



Lloyd's
Register

Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

This certificate is issued to:

PRODUCER

Siemens AG
Östliche Rheinbrückenstr. 50
76187 Karlsruhe
Germany

DESCRIPTION

Industrial personal computer

TYPES

SIMATIC Microbox PC 427B
6ES7 647 - 7A①②0 - 0③④0
① Processor: A, B, D, E, F, J, K
② Memory: 1, 2, 3, 4
③ Drives: X, M, N, P, Q, R, F, G, H
④ Operating system: X, A

SIMATIC Microbox 427B-RTX
6ES7 675 - 1C①0 - 0②③0
① Processor: B2, F3, K3
② Memory: A, C, D
③ Software configuration: A, B, C, D, E, F, G, H

Certificate No.

07/20040 (E10)

Issue Date

11 January 2018

Expiry Date

07 October 2022

Sheet

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TYPES CONTINUED

SIMATIC IPC 427C
 6ES7 647 - 7B①②③④⑤⑥0
 ① Processor: A, B, D, E, F, G, J, K, L
 ② Main memory: 1, 2, 3, 4
 ③ Extension: 0, 1
 ④ Drive changeable: 0, 1, 2, 3, 4, 5
 ⑤ Drive internal: X, D, E, M, N, P, Q, R
 ⑥ Operating system: A, B, C, D, M, N, X

SIMATIC IPC 427C Bundle
 6ES7 675 - 1D①②③ - ④⑤⑥0
 ① Processor: A, B, E, F, G, J, K, L
 ② Main memory: 2, 3, 4
 ③ Operating system: 0, 1
 ④ Mass storage internal: 0, 2, 3, 6, 7, 8
 ⑤ Mass storage changeable: A, D, E, F
 ⑥ Software configuration: A, B, C, D, E, F, K, L, M, N, P, R, S, T, U
 (not part of approval)

SIMATIC HMI IPC 477C
 6AV7 884 - ①②③④⑤ - ⑥⑦⑧0
 ① Front panel with USB interface: 0, 1, 2, 3, 5
 ② Front: A, Y
 ③ Processor: A, B, D, E, F, G, H, J
 ④ Main memory: 1, 2, 3
 ⑤ Second mass storage: 0, 2, 3, 4, 5, 6, 7, 8
 ⑥ First mass storage: 1, 2, 3, 4, 5, 6, 7, 8
 ⑦ Operating system, A, B, D
 ⑧ Bundles: A, B, C, D, E, F, K, L, M, N, P, R, S, T, U, X, Y, V, W

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TYPES CONTINUED

SIMATIC Microbox PC 427B PCS 7 AS RTX:
6ES7 654 - 0UC11-0XX0
SIMATIC IPC 427C PCS 7 OS Client SSD / AS RTX:
6ES7 650 - 0RG__ - 0YX1 ("__" according software version)
6ES7 654 - 0UE2_ - 0XX0 ("_" according software version)

SIMATIC HMI IPC627C
6ES7 647-6C①②③-④⑤⑥⑦
① Processor: A, B, C, D, E, F, G, H, J
② Main memory: 0, 1, 2, 3, 4, 5, 6, 7
③ Power supply: 0, 1, 2, 3, 4, 5, 6
④ Extension (hardware): 0, 1
⑤ Drive internal: J, L, V, X
⑥ Operating system: A, B, C, F, X
⑦ Extension (software): 0, 1, 2, 3 (no part of approval)

SIMATIC HMI IPC677C
6AV7 89①-②③④⑤⑥-⑦⑧⑨
① Front panel: 0, 1, 2, 3, 4
② Front option: 0, 1, 2, 3, 7, 8
③ Power supply: A, B, C, D, E, F, G, H, J
④ Processor: A, B, C, D, E, F, G, H, J
⑤ Main memory: 0, 1, 2, 3, 4, 5, 6, 7
⑥ Drive internal: 4, 5, 6, 8
⑦ Extension: (hardware): A, B
⑧ Operating system: A, B, C, D, E
⑨ Extension (software): 0, 1, 2, 3

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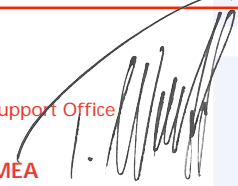

SIMATIC IPC647C
 6AG4 112-1①②③④-⑤⑥⑦⑧
 ① Processor: G, H, J, K, L, M, N, P, R
 ② Drive: S, T
 ③ Main memory: 0, 1, 2, 3, 4, 5, 6, 7
 ④ Mass storage: 0, 8
 ⑤ Extension (HW): 0, 1, 2, 3, 4, 5, 6, 7
 ⑥ Operating system: B, E, P, X
 ⑦ Extension (SW): X, A, B, C
 ⑧ Power supply: 0, 1, 2, 3, 4, 5

SIMATIC IPC227D
 6ES7 647-8A①②③-④⑤⑥⑦
 ① Processor: A, B, E, F, G, H
 ② Drive: 0, 2, 3, 4, 5, 6, 7, 8
 ③ Extension: 0, 1, 2
 ④ Operating system: 0, 1, 2, 3, 4
 ⑤ Software: A, B, C, F, G, H, J, M, N, P, Q, R, S, T, U (no part of approval)
 ⑥ Variant: A, B, D, E
 ⑦ Accessory: 2

SIMATIC IPC277D
 6AV7 881-①A②00-④⑤⑥0
 ① Front panel: 1, 2, 3
 ② Processor: A, B, E, F
 ④ Drive: 0, 1, 2, 3, 4, 6, 7, 8
 ⑤ Operating system: A, B, C, D, E
 ⑥ Software: A, B, C, F, G, H, J, M, N, P, Q, R, S, T, U (no part of approval)

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TYPES CONTINUED

SIMATIC IPC427D

6AG4 140-0D234-5678

6ES7 650-0U234-0YX1

- ① Processor: 0, 1, 2, 3, 4, 5, 6, 7, 8
- ② RAM: A, B, C, D, G, H, J, K, L, M, N, P
- ③ Extension HW: 0, 1, 2, 3, 4, 5
- ④ Operating system: no part of approval
- ⑤ Drive: 0, 1, 2, 3, 4
- ⑥ Drive internal: A, B, C, D, E, G, H, P
- ⑦ Software configuration: A (no part of approval)
- ⑧ Power supply: 0, 8

SIMATIC IPC627D

6AG4 131-21234-5678

- ① Processor: A, B, C, D, E, F, G, H, J
- ② Drive: M, Q
- ③ Main memory: 1, 2, 3, 4, 5, 6
- ④ Extension (hardware): 0, 1, 2
- ⑤ Extension (hardware): 0, 1, 2, 3
- ⑥ Operating system: no part of approval
- ⑦ Extension (software): A, B, C, X, Y
- ⑧ Country specific type / power supply: 0, 1, 2, 3, 4, 5, 6

SIMATIC IPC827D

6AG4 132-21234-5678

- ① Processor: A, B, C, D, E, F, G, H, J
- ② Drive: M, Q
- ③ Main memory: 1, 2, 3, 4, 5, 6
- ④ Extension (hardware): 0
- ⑤ Extension (hardware): 0, 1, 2, 3
- ⑥ Operating system: not relevant
- ⑦ Extension (software): A, B, C, X, Y
- ⑧ Country specific type / power supply: 0, 1, 2, 3, 4, 5, 6

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TYPES CONTINUED

SIMATIC IPC647D

6AG4 112-2①②③④-⑤⑥⑦⑧

① Processor: D, E, F, G, H, J, K, L, M

② Drive: S, T, W

③ Main memory: 1, 2, 3, 4, 5, 6, 7, 8

④ Board / exchangeable media: 0, 1, 2, 6, 7, 8

⑤ Extension (hardware): 0, 1, 2, 3, 4, 5

⑥ Operating system: not relevant

⑦ Extension (software): A, B, C, X, Y

⑧ Country specific type / power supply: 0, 1, 2, 3, 4, 5, 6

Exception: 4=0, 6 (2-slot bus-device) not be combined 5=4, 5 (graphics adapter).

SIMATIC IPC647D PCS7

6ES7 660-5①②③④-⑤⑥⑦⑧

① Processor: A, B, C, W, D, E, F, X, G, H, J, Y

② Drive: P, Q, R, S, T, U, V, W

③ Main memory: 0, 1, 2, 3, 4, 5, 6, 7

④ Communication: 1, 8

⑤ PCS 7 Version: 0, 1, 8

⑥ Operating system: A, D, X

⑦ Board / exchangeable media: A, B, C, G, H, J

⑧ Country specific type / power supply: 0, 1, 2, 3, 4, 5, 6

SIMATIC IPC227E

6ES7 647-8B①②③-④⑤⑥⑦

① Processor: A, B

② Main memory: 1,2,3,4,5,6

③ Extension HW: 1,2,3,4

④ Operating system: 0,1,2,3,4,5,6

⑤ Mass storage: A,B,C,K,L,M

⑥ Software: (no part of approval)

⑦ Accessory: 2

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TYPES CONTINUED

SIMATIC IPC277E

6AV7 882-0①②③④-⑤⑥⑦⑧⑨

- ① Front panel: A, B,C,R,S,T, H, F, G, J, K, L, W, X, M, N
- ② Processor: A, B
- ③ Main memory: 1,2,3,4,5,6
- ④ Operating system: no part of approval
- ⑤ Mass storage: A,B,C,K,L,M
- ⑥ Software: (no part of approval)

SIMATIC IPC477D

6AV7 240-①②③④⑤-⑥⑦⑧⑨

- ① Processor: 0,1,3,4,5,6,7,8
- ② Front panel: M, N, P
- ③ Ram: A, B, C, D, J, K, L, M
- ④ Extension: 0, 3
- ⑤ Operating system: (no part of approval)
- ⑥ Drives extern: 0, 1, 2, 3, 4
- ⑦ Drives intern: A, B, C, D, E, H, N, P
- ⑧ Software: (no part of approval)
- ⑨ Power supply: 0, 8

SIMATIC IPC427E

6AG4141-①②③④⑤-⑥⑦⑧⑨

- ① Processor and Fieldbus: 0, 1, 3, 5, 7
- ② Mounting: C, G
- ③ Main memory: A, B, C, D, E, F, G, H, J, K
- ④ Extension: 0, 1, 2, 3, 4, 5
- ⑤ Operating system: (no part of approval)
- ⑥ Drive external: 0, 1, 2, 3, 4, 5
- ⑦ Drive internal: A, E, F, G
- ⑧ Software: (no part of approval)
- ⑨ Power supply: 0, 8

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TYPES CONTINUED

SIMATIC IPC477E

6AV7241-①②③④⑤-⑥⑦⑧⑨

- ① Processor and Fieldbus: 0, 1, 3, 5, 7
- ② Front Panel: J, K, L, R, S, W, X, Y
- ③ Main memory: A, B, C, D, E, F, G, H, J, K
- ④ Extension: 0, 1, 2, 3, 4, 5, 6
- ⑤ Operating system: (no part of approval)
- ⑥ Drive external: 0, 1, 2, 3, 4, 5
- ⑦ Drive internal: A, E, F, G
- ⑧ Software: (no part of approval)
- ⑨ Power supply: 0, 8

SIMATIC IPC477E PRO

6AG7251-①②③④⑤-⑥⑦⑧⑨

- ① Processor and Fieldbus: 1, 3, 5, 7
- ② Front Panel: B, C, D, E, F, G, H, J, K, L, M, N, P, Q, R, S, T, U
- ③ Main memory: A, B, C, D, E, F, G, H, J, K
- ④ Extension: 0, 3, 5, 6
- ⑤ Operating system: (no part of approval)
- ⑥ Drive external: 0, 1, 2, 3, 4, 5
- ⑦ Drive internal: A, E, F, G
- ⑧ Software: (no part of approval)
- ⑨ Power supply: 0, 8

SIMATIC PCS7

6ES7650-0VG**-0YX1 PCS 7 V9.0 OS Client - IPC427E (SSD)

6ES7650-0VG**-1YX1 PCS 7 V9.0 OS Client - IPC477E (SSD)

** = software version not part of this approval

APPLICATION

Marine, offshore and industrial applications for use in environmental categories ENV1, ENV2 and ENV3 (power distribution zone) as defined in Lloyd's Register's Type Approval System, Test Specification Number 1 - 2002. Types IPC427E, EPC477E and EPC477E PRO suitable in category ENV1 and ENV2 according Test Specification No. 1 - July 2015.

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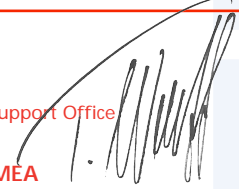
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ADDITIONAL TESTS	Low temperature (-25°C/16hrs) except IPC647C (+5°C/16hrs)
STANDARD	Manufacturer's specification
RATINGS	Power supply: 24 VDC
OTHER CONDITIONS	<p>IPC427C/477C/647D/227E/427E/477E/477E PRO are suitable for bridge and deck zone if filter type Epcos B814113C or equivalent with ratings I=3A, C=2*0,47µF + 2*4700pF, L=4*4,7mH is used.</p> <p>IPC627C/677C, IPC227D/277D, IPC227E/277E, IPC427D and IPC477D for bridge and deck zone with filter: Corcom *FC10 or equivalent ("*" = current rating).</p> <p>IPC627D/827D for bridge and deck zone without filter.</p> <p>Degree of protection IP65 for IPC477E PRO is not supported by documentary evidence.</p>
PLACES OF PRODUCTION	<p>Siemens AG Elektronikwerk Karlsruhe Östliche Rheinbrückenstr. 50 76187 Karlsruhe Germany</p> <p>Siemens AG Elektronikwerk Chengdu Siemens Electrical Apparatus Ltd., Suzhou, Chengdu Branch No.99, TianYuan Road, HighTech Zone West, Chengdu, Sichuan Province, 611730 China</p> <p>Siemens Industry Inc. 4170 Columbia Road Lebanon, Ohio 45036-9699 USA</p>
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The Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations.

If the specified standards are amended during the validity of this certificate, the product is to be re-approved prior to it being supplied to vessels to which the amended standards apply.

The Design Appraisal Document No. HTS/ETS 36344-17 and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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