

IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION **IEC Certification System for Explosive Atmospheres**

for rules and details of the IECEx Scheme visit www.iecex.com

EX COMPONENT CERTIFICATE

Certificate No.: **IECEx KEM 06.0027U** Page 1 of 4 Certificate history:

Issue 8 (2021-07-29) Status: Current Issue No: 9 Issue 7 (2020-02-27) Issue 6 (2018-03-08)

2023-08-28 Date of Issue: Issue 5 (2013-12-20) Issue 4 (2012-11-30) Phoenix Contact GmbH & Co. KG Applicant:

Issue 3 (2009-07-10) Flachsmarktstraße 8 Issue 2 (2007-06-01) Blomberg 32825 Issue 1 (2007-05-07) Germany

Terminal Blocks UT 2,5; UT 4; UT 4-MTD; UT 6; UT 10; UT 10 SL: UT 16; UT 35; UT 35 IB, Protective Conductor Ex Component:

Terminal Blocks UT 2,5-PE; UT 4-PE; UT 4 MTD-PE; UT 4-MTD-PE; UT 6-PE; UT 10-PE; UT 16-PE; UT 35-PE; UT

35-PE IB and Pick-off Terminal Blocks AGK 4-UT 10; AGK 4-UT 16; AGK 4-UT 35

This component is NOT intended to be used alone and requires additional consideration when incorporated into other equipment or systems for use in explosive atmospheres (refer to IEC 60079-0).

Type of Protection: Increased safety

Ex eb IIC Gb Marking:

Approved for issue on behalf of the IECEx R. Schuller

Certification Body:

Position: **Certification Manager**

Signature:

(for printed version)

2023-08-28

(for printed version)

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Phoenix Contact GmbH & Co. KG Manufacturer:

> Flachsmarktstraße 8 Blomberg 32825 Germany

Manufacturing locations:

Phoenix Contact GmbH & Co. KG

Flachsmarktstraße 8 Blomberg 32825

Germany

Nanjing PHOENIX CONTACT Ltd. and PHOENIX CONTACT Asia-Pacific (Nanjing) Co. Ltd. 36 Phoenix Road, Jiangning

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Nanjing, 211100, Jiangsu Province

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India

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS:

The component and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017

Explosive atmospheres - Part 0: Equipment - General requirements

Edition:7.0

IEC 60079-7:2017

Edition:5.1

Explosive atmospheres - Part 7: Equipment protection by increased safety "e"

This Certificate does not indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:

A sample(s) of the component listed has successfully met the examination and test requirements as recorded in:

Test Reports:

NL/DEK/ExTR21.0026/00 NL/KEM/ExTR07.0033/07

Quality Assessment Reports:

NL/DEK/QAR11.0009/09 NL/DEK/QAR11.0010/07 NL/DEK/QAR11.0011/07



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Ex Component(s) covered by this certificate is described below:

Terminal Blocks (all colors) UT 2,5; UT 4; UT 4-MTD; UT 6; UT 10; UT 10 SL; UT 16; UT 35; UT 35 IB, Protective Conductor Terminal Blocks UT 2,5-PE; UT 4-PE; UT 4-MTD-PE; UT 4-MTD-PE; UT 10-PE; UT 10-PE; UT 10-PE; UT 10-PE; UT 35-PE IB and accessories are intended for the connection of copper conductors in enclosures fulfilling the degree of protection which is required by the applied type of protection for the end-application. The Terminal Blocks and Protective Conductor Terminal Blocks are intended for installation on mounting rails type NS 35 according to IEC 60715 Section TH 35.

The Pick-off Terminal Blocks AGK 4-UT 10; AGK 4-UT 16 and AGK 4-UT 35 are to be used in combination with the associated Terminal Blocks UT 10 (SL); UT 16; UT 35 (IB).

Operating temperature range -60 °C to +110 °C.

For electrical data and nomenclature see Annex 1.

SCHEDULE OF LIMITATIONS:

- 1. The Terminal Blocks, the Protective Conductor Terminal Blocks and the Pick-off Terminal Blocks shall be mounted in a certified enclosure that meets the requirements of a type of protection as specified in IEC 60079-0 clause 1, with a degree of protection at least as required for Ex e.
- When assembling with other certified series and sizes and using the associated accessories, the required creepage distances and clearances have to be observed.
- 3. The installation instruction of the manufacturer shall be followed e.g. for the use of cover, jumpers, end brackets. The data regarding current and associated temperature rise shall be used as guideline for the given conductor cross sections. The cross section has influence on the temperature rise which shall be assessed in the end application.
- 4. If the Terminal Blocks and Pick-off Terminal Blocks are used in electrical equipment of temperature classes T1 up to T5, the highest temperature of the insulating material shall not exceed the maximum value of the operating temperature range.
- 5. If the Terminal Blocks and Pick-off Terminal Blocks are used in electrical equipment of temperature classes T6 the permissible ambient temperature range is -60 °C < Tamb < +40 °C.
- 6. The electrical data per Annex 1 applies.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Addition of the rated voltage for bridging between non-adjacent terminal blocks.
Minor corrections.

Annex:

 $226295800\hbox{-}ExTR07.0033.07\hbox{-}Annex1.pdf$



Electrical data

Note 1: in this document [,] is used as decimal separator.

All values are values of terminal blocks without bridges, unless indicated otherwise.

Terminal Blocks

Type:	UT 2,5	UT 4
Rated insulation voltage [V]	630	630
Rated voltage [V]	690	690
Rated voltage with plug-in bridge type FBS		
- at bridging between adjacent terminal blocks [V]	690	690
- at bridging between non-adjacent terminal blocks [V]	352	352
 with plug-in bridge via PE terminal block [V] 	275	275
 with cut-to-length bridge and cover type D [V] 	220	220
- with cut-to-length bridge and partition plate type ATP [V]	275	275
Rated current [A]	21	30
- with plug-in bridge type FBS [A]	21	27
Maximum load current [A]	28	38
Temperature rise [K]	40 K (23,3 A; 2,5 mm ²)	40 K (33,3 A; 4 mm ²)
Contact resistance [mΩ]	0,41	0,26
Rated cross section [mm²] (AWG)	2,5 (14)	4 (12)
Connectable conductor cross section		
- rigid [mm²] (AWG)	0,14 - 4 (26-12)	0,14 - 6 (26-10)
- flexible [mm²] (AWG)	0,14 - 2,5 (26-14)	0,14 - 4 (26-12)
Multiple conductor connection		
(2 conductors with the same cross section)		
- rigid [mm²] (AWG)	0,14 - 1,5 (26-16)	0,14 - 1,5 (26-16)
- flexible [mm²] (AWG)	0,14 - 1,5 (26-16)	0,14 - 1,5 (26-16)



Type:	UT 4-MTD	UT 6
Rated insulation voltage [V]	630	630
Rated voltage [V]	690	690
Rated voltage with plug-in bridge type FBS		
- at bridging between adjacent terminal blocks [V]	690	690
- at bridging between non-adjacent terminal blocks [V]	352	275
- at bridging via PE terminal block [V]	275	176
- at bridging via PE/S terminal block [V]	176	-
- with cut to length bridge and cover type D [V]	220	220
- with cut to length bridge and partition plate type ATP [V]	275	275
Rated current [A]	29	40
- with plug-in bridge type FBS [A]	29	39
Maximum load current [A]	36	50
Temperature rise [K]	40 K (32,0 A; 4 mm ²)	40 K (44,9 A; 6 mm²)
Contact resistance [mΩ]	0,32	0,20
Rated cross section [mm²] (AWG)	4 (12)	6 (10)
Connectable conductor cross section		
- rigid [mm²] (AWG)	0,14 - 6 (26-10)	0,2 - 10 (24-8)
- flexible [mm²] (AWG)	0,14 - 4 (26-12)	0,2 - 6 (24-10)
Multiple conductor connection	, ,	,
(2 conductors with the same cross section)		
- rigid [mm²] (AWG)	0,14 - 1,5 (26-16)	0,2 - 2,5 (24-14)
- flexible [mm²] (AWG)	0,14 - 1,5 (26-16)	
Type:	UT 10 (SL)	UT 16
Rated insulation voltage [V]	630	630
Rated voltage [V]	690	690
- with plug-in bridge type FBS [V]	690	690
Rated current [A]	54	73,5
- with plug-in bridge type FBS [A]	54	73,5
Maximum load current [A]	69	89.5
Temperature rise [K]		40 K (80,5 A; 16 mm ²)
Contact resistance [m Ω]	0,16	0,16
Rated cross [mm²] (AWG)	10 (8)	16 (6)
Connectable conductor cross section	()	()
- rigid [mm²] (AWG)	0,5 - 16 (20-6)	1,5 - 25 (16-4)
- flexible [mm²] (AWG)	0,5 - 10 (20-8)	1,5 - 16 (16-6)
Multiple conductor connection	-,- ()	., ()
(2 conductors with the same cross section)		
- rigid [mm²] (AWG)	0,5 - 4 (20-12)	1,0 - 6 (18-10)
- flexible [mm²] (AWG)	0,5 - 4 (20-12)	1,0 - 4 (18-12)
	· (20 · 2)	., ()

- flexible [mm²] (AWG)



Туре:	UT 35 (IB)	
Rated insulation voltage [V]	630	
Rated voltage [V]	690	
with plug-in bridge type FBS [V]	690	
Rated current [A]	123	
- with plug-in bridge type FBS [A]	98,5	
Maximum load current [A]	129	
Temperature rise [K]	40 K (133,6 A; 35 mm²)	
Contact resistance [mΩ]	0,08	
Rated cross section [mm²] (AWG)	35 (2)	
Connectable conductor cross section	` ,	
- rigid [mm²] (AWG)	1,5 - 50 (16-1/0)	
- flexible [mm²] (AWG)	1,5 - 35 (16-2)	
Multiple conductor connection	, , ,	
(2 conductors with the same cross section)		
- rigid [mm²] (AWG)	1,5 - 16 (16-6)	
- flexible[mm²] (AWG)	1,5 - 10 (16-8)	
nombie[min] (m e)	1,0 10 (10 0)	
Protective Conductor Terminal Blocks		
Type:	UT 2,5-PE	UT 4-PE
Rated cross section [mm²] (AWG)	2,5 (14)	4 (12)
Connectable conductor cross section	_,- (,	- (/
- rigid [mm²] (AWG)	0,14 - 4 (26-12)	0,14 - 6 (26-10)
- flexible [mm²] (AWG)	0,14 - 2,5 (26-14)	,
	2,, . (_2)	5, (=5 .=)
Type:	UT 4-MTD-PE	UT 4-MTD-PE/S
Rated cross section [mm²] (AWG)	4 (12)	4 (12)
Connectable conductor cross section	` ,	,
- rigid [mm²] (AWG)	0,14 - 6 (26-10)	0,14 - 6 (26-10)
- flexible [mm²] (AWG)	0,14 - 4 (26-12)	0,14 - 4 (26-12)
	(== -,	-, (
Type:	UT 6-PE	UT 10-PE
Rated cross section [mm²] (AWG)	6 (10)	10 (8)
Connectable conductor cross section	,	()
- rigid [mm²] (AWG)	0,2 - 10 (24-8)	0,5 - 16 (20-6)
- flexible [mm²] (AWG)	0,2 - 6 (24-10)	0,5 - 10 (20-8)
	-, (2)	2,2 .3 (20 0)
Туре:	UT 16-PE	UT 35-PE (IB)
Rated cross section [mm²] (AWG)	16 (6)	35 (2)
Connectable conductor cross section	(-,	\- /
- rigid [mm²] (AWG)	1,5 - 25 (16-4)	1,5 - 35 (16-2)
(I 'I I I 27 (ANA)O)	4.5 40 (40.0)	1,5 05 (10 2)

1,5 - 16 (16-6) 1,5 - 35 (16-2)



Pick-off Terminal Blocks

Type:	AGK 4-UT 10	AGK 4-UT 16
Rated insulation voltage [V]	400	630
Rated voltage [V]	440	690
Rated current [A]	32	32
Maximum load current [A]	41	41
Temperature rise [K]	40 K (34,0 A; 4 mm²)	40 K (36,0 A; 4 mm ²)
Contact resistance $[m\Omega]$	0,42	0,43
Rated cross section [mm²] (AWG)	4 (12)	4 (12)
Connectable conductor cross section		
- rigid [mm²] (AWG)	0,14 - 6 (26-10)	0,14 - 6 (26-10)
- flexible [mm²] (AWG)	0,14 - 4 (26-12)	0,14 - 4 (26-12)
Multiple conductor connection		
(2 conductors with the same cross section)		
- rigid [mm²] (AWG)	0,14 - 1,5 (26-16)	0,14 - 1,5 (26-16)
- flexible [mm²] (AWG)	0,14 - 1,5 (26-16)	0,14 - 1,5 (26-16)
Type:	AGK 4-UT 35	
Rated insulation voltage [V]	630	
Rated voltage [V]	690	
Rated current [A]	32	
Maximum load current [A]	41	
Temperature rise [K]	40 K (40,0 A; 4 mm²)	
Contact resistance $[m\Omega]$	0,43	
Rated cross section [mm²] (AWG)	4 (12)	
Connectable conductor cross section		
- rigid [mm²] (AWG)	0,14 - 6 (26-10)	
- flexible [mm²] (AWG)	0,14 - 4 (26-12)	
Multiple conductor connection		
(2 conductors with the same cross section)		
- rigid [mm²] (AWG)	0,14 - 1,5 (26-16)	
- flexible [mm²] (AWG)	0,14 - 1,5 (26-16)	



Nomenclature

Terminal Blocks

<u>UT</u> <u>-MTD</u> ı Ш Ш

Designation	Explanation	Value	Explanation
1	Type indicator	UT	Universal Terminal block with screw connection
		2,5	2,5 mm², 14 AWG
		4	4 mm², 12 AWG
111	II Detect once a setten	6	6 mm², 10 AWG
II Rated cross se	Rated cross section	10	10 mm², 8 AWG
		16	16 mm², 6 AWG
		35	35 mm², 2 AWG
		None	-
	Options	-MTD	No disconnection function (only UT 4)
III		IB	InBus screw connection (only UT 35)
		SL	Six-Lobe screw (only UT 10)

Protective Conductor Terminal Blocks

<u>UT</u> -<u>MTD-</u> <u>PE</u> / <u>S</u> 1 Ш Ш IV

Designation	Explanation	Value	Explanation
I	Type indicator	UT	Universal Terminal block with screw connection
II	Rated cross section	2,5 4 6 10 16 35	2,5 mm ² , 14 AWG 4 mm ² , 12 AWG 6 mm ² , 10 AWG 10 mm ² , 8 AWG 16 mm ² , 6 AWG 35 mm ² , 2 AWG
III	Option	- -MTD-	None No disconnection function (only UT 4)
IV	Terminal block	PE PE/S PE IB	Protective Earth, green-yellow colour, with a spring for mounting rail contact Protective Earth, green-yellow colour, with a screwed clamp for mounting rail contact (only UT 4-MTD) Protective Earth, green-yellow colour, with a spring for mounting rail contact and InBus screw connection (only UT 35)



Pick-off Terminal Blocks

<u>AGK</u>	*	-	<u>UT</u>	-	<u>*</u>
I	II		Ш		IV

Designation	Explanation	Value	Explanation
I	Type indicator	AGK	Pick-off terminal block with screw connection
II	Rated cross section	4	4 mm ² , 12 AWG
III	Type indicator associated terminal block	UT	Type indicator associated <u>U</u> niversal <u>T</u> erminal block
IV	Rated cross section associated terminal block	10 16 35	10 mm², 8 AWG 16 mm², 6 AWG 35 mm², 2 AWG

Plug-in bridge FBS

Designation	Explanation	Value	Explanation
1	Type indicator	FBS	Plug-in-bridge
			Amount of contacts;
		2	2 contacts (for all series)
		3	3 contacts (for UT 2,5; UT 4; UT 6)
l II	Number of positions	4	4 contacts (for UT 2,5; UT 4; UT 6)
		5	5 contacts (for UT 2,5; UT 4; UT 6)
		10	10 contacts (for UT 2,5; UT 4; UT 6)
		20	20 contacts (for UT 2,5; UT 4)
		5	5,2 mm (for UT 2,5)
		6	6,2 mm (for UT 4)
	Pitch between electrical	8	8,2 mm (for UT 6)
III	contacts	10	10,2 mm (for UT 10)
		12	12 mm (for UT 16)
		16	16 mm (for UT 35)