

CERTIFICATE OF CONFORMITY



1. **HAZARDOUS LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS**
2. **Certificate No:** FM16US0463X
3. **Equipment:** 6AV Series. Panel Series Modules
(Type Reference and Name)
4. **Name of Listing Company:** Siemens AG - DF FA AS SIMATIC Type Test
5. **Address of Listing Company:** Werner Von Siemensstraße 50
D-92224 Amberg
Germany
6. The examination and test results are recorded in confidential report number:

3012250 dated 14th December 2001
7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:

Refer to Section 12
8. If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to specific conditions of use specified in the schedule to this certificate.
9. This certificate relates to the design, examination and testing of the products specified herein. The FM Approvals surveillance audit program has further determined that the manufacturing processes and quality control procedures in place are satisfactory to manufacture the product as examined, tested and Approved.

Certificate issued by:

J. E. Marquedant
Manager, Electrical Systems

25 January 2017

Date

To verify the availability of the Approved product, please refer to www.approvalguide.com

THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

FM Approvals LLC. 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA
T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: information@fmapprovals.com www.fmapprovals.com

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to US Certificate Of Conformity No: FM16US0463X

10. Equipment Ratings:

Group 1

Nonincendive for Class I, Division 2, Groups A, B, C & D, T* and Class I, Zone 2, Group IIC, T** Hazardous (Classified) indoor Locations

Group 2

Nonincendive for Class I, Division 2, Groups A, B, C & D, T* and Class I, Zone 2, Group IIC, T** Hazardous (Classified) indoor/outdoor (IP66 and Type 4X/12) Locations

Group 3

Nonincendive for Class I, Division 2, Groups A, B, C & D, T* and Class I, Zone 2, Group IIC, T** Hazardous (Classified) indoor/outdoor (IP65 and Type 4X/12) Locations

Group 4

Nonincendive for Class I, Division 2, Groups A, B, C & D, T* and Class I, Zone 2, Group IIC, T** Hazardous (Classified) indoor/outdoor (Type 4X/12) Locations

Group 5

Nonincendive for Class I, Division 2, Groups A, B, C & D, T* and Class I, Zone 2, Group IIC, T** Hazardous (Classified) indoor/outdoor (Type 4X) Locations

11. The marking of the equipment shall include:

Class I, Division 2, Groups ABCD
See below for T-Code and temperature rating.

12. **Description of Equipment:**

General – The panels are HMI (Human Machine Interaction) devices intended to be used via a process interface of the applicable modules where the connection is made to a PLC system (i.e., SIMATIC S7 System). The configuration is done through a personal computer programmer. Panels are available as both touch screen panels and as keyboard panels. The Panels are designed to be mounted in an existing enclosure with the front of the panel exposed.

Operation Temperature Ranges - The Modules operate at an ambient temperature of 0 °C to +50 °C.

Ratings - The modules are supplied from an external voltage source with a range of 20.4V to 28.8V.

Group 1

6AV Series. Panel Series Modules

Model No.	Description	T-Code*	T-Code**	Tambient
6AV6 542-0AG10-a	Multi Panel MP270B Key-10 TFT	T4	T4	50 °C
6AV6 542-0BB15-a	Operator Panel OP 170B Mono	T4A	T4	50 °C
6AV6 542-0CA10-a	Panel OP270 Key-6 CSTN	T4	T4	50 °C
6AV6 542-0CC10-a	Panel OP270 Key-10 CSTN	T4	T4	50 °C
6AV6 542-0DA10-a	Multi Panel MP 370 Key	T4A	T4	50 °C

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6AV6 545-0AA15-a	Touch Panel TP 070	T4A	T4	50 °C
6AV6 545-0AG10-a	Multi Panel MP270B Touch-10 TFT	T4	T4	50 °C
6AV6 545-0AH10-a	Multi Panel MP270B Touch-6 TFT	T4	T4	50 °C
6AV6 545-0BA15-a	Touch Panel 170A	T4A	T4	50 °C
6AV6 545-0BB15-a	Touch Panel TP 170B Mono	T4A	T4	50 °C
6AV6 545-0BC15-a	Touch Panel TP170B Color	T4A	T4	50 °C
6AV6 545-0CA10-a	Panel TP270 Touch-6 CSTN	T4	T4	50 °C
6AV6 545-0CC10-a	Panel TP270 Touch-10 CSTN	T4	T4	50 °C
6AV6 545-0DA10-a	Multi Panel MP 370 Touch	T4A	T4	50 °C
6AV6 545-0DB10-a	Multi Panel MP 370 Touch	T4	T4	50 °C
6AV6 545-8BC10-a	Simatic Panel Q TP170	T4A	T4	50 °C
6AV6 545-8DB10-a	Simatic Panel Q MP370 Touch	T4A	T4	50 °C
6AV6 640-0CA01-a	Touch Panel TP 170 Micro	T4A	T4	50 °C

a = Options not affecting safety, 4 digit alphanumeric code

Specific Conditions of Use:

1. Shall be installed in compliance with the enclosure, mounting, spacing and segregation requirements of the ultimate application, including a tool removable cover.

This certifies that the equipment described has been found to comply with the following Approval Standards and other documents:

Class 3600	2011
Class 3611	2004
Class 3810	2005

Group 2

6AV Series. Panel Series Modules

Model No.	Description	T-Code*	T-Code**	Tambient
6AV6 545-8CC10-a	Q TP270 Touch-10 CSTN	T4	T4	50 °C

a = Options not affecting safety, any 2, 3 or 4 digit letter or number referring to non-electrical properties as product associates, language, delivery packing, documentation, etc.

Specific Conditions of Use:

1. The modules shall be installed in compliance with the enclosure, mounting, spacing and segregation requirements of the ultimate application, including a tool removable cover.
2. In order for the IP66 and Enclosure Type 4X/12 ratings to apply, the module must be installed in accordance with the manufacturer's installation manual.

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Member of the FM Global Group

to US Certificate Of Conformity No: FM16US0463X

This certifies that the equipment described has been found to comply with the following Approval Standards and other documents:

Class 3600 2011
Class 3611 2004
Class 3810 2005
NEMA-250 1997
IEC 60529 2004
Including Amendment 1

Group 3 6AV Series. Panel Series Modules

Model No.	Description	T-Code*	T-Code**	Tambient
6AV6 640-0CA11-a	TP177micro	T4	T4	50 °C
6AV6 641-0BA11-a	Operator Panel OP77A	T4	T4	50 °C
6AV6 641-0CA01-a	Operator Panel OP77B	T4	T4	50 °C
6AV6 642-0AA11-a	TP177A	T4	T4	50 °C
6AV6 642-0BA01-a	Touch Panel TP177B PN/DP	T4	T4	50 °C
6AV6 642-0BC01-a	Touch Panel TP177B DP	T4	T4	50 °C
6AV6 642-0BD01-a	TP 177B-4" Color Panel PN/DP	T4	T4	50 °C
6AV6 642-0DA01-a	Operator Panel OP177B PN/DP	T4	T4	50 °C
6AV6 642-0DC01-a	Operator Panel OP177B DP	T4	T4	50 °C
6AV6 642-7BA11-a	Touch Panel OEM TP177B PN/DP HK	T4	T4	50 °C
6AV6 643-0CB01-a	MP 277T-8"	T4	T4	50 °C

a = Options not affecting safety, any 2 or 4 digit letter or number referring to non-electrical properties as product associates, language, delivery packing, documentation, etc.

Specific Conditions of Use:

1. The modules shall be installed in compliance with the enclosure, mounting, spacing and segregation requirements of the ultimate application, including a tool removable cover.
2. In order for the IP65 and Enclosure Type 4X/12 ratings to apply, the module must be installed in accordance with the manufacturer's installation manual.

This certifies that the equipment described has been found to comply with the following Approval Standards and other documents:

Class 3600 2011
Class 3611 2004
Class 3810 2005
NEMA-250 2003
IEC 60529 2001

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Group 4 6AV Series. Panel Series Modules

Model No.	Description	T-Code*	T-Code**	Tambient
6AV3 688-3AF37-a	KP8F	T4	T4	55 °C
6AV3 688-3AY36-a	KP8	T4	T4	55 °C
6AV6 642-0EA01-a	MP 177-6" Touch Panel	T4	T4	50 °C
6AV6 642-8BA1a-a	TP177B color INOX	T4	T4	50 °C
6AV6 643-0AA01-a	TP 277-6"	T4	T4	50 °C
6AV6 643-0CD01-a	MP 277T-10"	T4	T4	50 °C
6AV6 643-0DD01-a	MP 277K-10"	T4	T4	50 °C
6AV6 643-0ED01-a	MP 277T-10" INOX Ex	T4	T4	50 °C
6AV6 643-8AD10-a	MP 277T-10" INOX	T4	T4	50 °C
6AV6 644-0AA01-a	MP 377 12" Touch	T4	T4	50 °C
6AV6 644-0AB01-a	MP 377 15" Touch	T4	T4	50 °C
6AV6 644-0AC01-a	MP 377 19" Touch	T4	T4	50 °C
6AV6 644-0BA01-a	MP 377 12" Key	T4	T4	50 °C
6AV6 644-0CB01-a	MP 377 15" Touch INOX	T4	T4	50 °C
6AV7 863-2AA00-a	IFP1500 Monitor Standard	T4	T4	50 °C
6AV7 863-2MA00-a	IFP1500 Multitouch Standard	T4	T4	50 °C
6AV7 863-2TA00-a	IFP1500 Touch Standard	T4	T4	50 °C
6AV7 863-3AA00-a	IFP1900 Monitor Standard	T4	T4	45 °C
6AV7 863-3MA00-a	IFP1900 Multitouch Standard	T4	T4	45 °C
6AV7 863-3TA00-a	IFP1900 Touch Standard	T4	T4	45 °C
6AV7 863-4AA00-a	IFP2200 Monitor Standard	T4	T4	45 °C
6AV7 863-4MA00-a	IFP2200 Multitouch Standard	T4	T4	45 °C
6AV7 863-4TA00-a	IFP2200 Touch Standard	T4	T4	45 °C

a = Options not affecting safety, any 2 or 4 digit letter or number referring to non-electrical properties as product associates, language, delivery packing, documentation, etc.

Specific Conditions of Use:

1. Shall be installed in compliance with the enclosure, mounting, spacing and segregation requirements of the ultimate application, including a tool removable cover.
2. In order for the Enclosure Type 4X/12 ratings to apply, the module must be installed in accordance with the manufacturer's installation manual.

Group 4 6AV Series. Panel Series Modules

Model No.	Description	T-Code*	T-Code**	Tambient
6AV6 644-8AB20-a	MP 377 15" Touch Daylight	T4	T4	50 °C

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Specific Conditions of Use:

1. Shall be installed in compliance with the enclosure, mounting, spacing and segregation requirements of the ultimate application, including a tool removable cover.
2. In order for the Enclosure Type 4X/12 ratings to apply, the module must be installed in accordance with the manufacturer's installation manual.
3. The front panel has a temperature range of $-30\text{ }^{\circ}\text{C} < T_a < +70\text{ }^{\circ}\text{C}$, though the ambient temperature of the electronics must remain between $0\text{ }^{\circ}\text{C} < T_a < +50\text{ }^{\circ}\text{C}$.

Group 4 6AV Series. Comfort Series Panel Modules

Model No.	Description	T-Code*	T-Code**	Tambient
6AV2 124-0GC01-a	TP700 Comfort	T4	T4	50 °C
6AV2 124-0JC01-a	TP900 Comfort	T4	T4	50 °C
6AV2 124-0MC01-a	TP1200 Comfort	T4	T4	50 °C
6AV2 124-0QC02-a	TP1500 Comfort	T4	T4	50 °C
6AV2 124-0UC02-a	TP1900 Comfort	T4	T4	45 °C
6AV2 124-0XC02-a	TP2200 Comfort	T4	T4	45 °C
6AV2 124-1DC01-a	KP400 Comfort	T4	T4	50 °C
6AV2 124-1GC01-a	KP700 Comfort	T4	T4	50 °C
6AV2 124-1JC01-a	KP900 Comfort	T4	T4	50 °C
6AV2 124-1MC01-a	KP1200 Comfort	T4	T4	50 °C
6AV2 124-1QC02-a	KP1500 Comfort	T4	T4	50 °C
6AV2 124-2DC01-a	KTP400 Comfort	T4	T4	50 °C
6AV2 124-5DC00-a	KTP400 Comfort (OEM)	T4	T4	50 °C
6AV2 124-5GC00-a	TP700 Comfort (OEM)	T4	T4	50 °C
6AV2 124-5JC00-a	TP900 Comfort (OEM)	T4	T4	50 °C
6AV2 124-5QC00-a	TP1500 Comfort (OEM)	T4	T4	50 °C

a = Options not affecting safety, any 2 or 4 digit letter or number referring to non-electrical properties as product associates, language, delivery packing, documentation, etc.

Specific Conditions of Use:

1. Shall be installed in compliance with the enclosure, mounting, spacing and segregation requirements of the ultimate application, including a tool removable cover.
2. In order for the Enclosure Type 4X/12 ratings to apply, the module must be installed in accordance with the manufacturer's installation manual.
3. The T_{ambient} of all 7" to 15" Comfort Panels is increased to 55 °C if the following conditions are met:
 - a. The load at the USB ports does not exceed a total of 100 mA.
 - b. The +24 V DC connection of the PROFIBUS interface is not used.
 - c. The relative humidity during operation is 10% to 60%, without condensation.

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Group 4 **6AV Series. Comfort Outdoor Series Panel Modules**

Model No.	Description	T-Code*	T-Code**
6AV2 124-0GC13-a	TP700 Outdoor	T4	T4
6AV2 124-0QC13-a	TP1500 Outdoor	T4	T4

a = Options not affecting safety, any 2 or 4 digit letter or number referring to non-electrical properties as product associates, language, delivery packing, documentation, etc.

Specific Conditions of Use:

1. Shall be installed in compliance with the enclosure, mounting, spacing and segregation requirements of the ultimate application, including a tool removable cover.
2. In order for the Enclosure Type 4X/12 ratings to apply, the module must be installed in accordance with the manufacturer's installation manual.

Group 5 **6AV Series. Comfort Series Panel Modules**

Model No.	Description	T-Code*	T-Code**	Tambient
6AV2 144-8GC10-a	TP 700 Comfort INOX	T4	T4	50 °C
6AV2 144-8MC10-a	TP1200 Comfort INOX	T4	T4	50 °C
6AV2 144-8UC10-a	TP1900 Comfort INOX	T4	T4	45 °C

a = Options not affecting safety, any 2 or 4 digit letter or number referring to non-electrical properties as product associates, language, delivery packing, documentation, etc.

Specific Conditions of Use:

1. Shall be installed in compliance with the enclosure, mounting, spacing and segregation requirements of the ultimate application, including a tool removable cover.
2. In order for the Enclosure Type 4X/12 ratings to apply, the module must be installed in accordance with the manufacturer's installation manual.
3. The Tambient of all 7" to 15" Comfort Panels is increased to 55 °C if the following conditions are met:
 - a. The load at the USB ports does not exceed a total of 100 mA.
 - b. The +24 V DC connection of the PROFIBUS interface is not used.
 - c. The relative humidity during operation is 10% to 60%, without condensation.

Group 4 **6AV Series. ITC Series Panel Modules**

Model No.	Description	T-Code*	T-Code**	Tambient
6AV6 646-1AA22-a	ITC1200	T4	T4	50 °C
6AV6 646-1AB22-a	ITC1500	T4	T4	50 °C
6AV6 646-1AC22-a	ITC1900	T4	T4	45 °C
6AV6 646-1AD22-a	ITC2200	T4	T4	45 °C
6AV6 646-8AC10-a	ITC1900 INOX	T4	T4	45 °C

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as product associates, language, delivery packing, documentation, etc.

Specific Conditions of Use:

1. Shall be installed in compliance with the enclosure, mounting, spacing and segregation requirements of the ultimate application, including a tool removable cover.
2. In order for the Enclosure Type 4X/12 ratings to apply, the module must be installed in accordance with the manufacturer's installation manual.
3. The Tambient of all 7" to 15" ITC Panels is increased to 55 °C if the following conditions are met:
 - a. The load at the USB ports does not exceed a total of 100 mA.
 - b. The +24 V DC connection of the PROFIBUS interface is not used.
 - c. The relative humidity during operation is 10% to 60%, without condensation.

This certifies that the equipment described has been found to comply with the following Approval Standards and other documents:

Class 3600	2011
Class 3611	2004
Class 3810	2005
NEMA-250	2003

13. Specific Conditions of Use:

Refer to Section 12.

14. Test and Assessment Procedure and Conditions:

This Certificate has been issued in accordance with FM Approvals US Certification Requirements.

15. Schedule Drawings

A copy of the technical documentation has been kept by FM Approvals.

16. Certificate History

Details of the supplements to this certificate are described below:

Date	Description
14 th December 2001	Original Issue.
25 th January 2017	<u>Supplement 33:</u> Report Reference: – Project ID 3060731 dated 25 th January 2017 Description of the Change: Updated certificate to new format.

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