

# CERTIFICATE OF COMPLIANCE

**Certificate Number** 20190129- E45172  
**Report Reference** E45172-19850820  
**Issue Date** 2019-January-29

**Issued to:** WAGO Kontakttechnik GmbH & Co. KG  
Hansastrasse 27  
32423 Minden GERMANY

**This certificate confirms that  
representative samples of** COMPONENT - TERMINAL BLOCKS  
SEE ADDENDUM PAGE FOR MODELS

Have been investigated by UL in accordance with the component requirements in the Standard(s) indicated on this Certificate. UL Recognized components are incomplete in certain constructional features or restricted in performance capabilities and are intended for installation in complete equipment submitted for investigation to UL LLC.

**Standard(s) for Safety:** UL1059- Terminal Blocks  
C22.2 No. 158- Terminal Blocks

**Additional Information:** See the UL Online Certifications Directory at  
<https://iq.ulprospector.com> for additional information.

This *Certificate of Compliance* does not provide authorization to apply the UL Recognized Component Mark.

Only those products bearing the UL Recognized Component Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Recognized Component Mark on the product.



Bruce Mahrenholz, Director North American Certification Program  
UL LLC

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**Report Reference** E45172-19850820  
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This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

USR: Component Terminal Blocks, Type 280 with Suffixes 601, 602, 603, 604, 606, 610, 612, 616, 621, -631, 633, 634, 646, 647, -649, -650, 653, 656, 657, -661, -662, 671, 672, 676, 681, 683, 684, 685, -686, 691, 695, 699, -805, -829, 830, 831, 832, 833, 834, 835, -836, -839, 868, 869, 870, 871, 874, 875, 876, -877, 879, 880, 881, 882, 883, 884, 885, -886, 901, 902, 903, 904, 905, 906, 912, 916, 920, 921, 922, 930, 931, 932, -946, 990, 991, 992, 993, 994, 996, 999, may be followed by suffixes /000-002, /000-004, /000-005, /000-012, /000-017, /000-050, /030-000, /031-000 or /032-000.

USR: Type 281 with Suffixes -531, -532, 610, 619, 620, 629, 630, 631, 651, 652, 653, 654, 655, 656, 659, 660, -661, 663, 664, 668, 678, 679, 681, 683, 684, 685, 686, 693, 695, 912, 916, -917, 993, 994, 998.

Type 284 with Suffixes 101, 102, 104, 105, 191, 621 or 624.

USR, CNR: Component Terminal Blocks, Type 281 with Suffix -530.

USR, CNR: Type 880 with Suffixes 661, 662, 664, 681, 682, 684, -831, -832, -834, -861, -862, -864, 901, 902, 904, 961, 962, 964, with or without suffix no. /999-940

USR, CNR: Protective conductor terminal blocks, Cat. Nos. 880-687, -837, -907, with or without suffix no. /999-940.



Bruce Mahrenholz, Director North American Certification Program  
UL LLC

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File E45172  
Project 85ME774

August 20, 1985

REPORT

on

COMPONENT - TERMINAL BLOCKS

Wago Kontakttechnik GmbH  
Minden/Westf, Fed. Rep. of Germany

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## DESCRIPTION

## PRODUCT COVERED:

USR: Component Terminal Blocks, Type 280 with Suffixes -601, -602, -603, -604, -606, -610, -612, -616, -621, -631, -633, -634, -646, -647, -649, -650, -653, -656, -657, -661, -662, -671, -672, -676, -681, -683, -684, -685, -686, -691, -695, -699, -805, -829, -830, -831, -832, -833, -834, -835, -836, -839, -868, -869, -870, -871, -874, -875, -876, -877, -879, -880, -881, -882, -883, -884, -885, -886, -901, -902, -903, -904, -905, -906, -912, -916, -920, -921, -922, -930, -931, -932, -946, -990, -991, -992, -993, -994, -996, -999, may be followed by suffixes /000-002, /000-004, /000-005, /000-012, /000-017, /000-050, /030-000, /031-000 or /032-000.

USR: Type 281 with Suffixes -531, -532, -610, -619, -620, -629, -630, -631, -651, -652, -653, -654, -655, -656, -659, -660, -661, -663, -664, -668, -678, -679, -681, -683, -684, -685, -686, -693, -695, -912, -916, **-917**, -993, -994, -998.

Type 284 with Suffixes -101, -102, -104, -105, -191, -621 or -624.

USR, CNR: Component Terminal Blocks, Type 281 with Suffix -530.

USR, CNR: Type 880 with Suffixes -661, -662, -664, -681, -682, -684, -831, -832, -834, -861, -862, -864, -901, -902, -904, -961, -962, -964, with or without suffix no. /999-940

USR, CNR: Protective conductor terminal blocks, Cat. Nos. 880-687, -837, -907, with or without suffix no. /999-940.

Series 280, 281, may be provided with the following Suffix Nos. denoting light grey color, and are otherwise identical to the Suffix No. specified.

Cat./Suffix Nos. (Light Grey Body)	Same as Cat./Suffix No.
280-691	280-601
280-990	280-621
280-992	280-901
280-993	280-681
280-994	280-833
280-996	280-646
280-999	280-633
281-993	281-681
281-994	281-652
281-998	281-631

Series 280, 281, may be provided with the following Suffix Nos. denoting orange color, and are otherwise identical to the Suffix No. specified.

Cat./Suffix Nos. (Orange Body)	Same as Cat./Suffix No.
280-650	280-681
280-946	280-646
280-631	280-606
281-661	281-656

Series 280 may be provided with the following Suffix Nos. denoting red color, and are otherwise identical to the Suffix No. specified.

Cat./Suffix Nos. (Red Body)	Same as Cat./Suffix No.
280-661	280-646

Series 280 may be provided with the following Suffix Nos. denoting yellow color, and are otherwise identical to the Suffix No. specified.

Cat./Suffix Nos. (Yellow Body)	Same as Cat./Suffix No.
280-662	280-646

Series 880, may be provided with the following Suffix Nos. denoting blue or orange color, and are otherwise identical to the Suffix No. specified.

Cat./Suffix Nos. (Blue Body)	Cat./Suffix Nos. (Orange Body)	Same as Cat./Suffix No.
880-664	880-662	880-661
880-684	880-682	880-681
* 880-834	880-832	880-831
* 880-864	880-862	880-861
880-904	880-902	880-901
880-964	880-962	880-961

Series 880, may be provided with the following Suffix Nos. denoting with shield connection, and are otherwise identical to the Suffix No. specified.

Cat./Suffix Nos. (shield connection)	Same as Cat./Suffix No.
880-661	880-681
880-662	880-682
880-664	880-684
* 880-861	880-831
* 880-862	880-832
* 880-864	880-834
880-961	880-901
880-962	880-902
880-964	880-904

Series 284, may be provided with the following Suffix No. denoting blue color, and is otherwise identical to the Suffix No. specified.

Cat./Suffix No. (Blue Body)	Same as Cat./Suffix No.
284-624	284-621

## GENERAL CHARACTER AND USE:

The terminal blocks covered by this report are intended for use in the following applications and within the ratings specified.

USR - Indicates investigation to United States Standard, UL 1059, Third Edition.

CNR - Indicates investigation to Canadian National Standard, C22.2 No. 158-1987.

## Application -

Commercial appliance (such as business and EDP equipment, etc.)

General industrial (such as motor controllers, pushbutton stations, etc.)

Industrial control devices having limited ratings (see Par. 6.7 of the Standard)

## Terminal Type -

Front	Back
Cage Clamp Type (Wire Secured by Spring Type Action)	Cage Clamp Type (Wire Secured by Spring Type Action)
Pressure Wire Connectors	Cage Clamp Type (Wire Secured by Spring Type Action)

Type Wiring - Field and factory wiring. Terminal Blocks with suffix no. /999-940, Factory Wiring only.

Suffixes - Suffix /999-940 indicates, for use with prepared conductor.

RATINGS:

Type	Max Voltage V	Max Current A	Wire Range (AWG) Copper	Torque Nm
280 with Suffixes -601, -602, -603, -633, -634, -646, -647, -650, -653, -656, -657, -661, -662, -671, -672, -681, -684, -691, -699, -830, -831, -832, -833, -834, -835, -901, -902, -903, -905, -906, -904, -946, -991, -992, -993, -994, -996, -999	600	20	No. 28-12	-
280 with Suffixes -868, -869, -870, -871, -874, -875, -876, -877, -879, -880, -881, -882, -883, -884, -885, -886	600	15	No. 28-12	-
280 with Suffixes -606, -610, -616, -631, <b>-686</b> , -916	300#	10#	No. 28-12	-
280 with Suffixes -612, -649, -676, -683, -685, -695, -805, -829, -836, -839, -912, <b>-920</b> , <b>-921</b> , <b>-922</b> , <b>-930</b> , <b>-931</b> , <b>-932</b>	300	15	No. 28-12	-
280 with Suffix -604, -621, -990	300	15	No. 28-12	-

Note # - 6.3 A max, 250 V max when used with Fuse and Fused disconnect plug-in Cat. Nos. 281-501, 281-502, 281-511 or 281-512.

Similar Cat. Nos. -

280-830, -831, -832	Same as 280-833 except color
280-903, -905, -906	Same as 280-901 except color
280-653, -671, -672	Same as 280-681 except color
280-676, -695	Same as 280-685 except color and/or marking variation
280-805, -836, -839	Same as 280-685 except color and/or the position of disconnect
280-649	Same as 280-685 with integrated test slots
280-829	Same as 280-805 with integrated test slots
281-678, -679, -685, -686	Same as 281-681 except color
281-663, -664, -668	Same as 281-652 except color
280-686	Same as 280-685 expect no separating plug
280-877	Same as 280-871 except blue color
280-886	Same as 280-875 except blue color



Similar Cat. Nos. - cont'd

New Cat. No.	Difference between the models
281-512	Similar to 281-511, except a hole for one LED
281-512/281-413	Similar to 281-511, except LED indicator, 24 Vdc
281-512/281-414	Similar to 281-511, except LED indicator, 48 Vdc
281-512/281-501	Similar to 281-511, except LED indicator, 24 Vac/dc
281-512/281-977	Similar to 281-512/281-413, except different resistor
281-512/281-417	Similar to 281-511, except neon lamp indicator, 230 Vac/dc
281-512/281-418	Similar to 281-511, except neon lamp indicator, 120 Vac/dc
281-512/281-416	Similar to 281-511, except neon lamp indicator, 30-65 Vac/dc
281-502/281-413	Similar to 281-501, except LED indicator, 24 Vdc
281-502/281-429	Similar to 281-501, except LED indicator, 12 Vdc
281-502/281-417	Similar to 281-501, except neon lamp indicator, 230 Vac/dc

Series 280 may be followed by additional suffix /0XX-0XX denoting color:

<u>Cat./Suffix Nos.</u>	<u>Component and color</u>
.../000-002	Housing color: Yellow
.../000-004	Housing color: Black
.../000-005	Housing color: Red
.../000-012	Housing color: Orange
.../000-017	Housing color: Light green
.../000-050	Housing color: White
.../030-000	Knife retainer color: Red
.../031-000	Knife retainer color: Yellow
.../032-000	Knife retainer color: Green

Type	Max Voltage V	Max Current A	Wire Range (AWG) Copper	Torque Nm
281 with Suffixes -683, -659, -660	300	15	No. 28-12	-
281 with Suffix -912	300	15	No. 28-12	-
281 with Suffixes -530, -531, -532, -619, -620, -629, -630, -631, -651, -652, -653, -654, -655, -661, -663, -664, -668, -678, -679, -681, -684, -685, -686, -693, -695, -993, -994, -998	600	20	No. 28-12	-
281 with Suffixes -610, -616, -656, -916, <b>-917</b>	300#	10#	No. 28-12	-
284 with Suffixes -101, -102, -104, -105, -191	600	50	No. 24-8	-
284 with Suffixes -621, -624	600	115@	No. 24-2@	3.5
880 with Suffixes -661, -662, -664, -861, -862, -864, -961, -962, -964 with or without suffix no. /999-940	300	20	No. 28-12	-
880 with Suffixes -681, -682, -684, -831, -832, -834, -901, -902, -904 with or without suffix no. /999-940	600	20	No. 28-12	-
880 with Suffixes -687, -837, -907 with or without suffix no. /999-940	-	-	No. 28-12	-

Note - ## 10 A, 250A is allowable when used with Dummy Fuse, 6.3 A max, 250 V max when used with Fuse.

Note - @ Max. 115 A and 10-2 AWG for the Pressure Wire Connectors and max. 50 A and 24-8 AWG for the Cage Clamp Terminals.

The following terminal block models have optional 3-phase short circuit current rating evaluated for use with copper conductors only. The terminal blocks must be protected by the max ampere and class of overcurrent protective device noted below.

Cat. No.	Suitable Conductors kcmil/AWG		Overcurrent Protection Fuse Required Class/Max Amp Rating						SCCR, RMS Sym, kA	Volts Max
	Line	Load	J	T	RK1	RK5	G	CC		
280-601 280-602 280-603 280-604 280-621 280-633 280-634 280-646 280-650 280-653 280-656 280-671 280-672 280-681 280-684 280-691 280-830 280-831 280-832 280-833 280-834 280-835 280-901 280-902 280-903 280-904 280-905 280-906 280-946 280-990 280-992 280-993 280-994 280-996 280-999 281-631 281-651 281-652 281-653 281-654 281-663 281-664 281-668 281-678 281-679 281-681 281-684 281-685 281-686 281-993 281-994 281-998	14-12 AWG	14-12 AWG	100	100	60	30	60	30	100	600
284-621	2 AWG	(1) 12 w/ (2) 8	200	200	100	30	60	30	100	600
<b>281-530, 281-531, 281-532, 281-619, 281-620, 281-629, 281-630</b>	<b>14-12 AWG</b>	<b>14-12 AWG</b>	<b>60</b>	<b>60</b>	<b>-</b>	<b>-</b>	<b>50</b>	<b>30</b>	<b>100</b>	<b>600</b>

Table (continued)

Cat. No.	Suitable Conductors kcmil/AWG		Overcurrent Protection Fuse Required Class/Max Amp Rating						SCCR, RMS Sym, kA	Volts Max
	Line	Load	J	T	RK1	RK5	G	CC		
280-868, 280-869, 280-870, 280-871, 280-874, 280-875, 280-876, <b>280-877,</b> 280-879, 280-880, 280-881, 280-882, 280-883, 280-884, 280-885, <b>280-886</b>	14-12 AWG	14-12 AWG	30	30	-	-	30	30	100	600

## ENGINEERING CONSIDERATIONS (NOT FOR UL REPRESENTATIVE'S USE):

Use - For use only in or with products where the acceptability of the combination is determined by Underwriters Laboratories Inc.

## Conditions of Acceptability -

1. The mounting suitability shall be determined in the end-use. It shall be such to prevent turning.
2. The Types 280, 281, 284 and 880 with cage clamp terminals and Cat. Nos. 284-621, -624 with pressure wire connectors and cage clamp terminals are for field or factory wiring and the suitability of the connection shall be determined in the end-use.
3. The cage clamp terminals are suitable for use with stranded or solid copper conductors of the sizes specified.
4. Insulating Material - R/C Plastic (QMFZ2). Refer to Sec. Gen. for manufacturer and type. The use of these materials shall be judged in the end-use application. These materials may be used interchangeably at 105°C.
5. These terminals may be suitable for other than industrial applications provided that spacings, insulation, heat rise, etc. are acceptable in the end use.
6. Accessories: The manufacturer may provide marking strips, test plug adapters, shorting bus, slack mount hardware etc., the suitability of which shall be determined in the end use.
7. The disconnect type terminal blocks have not been investigated for current rupturing.
8. Cat. Nos. 280-606, -610, -616, -631, -656, -916 and 281-610, -656, 616, -916, **-917** may be used with fused disconnect plug-in Cat. nos. 281-501, 281-502, 281-511 and 281-512. The fused disconnect is used with either 5 by 20 mm or 5 by 25 mm fuses, or a dummy fuse. The suitability of fuses shall be determined in the end-use equipment.

\* 9. Fuse disconnect plug-in assembly **Cat. nos. 281-501, 281-511** may optionally be provided with Neon or LED and associated electrical components, the suitability of which has not been investigated. These optional components shall be investigated in the end-use equipment.

10. The grounding type terminals comply with Short Time Current requirements in UL 467, Standard for Grounding and Bonding Equipment, Seventh Edition.

11. The shield connection complies with the dimensions for Quick Connect Tabs (Size 6.3 mm x 0.8 mm and size 2.8 mm x 0.8 mm) in UL 310, Standard for Electrical Quick-Connect Terminals, Sixth Edition.

12. The shield connection is for factory **wiring** only and the suitability shall be determined in the end-use.

13. Terminals Blocks with suffix no. /999-940 is for use with prepared conductors, factory **wiring** only and the suitability shall be determined in the end-use.

14. The terminal block short-circuit rating on Cat. Nos. 280-601, 280-602, 280-603, 280-604, 280-621, 280-633, 280-634, 280-646, 280-650, 280-653, 280-656, 280-671, 280-672, 280-681, 280-684, 280-691, 280-830, 280-831, 280-832, 280-833, 280-834, 280-835, 280-901, 280-902, 280-903, 280-904, 280-905, 280-906, 280-946, 280-990, 280-992, 280-993, 280-994, 280-996, 280-999, 281-631, 281-651, 281-652, 281-653, 281-654, 281-663, 281-664, 281-668, 281-678, 281-679, 281-681, 281-684, 281-685, 281-686, 281-993, 281-994, 281-998 and 284-621 were determined based on testing in a minimum size enclosure measuring 12 x 10 x 8.25 inches. The suitability of smaller enclosures shall be determined in the end-use investigation.

15. The terminal block short-circuit rating on Cat. Nos. 281-530, 281-619, 281-629, 281-620, 281-630, 281-530, 281-531, 281-532, 280-870, 280-868, 280-876, 280-879, 280-871, 280-869, 280-880, 280-874, 280-881, 280-885, 280-883, 280-875, 280-882 and 280-884 were determined based on testing in a minimum size enclosure measuring 12 x 10 x 8.25 inches. The suitability of smaller enclosures shall be determined in the end-use investigation.

16. The Protective Conductor Terminal Blocks, Cat. Nos. 880-687, -837, -907 with or without suffix no. /999-940 and 281-530 covered by this report comply with Short Time Current Sequence requirements (clause 50) in UL1059 Standard for Terminal Block, Fourth Edition, revised December 15, 2006. These grounding terminals are intended for use with the specified DIN mounting rails (Width by Height by Thick / Material type):

- ~ 35 by 7.5 by 1.0mm / Plated Steel
- ~ 35 by 15 by 1.5mm / Plated Steel
- ~ 35 by 15 by 2.3mm / Plated Steel
- ~ 35 by 15 by 2.3mm / Copper
- ~ 35 by 7.5 by 1.5mm / Aluminum.

17. Fused disconnect plug-in Cat. nos. 281-501, 281-502, 281-511 and 281-512 may be assembled with electronic components, like LED's, neon lamps, resistors, etc. The suitability of these components shall be determined in the end use equipment.

18. These devices or their single modules may be combined to the strips designated as part number **www-xxxx / yyyy-zzzz**, where **www** is the series (e.g. 0280 or 280) followed by optional suffix **-xxxx / yyyy-zzzz** where **x**, **y** and **z** are any customer number or digit (including characters), given for a specific end-use purpose.