Data sheet | Power loss and power consumption

Power loss and power consumption of an Industrial PC are almost alike. All electrical power is converted into heat energy. The light energy radiated by the display is too small to put into consideration.

If additional external devices are connected to as well as supplied by the IPC (e.g. USB devices), the power consumption is accordingly higher. On top of that, the power loss is increased due to the power pack losses by 10% of the additional power consumption.

Industrial PC without display, with 1 SSD/ HDD, with CPU type	power consumption	power loss
Intel Atom®, E3815, 1.46 GHz	max. 14 watt	max. 14 watt
Intel Atom®, E3827, 1.75 GHz (2 cores)	max. 17 watt	max. 17 watt
Intel Atom®, E3845, 1.91 GHz (4 cores)	max. 19 watt	max. 19 watt
Intel Atom® x5, E3930, 1.3 GHz (2 cores)	max. 15 watt	max. 15 watt
Intel Atom® x5, E3940, 1.6 GHz (4 cores)	max. 20 watt	max. 20 watt
Intel® Atom® X6, X6214RE, 1.4 GHz (2 cores)	max. 17 watt	max. 17 watt
Intel® Atom® X6, X6416RE, 1,7 GHz (4 cores)	max. 22 watt	max. 22 watt
Intel® Celeron® 4305UE 8th gen., 2.0 GHz (2 cores) C602x	max. 22 watt	max. 22 watt
Intel® Core™ i3-8145UE 8th gen., 2.2 GHz (2 cores) C602x	max. 22 watt	max. 22 watt
Intel® Core™ i5-8365UE 8th gen., 1.6 GHz (4 Cores) C602x	max. 24 watt	max. 24 watt
Intel® Core™ i7-8665UE 8th gen., 1.7 GHz (4 Cores) C602x	max. 27 watt	max. 27 watt
Intel® Celeron® 6305E 11th gen., 1.8 GHz (2 cores) C602x	max. 29 watt	max. 29 watt
Intel® Core™ i3-1115G4E 11th gen., 2.2 GHz (2 cores) C602x	max. 29 watt	max. 29 watt
Intel® Core™ i5-1145G7E 11th gen., 1.5 GHz (4 cores) C602x	max. 30 watt	max. 30 watt
Intel® Core™ i7-1185G7E 11th gen., 1.8 GHz (4 cores) C602x	max. 36 watt	max. 36 watt
Intel® Celeron® 3900TE 6th gen., 2.3 GHz (2 Cores) 3½-inch	max. 40 watt	max. 40 watt
Intel® Pentium® G4400TE 6th gen. 2.4 GHz (2 cores) 3½-inch	max. 40 watt	max. 40 watt
Intel® Core™ i3-6100TE 6th gen. 2.7 GHz (2 cores) 3½-inch	max. 45 watt	max. 45 watt
Intel® Core™ i5-6500TE 6th gen. 2.3 GHz (4 cores) 3½-inch	max. 55 watt	max. 55 watt
Intel® Core™ i7-6700TE 6th gen. 2.4 GHz (4 cores) 3½-inch	max. 60 watt	max. 60 watt
Intel® Core™ i3-7101(T)E 7th gen. 3.4 GHz (2 cores) 3½-inch	max. 55 watt	max. 55 watt
Intel® Core™ i5-7500(T) 7th gen. 2.7 GHz (4 cores) 3½-inch	max. 60 watt	max. 60 watt
Intel® Core™ i7-7700(T) 7th gen. 2.9 GHz (4 Cores) 3½-inch	max. 70 watt	max. 70 watt
Intel® Core™ i3-9100TE 9th gen., 2.2 GHz (4 cores) 3½-inch	max. 45 watt	max. 45 watt
Intel® Core™ i5-9500TE 9th gen., 2.2 GHz, (6 cores) 3½-inch	max. 55 watt	max. 55 watt
Intel® Core™ i7-9700TE 9th gen., 1.8 GHz (8 cores) 3½-inch	max. 55 watt	max. 55 watt
Intel® Celeron® 6600HE 11th gen., 2.6 GHz (2 cores) 3½-inch, C603x	max. 37 watt	max. 37 watt

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Industrial PC without display, with 1 SSD/ HDD, with CPU type	power consumption	power loss
Intel® Core™ i3-11100HE 11th gen., 2.4 GHz (4 cores) 3½-inch, C603x	max. 50 watt	max. 50 watt
Intel® Core™ i5-11500HE 11th gen., 2.6 GHz (6 cores) 3½-inch, C603x	max. 55 watt	max. 55 watt
Intel® Core™ i7-11850HE 11th gen., 2.6 GHz (8 cores) 3½-inch, C603x	max. 60 watt	max. 60 watt
Intel® Celeron® 3900 6th gen., 2.8 GHz (2 cores) ATX, C603x	max. 60 watt	max. 60 watt
Intel® Pentium® G4400 6th gen. 3.3 GHz (2 cores) ATX, C603x	max. 60 watt	max. 60 watt
Intel® Core™ i3-6100 6th gen. 3,7 GHz (2 cores) ATX, C603x	max. 60 watt	max. 60 watt
Intel® Core™ i5-6500 6th gen. 3.2 GHz (4 cores) ATX, C603x	max. 90 watt	max. 90 watt
Intel® Core™ i7-6700 6th gen. 3.4 GHz (4 cores) ATX, C603x	max. 95 watt	max. 95 watt
Intel® Core™ i3-7101E 7th gen. 3.9 GHz (2 cores) ATX, C603x	max. 70 watt	max. 70 watt
Intel® Core™ i5-7500 7th gen. 3.4 GHz (4 cores) ATX, C603x	max. 90 watt	max. 90 watt
Intel® Core™ i7-7700 7th gen. 3.6 GHz (4 cores) ATX, C603x	max. 100 watt	max. 100 watt
Intel® Celeron® G4900 8th gen., 3.1 GHz, (2 cores) 3½-inch, ATX, C603x	max. 50 watt	max. 50 watt
Intel® Pentium® G5400 8th gen., 3.7 GHz (2 cores) 3½-inch, ATX, C603x	max. 70 watt	max. 70 watt
Intel® Core™ i3-9100E 9th gen., 3.1 GHz (4 cores) ATX, C603x	max. 75 watt	max. 75 watt
Intel® Core™ i5-9500E 9th gen., 3.0 GHz, (6 cores) ATX, C603x	max. 90 watt	max. 90 watt
Intel® Core™ i7-9700E 9th gen., 2.6 GHz (8 cores) ATX, C603x	max. 95 watt	max. 95 watt

Options	power consumption	power loss
In configuration with 16 GB RAM	+ 5 watt	+ 5 watt
In configuration with 32 GB RAM	+ 10 watt	+ 10 watt
In configuration with 64 GB RAM	+ 15 watt	+ 15 watt
In configuration with CD or DVD drive	+ 5 watt	+ 5 watt
In configuration with plug-in-card, per plug-in-card*	+ approx. 5 watt, max. 10 watt	+ approx. 5 watt, max. 10 watt
In configuration with 1 additional hard disk 2½ inch (with RAID add 2x)	+ 2 watt	+ 2 watt
In configuration with 1 additional hard disk 3½ inch (with RAID add 2x)	+ 9 watt	+ 9 watt
In configuration with 1 additional CFast card or SSD (with RAID add 2x)	+ 5 watt	+ 5 watt

* Every plug-in card slot may have an average load of 10 W.
C6640 and C6650 have 7 slots. Customer can install plug-in cards with in total 70 W.

Example C6640: customer can install one graphic card with 50 W and 2 Ethernet cards with 10 W and other slots must stay free. A graphic card with 100 W must not be installed.

Example C6930: with 2 Slots C9900-B507/B511/B515 the total power consumption of plug-in cards is allowed to be 20 W: one plug-in card with 20 W or two plug-in cards with 10 W.

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Control Panel with display size**	power consumption	power loss
5.7" or 6.5"	10 watt	10 watt
7"	12 watt	12 watt
12"	16 watt	16 watt
12.1" widescreen (CPxx13)	11 watt	11 watt
15"	20 watt	20 watt
15.6"	13 watt	13 watt
18.5"	25 watt	25 watt
19"	25 watt	25 watt
21.5"	27 watt	27 watt
24" (CP2xxx, CP3xxx)	34 watt	34 watt
Control Panel with CP-Link 4 – The One Cable Display Link		
CP29xx-0010, CP39xx-0010 with CU8803 (without display)	+21 watt	+21 watt
Control Panel with CP-Link 4 – The Two Cable Display Link		
CP29xx-0010, CP39xx-0010 (without display)	+6 watt	+6 watt
CU8802	+5 watt	+5 watt
C9900-E276	+5 watt	+5 watt

** CP26xx and CP66xx: + 5 watt in addition

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Externally connectable devices	power consumption	power loss
UPS storage battery with PCs with UPS, a storage battery is attached, which is occasionally loaded	+ 30 watt (while loading)	+ 3 watt
UPS output some PCs with UPS have an UPS output, which can supply a Control Panel with energy from the storage battery in case of a power failure. Also in the line operation the supply of the equipment, attached at the UPS output (loadable with 2.0 A), is led by the PC	+ 54 watt (during full load)	+ 5.4 watt
USB devices depending upon type of the PC or CP, up to 2 or up to 8 UPS devices can be attached	+ 5 watt (max. per USB device)	+ 0.5 watt

Arithmetical example: CP2216-0020	power consumption	power loss
CPU: Intel® Celeron® G3900TE 6. Gen., 2.3 GHz (2 Cores)	40 watt	40 watt
Display size 15.6"	13 watt	13 watt
1 hard disk 2½-inch	2 watt	2 watt
UPS	30 watt	3 watt
	85 watt	**58 watt**

Arithmetical example: C6930-0080 with CP3918-0010	power consumption	power loss
Intel® Core™ i5-11500HE 11th gen., 2.6 GHz (6 cores)	55 watt	55 watt
16 GB RAM	5 watt	5 watt
Display size 18.5"	25 watt	25 watt
1 SSD 2½-inch	5 watt	5 watt
Control Panel with CP-Link 4 – The One Cable Display Link	21 watt	21 watt
	111 watt	**111 watt**

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