

SIMATIC IPC BX-59A Industrial Edge Device; mainboard (chipset R680E); 4x Gigabit Ethernet (IE/PN) RJ45; 6x USB 3.1 generation 2; 1x USB-C, 2x serial (COM); 2x DP; audio; 2x SIM slots; 2xM.2 flex module slots internal; RAID controller onboard; watchdog,temperature/fan monitoring; Industrial Edge Runtime preinstalled EM2: PCIe x 16 gen4 + graphics card NVIDIA L4 and PCIe x 4 and 1 dual-port 10 GB fiber card; with 1 SFP+ transceiver Core i9-13900E, 65 W; 24C(8P+16E)/32T, 1.8(5.2) GHz; with 24 V DC, 400 W power supply 1 TB M.2 NVME SSD [Eco] internal 32 GB DDR5(1*32) without hardware extension (M.2) no power supply unit cable EM without storage

General information	
Product type designation	BX-59A
Installation type/mounting	
Mounting	Wall mounting, book mounting, desk mounting, tower mounting
Design	Box PC, built-in unit
Supply voltage	
Rated value (DC)	24 V
Mains buffering	
• Mains/voltage failure stored energy time	20 ms
Processor	
Chipset	Intel R680E
Graphic	
Graphics controller	Intel UHD Graphics 770 (Core i5, Core i7, Core i9)
Drives	
SSD	Yes
Memory	
Type of memory	DDR5-4800 SO-DIMM
Capacity of main memory, max.	32 Gbyte
Data areas and their retentivity	
Retentive data area (incl. timers, counters, flags), max.	512 kbyte; 128 KB can be stored in the buffer time
Interfaces	
Number of industrial Ethernet interfaces	4; 4x Gigabit Ethernet (RJ45)
USB port	1x USB 3.2 Gen2 10G Type C, 6x USB 3.2 Gen 2 10G Type A
Connection for keyboard/mouse	USB / USB
Multimedia	
• Audio In/Out	Yes
Video interfaces	
• Graphics interface	2x DisplayPort
Industrial Ethernet	
• Industrial Ethernet interface	4x Gigabit Ethernet (RJ45)
— 100 Mbps	Yes
— 1000 Mbps	Yes
Integrated Functions	
Monitoring functions	
• Temperature monitoring	Yes
• Watchdog	Yes
• Fan	Yes
• Monitoring function via network	Optional
EMC	
Interference immunity against discharge of static electricity	
• Interference immunity against discharge of static electricity	±6 kV contact; ±8 kV air (to IEC 1000-4-2; ESD)
Interference immunity against high-frequency electromagnetic fields	
• Interference immunity against high frequency radiation	10 V/m, 80 MHz to 2 700 MHz, 80 % AM acc. to IEC 61000-4-3; 3 V/m, 2.7

GHz to 6 GHz, 80 % AM acc. to IEC 61000-4-3; 10 V, 10 kHz to 80 MHz, 80 % AM acc. to IEC 61000-4-6

Interference immunity to cable-borne interference	
<ul style="list-style-type: none"> • Interference immunity on supply cables 	±2 kV (according to IEC 61000-4-4, burst); ±1 kV (according to IEC 61000-4-5, surge pulse/line to line); ±2 kV (according to IEC 61000-4-5, surge pulse/line to ground)
<ul style="list-style-type: none"> • Interference immunity on signal cables >30m 	burst: ±2 kV (5 kHz / 100 kHz) in accordance with IEC 61000-4-4; length of signal port extension cable ≥ 30 m; surge: ±2 kV line-to-earth in accordance with IEC 61000-4-5; length of signal port extension cable ≥ 10 m
<ul style="list-style-type: none"> • Interference immunity on signal cables < 30m 	burst: ±1 kV (5 kHz / 100 kHz) in accordance with IEC 61000-4-4; length of signal port extension cable < 30 m; surge: ±2 kV line-to-earth in accordance with IEC 61000-4-5; length of signal port extension cable ≥ 10 m

Interference immunity to magnetic fields	
<ul style="list-style-type: none"> • Interference immunity to magnetic fields at 50 Hz 	100 A/m; to IEC 61000-4-8

Emission of conducted and non-conducted interference	
<ul style="list-style-type: none"> • Interference emission via line/AC current cables 	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A

Compliance with line harmonic distortion limits	
<ul style="list-style-type: none"> • Compliance with line harmonic distortion acc. to IEC 61000-3-2, IEC 61000-3-3 	Yes; EN 61000-3-2 Class D; EN 61000-3-3

Degree and class of protection	
IP degree of protection	IP20 with fan, IP40 without fan

Standards, approvals, certificates	
CE mark	Yes; also UKCA
cULus	Yes
RCM (formerly C-TICK)	Yes
FCC	Yes
EMC	EMC EN 61000-6-1, EN IEC 61000-6-1, EN 61000-6-2, EN IEC 61000-6-3, EN IEC 61000-6-4

Ambient conditions	
Ambient temperature during operation	
<ul style="list-style-type: none"> • min. 	0 °C
<ul style="list-style-type: none"> • max. 	55 °C

Ambient temperature during storage/transportation	
<ul style="list-style-type: none"> • min. 	-20 °C
<ul style="list-style-type: none"> • max. 	60 °C

Relative humidity	
<ul style="list-style-type: none"> • Relative humidity 	tested according to IEC 60068-2-78, IEC 60068-2-30: operation: 5 % to 85 % at 30 °C (no condensation) storage: 5 % to 95 % at 25 °C / 55 °C (no condensation)

Vibrations	
<ul style="list-style-type: none"> • Vibration resistance during operation acc. to IEC 60068-2-6 	tested in accordance with IEC 60068-2-6; operation - base module (5 to 8.4 Hz: 3.5 mm; 8.4 to 200 Hz: 9.8 m/s ²); extension module w/o storages (10 to 58 Hz: 0.0375 mm; 58 to 200 Hz: 4.9 m/s ²); extension module with HDD (10 to 58 Hz: 0.015 mm; 58 to 200 Hz: 1.96 m/s ²); extension module with SSD (10 to 58 Hz: 0.0375 mm; 58 to 200 Hz: 4.9 m/s ²); storage / transport - 5 to 8.4 Hz: 3.5 mm; 8.4 to 500 Hz: 9.8 m/s ²

Shock testing	
<ul style="list-style-type: none"> • Shock load during operation 	tested in accordance with IEC 60068-2-27; operation - base module (150 m/s ² , 11 ms); extension module w/o HDD (150 m/s ² , 11 ms); extension module with HDD (10 m/s ² , 20 ms); storage / transport - 250 m/s ² , 6 ms

Operating systems	
pre-installed operating system	Edge OS
without operating system	No

Dimensions	
Width	137.5 mm
Height	194 mm
Depth	307 mm

Classifications			
		Version	Classification
	eClass	14	19-20-01-02
	eClass	12	19-20-01-02
	eClass	9.1	19-20-01-02
	eClass	9	19-20-01-02

eClass	8	19-20-01-02
eClass	7.1	19-20-01-02
eClass	6	19-20-01-02
ETIM	10	EC001413
ETIM	9	EC001413
ETIM	8	EC001413
ETIM	7	EC001413

Approvals / Certificates

General Product Approval

[Miscellaneous](#)

[China RoHS](#)

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