	**800**	**8**	**12,58**	**10**	**12,76**
Supplementary information: **Type 2001-1401**						

8.4.2	TABLE: Clearance And Creepage Distance Measurements					
clearance cl and creepage distance dcr at/of:	**Uimp (V)**	**U r.m.s. (V)**	**Required cl (mm)**	**cl (mm)**	**required dcr (mm)**	**dcr (mm)**
Between levels and terminal blocks and support	**8000**	**800**	**8**	**> 10**	**10**	**> 10**
Supplementary information: **Type 2001-1441**						

8.4.3	TABLE: Dielectric Strength	
Test voltage applied between:	**Test potential applied (V)**	**Breakdown / flashover (Yes/No)**
terminal 1,3 and 5 to 2 and 4	**2000**	**No**
All terminals to support	**2000**	**No**
Supplementary information: **(types 2001-1401 and 2001-1441)**		

IEC 60947-7-1			
Clause	Requirement + Test	Result - Remark	Verdict

8.4.5	**TABLE: Heating with high ambient temperature**		
	Test voltage (V):	**< 5 V**	—
	Ambient (^{o}C):		—

Thermocouple Locations	max. temperature-rise measured, (K)	max. temperature-rise limit, (K)
Terminal	**20 – 23**	45

Supplementary information:

type 2001-1401: 1,5 mm^2, 18 A

8.4.5	**TABLE: Heating with high ambient temperature**		
	Test voltage (V):	**< 5 V**	—
	Ambient (^{o}C):		—

Thermocouple Locations	max. temperature-rise measured, (K)	max. temperature-rise limit, (K)
Terminal	**33 – 44**	45

Supplementary information:

type 2001-1401: 2,5 mm^2, 24 A

IEC 60947-7-1			
Clause	Requirement + Test	Result - Remark	Verdict

8.4.5	**TABLE: Heating with high ambient temperature**		
	Test voltage (V):	**< 5 V**	—
	Ambient (^{o}C):		—

Thermocouple Locations	max. temperature-rise measured, (K)	max. temperature-rise limit, (K)
Terminal	**30 – 40**	45

Supplementary information:

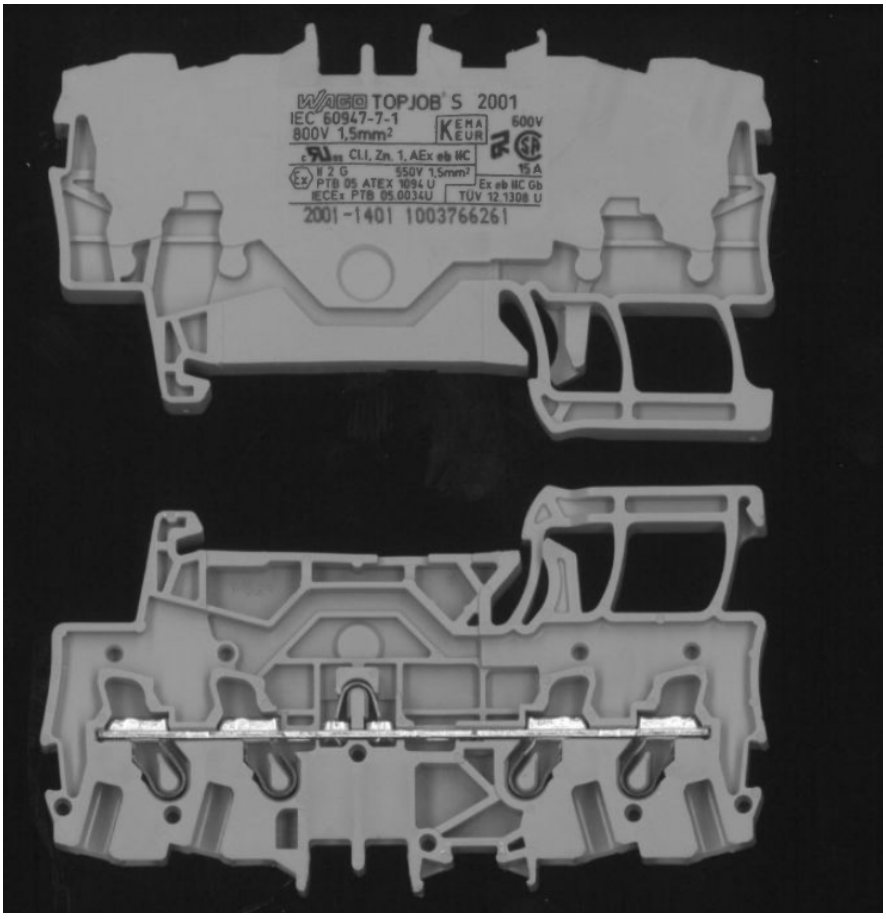
type 2001-1441: 2,5 mm^2, 24 A

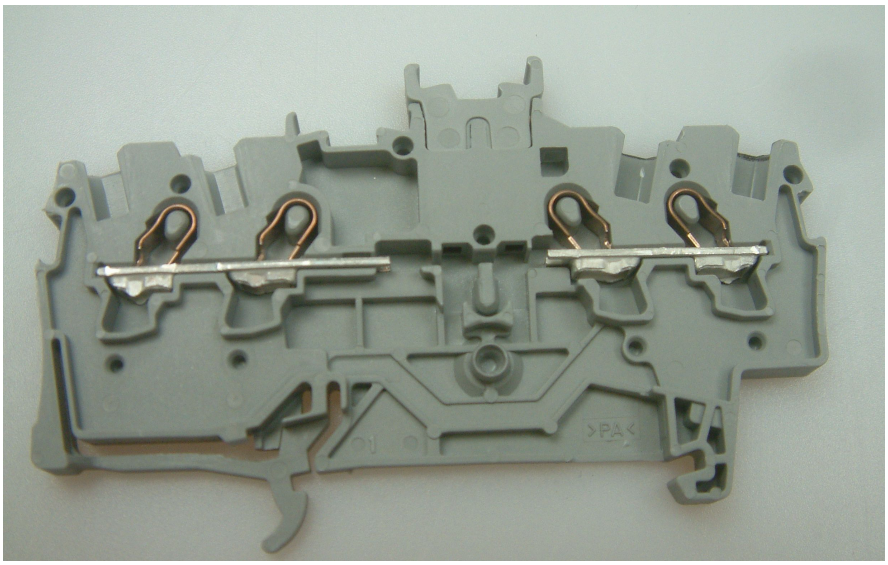
Remarks

Product data

product	:	terminal block for copper conductors
trade name(s)	:	WAGO
type(s)	:	TOPJOB S 2001
material	:	thermoplastic material.
rated cross-section	:	1,5 mm² / 2,5 mm²
rated connecting capacity	:	0,2 mm² - 2,5 mm² rigid and flexible
rated insulation voltage	:	800 V
rated impulse withstand voltage	:	8 kV
method of mounting	:	top hat rail 35 mm
conventional free air thermal current	:	17,5 A (1,5 mm²) 24 A (2,5 mm²)
type	:	2001 with suffixes -1201, -1202, -1203, -1204, -1205, -1206, -1208, -1209
description	:	two-conductor through terminal block, with screwless-type terminals, 1-pole
type	:	2001 with suffixes -1301, -1302, -1303, 1304, -1305, -1306, -1308, -1309
description	:	three conductor through terminal block, with screwless-type terminals, 1-pole
type	:	2001 with suffixes -1401, -1402, -1403, -1404, -1405, -1406, -1408, -1409
description	:	four conductor through terminal block, with screwless-type terminals, 1-pole
type	:	2001-1441
description	:	four conductor double potential terminal blocks, with screwless-type terminals, 2-poles

Remarks


TOPJOB S 2001
IEC 60947-7-1
800V 1,5mm²
600V
550V 1,5mm²
15 A
PTB 05 ATEX 1094 U
IECEx PTB 05.0034U
TÜV 12.1308 U
2001-1401 1003766261



ETICS OD ECS 040-1 January 2019	Responsible CB DEKRA

TEST REPORT SUMMARY

Report Number ..... :	**2266648.57**
Date of issue ..... :	**2023-01-09**
Tested by (name, function, signature):	**B. Veenvliet** (Technician Industrial Safety)
Witnessed by (name, function, signature):	
Approved by (name, function, signature):	**F. Fu** (Project Manager Industrial Safety)
Supervised by (name, function, signature):	

Testing Laboratory ..... :	**DEKRA Certification B.V.**
Address ..... :	**Meander 1051, 6825 MJ Arnhem, The Netherlands**
Testing procedure ..... :	☐ ENEC ☒ CCA NTR
	☐ ENEC based on IECEE CBTC with number: …….
Customer Testing Procedure..... :	☐ TMP/CTF Stage 1 ☐ WMT/CTF Stage 2 ☐ SMT/CTF Stage 3
Applicant ..... :	**WAGO GmbH & Co. KG**
Address ..... :	**Hansastrasse 27, 32423 Minden/Westfalen, Germany**
Manufacturer ..... :	**WAGO GmbH & Co. KG**
Address ..... :	**Hansastrasse 27, 32423 Minden/Westfalen, Germany**
Product ..... :	**Terminal blocks for copper conductors**
Model/Type reference ..... :	**TOPJOB S 2001**
Trademark ..... :	WAGO
Ratings ..... :	**800 V, 8 kV, 1,5 mm² or 2,5 mm², 17,5 A (1,5 mm²), 24 A (2,5 mm²)**
Certification Scheme ..... :	☐ ENEC ☒ CCA ☐ Other: _____
Standard(s) ..... :	**EN 60947-7-1: 2009, in conjunction with EN 60947-1: 2007 + A1:2012 + A2:2014**

☒ The text of the a.m. European Standard was approved by CENELEC is equivalent with the corresponding IEC Publication.

☐ The text of the a.m. European Standard was approved by CENELEC with agreed common modifications and is not equivalent with the corresponding IEC Publication. An EU Deviation Addendum has to be issued.

This EN test report consists of the following parts:

☒ IEC Test Report Number..... :	**2266648.57**
☐ EU Deviation Addendum..... :	

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Test Report issued under the responsibility of:

DEKRA

TEST REPORT
IEC 60947-7-2
Low-voltage switchgear and controlgear
Part 7: Ancillary equipment
Section Two: Protective terminal blocks for copper conductors

Report Number. .....:	**2266648.58**
Date of issue.....:	**2023-01-09**
Total number of pages	**30**
Name of Testing Laboratory preparing the Report.....:	**DEKRA Certification B.V.** **Meander 1051, 6825 MJ Arnhem, The Netherlands**
Applicant's name.....:	**WAGO GmbH & Co. KG**
Address .....:	**Hansastrasse 27, 32423 Minden/Westfalen, Germany**
Test specification:	
Standard .....:	IEC 60947-7-2:2009 (Third Edition) in conjunction with IEC 60947-1 (Fifth Edition) + A1:2012 + A2:2014
Test procedure .....:	CB Scheme
Non-standard test method .....:	N/A
Test Report Form No.....:	IEC60947_7_2B
Test Report Form(s) Originator ....:	DEKRA Certification B.V.
Master TRF .....:	Dated 2015-10

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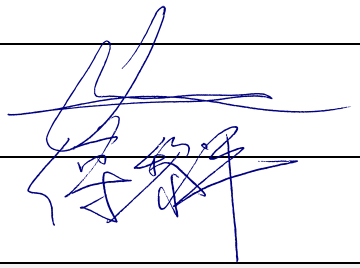
Test item description..... :	**Protective conductor terminal block for copper conductors**
Trade Mark..... :	
Manufacturer..... :	**WAGO GmbH & Co. KG**
Model/Type reference..... :	**TOPJOB S 2201**
Ratings..... :	**1,5 mm² or 2,5 mm²**

Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):			
☒	**CB Testing Laboratory:**	**DEKRA Certification B.V.**	
Testing location/ address.....:		**Meander 1051, 6825 MJ Arnhem, The Netherlands**	
☐	**Associated CB Testing Laboratory:**		
Testing location/ address.....:			
Tested by (name, function, signature).....:		**B. Veenvliet** (Technician Industrial Safety)	
Approved by (name, function, signature)...:		**F. Fu** (Project Manager Industrial Safety)	
☐	**Testing procedure: CTF Stage 1:**		
Testing location/ address.....:			
Tested by (name, function, signature).....:			
Approved by (name, function, signature)...:			
☐	**Testing procedure: CTF Stage 2:**		
Testing location/ address.....:			
Tested by (name + signature) .....:			
Witnessed by (name, function, signature)..:			
Approved by (name, function, signature)...:			
☐	**Testing procedure: CTF Stage 3:**		
☐	**Testing procedure: CTF Stage 4:**		
Testing location/ address.....:			
Tested by (name, function, signature).....:			
Witnessed by (name, function, signature)..:			
Approved by (name, function, signature)...:			
Supervised by (name, function, signature) :			

List of Attachments (including a total number of pages in each attachment): N/A

Summary of testing:

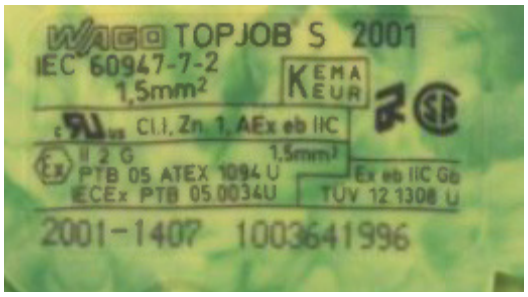
Tests performed (name of test and test clause):	**Testing location:**
<u>Project 2160584.59</u> **Complete examination** **All tests are carried out on 2001-1401 unless otherwise stated.** **<u>Project 2266648.58</u>** **This test report replaces test report 2160584.59 issued on 2013-03-06, due to the fact that new factory locations were added.** **The following tests are performed:** **Clause 8.3.3.1 Mechanical strength of clamping unit**	**DEKRA Certification B.V.** **Meander 1051, 6825 MJ Arnhem** **The Netherlands**

Summary of compliance with National Differences (List of countries addressed): N/A

☒ **The product fulfils the requirements of EN 60947-7-2: 2009.**

Copy of marking plate:

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.



Test item particulars .....:	
Classification of installation and use.....:	
Supply Connection .....:	
Particulars: test item vs. test requirements	
- method of fixing :	**top hat rail 35 mm**
- number of poles..... :	**1 -pole**
- type of clamping unit ..... :	**screwless clamping unit**
- ability to receive conductors..... :	**unprepared conductors, flexible or rigid**
- number of terminals on terminal assembly ..... :	**2, 3 and 4**
- PE or PEN functions ..... :	**PE**
- rated cross-section (mm²)..... :	**1,5 mm² or 2,5 mm²**
- rated connecting capacity (mm²)..... :	**0,2 mm² – 2,5 mm² rigid or flexible**
Possible test case verdicts:	
- test case does not apply to the test object..... :	N/A
- test object does meet the requirement..... :	P (Pass)
- test object does not meet the requirement..... :	F (Fail)
Testing ..... :	
Date of receipt of test item..... :	**05-2022**
Date (s) of performance of tests ..... :	**06-2022**
General remarks:	
"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report. **Throughout this report a ☒ comma / ☐ point is used as the decimal separator.**	
Manufacturer's Declaration per sub-clause 4.2.5 of IECEE 02:	
The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided..... :	☒ **Yes** ☐ **Not applicable**

When differences exist; they shall be identified in the General product information section.	
Name and address of factory (ies)..... :	**Wago Elwag sp.z.o.o.** **ul. Piekna 58 a** **50-506, Wroclaw, Poland** **Wago Elwag** **Innowacyjna 2** **55-330 Wroblowice, Poland** **WAGO Private Limited** **Block No. 94, National Highway-8** **Village Vadsala – Varnama, Vadodara, Gujarat-391243, India** **Wago Electronic (Tianjin) Co. Ltd.** **No. 5 Quanhui Road** **Wu Qing Development Area** **301700 Tianjin, China** **WAGO GmbH & Co. KG** **Hansastrasse 27, 32423 Minden/Westfalen** **Germany** **WAGO GmbH & Co. KG, Werk Sondershausen** **Waldstrasse 1, 99706, Sondershausen** **Germany** **WAGO Contact S.A.** **Route de l'Industrie 19, CP 168, 1564,** **Domdidier, Switzerland** **WAGO GmbH & Co. KG** **Cammer Str. 17,** **32423 Minden** **Germany**
General product information: **See page 29 – 30.**	

IEC 60947-7-2			
Clause	Requirement – Test	Result - Remark	Verdict

5	**PRODUCT INFORMATION**		
5.1	**Marking**		
	Terminal block shall be marked with:		
	- manufacturer's name or trademark	WAGO	**P**
	- type designation	**TOPJOB S 2001**	**P**
5.2	**The following information shall be stated by the manufacturer if applicable, e.g. in the manufacturer's data sheet, or his catalogue or on the packing unit:**		
	- manufacturer's claim for compliance with IEC 60 947-7-2	**IEC 60947-7-2**	**P**
	- rated cross-section	**1,5 mm² or 2,5 mm²**	**P**
	- rated connecting capacity	**in catalogue** **0,2 mm² - 2,5 mm² rigid and flexible**	**P**
	- service conditions if different from those of Cl. 6.	-	**N/A**
	The manufacturer shall declare if the protective conductor terminal block rated equal to or above 10 mm^2 (AWG 8) is intended for PE function only.		**P**

7.	**CONSTRUCTION**		
7.1	**Constructional requirements**		
7.1.1	Terminals		
	Terminals shall permit a reliable connection between the conductor clamping unit and the clamping unit to the support		**P**
7.1.7.1	All parts of terminals which maintain contact and carry current shall be of metal having adequate mechanical strength		**P**
	Clamping units connections shall be such that necessary contact pressure is maintained		**P**

IEC 60947-7-2			
Clause	Requirement – Test	Result - Remark	Verdict
	Clamping units shall be so constructed that the conductor is clamped between suitable surfaces without damage to the conductor and terminal		**P**
	Clamping units shall not allow the conductor to be displaced or to be displaced themselves in a manner detrimental to the operation of equipment and the insulation voltage shall not be reduced below the rated value		**P**
	Clamping units shall allow the conductor to be connected by means ensuring that a reliable mechanical linkage and electrical contact is properly maintained		**P**
	Clamping units shall be able to withstand the forces that can be applied through the connected conductors		**P**
	Contact pressure is not transmitted through insulation materials		**P**
7.1.2	Connection of support		
	Protective conductor terminal blocks are provided with means that allow them to be securely attached to the corresponding support without risk of galvanic corrosion		**P**
	The design of the protective conductor terminal blocks shall clearly show how the fixation has to be made to ensure the correct conducting connection to appropriate support		**P**
	The clamping connection to the support shall only be released by means of tools		**P**
7.1.3	Clearances and creepage distances		
	Clearances and creepage distances do not apply to protective conductor terminal blocks		**P**
7.1.4	Terminal identification and marking:		

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Clause	Requirement – Test	Result - Remark	Verdict
	- terminal blocks shall have provision, or at least space, for identification marks or numbers for each terminal or terminal assembly to be related to the circuit of which it is to form a part		**P**
	- any partial insulated protective conductor terminal blocks shall be coloured green and yellow		**P**
7.1.5	Resistance to abnormal heat and fire		
	Needle flame test for insulation materials of terminal blocks (see 8.5)		**P**
7.1.6	Rated cross section and rated connecting capacity		
	Terminal blocks are so designed that conductors of the rated cross-section and/or the rated connecting capacity can be accepted	**0,2 mm² - 2,5 mm²** **rigid or flexible**	**P**
7.1.7	Protective conductor mounting rails		
	Mounting rails may be used as protective conductor busbars, provided the values specified in Table A.1 for thermal short-time withstand current and the thermal rated current are not exceeded	**Top hat rail 35 mm**	**P**
	Other types of mounting rails may be used for this purpose if the values of Table A.1 are comparable		**P**
	Steel protective conductor busbars are not allowed to be used as a PEN conductor		**P**

8.	**TESTS**		
8.3	**Verification of mechanical characteristics**		
8.3.2	Attachment of the terminal block on its support		
	mounting rail ..... :	**Top hat rail 35 mm**	—
	torque (Nm) clamping to support ..... :	**-**	—
	steel pin diameter (mm) ..... :	**1 mm**	—

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Clause	Requirement – Test	Result - Remark	Verdict
	tightening torque clamping units (Nm) ..... :	**-**	—
	force (N) ..... :	**1 N**	—
	During the test, no terminal block shall work free from its rail or support, nor suffer any other damage		**P**
8.3.3.1	Test of mechanical strength of clamping units		
8.2.4.2	Mechanical strength of terminals (IEC 60947-1)		
	rated cross-section of a rigid conductor (mm²) ... :	**1,5 mm²**	—
	diameter of thread (mm) ..... :	**-**	—
	torque (Nm) ..... :	**-**	—
	5 times on 2 clamping units at the centre terminal block out of 5 terminal blocks		**P**
	Voltage drop before and after mechanical strength test		
	rated cross-section of a rigid conductor (mm²) ... :	**1,5 mm²**	—
	test current (A) d.c. ..... :	**1,75 A**	—
	voltage drop (mV) before mechanical strength test not exceeding 3,2 mV ..... :	**2,13 mV and 2,13 mV**	**P**
	If the measured value exceeds 3,2 mV, the voltage drop is determined on each individual clamping unit separately, which shall not exceed 1,6 mV		**N/A**
	voltage drop (mV) after mechanical strength test not exceeding 150% of the value measured before mechanical strength test :	**1,98 mV and 2,12 mV**	**P**
8.2.4.1	Mechanical strength of clamping units (IEC60947-1)		
	rated cross-section of a rigid conductor (mm²) ... :	**2,5 mm²**	—
	diameter of thread (mm) ..... :	**-**	—
	torque (Nm) ..... :	**-**	—
	5 times on 2 clamping units at the centre terminal block out of 5 terminal blocks		**P**
	Voltage drop before and after mechanical strength test		
	rated cross-section of a rigid conductor (mm²) ... :	**2,5 mm²**	—
	test current (A) d.c. ..... :	**2,4 A**	—

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Clause	Requirement – Test	Result - Remark	Verdict
	voltage drop (mV) before mechanical strength test not exceeding 3,2 mV ..... :	**2,96 mV and 2,48 mV**	**P**
	If the measured value exceeds 3,2 mV, the voltage drop is determined on each individual clamping unit separately, which shall not exceed 1,6 mV		**N/A**
	voltage drop (mV) after mechanical strength test not exceeding 150% of the value measured before mechanical strength test :	**2,78 mV and 2,61 mV**	**P**
	minimum cross-section of a flexible conductor (mm^2) ..... :	**0,2 mm^2**	—
	test current (A) d.c. ..... :	**0,4 A**	—
	voltage drop (mV) before mechanical strength test not exceeding 3,2 mV ..... :	**0,91 mV and 0,84 mV**	**P**
	If the measured value exceeds 3,2 mV, the voltage drop is determined on each individual clamping unit separately, which shall not exceed 1,6 mV		**N/A**
	voltage drop (mV) after mechanical strength test not exceeding 150% of the value measured before mechanical strength test ..... :	**0,87 mV and 0,86 mV**	**P**
	Mechanical strength of the clamping to support		
	- rail profile ..... :	**Top hat rail 35 mm**	—
	diameter of thread (mm) ..... :	**-**	—
	torque (Nm) ..... :	**-**	—
	5 times on 2 separate clamping units		
	rated cross-section of a rigid conductor (mm^2) ... :	**1,5 mm^2**	—
	test current (A) d.c. ..... :	**1,75 A**	—
	voltage drop (mV) before mechanical strength test not exceeding 6,4 mV ..... :	**1,40 mV and 1,37 mV**	**P**
	If the measured value exceeds 6,4 mV, the voltage drop is determined on each individual clamping unit separately, which shall not exceed 4,8 mV		**N/A**

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Clause	Requirement – Test	Result - Remark	Verdict
	voltage drop (mV) after mechanical strength test not exceeding 150% of the value measured before mechanical strength test ..... :	**1,51 mV and 1,40 mV**	**P**
	Mechanical strength of the clamping to support		
	- rail profile ..... :	**Top hat rail 35 mm**	—
	diameter of thread (mm) ..... :	**-**	—
	torque (Nm) ..... :	**-**	—
	5 times on 2 separate clamping units		
	rated cross-section of a rigid conductor (mm²) ... :	**2,5 mm²**	—
	test current (A) d.c. ..... :	**2,4 A**	—
	voltage drop (mV) before mechanical strength test not exceeding 6,4 mV ..... :	**1,90 mV and 2,30 mV**	**P**
	If the measured value exceeds 6,4 mV, the voltage drop is determined on each individual clamping unit separately, which shall not exceed 4,8 mV		**N/A**
	voltage drop (mV) after mechanical strength test not exceeding 150% of the value measured before mechanical strength test ..... :	**1,93 mV and 2,07 mV**	**P**
8.3.3.2	Testing for damage to and accidental loosening of conductors of a terminal block (flexion test)		
	conductor of the smallest cross-section (mm²) ... :	**0,2 mm² rigid and flexible**	—
	number of conductors of the smallest cross-section ..... :	**1**	—
	torque (Nm) ..... :	**-**	—
	diameter of bushing hole (mm) ..... :	**6,5 mm**	—
	height between the equipment and the platen (mm) ..... :	**260 mm**	—
	mass at the conductor(s) (kg) ..... :	**0,3 kg**	—
	135 continuous revolutions: the conductor shall neither slip out of the terminal nor break near the clamping unit		**P**
	Pull-out test		

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Clause	Requirement – Test	Result - Remark	Verdict
	force (N) ..... :	**10 N**	—
	1 min, the conductor shall neither slip out of the terminal nor break near the clamping unit		**P**
	conductor of the rated cross-section (mm²) ..... :	**1,5 mm² rigid and flexible**	—
	number of conductors of the rated cross-section :	**1**	—
	torque (Nm) ..... :	**-**	—
	diameter of bushing hole (mm) ..... :	**6,5 mm**	—
	height between the equipment and the platen (mm) ..... :	**260 mm**	—
	mass at the conductor(s) (kg) ..... :	**0,4 kg**	—
	135 continuous revolutions: the conductor shall neither slip out of the terminal nor break near the clamping unit		**P**
	Pull-out test		
	force (N) ..... :	**40 N**	—
	1 min, the conductor shall neither slip out of the terminal nor break near the clamping unit		**P**
	conductor of the rated cross-section (mm²) ..... :	**2,5 mm² rigid and flexible**	—
	number of conductors of the rated cross-section :	**1**	—
	torque (Nm) ..... :	**-**	—
	diameter of bushing hole (mm) ..... :	**9,5 mm**	—
	height between the equipment and the platen (mm) ..... :	**280 mm**	—
	mass at the conductor(s) (kg) ..... :	**0,7 kg**	—
	135 continuous revolutions: the conductor shall neither slip out of the terminal nor break near the clamping unit		**P**
	Pull-out test		
	force (N) ..... :	**50 N**	—
	1 min, the conductor shall neither slip out of the terminal nor break near the clamping unit		**P**

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Clause	Requirement – Test	Result - Remark	Verdict
	number of conductors of the largest or smallest cross-section ..... :		—
	torque (Nm) ..... :		—
	diameter of bushing hole (mm) ..... :		—
	height between the equipment and the platen (mm) ..... :		—
	mass at the conductor(s) (kg) ..... :		—
	135 continuous revolutions: the conductor shall neither slip out of the terminal nor break near the clamping unit		**N/A**
	Pull-out test		
	force (N) ..... :		—
	1 min, the conductor shall neither slip out of the terminal nor break near the clamping unit		**N/A**
8.3.3.4	Verification of rated cross section and rated connecting capacity		
	One conductor of the two next smaller cross-sections can be unhindered and connected in each clamping unit of one terminal block (up to 35 mm²)	**0,75 mm²**	**P**
8.4.3	Dielectric tests		
	Dielectric test, Uimp indicated:		
	- The test is made on protective terminal blocks installed with terminal blocks of the same series and size according to the manufactures instructions rated cross-section (mm²) / type / conductor end length (mm) ..... :	**Type 2001-1401** **2,5 mm², rigid, 9-11 mm**	—
	- rated impulse withstand voltage (kV) ..... :	**8 kV**	—
	- test Uimp main circuits (kV) ..... :	**9,8 kV**	**P**
	Dielectric test, Uimp not indicated:		

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Clause	Requirement – Test	Result - Remark	Verdict
	- The test is made on protective terminal blocks installed with terminal blocks of the same series and size according to the manufactures instructions rated cross-section (mm²) / type / conductor end length (mm) :	**Type 2001-1401** **2,5 mm², rigid, 9-11 mm**	—
	- rated insulation voltage (V) ..... :	**800 V**	—
	- test voltage for 60 sec (V) ..... :	**2000 V**	**P**
8.4.5	Temperature-rise test		
	Temperature rise conditions:		
	- test current (A) ..... :		—
	- cross-section of the conductor (mm²) ..... :		—
	- torque (Nm) clamping unit ..... :		—
	- torque (Nm) clamping to support ..... :		—
	Temperature-rise without support		
	- temperature-rise does not exceed 45 K	see appended table 8.4.5	**N/A**
	Voltage drop before and after temperature-rise test:		
	- test current (A) d.c. ..... :		—
	- voltage drop (mV) before temperature-rise test not exceeding 3,2 mV ..... :	1 - 2 - 3 - 4 - 5 -	**N/A**
	If the measured value exceeds 3,2 mV, the voltage drop is determined on each individual clamping unit separately, which shall not exceed 1,6 mV		**N/A**
	- voltage drop (mV) after temperature-rise test not exceeding 150% of the value measured before temperature rise test ..... :	1 - 2 - 3 - 4 - 5 -	**N/A**
	Temperature-rise with support		
	- rail profile and material ..... :		—

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Clause	Requirement – Test	Result - Remark	Verdict
	- temperature-rise does not exceed 45 K ..... :	1 - 2 -	—
	Voltage drop before and after temperature-rise test:		
	- test current (A) d.c. ..... :		—
	- voltage drop (mV) before temperature-rise test not exceeding 6,4 mV ..... :	1 - 2 -	**N/A**
	If the measured value exceeds 6,4 mV, the voltage drop is determined on each individual clamping unit separately, which shall not exceed 4,8 mV		**N/A**
	- voltage drop (mV) after temperature-rise test not exceeding 150% of the value measured before temperature-rise test ..... :	1 - 2 -	**N/A**
8.4.6	Short-time withstand current test		
	- cross-section of the conductor (mm²) ..... :	**1,5 mm²**	—
	- torque (Nm) clamping unit ..... :	**-**	—
	- rail profile and material ..... :	**Top hat rail 35 mm**	—
	- torque (Nm) clamping to support ..... :	-	—
	Test current from clamping unit to clamping unit (1-1)		
	- test current (A) ..... :	1 - **180 A** 2 - **180 A** 3 - **180 A**	—
	- duration of the test current (s) ..... :	1 – **1 s** 2 – **1 s** 3 – **1 s**	—
	At the end of the test, continuity shall exist on the test sample assembly and the terminal blocks shall not show any cracking, breakage or other critical damage		**P**
	Voltage drop after short-time withstand current test		
	- cross-section of the conductor (mm²) ..... :	**1,5 mm²**	—
	- test current (A) d.c. ..... :	**1,75 A**	—

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Clause	Requirement – Test	Result - Remark	Verdict
	- voltage drop (mV) after short-time withstand current test not exceeding 3,2 mV ..... :	**1 - 1,48 mV**	**P**
	If the measured value exceeds 3,2 mV, the voltage drop is determined on each individual clamping unit separately, which shall not exceed 1,6 mV		**N/A**
	Test current from clamping unit to support (2-2)		
	- test current (A) ..... :	1 - **180 A** 2 - **180 A** 3 - **180 A**	—
	- duration of the test current (s) ..... :	1 - **1 s** 2 - **1 s** 3 - **1 s**	—
	At the end of the test, continuity shall exist on the test sample assembly and the terminal blocks shall not show any cracking, breakage or other critical damage		**P**
	Voltage drop after short-time withstand current test		
	- cross-section of the conductor (mm²) ..... :	**1,5 mm²**	—
	- test current (A) d.c. ..... :	**1,75 A**	—
	- voltage drop (mV) after short-time withstand current test not exceeding 6,4 mV ..... :	**1 - 1,57 mV**	**P**
	If the measured value exceeds 6,4 mV, the voltage drop is determined on each individual clamping unit separately, which shall not exceed 4,8 mV		**N/A**
8.4.6	Short-time withstand current test		
	- cross-section of the conductor (mm²) ..... :	**2,5 mm²**	—
	- torque (Nm) clamping unit ..... :	**-**	—
	- rail profile and material ..... :	**Top hat rail 35 mm**	—
	- torque (Nm) clamping to support ..... :	**-**	—
	Test current from clamping unit to clamping unit (1-1)		

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Clause	Requirement – Test	Result - Remark	Verdict
	- test current (A) ..... :	1 - **300 A** 2 - **300 A** 3 - **300 A**	—
	- duration of the test current (s) ..... :	1 – **1 s** 2 – **1 s** 3 – **1 s**	—
	At the end of the test, continuity shall exist on the test sample assembly and the terminal blocks shall not show any cracking, breakage or other critical damage		**P**
	Voltage drop after short-time withstand current test		
	- cross-section of the conductor (mm²) ..... :	**2,5 mm²**	—
	- test current (A) d.c. ..... :	**2,4 A**	—
	- voltage drop (mV) after short-time withstand current test not exceeding 3,2 mV ..... :	**1 - 2,36 mV**	**P**
	If the measured value exceeds 3,2 mV, the voltage drop is determined on each individual clamping unit separately, which shall not exceed 1,6 mV		**N/A**
	Test current from clamping unit to support (2-2)		
	- test current (A) ..... :	1 - **300 A** 2 - **300 A** 3 - **300 A**	—
	- duration of the test current (s) ..... :	1 - **1 s** 2 - **1 s** 3 - **1 s**	—
	At the end of the test, continuity shall exist on the test sample assembly and the terminal blocks shall not show any cracking, breakage or other critical damage		**P**
	Voltage drop after short-time withstand current test		
	- cross-section of the conductor (mm²) ..... :	**2,5 mm²**	—
	- test current (A) d.c. ..... :	**2,4 A**	—

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Clause	Requirement – Test	Result - Remark	Verdict
	- voltage drop (mV) after short-time withstand current test not exceeding 6,4 mV ..... :	**1 - 2,36 mV**	**P**
	If the measured value exceeds 6,4 mV, the voltage drop is determined on each individual clamping unit separately, which shall not exceed 4,8 mV		**N/A**
8.4.7	Ageing test (for screwless-type terminal blocks only)		
	Maximum ambient temperature (°C) ..... :	**40 °C**	—
	Rated cross-section solid or stranded (mm²) ..... :	**1,5 mm²**	—
	Heating cabinet is increased, in each cycle to (°C) ..... :	85 °C	—
	Test current (A) d.c. for measurement of the voltage drop ..... :	**1,8 A**	—
	Rail profile and material ..... :	**Top hat rail 35 mm**	—
	Torque (Nm) clamping to support ..... :	**-**	—
	Voltage drop after 0 cycles:		
	- requirement for clamping unit to clamping unit: ≤ 3,2 mV (mV) ..... :	**1 - 2,00 mV** **2 - 2,10 mV** **3 - 2,00 mV** **4 - 2,00 mV** **5 - 2,10 mV**	**P**
	If the measured value exceeds 3,2 mV, the voltage drop is determined on each individual clamping unit separately, which shall not exceed 1,6 mV		**N/A**
	- requirement for clamping unit to support: ≤ 6,4 mV (mV) ..... :	**1 - 1,50 mV** **2 - 1,70 mV**	**P**
	If the measured value exceeds 6,4 mV, the voltage drop is determined on each individual clamping unit separately, which shall not exceed 4,8 mV		**N**
	Voltage drop after the 24th cycle:		

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Clause	Requirement – Test	Result - Remark	Verdict
	- requirement for clamping unit to clamping unit: 4,8 mV (mV) ..... :	**1 - 2,00 mV** **2 - 2,10 mV** **3 - 2,00 mV** **4 - 2,10 mV** **5 - 2,10 mV**	**P**
	- requirement for clamping unit to support: 9,6 mV (mV) ..... :	**1 - 1,50 mV** **2 - 1,60 mV**	**P**
	Voltage drop after the 48th cycle		
	- requirement for clamping unit to clamping unit: ≤ 4,8 mV or 1,5 times the value measured after the 24th cycle (mV) ..... :	**1 - 2,10 mV** **2 - 2,10 mV** **3 - 2,00 mV** **4 - 2,10 mV** **5 - 2,10 mV**	**P**
	- requirement for clamping unit to support: ≤ 9,6 mV or 1,5 times the value measured after the 24th cycle (mV) ..... :	**1 - 1,50 mV** **2 - 1,60 mV**	**P**
	Voltage drop after the 72nd cycle:		
	- requirement for clamping unit to clamping unit: ≤ 4,8 mV or 1,5 times the value measured after the 24th cycle (mV) ..... :	**1 - 2,10 mV** **2 - 2,10 mV** **3 - 2,00 mV** **4 - 2,10 mV** **5 - 2,10 mV**	**P**
	- requirement for clamping unit to support: ≤ 9,6 mV or 1,5 times the value measured after the 24th cycle (mV) ..... :	**1 - 1,50 mV** **2 - 1,60 mV**	**P**
	Voltage drop after the 96th cycle:		
	- requirement for clamping unit to clamping unit: ≤ 4,8 mV or 1,5 times the value measured after the 24th cycle (mV) ..... :	**1 - 2,10 mV** **2 - 2,10 mV** **3 - 2,00 mV** **4 - 2,10 mV** **5 - 2,10 mV**	**P**

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Clause	Requirement – Test	Result - Remark	Verdict
	- requirement for clamping unit to support: ≤ 9,6 mV or 1,5 times the value measured after the 24th cycle (mV) ..... :	**1 - 1,50 mV** **2 - 1,60 mV**	**P**
	Voltage drop after the 120th cycle:		
	- requirement for clamping unit to clamping unit: ≤ 4,8 mV or 1,5 times the value measured after the 24th cycle (mV) ..... :	**1 - 2,10 mV** **2 - 2,10 mV** **3 - 2,00 mV** **4 - 2,10 mV** **5 - 2,10 mV**	**N**
	- requirement for clamping unit to support: ≤ 9,6 mV or 1,5 times the value measured after the 24th cycle (mV) ..... :	**1 - 1,50 mV** **2 - 1,60 mV**	**P**
	Voltage drop after the 144th cycle:		
	- requirement for clamping unit to clamping unit: ≤ 4,8 mV or 1,5 times the value measured after the 24th cycle (mV) ..... :	**1 - 2,10 mV** **2 - 2,10 mV** **3 - 2,00 mV** **4 - 2,10 mV** **5 - 2,10 mV**	**P**
	- requirement for clamping unit to support: ≤ 9,6 mV or 1,5 times the value measured after the 24th cycle (mV) ..... :	**1 - 1,40 mV** **2 - 1,60 mV**	**P**
	Voltage drop after the 168th cycle:		
	- requirement for clamping unit to clamping unit: ≤ 4,8 mV or 1,5 times the value measured after the 24th cycle (mV) ..... :	**1 - 2,10 mV** **2 - 2,10 mV** **3 - 2,00 mV** **4 - 2,10 mV** **5 - 2,10 mV**	**P**
	- requirement for clamping unit to support: ≤ 9,6 mV or 1,5 times the value measured after the 24th cycle (mV) ..... :	**1 - 1,40 mV** **2 - 1,60 mV**	**P**
	Voltage drop after the 192nd cycle:		

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Clause	Requirement – Test	Result - Remark	Verdict
	- requirement for clamping unit to clamping unit: ≤ 4,8 mV or 1,5 times the value measured after the 24th cycle (mV) ..... :	**1 - 2,10 mV** **2 - 2,00 mV** **3 - 2,00 mV** **4 - 2,00 mV** **5 - 2,10 mV**	**P**
	- requirement for clamping unit to support: ≤ 9,6 mV or 1,5 times the value measured after the 24th cycle (mV) ..... :	**1 - 1,40 mV** **2 - 1,60 mV**	**P**
	Pull-out test		
	force (N) ..... :	**40 N**	—
	1 min, the conductor shall neither slip out of the terminal nor break near the clamping unit		**P**
8.4.7	Ageing test (for screwless-type terminal blocks only)		
	Maximum ambient temperature (°C) ..... :	**40 °C**	—
	Rated cross-section solid or stranded (mm²) ..... :	**2,5 mm²**	—
	Heating cabinet is increased, in each cycle to (°C) ..... :	85 °C	—
	Test current (A) d.c. for measurement of the voltage drop ..... :	**2,4 A**	—
	Rail profile and material ..... :	**Top hat rail 35 mm**	—
	Torque (Nm) clamping to support ..... :	**-**	—
	Voltage drop after 0 cycles:		
	- requirement for clamping unit to clamping unit: ≤ 3,2 mV (mV) ..... :	**1 - 2,39 mV** **2 - 2,19 mV** **3 - 2,14 mV** **4 - 2,10 mV** **5 - 2,09 mV**	**P**
	If the measured value exceeds 3,2 mV, the voltage drop is determined on each individual clamping unit separately, which shall not exceed 1,6 mV		**N/A**
	- requirement for clamping unit to support: ≤ 6,4 mV (mV) ..... :	**1 - 1,61 mV** **2 - 1,40 mV**	**P**

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Clause	Requirement – Test	Result - Remark	Verdict
	If the measured value exceeds 6,4 mV, the voltage drop is determined on each individual clamping unit separately, which shall not exceed 4,8 mV		**N/A**
	Voltage drop after the 24th cycle:		
	- requirement for clamping unit to clamping unit: 4,8 mV (mV) ..... :	**1 - 2,29 mV** **2 - 2,48 mV** **3 - 2,20 mV** **4 - 2,20 mV** **5 - 2,14 mV**	**P**
	- requirement for clamping unit to support: 9,6 mV (mV) ..... :	**1 - 1,63 mV** **2 - 1,51 mV**	**P**
	Voltage drop after the 48th cycle		
	- requirement for clamping unit to clamping unit: ≤ 4,8 mV or 1,5 times the value measured after the 24th cycle (mV) ..... :	**1 - 2,27 mV** **2 - 2,43 mV** **3 - 2,17 mV** **4 - 2,20 mV** **5 - 2,13 mV**	**P**
	- requirement for clamping unit to support: ≤ 9,6 mV or 1,5 times the value measured after the 24th cycle (mV) ..... :	**1 - 1,63 mV** **2 - 1,53 mV**	**P**
	Voltage drop after the 72nd cycle:		
	- requirement for clamping unit to clamping unit: ≤ 4,8 mV or 1,5 times the value measured after the 24th cycle (mV) ..... :	**1 - 2,26 mV** **2 - 2,42 mV** **3 - 2,18 mV** **4 - 2,19 mV** **5 - 2,13 mV**	**P**
	- requirement for clamping unit to support: ≤ 9,6 mV or 1,5 times the value measured after the 24th cycle (mV) ..... :	**1 - 1,62 mV** **2 - 1,56 mV**	**P**
	Voltage drop after the 96th cycle:		

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Clause	Requirement – Test	Result - Remark	Verdict
	- requirement for clamping unit to clamping unit: ≤ 4,8 mV or 1,5 times the value measured after the 24th cycle (mV) ..... :	**1 - 2,25 mV** **2 - 2,41 mV** **3 - 2,17 mV** **4 - 2,19 mV** **5 - 2,12 mV**	**P**
	- requirement for clamping unit to support: ≤ 9,6 mV or 1,5 times the value measured after the 24th cycle (mV) ..... :	**1 - 1,62 mV** **2 - 1,56 mV**	**P**
	Voltage drop after the 120th cycle:		
	- requirement for clamping unit to clamping unit: ≤ 4,8 mV or 1,5 times the value measured after the 24th cycle (mV) ..... :	**1 - 2,41 mV** **2 - 2,40 mV** **3 - 2,38 mV** **4 - 2,19 mV** **5 - 2,12 mV**	**N**
	- requirement for clamping unit to support: ≤ 9,6 mV or 1,5 times the value measured after the 24th cycle (mV) ..... :	**1 - 1,62 mV** **2 - 1,57 mV**	**P**
	Voltage drop after the 144th cycle:		
	- requirement for clamping unit to clamping unit: ≤ 4,8 mV or 1,5 times the value measured after the 24th cycle (mV) ..... :	**1 - 2,40 mV** **2 - 2,40 mV** **3 - 2,37 mV** **4 - 2,19 mV** **5 - 2,12 mV**	**P**
	- requirement for clamping unit to support: ≤ 9,6 mV or 1,5 times the value measured after the 24th cycle (mV) ..... :	**1 - 1,61 mV** **2 - 1,56 mV**	**P**
	Voltage drop after the 168th cycle:		
	- requirement for clamping unit to clamping unit: ≤ 4,8 mV or 1,5 times the value measured after the 24th cycle (mV) ..... :	**1 - 2,41 mV** **2 - 2,39 mV** **3 - 2,37 mV** **4 - 2,19 mV** **5 - 2,12 mV**	**P**

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Clause	Requirement – Test	Result - Remark	Verdict
	- requirement for clamping unit to support: ≤ 9,6 mV or 1,5 times the value measured after the 24th cycle (mV) ..... :	**1 - 1,61 mV** **2 - 1,56 mV**	**P**
	Voltage drop after the 192nd cycle:		
	- requirement for clamping unit to clamping unit: ≤ 4,8 mV or 1,5 times the value measured after the 24th cycle (mV) ..... :	**1 - 2,39 mV** **2 - 2,39 mV** **3 - 2,36 mV** **4 - 2,19 mV** **5 - 2,12 mV**	**P**
	- requirement for clamping unit to support: ≤ 9,6 mV or 1,5 times the value measured after the 24th cycle (mV) ..... :	**1 - 1,61 mV** **2 - 1,56 mV**	**P**
	Pull-out test		
	force (N) ..... :	**50 N**	—
	1 min, the conductor shall neither slip out of the terminal nor break near the clamping unit		**P**
8.5	**Verification of thermal characteristics are checked by the needle flame test**		
	Before the test, the terminal blocks are stored for 24 h in an atmosphere having a temperature between 15°C and 35°C and a relative humidity between 45% and 75%		**P**
	The flame is applied for 10 s. for insulation walls <1 mm and / or an area < 100 mm², the flame is applied for 5 s.	**10 s**	**P**
	The terminal blocks are considered to have passed the test if the duration of burning is < 30s in case of ignition. Moreover, the tissue paper on the pinewood board shall not ignite if burning or glowing particles fall from the terminal block.		**P**
8.6	**Verification of EMC characteristics**		

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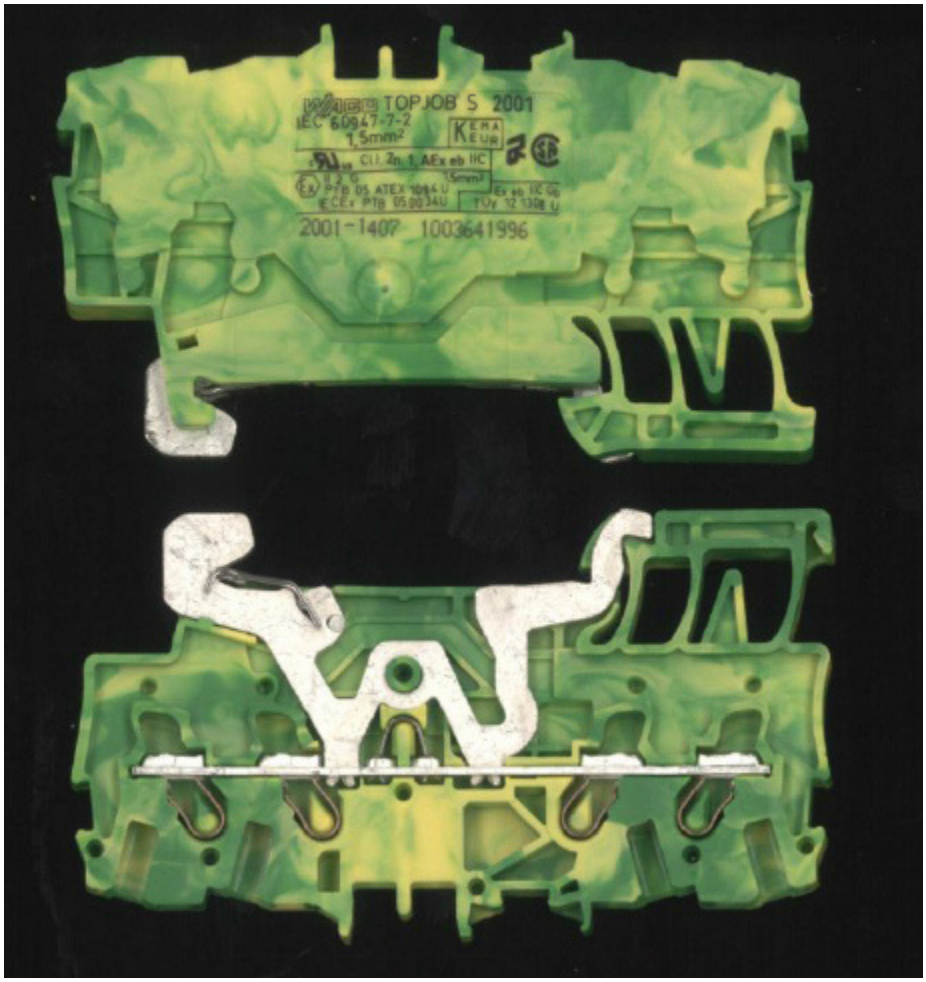
Clause	Requirement – Test	Result - Remark	Verdict
	Subclause 8.4 of IEC 60947-1 applies with the following addition		**N/A**
8.6.1	Immunity		
	Terminal blocks within the scope of this standard are not sensitive of electromagnetic disturbances and therefore no immunity tests are necessary.		**N/A**
8.6.2	Emission		
	Terminal blocks within the scope of this standard do not generate electromagnetic disturbances and therefore no emission tests are necessary.		**N/A**

IEC 60947-7-2			
Clause	Requirement – Test	Result - Remark	Verdict

8.4.3	**TABLE: Dielectric Strength**		
Test voltage applied between:		**Test potential applied (V)**	**Breakdown / flashover (Yes/No)**
Between terminal blocks		**2000 V**	**No**
Supplementary information:			

8.4.5	**TABLE: Heating Test**		
	Test voltage (V):		—
	Ambient (^{o}C):.....		—

Thermocouple Locations	max. temperature measured, (^{o}C)	max. temperature limit, (^{o}C)
Supplementary information:		


TOPJOB S 2001
IEC 60947-7-2
1.5mm²
2001-1407 1003641996

Product data

product	:	terminal block for copper conductors
trade name(s)	:	WAGO
type(s)	:	TOPJOB S 2001
material	:	thermoplastic material.
rated cross-section	:	1,5 mm² / 2,5 mm²
rated connecting capacity	:	0,2 mm² - 2,5 mm² rigid and flexible
method of mounting	:	top hat rail 35 mm
type	:	2001-1207
desciption	:	two conductor earth terminal block, with screwless-type terminals, 1-pole
type	:	2001-1307
description	:	three conductor earth terminal block, with screwless-type terminals, 1-pole
type	:	2001-1407
description	:	four conductor earth terminal block, with screwless-type terminals, 1-pole

ETICS OD ECS 040-1 January 2019	Responsible CB DEKRA

TEST REPORT SUMMARY

Report Number ..... :	**2266648.58**
Date of issue ..... :	**2023-01-09**
Tested by (name, function, signature):	**B. Veenvliet** (Technician Industrial Safety)
Witnessed by (name, function, signature):	
Approved by (name, function, signature):	**F. Fu** (Project Manager Industrial Safety)
Supervised by (name, function, signature):	

Testing Laboratory ..... :	**DEKRA Certification B.V.**
Address ..... :	**Meander 1051, 6825 MJ Arnhem, The Netherlands**
Testing procedure ..... :	☐ ENEC ☒ CCA NTR
	☐ ENEC based on IECEE CBTC with number: …….
Customer Testing Procedure..... :	☐ TMP/CTF Stage 1 ☐ WMT/CTF Stage 2 ☐ SMT/CTF Stage 3
Applicant ..... :	**WAGO GmbH & Co. KG**
Address ..... :	**Hansastrasse 27, 32423 Minden/Westfalen, Germany**
Manufacturer ..... :	**WAGO GmbH & Co. KG**
Address ..... :	**Hansastrasse 27, 32423 Minden/Westfalen, Germany**
Product ..... :	**Protective conductor terminal block for copper conductors**
Model/Type reference ..... :	**TOPJOB S 2001**
Trademark ..... :	WAGO
Ratings ..... :	**1,5 mm² or 2,5 mm²**
Certification Scheme ..... :	☐ ENEC ☒ CCA ☐ Other: _____
Standard(s) ..... :	**EN 60947-7-2: 2009, in conjunction with EN 60947-1: 2007 + A1:2012 + A2:2014**

☒ The text of the a.m. European Standard was approved by CENELEC is equivalent with the corresponding IEC Publication.

☐ The text of the a.m. European Standard was approved by CENELEC with agreed common modifications and is not equivalent with the corresponding IEC Publication. An EU Deviation Addendum has to be issued.

This EN test report consists of the following parts:

☒ IEC Test Report Number..... :	**2266648.58**
☐ EU Deviation Addendum..... :	

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