

BECKHOFF New Automation Technology

Documentation | EN

Industrial PCs for the XTS system



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1 General Information



Use of specific configurations

Due to the special real-time requirements of a XTS system, Beckhoff recommends the Industrial PC and CX configurations listed in this document. *If different configurations are used, stable operation of the XTS cannot be guaranteed.*

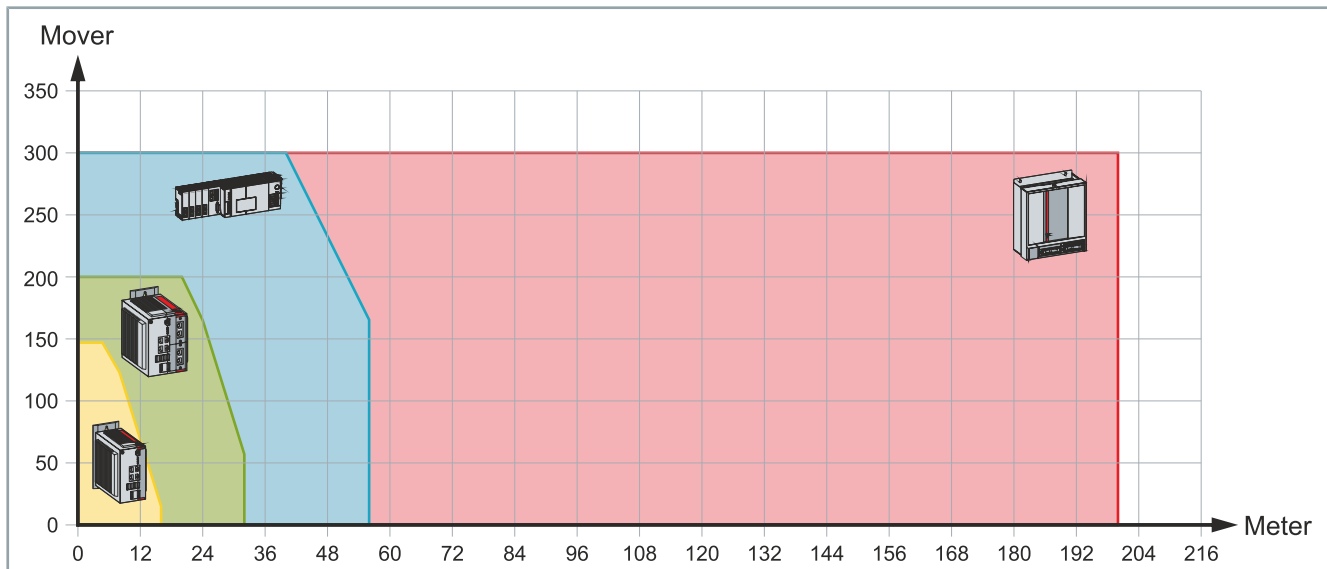


Data valid for XTS modules standard

The information on system length and number of movers refers to standard AT20xx-0xxx modules, the following applies to other modules:

Modules	System length [m]	Number of movers
EcoLine AT22xx-0500	-10 %	-20 %
Hygienic ATH20xx-0xxx	-33 %	-10 %

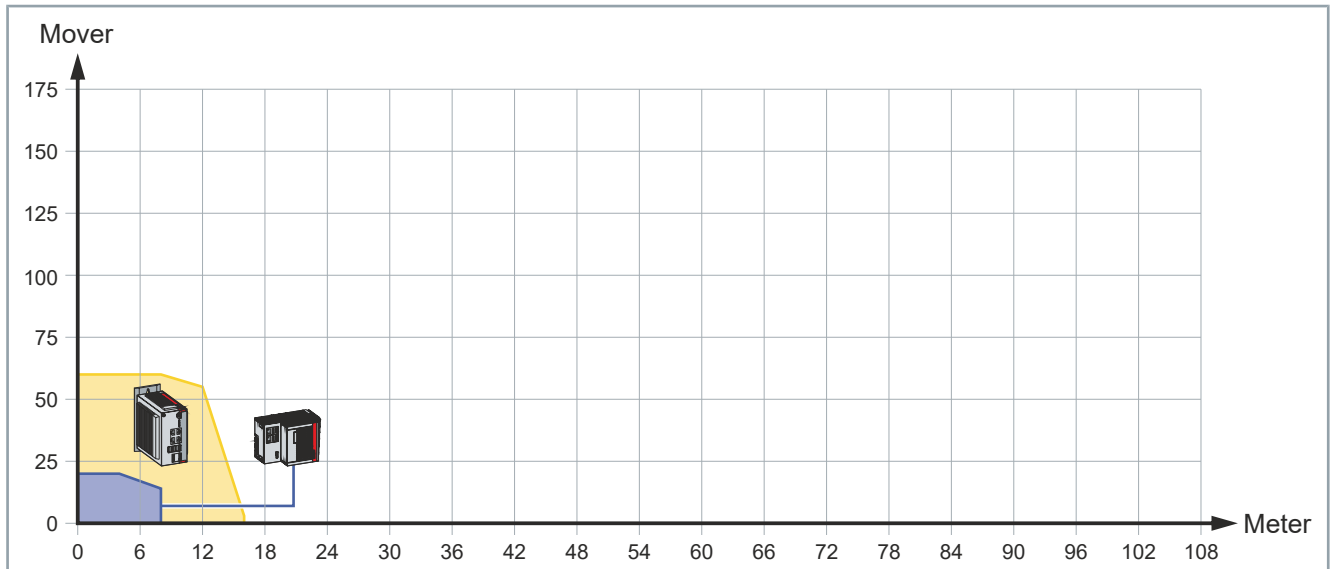
1.1 Overview of recommended Industrial PCs





	C6030-0080 with i5	Regular delivery
	Configuration number with license	000653433
	Configuration number without license	000546023
	Further information in chapter "C6030-0080 with i5", [Page 8].	
	C6032-0080 with i7	Regular delivery
	Configuration number with license	000619968
	Configuration number without license	000653434
	Further information in chapter "C6032-0080 with i7", [Page 10].	
	CX2072-0225	Regular delivery
	Configuration number with license	<i>not created</i>
	Configuration number without license	<i>not created</i>
	Further information in chapter "CX2072-0225", [Page 12].	
	C6670-0020	Regular delivery
	Configuration number with license	<i>not created</i>
	Configuration number without license	<i>not created</i>
	Further information in chapter "C6670-0020", [Page 14].	

1.2 Overview of recommended Industrial PCs | Runtime only

The following Industrial PCs can be used for small XTS systems. However, it is recommended to run only the *TwinCAT runtime* on this system. *TwinCAT Engineering* should be used on a different Industrial PC if possible.













● ● ● C6030-00x0 with i3	Regular delivery	
	Configuration number with license	<i>not created</i>
	Configuration number without license	<i>not created</i>
	Further information in chapter "C6030-00x0 with i3", [Page 16].	
● ● ● CX5340-0225	Regular delivery	
	Configuration number with license	<i>not created</i>
	Configuration number without license	<i>not created</i>
	Further information in chapter "CX5340-0225", [Page 18].	

1.3 Overview Operating Systems

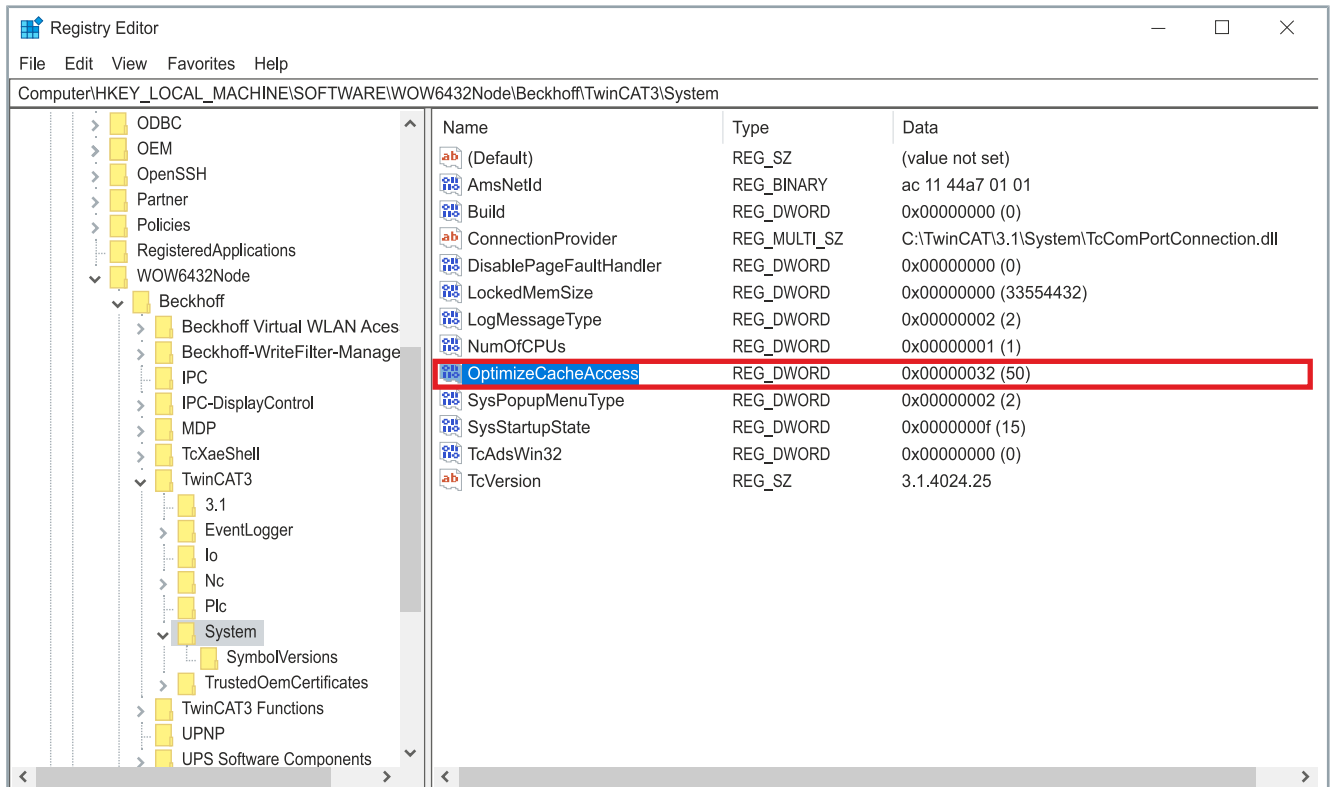
By default, the Industrial PCs and CX configurations are delivered with a Windows image. TwinCAT/BSD and Linux® are available for selected configurations.

Recommended Industrial PCs

Industrial PC	TwinCAT/BSD	Windows 10	Windows 11	Linux®
 C6030-0080	✓	✓	✓	 COMING SOON
 C6032-0080 8 Cores	✓	✓	✓	 COMING SOON
 CX2072	✓	✓	✓	 COMING SOON
 C6670-0020	✗	✓	✓	 COMING SOON
 CX5340	✓	✓	✓	 COMING SOON

1.4 Registry keys for optimized real-time performance of the controller

To improve the real-time performance of the controller, a registry key must be set up. The registry key is required for each controller listed in this document.



Key

OptimizeCacheAccess = 0x32 (hex)

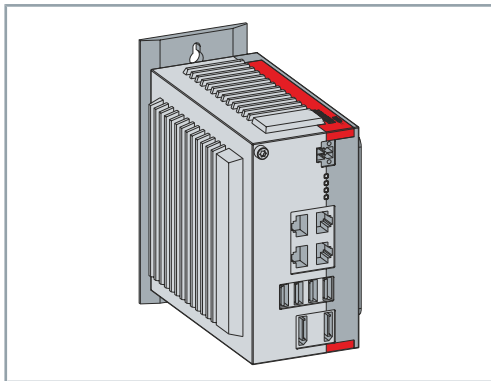
Type

REG_DWORD

File path

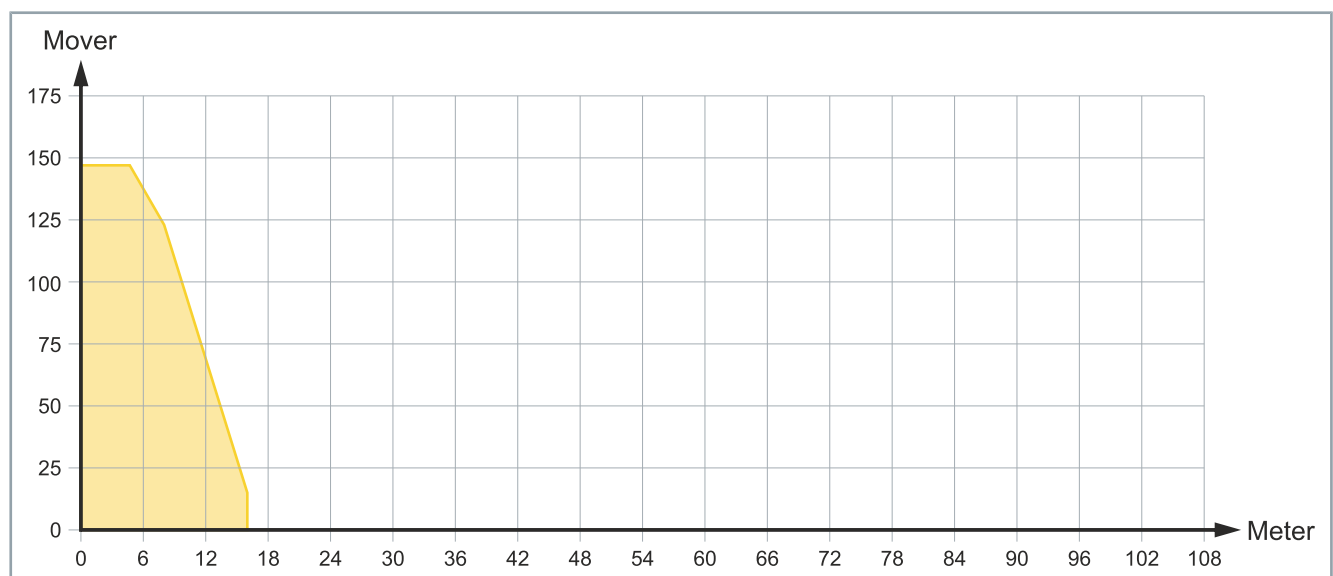
Computer\HKEY_LOCAL_MACHINE\SOFTWARE\WOW6432Node\Beckhoff\TwinCAT3\System

2 C6030-0080 with i5



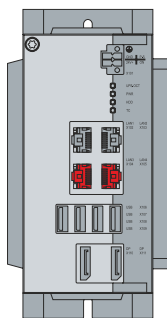
Configuration number with license	000653433
Configuration number without license	000546023

Number of movers / system length



Meter	4	8	12	16	20	24	28	32	36	40	44	48	52	56	60
Mover	147	123	69	15	-	-	-	-	-	-	-	-	-	-	-

2.1 Technical data



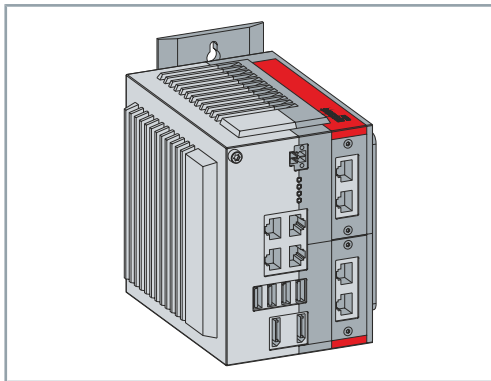
	CPU cores	EtherCAT ports
Total number	6	4
• maximally usable for XTS	2	2
• Reserve for NC, PLC, HMI, etc.	2	2
• Reserve for TwinCAT Engineering and third-party software	2	
Maximum number of XTS infeed lines	8 ¹⁾	

1) 2 x CU2508 with 4 infeeds each

2.2 Configuration

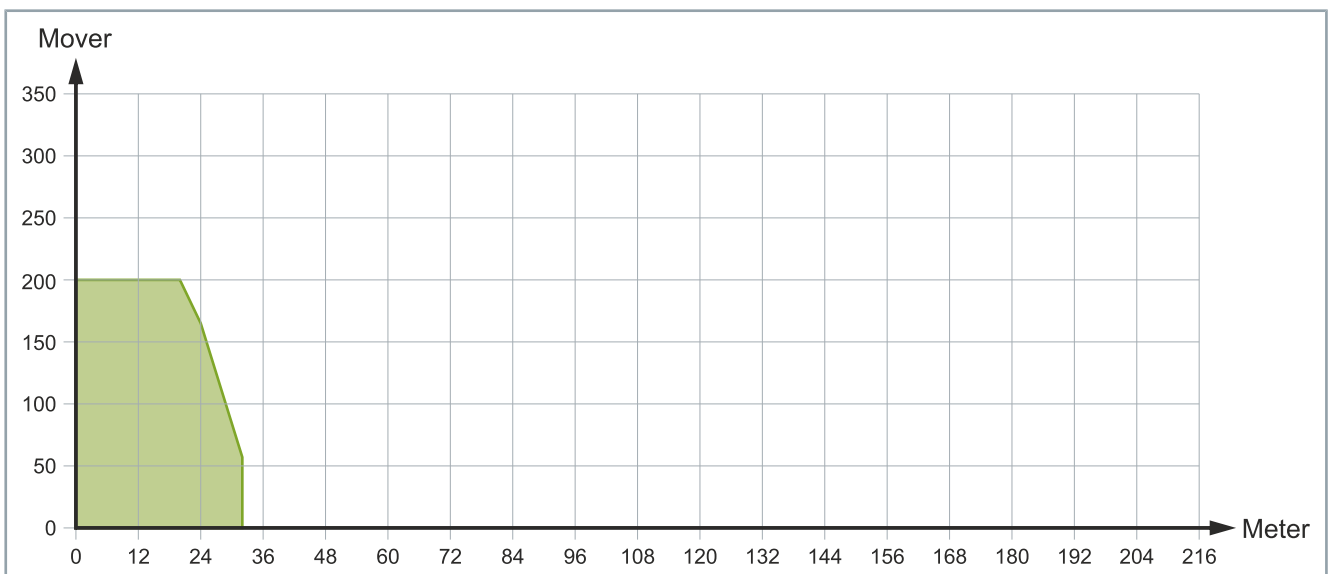
Options	Description	Number
C6030-0080	Ultra-compact industrial PCs <ul style="list-style-type: none"> • Intel® Core™ i5, 6 Cores (TC3: 70) • compact motherboard for Intel® Celeron®, Core™ i3/i5/i7 11th generation processors • Graphics card, integrated into the processor • 3 x 100/1000/2500BASE-T and 1 x 100/1000BASE-T on-board • 24 V DC output voltage 	1
C9900-C640	Processor 11th generation Intel® Core™ i5-11500HE, 2.6 GHz base frequency, 6 cores (TC3: 70), instead of Intel® Celeron® 6600HE 2.6 GHz (TC3: 50)	1
C9900-R271	Memory extension to 16 GB DDR4 RAM, instead of 4 GB	1
C9900-H598	160 GB M.2 SSD, 3D flash, extended temperature range, instead of 40 GB M.2 SSD	1
C9900-S540	Windows 11 IoT Enterprise 2024 LTSC, 64 bit, English, for Industrial PCs with Intel® Celeron®, Pentium®, Core™ i3 or Core™ i5 from the 8th generation	1
TC1250-0070	TwinCAT 3 PLC/NC PTP 10 axes, platform level 70 (High Performance)	1
TF5850-0070	Software license, TwinCAT 3 XTS Extension, platform level 70 (Very High Performance)	1

3 C6032-0080 with i7



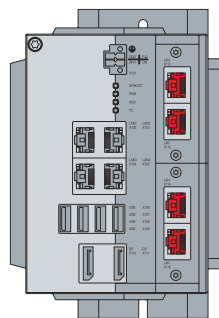
Configuration number with license	000619968
Configuration number without license	000653434

Number of movers / system length



Meter	4	8	12	16	20	24	28	32	36	40	44	48	52	56	60
Mover	200	200	200	200	200	165	111	57	-	-	-	-	-	-	-

3.1 Technical data



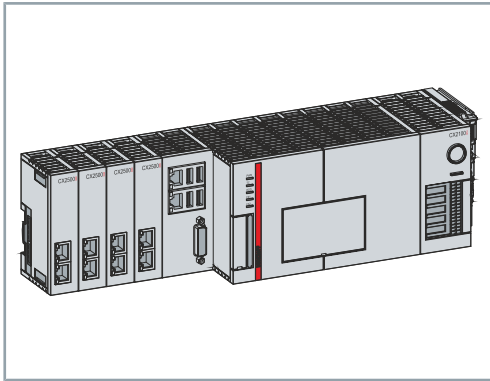
	CPU cores	EtherCAT ports
Total number	8	8
• maximally usable for XTS	4	4
• Reserve for NC, PLC, HMI, etc.	2	4
• Reserve for TwinCAT Engineering and third-party software	2	
Maximum number of XTS infeed lines	16 ¹⁾	

1) 4 x CU2508 with 4 infeeds each

3.2 Configuration

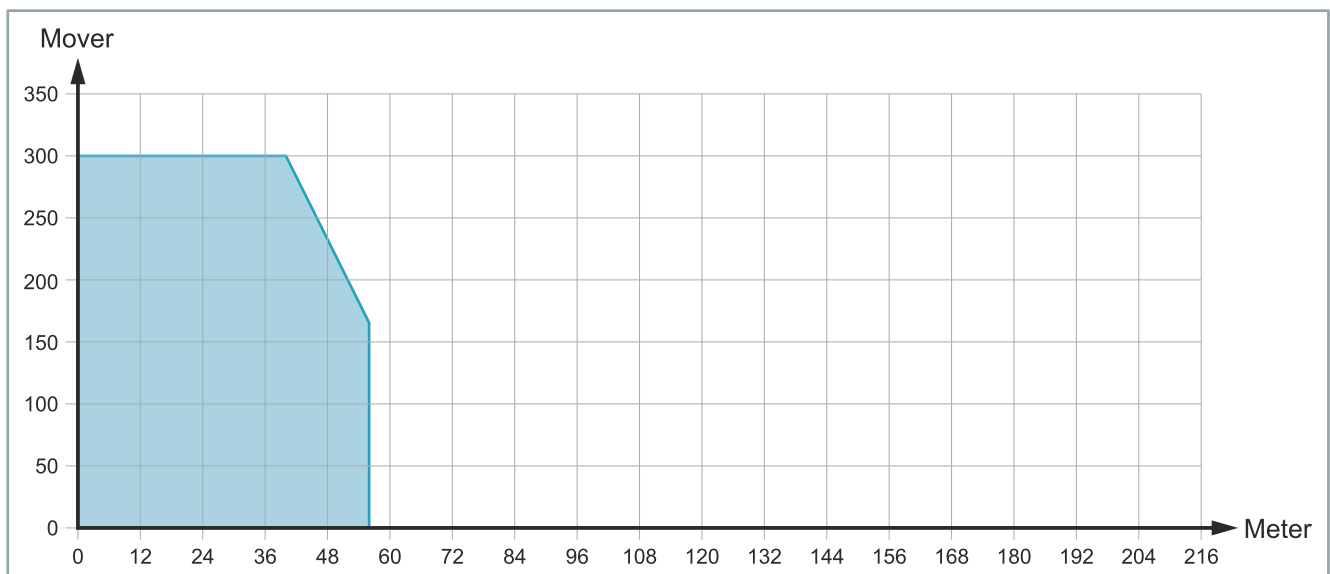
Options	Description	Number
C6032-0080	Ultra-compact industrial PCs <ul style="list-style-type: none"> • Intel® Core™ i7, 8 Cores (TC3: 80) • compact motherboard for Intel® Celeron®, Core™ i3/i5/i7 11th generation processors • 2 PCIe® compact module slot for inserting a Beckhoff PCIe® compact module • Graphics integrated into the processor • 3 x 100/1000/2500BASE-T and 1 x 100/1000BASE-T on-board • 24 V DC power supply 	1
C9900-C641	Processor 11th generation Intel® Core™ i7-11850HE, 2.6 GHz base frequency, 8 cores (TC3: 80), instead of Intel® Celeron® 6600HE 2.6 GHz (TC3: 50)	1
C9900-R271	Memory extension to 16 GB DDR4 RAM, instead of 4 GB	1
C9900-H598	160 GB M.2 SSD, 3D flash, extended temperature range, instead of 40 GB M.2 SSD	1
C9900-S542	Windows 11 IoT Enterprise 2024 LTSC, 64 bit, English, for industrial PCs with Intel® Core™ i7 or Core™ i9 from the 8th generation	1
TC1250-0080	TwinCAT 3 PLC/NC PTP 10 axes, platform level 80 (Very High Performance)	1
TF5850-0080	Software license, TwinCAT 3 XTS Extension, platform level 80 (Very High Performance)	1
FC9082	Gigabit Ethernet PCIe® compact module for PCs with Beckhoff PCIe® compact module slots, 2-channel, PCI Express®-x1 bus	2

4 CX2072-0225



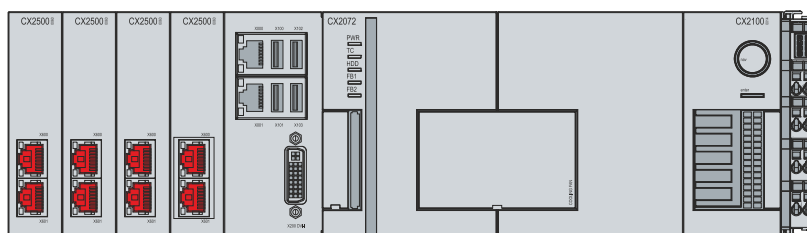
Configuration number with license	<i>not created</i>
Configuration number without license	<i>not created</i>

Number of movers / system length



Meter	4	8	12	16	20	24	28	32	36	40	...	56	60	64	68
Mover	300	300	300	300	300	300	300	300	300	300	...	165	-	-	-

4.1 Technical data



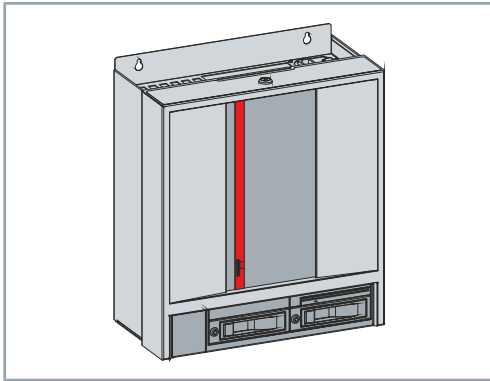
	CPU cores	EtherCAT ports
Total number	12	10
• maximally usable for XTS	8	8
• Reserve for NC, PLC, HMI, etc.	2	2
• Reserve for TwinCAT Engineering and third-party software	2	
Maximum number of XTS infeed lines	32 ¹⁾	

1) 8 x CU2508 with 4 infeeds each

4.2 Configuration

Options	Description	Number
CX2072-0225	Embedded PC with Intel® Xeon® D-1567 <ul style="list-style-type: none"> • Intel® Xeon® D-1567 2.1 GHz • Slot for CFast card • Microsoft Windows 11 IoT Enterprise 2024 LTSC, 64 bit, TwinCAT 3 Runtime (XAR) • 24 V DC (-15 %/+20 %) power supply 	1
CX2900-0205	Memory expansion to 16 GB DDR4 RAM instead of 8 GB DDR4 RAM	1
CX2900-0010	Operating system pre-installed on 2½-inch HDD/SSD	1
CX2550-0020	Extension module for 2½-inch HDD/SSD	1
CX2900-0503	Hard disk drive 240 GB SSD, SATA, 3D-Flash, 2½-inch	1
CX2100-0014	Power supply unit, 130 W, power supply 24 V DC (-15 & /+20 %)	1
CX2500-0060	Ethernet module <ul style="list-style-type: none"> • 2 x Ethernet interfaces, 10/100/1000 Mbit/s • Connection type 2 x RJ45 • PCI Express® connection • Protection class IP20 • Operating temperature -25 °C to +65 °C • Storage temperature -40 °C to +85 °C 	4
TC1250-0081	TwinCAT 3 PLC/NC PTP 10 axes, platform level 81 (Very High Performance)	1
TF5850-0081	Software license, TwinCAT 3 XTS Extension, platform level 81 (Very High Performance)	1

5 C6670-0020



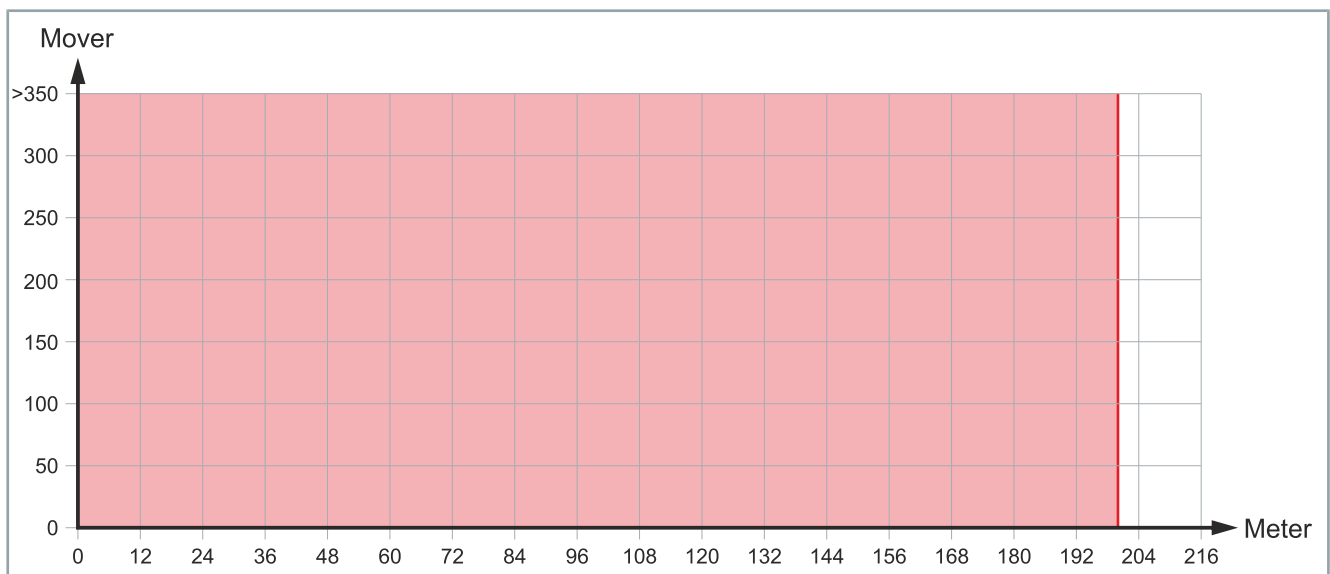
Configuration number with license	<i>not created</i>
Configuration number without license	<i>not created</i>

There are a variety of usable CPUs for the C6670-0020. The right CPU for each application must be chosen on a case-by-case basis.

We generally recommend using the CPU option C9900-C595. This has the best single-core performance and is therefore particularly suitable for systems with many movers in the NC2.

Further information can be found in chapter "Possible CPU option", [Page 14].

Number of movers / system length



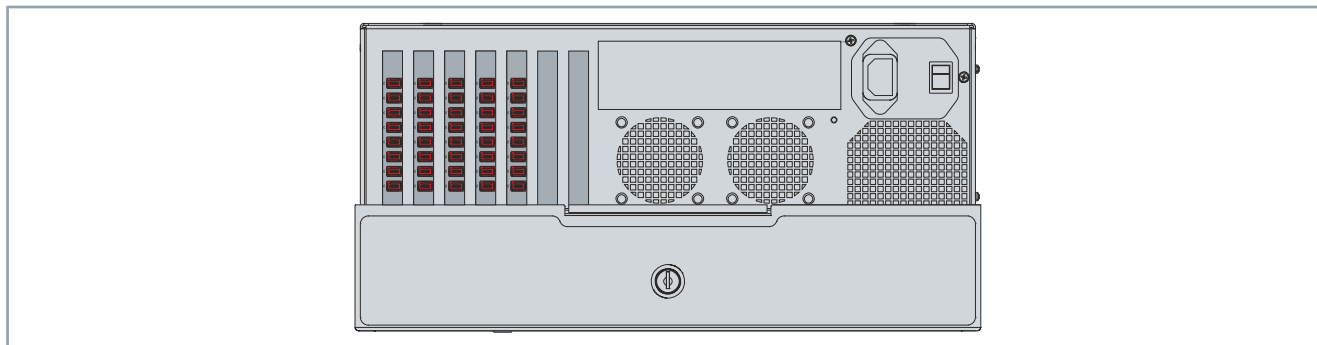
Meter	4	8	12	16	20	24	28	...	176	180	184	188	192	196	200
Mover	300	300	300	300	300	300	300	...	300	300	300	300	300	300	300

Possible CPU option

Options	Description	Number
C9900-C593	2 processors Intel® Xeon® Silver 4510, 2.4 GHz, 12 cores per processor (TC3:83)	1
C9900-C595¹⁾	2 processors Intel® Xeon® Gold 6526Y, 2.8 GHz, 16 cores per processor (TC3:83)	1
C9900-C596	2 processors Intel® Xeon® Silver 4516Y+, 2.2 GHz, 24 cores per processor (TC3:84)	1
C9900-C598	2 processors Intel® Xeon® Gold 6530, 2.1 GHz, 32 cores per processor (TC3:84)	1

1) CPU option recommended by beckhoff.

5.1 Technical data



	CPU cores	EtherCAT ports
Total number	≤ 64	≤ 82
• maximally usable for XTS	32	80
• Reserve for NC, PLC, HMI, etc.	28	2
• Reserve for TwinCAT Engineering and third-party software	4	
Maximum number of XTS infeed lines	80 ¹⁾	

1) 5 x FC1028 with 16 infeeds each

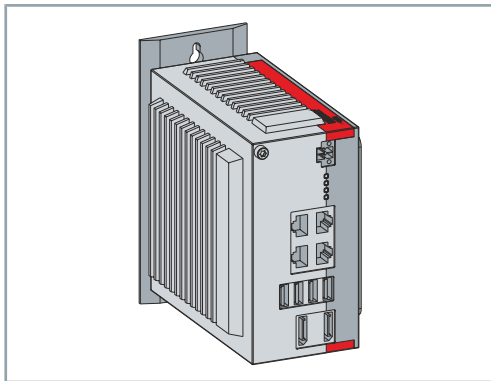
5.2 Configuration

Options	Description	Number
C6670-0020	Control cabinet industrial server <ul style="list-style-type: none"> • Server motherboard for 5th generation Intel® Xeon® Scalable processors • 1 x PCIe®-x8, 5 x PCIe®-x16 for full-length plug-in cards • Graphics card, 1 DVI-I and 1 DVI-D connection, occupies one PCIe® x16 slot • 2 x 10GBASE-T on-board • 2 removable frames for hard disks • 100...240 V AC power supply 	1
C9900-M629	Removable frame for a 2½-inch SSD, instead of removable frame for a 3½-inch hard disk	2
C9900-H751	Solid-state disk SSD, 3D flash, 2½-inch, 240 GB, instead of 3½-inch hard disk	1
C9900-S515	Windows 10 IoT Enterprise 2021 LTSC, 64 bit, English, for industrial PCs with Intel® Core™ i7, i9 and industrial server C6670	1
TC1250-008x ¹⁾	TwinCAT 3 PLC/NC PTP 10 axes, platform level 8x* (Very High Performance)	1
TF5850-008x ¹⁾	Software license, TwinCAT 3 XTS Extension, platform level 8x* (Very High Performance)	1
FC1028	EtherCAT master card, 16 channels, PCIe® x4	1 to 5
C9900-C595 ²⁾	2 processors Intel® Xeon® Gold 6526Y, 2.8 GHz, 16 cores per processor (TC3:83)	1

1) The platform level depends on the CPU used.

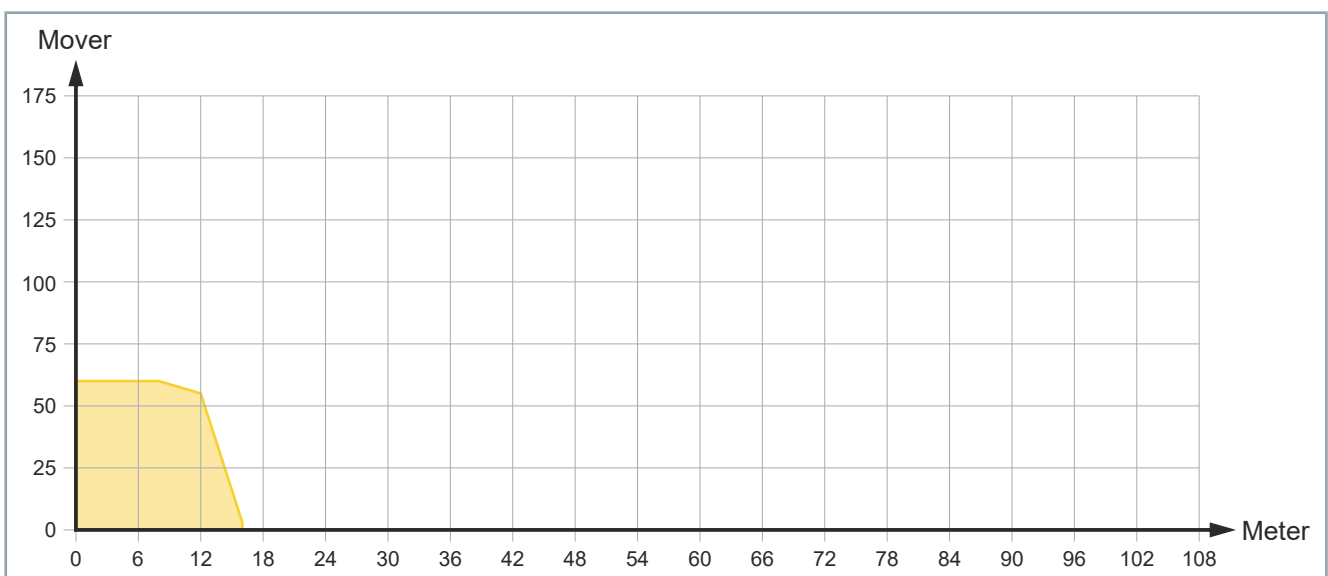
2) Other CPUs are possible. Further information can be found in chapter "Possible CPU option", [Page 14].

6 C6030-00x0 with i3



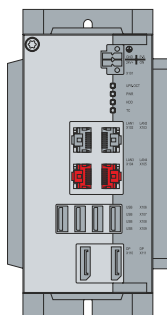
Configuration number with license	<i>not created</i>
Configuration number without license	<i>not created</i>

Number of movers / system length



Meter	4	8	12	16	20	24	28	32	36	40	44	48	52	56	60
Mover	60	60	55	3	-	-	-	-	-	-	-	-	-	-	-

6.1 Technical data



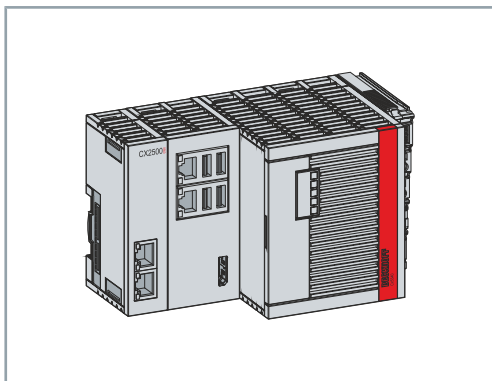
	CPU cores	EtherCAT ports
Total number	4	4
• maximally usable for XTS	2	2
• Reserve for NC, PLC, HMI, etc.	1	2
• Reserve for TwinCAT Engineering and third-party software	1	
Maximum number of XTS infeed lines	8 ¹⁾	

1) 2 x CU2508 with 4 infeeds each

6.2 Configuration

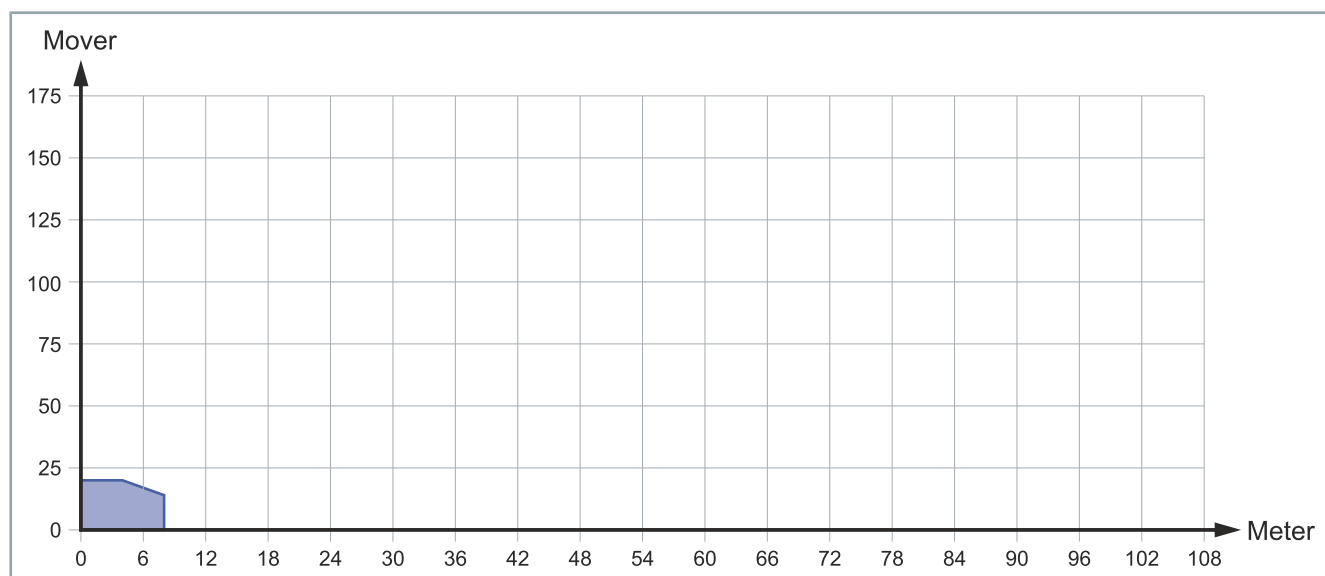
Options	Description	Number
C6030-0080	Ultra-compact industrial PCs <ul style="list-style-type: none"> • Intel® Core™ i5, 6 Cores (TC3: 70) • compact motherboard for Intel® Celeron®, Core™ i3/i5/i7 11th generation processors • Graphics card, integrated into the processor • 3 x 100/1000/2500BASE-T and 1 x 100/1000BASE-T on-board • 24 V DC output voltage 	1
C9900-C639	Processor 11th generation Intel® Core™ i3-11100HE, 2.4 GHz base frequency, 4 cores (TC3: 60), instead of Intel® Celeron® 6600HE 2.6 GHz (TC3: 50)	1
C9900-R271	Memory extension to 16 GB DDR4 RAM, instead of 4 GB	1
C9900-H598	160 GB M.2 SSD, 3D flash, extended temperature range, instead of 40 GB M.2 SSD	1
C9900-S540	Windows 11 IoT Enterprise 2024 LTSC, 64 bit, English, for Industrial PCs with Intel® Celeron®, Pentium®, Core™ i3 or Core™ i5 from the 8th generation	1
TC1250-0060	TwinCAT 3 PLC/NC PTP 10 axes, platform level 60 (Mid Performance)	1
TF5850-0060	Software license, TwinCAT 3 XTS Extension, platform level 60 (Mid Performance)	1

7 CX5340-0225



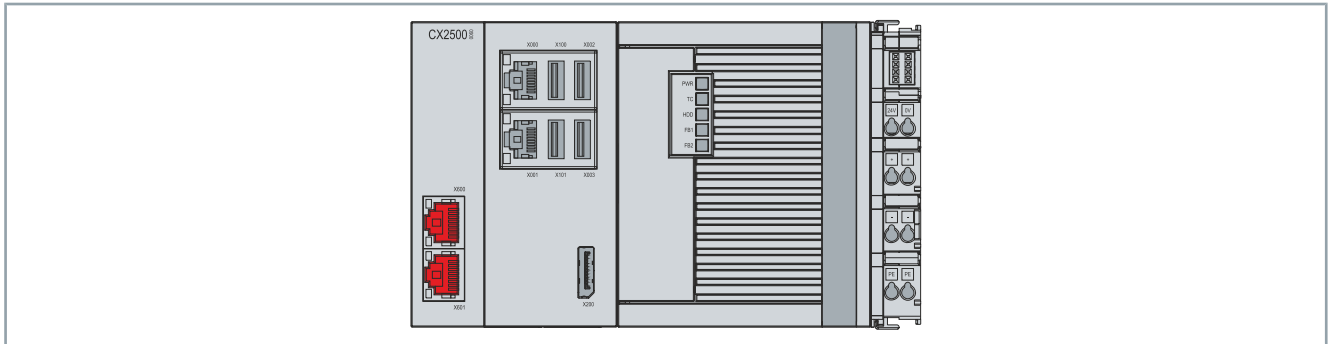
Configuration number with license	<i>not created</i>
Configuration number without license	<i>not created</i>

Number of movers / system length



Meter	4	8	12	16	20	24	28	32	36	40	44	48	52	56	60
Mover	20	14	-	-	-	-	-	-	-	-	-	-	-	-	-

7.1 Technical data



	CPU cores	EtherCAT ports
Total number	4	4
• maximally usable for XTS	2	2
• Reserve for NC, PLC, HMI, etc.	1	2
• Reserve for TwinCAT Engineering and third-party software	1	
Maximum number of XTS infeed lines	8 ¹⁾	

1) 2 x CU2508 with 4 infeeds each


7.2 Configuration





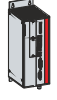
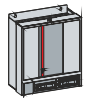
Options	Description	Number
CX5340-0225	Embedded PC with Intel Atom® x6425RE • CPU module, Microsoft Windows 11 IoT Enterprise 2024 LTSC, 64 bit, TwinCAT 3 runtime (XAR), no licenses included	1
CX2500-0060	Ethernet module • 2 x Ethernet interfaces, 10/100/1000 Mbit/s • Connection type 2 x RJ45 • PCI Express® connection • Protection class IP20 • Operating temperature -25 °C to +65 °C • Storage temperature -40 °C to +85 °C	1
CX2900-0042	160 GB CFast card, 3D flash, extended temperature range	1
TC1250-0050	TwinCAT 3 PLC/NC PTP 10 axes, platform level 50 (Performance Plus)	1
TF5850-0050	Software license, TwinCAT 3 XTS Extension, platform level 50 (Performance Plus)	1

8 Overview of previous Industrial PCs

All Beckhoff products go through different life phases. The list shows you all Industrial PCs recommended for XTS systems to date and the corresponding successor products.

Further information on service products and availability can be found at:

 <https://www.beckhoff.com/de-de/support/service-produkte/>

●●● C6032-0070 with i7		Regular delivery
	Configuration number with license	000153940
	Configuration number without license	000157520
	Successor product	C6032-0080 – i7
●●● CX2062-0155		Regular delivery
	Configuration number with license	261471
	Configuration number without license	261512
	Successor product	CX2062-0195
●●● CX2072-0155		Regular delivery
	Configuration number with license	201126
	Configuration number without license	261511
	Successor product	CX2072-0225
●●● C6930-0070 with i5		Regular delivery
	Configuration number with license	-
	Configuration number without license	-
	Successor product	-
●●● C6930-1106-0050		discontinued*
	Configuration number with license	-
	Configuration number without license	-
	Successor product	C6930-0070 – i5
●●● C6670-0010		discontinued
	Configuration number with license	-
	Configuration number without license	-
	Successor product	CX2062-0195

1) still available via Beckhoff Service. For further information, please contact Beckhoff Service: service@beckhoff.com

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