

CERTIFICATE OF CONFORMITY



1. **HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS**
2. **Certificate No:** FM20US0111X
3. **Equipment:** I/O Terminal Type BK, KL, KS, EL, EK, ES, CX and CPX
(Type Reference and Name)
4. **Name of Listing Company:** Beckhoff Automation GmbH & Co KG
5. **Address of Listing Company:** Huelshorstweg 20
Verl 33415
Germany
6. The examination and test results are recorded in confidential report number:

PR458127 dated 2nd November 2020
7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:

FM Class 3600:2018, FM Class 3611:2018, FM Class 3810:2018, ANSI/UL 121201:2019, ANSI/ISA 61010-1:2012, ANSI/UL 60079-0:2020, ANSI/UL 60079-7:2017, ANSI/UL 60079-31:2015
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.
10. Equipment Ratings:

Type BK, KL, KS, EL, EK, ES, CX

Nonincendive for Class I, Division 2, Groups A, B, C and D; Increased safety protection for Class I, Zone 2, Group IIC; T* Ta* (see below)

Certificate issued by:



J.E. Marquedant
VP, Manager - Electrical Systems

6 April 2021

Date

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

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Type CPX2*** and CPX3***

Nonincendive for Class I, II, III Division 2, Groups A, B, C, D, F and G; Increased safety protection for Class I, Zone 2, Group IIC; Dust-ignition Protection by enclosure for Zone 22, Group IIIB, T* Ta* (see below);

11. The marking of the equipment shall include:

Type BK, KL, KS, EL, EK, ES, CX

Class I, Division 2, Groups A, B, C, D, T* Ta*

Class I, Zone 2, AEx ec IIC T* Gc Ta*

T* Ta* (see below)

Type CPX2*** and CPX3***

Class I, II, III, Division 2, Groups A, B, C, D, F and G T* Ta*

Class I, Zone 2, AEx ec IIC T* Gc Ta*

Zone 22, AEx tc IIIB T135°C Dc (CPX2*** only)

Zone 22, AEx tc IIIB T100°C Dc (CPX3*** only)

T* Ta* (see below)

12. **Description of Equipment:**

Module Type	Description
BKxxxx KLxxxx KSxxxx EKxxxx EKMxxxx ELxxxx ESxxxx	The modular fieldbus components Type BK ..., Type KL ..., Type KS ..., Type EK ..., EKM ..., EL ... and type ES ... have been developed for use in I/O and fieldbus systems.
CX51**-****	The DIN-rail-mountable, fanless Embedded PCs from the CX5100 series equipped with Intel Atom® multi-core processors
CX8000	The CX8000 Embedded PC series contains a 32-bit controller with 400 MHz ARM9 CPU and integrated fieldbus slave for universal PLC applications.
CX9020	The CX9020 is a compact, DIN rail-mountable Ethernet control system with 1 GHz ARM Cortex™-A8 CPU.
CPX27**-**** CPX29**-****	The built-in Panel PC type CPX27**-**** as well as the Panel type CPX29**-**** are developed for the use in hazardous areas. The fanless multitouch panels are designed for installation in the front of a control cabinet. All connections to the panel are realized by plugs and sockets installed within this cabinet.

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CPX37**-****	Multi-touch Panel PC Series CPX37**-**** and Multi-touch Control Panel Series CPX39**-**** are fanless panel PC's designed for industrial application intended for mounting in a 100x100 mm mounting interface.
CPX39**-****	

Modules and Ratings:

Module	Description	Temp. code	Ambient Range	Technical Data	Supply Volt.
BK3120	PROFIBUS "Economy plus" Bus Coupler	T4	-25°C to +60°C	----	24Vdc
CPX2715-****	Fanless multi-touch built-in Panel PC	T4 T135°C	0°C to +55°C	25 W	24Vdc
CPX2719-****	Fanless multi-touch built-in Panel PC	T4 T135°C	0°C to +55°C	32 W	24Vdc
CPX2721-****	Fanless multi-touch built-in Panel PC	T4 T135°C	0°C to +55°C	40 W	24Vdc
CPX2915-****	Multi-touch built-in Control Panel with DVI/USB Extended interface	T4 T135°C	0°C to +55°C	20 W	24Vdc
CPX2919-****	Multi-touch built-in Control Panel with DVI/USB Extended interface	T4 T135°C	0°C to +55°C	25 W	24Vdc
CPX2921-****	Multi-touch built-in Control Panel with DVI/USB Extended interface	T4 T135°C	0°C to +55°C	35 W	24Vdc
CPX3715-****	Multi-touch Panel PC	T5 T100°C	0°C to +45°C	max 1.7 A	24Vdc
CPX3719-****	Multi-touch Panel PC	T5 T100°C	0°C to +45°C	max 1.7 A	24Vdc
CPX3721-****	Multi-touch Panel PC	T5 T100°C	0°C to +45°C	max 1.7 A	24Vdc
CPX3915-****	Multi-touch Control Panel with CP- Link 4 – The One Cable Display Link	T5 T100°C	0°C to +50°C	max 1.7 A	24Vdc
CPX3919-****	Multi-touch Control Panel with CP- Link 4 – The One Cable Display Link	T5 T100°C	0°C to +50°C	max 1.7 A	24Vdc
CPX3921-****	Multi-touch Control Panel with CP- Link 4 – The One Cable Display Link	T5 T100°C	0°C to +50°C	max 1.7 A	24Vdc
CX5120-xxxx	CX5120-xxxx Embedded PC with Intel® Atom™ processor	T4	-25°C to +60°C	----	24Vdc
CX5130-xxxx	CX5130-xxxx Embedded PC with Intel® Atom™ processor	T4	-25°C to +60°C	----	24Vdc
CX5140-xxxx	CX5140-xxxx Embedded PC with Intel® Atom™ processor	T4	-25°C to +60°C	----	24Vdc

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CX8010	Embedded PC for EtherCAT (Slave)	T4	0°C to +55°C	----	24Vdc
CX8030	Embedded PC with PROFIBUS master	T4	0°C to +55°C	----	24Vdc
CX8031	Embedded PC with PROFIBUS slave	T4	0°C to +55°C	----	24Vdc
CX8050	Embedded PC with CANopen master	T4	0°C to +55°C	----	24Vdc
CX8051	Embedded PC with CANopen slave	T4	0°C to +55°C	----	24Vdc
CX8080	Embedded PC with RS232/RS485	T4	0°C to +55°C	----	24Vdc
CX8090	Embedded PC with Ethernet	T4	0°C to +55°C	----	24Vdc
CX8091	Embedded PC with BACnet/IP and OPC UA	T4	0°C to +55°C	----	24Vdc
CX8093	Embedded PC with PROFINET device	T4	0°C to +55°C	----	24Vdc
CX8095	Embedded PC with EtherNet/IP adapter	T4	0°C to +55°C	----	24Vdc
CX9020	CX9020 Basic PC module	T4	-25°C to +60°C	----	24Vdc
EK1100	EtherCAT Coupler	T4	-25°C to +60°C	----	24Vdc
EK1101	EtherCAT Coupler with ID switch for Ebus terminals	T4	-25°C to +60°C	----	24Vdc
EK1122	2-port EtherCAT junction	T4	-25°C to +60°C	----	----
EK1122-0008	2-port EtherCAT junction with M8 connection	T4	-25°C to +60°C	----	----
EK9300	PROFINET RT Bus Coupler	T4	-25°C to +60°C	----	24Vdc
EKM1101	EtherCAT Coupler with ID switch and diagnostics	T4	-25°C to +60°C	24Vdc	----
EL/ES1004	4-channel digital input terminal 24Vdc, filter 3.0 ms, 1-wire system	T4	-25°C to +60°C	24Vdc	----
EL/ES1008	8-channel digital input terminal 24Vdc, filter 3.0 ms, 1-wire system	T4	-25°C to +60°C	24Vdc	----
EL/ES1052	2-channel digital input terminal NAMUR	T4	-25°C to +60°C	8.2Vdc	----
EL/ES1054	4-channel digital input terminal NAMUR	T4	-25°C to +60°C	8.2Vdc	----
EL/ES1262	2-channel digital input terminal with oversampling	T4	-25°C to +60°C	24Vdc	----

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EL1918	8-channel digital input terminal, TwinSAFE, 24 V DC, TwinSAFE Logic	T4	-25°C to +60°C	----	----
EL/ES2008	8-channel digital output terminal 24 V DC, 0.5 A	T4	-25°C to +60°C	24Vdc/0.5A	----
EL2014	4-channel digital output terminal 24 V DC, 0.5 A, with diagnostics	T4	-25°C to +60°C	24Vdc/0.5A	----
EL/ES2022	2-channel digital output terminal 24 V DC, 2 A	T4	-25°C to +60°C	24Vdc/2A	----
EL/ES2535- 0002	2-channel pulse width current terminals 24 V DC	T4	-25°C to +60°C	24Vdc/±2A	----
EL2535-0005	2-channel pulse width current terminals 24 V DC, 5A	T4	-25°C to +60°C	24Vdc/±5A	----
EL2794	4-channel digital output terminal 30 V AC/DC, 2 A, solid state	T4	-25°C to +60°C	30Vac/dc, 2A	----
EL2809	HD EtherCAT Terminal, 16- channel digital output 24 V DC, 0.5 A	T4	-25°C to +60°C	24Vdc/0.5A	----
EL2904	4-channel digital output terminal, TwinSAFE, 24 V DC, 0.5 A	T4	0°C to +55°C	24Vdc/0.5A	----
EL/ES3044	4-channel analog input terminal 0...20 mA, single-ended, 12 bit	T4	-25°C to +60°C	0 ... 20mA	----
EL/ES3104	4-channel analog input terminal - 10 V...+10 V, differential input, 16 bit	T4	-25°C to +60°C	-10 ... +10V	----
EL/ES3124	4-channel analog input terminal 4...20 mA, differential input, 16 bit	T4	-25°C to +60°C	4 ... 20mA	----
EL/ES3151	1-channel analog supply terminal 4...20 mA, single-ended, 16 bit	T4	-25°C to +60°C	4 ... 20mA	----
EL/ES3152	2-channel analog supply terminal 4...20 mA, single-ended, 16 bit	T4	-25°C to +60°C	4 ... 20mA	----
EL/ES3154	4-channel analog input terminal 4...20 mA, single-ended, 16 bit, 4 x 2-wire system	T4	-25°C to +60°C	4 ... 20mA	----
EL3174	4-channel analog input, -10/0...+10 V, -20/0/+4...+20 mA, 16 bit	T4	-25°C to +60°C	-10/0 ... +10V, -20/0/+4 ... +20mA	----
EL3174-0002	4-channel analog input, -10/0...+10 V, -20/0/+4...+20 mA, electrically isolated, 16 bit	T4	-25°C to +60°C	-3...+3V, -20/0/+4 ... +20mA	----
EL3174-0032	4-channel analog input terminal, - 3...+3 V, -20/0/+4...+20 mA,	T4	-25°C to +60°C	4 ... 20mA	----

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	electrically isolated, 16 bit				
EL/ES3182	2-channel analog input terminal 4...20 mA, single-ended, 16 bit, 4 x 2-wire system	T4	-25°C to +60°C	4 ... 20mA	----
EL/ES3204	4-channel input terminal PT100 (RTD) for resistance sensors, 16 bit, 2-wire system	T4	-25°C to +60°C	----	----
EL3314	4-channel thermocouple input terminal with open-circuit recognition	T4	-25°C to +60°C	----	----
EL3318	HD EtherCAT Terminal, 8-channel thermocouple input with open-circuit recognition	T4	-25°C to +60°C	----	----
EL3356-0010	1-channel precise load cell analysis (resistor bridge), 24 bit	T4	-25°C to +60°C	----	----
EL/ES3702	2-channel analog input terminal - 10...+10 V with oversampling	T4	-25°C to +60°C	-10 ... +10V	----
EL/ES4014	4-channel analog output terminal 0...20 mA, 12 bit	T4	-25°C to +60°C	0 ... 20mA	----
EL/ES4022	2-channel analog output terminal 4...20 mA, 12 bit	T4	-25°C to +60°C	4 ... 20mA	----
EL/ES4732	2-channel analog output terminal - 10...+10 V with oversampling	T4	-25°C to +60°C	-10 ... +10V	----
EL/ES5152	2-channel incremental encoder interface, 32 bit	T4	-25°C to +60°C	----	----
EL6021	Serial interface RS422/RS485	T4	-25°C to +60°C	----	----
EL6021-1001	Serial Communication terminal, 1 channel, RS485, timestamp receive	T4	-25°C to +60°C	12Vdc	24Vdc
EL6070	License key terminal for TwinCAT 3.1	T4	-25°C to +60°C	----	----
EL6601	Ethernet switch port terminal	T4	-25°C to +60°C	----	----
EL/ES9550	System terminal, surge filter system and field supply	T4	-25°C to +60°C	24Vdc	24Vdc
EL/ES1054	4-channel digital input terminal NAMUR	T4	-25°C to +60°C	8.2Vdc	----
ES/EL1002	2-channel digital input terminal 24Vdc, filter 3.0 ms, 1-wire system	T4	-25°C to +60°C	24Vdc	----
KL/KS1352	2-channel digital input terminal 24 V DC for Namur sensors	T4	-25°C to +60°C	24Vdc	----
KL/KS1501	Up/down counter 24 V DC, 100 kHz	T4	-25°C to +60°C	24Vdc	----

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KL/KS2408	8-channel digital output terminal 24 V DC	T4	-25°C to +60°C	24Vdc/0.5A	----
KL/KS2502	2-channel pulse width output terminal 24 V DC	T4	-25°C to +60°C	24Vdc/0.1A	----
KL/KS3012	2-channel analog input terminal 0...20 mA	T4	-25°C to +60°C	0 ... 20mA	----
KL/KS3054	4-channel analog input terminal 4...20 mA	T4	-25°C to +60°C	4 ... 20mA	----
KL/KS4424	4-channel analog output terminal 4...20 mA	T4	-25°C to +60°C	4 ... 20mA	----
KL/KS9110	Potential supply terminal, 24 V DC, with diagnostics	T4	-25°C to +60°C	----	24Vdc
KL9010	End terminal	T4	-25°C to +60°C	----	----

13. Specific Conditions of Use:

Applicable to Type BK, KL, KS, EL, EK, ES, CX

1. The equipment shall be installed within an enclosure that provides a minimum ingress protection of IP54 in accordance with ANSI/UL 60079-0.
2. The equipment shall only be used in an area of at least pollution degree 2, as defined in IEC 60664-1
3. Transient protection shall be provided that is set at a level not exceeding 140% of the peak rated voltage value at the supply terminals to the equipment
4. The circuits shall be limited to overvoltage Category II as defined in IEC 60664-1
5. The Fieldbus Components may only be removed or inserted when the system supply and the field supply are switched off, or when the location is known to be non-hazardous.
6. The Fieldbus Components may only be disconnected or connected when the system supply is switched off, or when the location is known to be non-hazardous.

Applicable to Type CPX2***

1. The panel shall be built in the wall of a control cabinet fulfilling all relevant clauses of ANSI/UL 60079-0 and ANSI/UL 60079-7. The panel itself fulfills all mechanical requirements according to ANSI/UL 60079-0 and the degrees of protection IP54 resp. IP6X according to ANSI/ISA 60529 if mounted according to the User's Manual
2. The equipment shall only be used in an area of at least pollution degree 2, as defined in IEC 60991-1
3. Transient protection shall be provided that is set at a level not exceeding 119V
4. The panel shall not be exposed to direct sunlight
5. The panel shall only be mounted vertically in landscape format

Applicable to Type CPX3***

1. The equipment shall only be used in an area of at least pollution degree 2, as defined in IEC 60664-1
2. Transient protection shall be provided that is set at a level not exceeding 119V

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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
2 nd November 2020	Original Issue.
6 th April 2021	Supplement 1: Report Reference: PR459744 dated 6 th April 2021. Description of the Change: <ol style="list-style-type: none">1) Class II and Class III, Division 2 ratings added for CPX2*** and CPX3*** terminals2) Zone 22 ratings added for CPX2*** and CPX3*** terminals3) ANSI/UL 60079-31 added to standards list

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