

SIEMENSPrüf-Nr./Q-Nr.: SC IC 07/03
Certificate no.:Dienststelle: I IA SC IC
Department:Ort: Karlsruhe Datum 19.02.2009
Place: Date:Anlagen: 1 Data sheet
Enclosures: 11 Type test sheets

Prüfbescheinigung / Test Certificate

Erzeugnis / Product:

Typ: SIMATIC NET	Auftrags-Nr.: ---	Hersteller: SIEMENS AG
Type: SCALANCE X204-2	Internal order no.:	Manufacturer: I IA AS EWK
SCALANCE X204-2LD	Kunden-Nr.: ---	Kunde / Kennwort: ---
SCALANCE X206-1	Customer's ref. no.:	Customer / Order code:
SCALANCE X206-1LD	Technische Daten: See	
SCALANCE X208	Specifications: enclosure	

Art der Prüfung / Type of test:

Typprüfung / Type test

Prüfer / Tested Various
by:

Prüf-Datum / Date of test: 02/2007

Prüfart / Test site: Karlsruhe

Verwendete Prüfeinrichtung / Test equipment: I IA SE DE EMC

Angewandte Prüfbestimmungen / Test specifications applied:

IEC 68 = EN 60068

CISPR11 = EN 55011 = DIN VDE 0875, T11

IEC 1000-4 = EN 61000-4

EN 50081-2

IEC 1131-2 = DIN EN 61131-2

EN 50082-2

Durchgeführte Prüfungen / Tests conducted:**Environmental:**

1. Cold, operation
2. Cold, storage
3. Dry heat, operation
4. Dry heat, storage
5. Damp heat, operation
6. Damp heat, storage
7. Temperature change, storage
8. Damp heat, cyclic, storage

EMC:

9. Immunity, burst
10. Immunity, surge
11. Electrostatic discharge
12. Radiated immunity
13. Conducted immunity
14. Radio interference suppression

Mechanical:

15. Vibration test, operation
16. Vibration test, transport
17. Shock resistance, operation
18. Shock resistance, transport
19. Fall test packaged
20. FCC Part 15 Class B

Reliability:

21. MTBF calculation

Prüfergebnis / Test results:

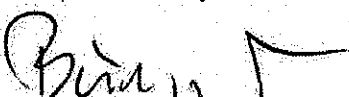
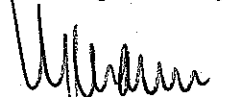
The requirements of the test specifications used have been met. For details of the tests refer to the enclosures.

Bemerkungen / Remarks:

This test certificate applies to all modules listed in the enclosed data sheet.

Geprüft / Tested by:

Gegenzeichnung / Released by:


(Bürger, I IA SC IC RD)
(Wegmann, I IA SC IC)

Datenblatt / Data Sheet

Dienststelle: Department: I IA SC IC Datum: 19.02.2009 Date:	Hersteller: Manufacturer: I IA AS EWK	Seite: 1 von 1 Page: of Beiblätter: 0 Supplements:	Prüf-Nr./Q-Nr.: Certificate no.: SC IC 07/03	Technische Daten für: Specifications of : SIMATIC NET SCALANCE X204-2 SCALANCE X204-2LD SCALANCE X206-1 SCALANCE X206-1LD SCALANCE X208
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Designation	MLFB no/item number	Data
SCALANCE X204-2	6GK5204-2BB10-2AA3	MTBF = 30 years / 40 °C
SCALANCE X204-2LD	6GK5204-2BC10-2AA3	MTBF = 30 years / 40 °C
SCALANCE X206-1	6GK5204-2BB10-2AA3	MTBF = 40 years / 40 °C
SCALANCE X206-1LD	6GK5206-1BC10-2AA3	MTBF = 40 years / 40 °C
SCALANCE X208	6GK5208-0BA10-2AA3	MTBF = 80 years / 40 °C

Typprüfblatt / Type Test Certificate

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Prüfung-Nr./ Test no.: 1

Art der Prüfung /Type of test:
Cold, operation
to IEC 600068-2-1 (1990-04)

Anforderung / Requirements:
Operability test
- ambient temperature: -25°C
- duration of test: 16 h

Prüfergebnis / Result:
No objections

Bemerkungen / Remarks:
None

Prüfung-Nr. / Test no.: 2

Art der Prüfung /Type of test:
Cold, storage
to IEC 600068-2-1 (1990-04)

Anforderung / Requirements:
Test of long-term resilience of materials used
- ambient temperature: -40 °C
- duration of test: 16 h

Prüfergebnis / Result:
No objections

Bemerkungen / Remarks:
None

Typprüfblatt / Type Test Certificate

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Prüfung-Nr./ Test no.: 3

Art der Prüfung / Type of test:
Dry heat, operation
to IEC 600068-2-2 (1994-05)

Anforderung / Requirements:
Operability test
- ambient temperature: +60 °C
- duration of test: 96 h

Prüfergebnis / Result:
No objections.

Bemerkungen / Remarks:
None

Prüfung-Nr. / Test no.: 4

Art der Prüfung / Type of test:
Dry heat, storage
to IEC 600068-2-2 (1994-05)

Anforderung / Requirements:
Test of long-term resilience of materials used
- ambient temperature: +70 °C
- duration of test: 16 h

Prüfergebnis / Result:
No objections

Bemerkungen / Remarks:
None

Typprüfblatt / Type Test Certificate

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Prüfung-Nr. / Test no.: 5

Art der Prüfung / Type of test:
Dampness, operation
to IEC 600068-2-78 (1985-01)

Anforderung / Requirements:
Operability test
- ambient temperature: +30 °C
- relative humidity: 95%
- duration of test: 16 h

Prüfergebnis / Result:
No objections

Bemerkungen / Remarks:
None

Prüfung-Nr. / Test no.: 6

Art der Prüfung / Type of test:
Temperature change with dampness, storage
to IEC 600068-2-30 (1985-01)

Anforderung / Requirements:
Operability test
- upper temperature: +55°C
- lower temperature : +25°C
- relative humidity: 95%
- duration of test: 48 h

Prüfergebnis / Result:
No objections

Bemerkungen / Remarks:
None

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Prüfung-Nr. / Test no.: 7

Art der Prüfung / Type of test:
Fast temperature change, storage
to IEC 600068-2-14Na (1986-02)

Anforderung / Requirements:
Test of long-term resilience of materials used
-upper temperature: +70°C
-lower temperature: -40°C
-duration of test: 12 h
- duration of relocation: <3 min.

Prüfergebnis / Result:
No objections

Bemerkungen / Remarks:
None

Prüfung-Nr. / Test no.: 8

Art der Prüfung / Type of test:
Fast temperature change, operation
to IEC 600068-2-14Nb (1986-02)

Anforderung / Requirements:
Operability test
-upper temperature: +60°C
-lower temperature: +0°C

-duration of test: 30 h

Prüfergebnis / Result:
No objections

Bemerkungen / Remarks:
None

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Prüfung-Nr./ Test no.: 9

Art der Prüfung / Type of test:
Immunity cable conducted
to IEC 61000-4-4 (2004-07)

Anforderung / Requirements:
Test of electromagnetic compatibility with fast transients/burst over
input and output cables (burst test)

Test voltage for
-power supplies: $\pm 2\text{kV}$
-signal lines: $\pm 2\text{kV}$

Prüfergebnis / Result:
No objections

Bemerkungen / Remarks:
None

Prüfung-Nr. / Test no.: 10

Art der Prüfung / Type of test:
Immunity cable conducted
to IEC 61000-4-5 (2001-04)

Anforderung / Requirements:
Test of electromagnetic compatibility over PROFIBUS-signal lines
(surge test)
Test voltages: unsymmetrical for
-power supplies: $\pm 2\text{kV}$ (line to earth)
 $\pm 21\text{V}$ (line to line)
-signal lines: $\pm 2\text{kV}$

Prüfergebnis / Result:
No objections.

Bemerkungen / Remarks:
None

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Prüfung-Nr. / Test no.: 11

Art der Prüfung / Type of test:
Electrostatic discharge
to IEC 61000-4-2 (2001-04)

Anforderung / Requirements:
Test of electromagnetic compatibility – electrostatic discharge.

- Test voltage: $\pm 6\text{kV}$ contact discharge
 $\pm 8\text{kV}$ air discharge

- Test of all metallic and non-metallic touchable surfaces

Prüfergebnis / Result:
No objections

Bemerkungen / Remarks:
None

Prüfung-Nr. / Test no.: 12

Art der Prüfung / Type of test:
Radiated radio frequency to IEC 61000-4-3
(2006-02)

Anforderung / Requirements:
Test of electromagnetic compatibility- electromagnetic fields.

- test field strength: 10V/m
- frequency range: 80 to 1000 MHz, 80% AM (1 kHz)
1400 to 2000 MHz, 80% AM (1 kHz)

- test field strength: 1V/m
- frequency range: 2000 to 2700 MHz, 80% AM (1 kHz)

Prüfergebnis / Result:
No objections.

Bemerkungen / Remarks:
None

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Prüfung-Nr. / Test no.: 13

Art der Prüfung / Type of test:
Conducted disturbances
to EN 55011 (1998-05); EN55022 (2006-09)

Anforderung / Requirements:
Test of electromagnetic compatibility – electromagnetic fields
-test field strength: 10 V
-frequency range: 10 KHz to 80 MHz, 80% AM (1 kHz)

Prüfergebnis / Result:
No objections

Bemerkungen / Remarks:
None

Prüfung-Nr. / Test no.: 14

Art der Prüfung / Type of test:
Radiated RF electromagnetic fields
to EN 55011 (1998-05); EN55022 (2006-09)

Anforderung / Requirements:
- Limit class B

Prüfergebnis / Result:
The disturbances occurring are below the permitted values
of limit class B

Bemerkungen / Remarks:
None

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Prüfung-Nr. / Test no.: 15

Art der Prüfung / Type of test:
Vibration test in operation
to DIN EN60068-2-6 (1996-05)

Anforderung / Requirements:
Operability test with sinusoidal vibration
Setup 1:

- a) Frequency range: 5 to 8,51 Hz
amplitude: 3,5 mm
- b) Frequency range: 8,51 to 150 Hz
acceleration: 10m/s² (1g)
20 cycles

Setup 2:

- a) Frequency range: 2 to 13,2 Hz
amplitude: 1 mm
- b) Frequency range: 13,2 to 100 Hz
acceleration: 7m/s²
20 cycles

Setup 3:

- a) Frequency range: 2 to 25,0 Hz
amplitude: 1,6 mm
- b) Frequency range: 25,0 to 100 Hz
acceleration: 40m/s²
20 cycles

Prüfergebnis / Result:
No objections

Bemerkungen / Remarks:
None

Prüfung-Nr. / Test no.: 16

Art der Prüfung / Type of test:
Transportation vibration
to DIN EN680068-2-6 (1996-05)

Anforderung / Requirements:
Operability test after sinusoidal vibration

- a) Frequency range: 5 to 8.51 Hz
amplitude: 3.5 mm
- b) Frequency range: 8.51 to 500 Hz
acceleration: 10m/s² (1g)
10 cycles

Prüfergebnis / Result:
No objections

Bemerkungen / Remarks:
None

Typprüfblatt / Type Test Certificate

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Prüfung-Nr. / Test no.: 17

Art der Prüfung / Type of test:
Shock resistance, operation
to DIN EN 60068-2-29 (1995-03)

Anforderung / Requirements:
Operability test during permanent shock (half sine)
-acceleration: 150 m/s²
-shock duration: 6 ms

6 shocks/axis

Prüfergebnis / Result:
No objections

Bemerkungen / Remarks:
None

Prüfung-Nr. / Test no.: 18

Art der Prüfung / Type of test:
Shock resistance, transportation
to DIN EN 60068-2-27 (1995-03)

Anforderung / Requirements:

Operability test after permanent shocks (half sine)

-acceleration: 250 m/s²

-shock duration: 6 ms

1000 shocks/axis

Prüfergebnis / Result:
No objections.

Bemerkungen / Remarks:
None

Typprüfblatt / Type Test Certificate

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Prüfung-Nr./ Test no.: 19

Art der Prüfung /Type of test:
Fall test packaged
to DIN EN 24180-2 (1993-03)

Anforderung / Requirements:
Operability test after free fall of packaged component
-fall height: 100 cm
-attempts: 7

Bemerkungen / Remarks:
None

Typprüfblatt / Type Test Certificate

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Prüfung-Nr./ Test no.: 20

Art der Prüfung /Type of test:
FCC , Part 15, Subpart B, Class B Verification
Test

Anforderung / Requirements:

Prüfergebnis / Result:
No objections.

Bemerkungen / Remarks:

Prüfung-Nr./ Test no.: 21

Art der Prüfung /Type of test:
MTBF calculation to SN 29500 (2005-11)
ambient temperature: 40°C

Anforderung / Requirements:

Prüfergebnis / Result:	
SCALANCE X204-2	MTBF = 30 years / 40 °C
SCALANCE X204-2LD	MTBF = 30 years / 40 °C
SCALANCE X206-1	MTBF = 40 years / 40 °C
SCALANCE X206-1LD	MTBF = 40 years/ 40 °C
SCALANCE X208	MTBF = 80 years / 40 °C

Bemerkungen / Remarks:
None