



# CHECK POINT - 2024 SECURITY APPLIANCE ACCESSORIES GUIDE



## EXPAND NETWORK CAPACITY, INCREASE PERFORMANCE & RELIABILITY

Check Point firewalls are built with flexibility and expansion capability to meet the diverse requirements in today's enterprise networks. The modular design and the wide variety of network options not only provide a rich set of connectivity options for these security gateways, they also make them highly customizable to fit into any network environment.

Keeping your networks available and keeping your business running is our ultimate goal. Check Point security appliances offer features such as redundant and hot-swappable storage and power supply. Combined together, these features ensure optimized system availability and a greater degree of business continuity. The slide rails, enable fast and easy rack installation and improve the system's service ability.



**29000:** 7 network I/O slots, Dual hot-swap up to 2x 960GB NVMe SSDs, up to 256GB memory options, Dual hot-swap AC PSUs, Lights-out-Management



**19000:** 4 network I/O slots, Dual hot-swap up to 2x 960GB NVMe SSDs, up to 128GB memory options, Dual hot-swap AC PSUs, Lights-out-Management



**9700/9800:** 2 network I/O slots, up to 2x 960 SATA SSD storage, up to 128GB memory options, Dual hot-swap AC PSUs, Lights-out-Management, 1, 10, 25, 40, 100G ports



**9400:** 1 network I/O slot, 1x 480GB SATA SSD storage, up to 64GB memory options, Dual AC PSUs, Lights-out-Management, 1, 10, 25, 40 ports



**9100/9200/9300:** 1 network I/O slot, 1x 480GB SATA SSD storage, up to 64GB memory options, Dual, hot-swap AC PSUs, Lights-out-Management, 1, 10, 25 ports

## QUANTUM FORCE SECURITY GATEWAYS

		1 GbE Copper	1/10 GbE Copper	1/10 GbE Fiber	10/25 GbE	40/100 GbE	Memory	Redundant Storage	Redundant Power	LOM	NICs In-Use Present /
9100	Base	10	N/A	0	0	0	16GB	480GB SSD 1/1	●	○	0 / 1
	Plus	10	N/A	8	0	0	32GB	480GB SSD 1/1	●	●	1 / 1
	Maximum	18	N/A	8	4	0	64GB	480GB SSD 1/1	●	●	1 / 1
9200	Base	10	N/A	0	0	0	16GB	480GB SSD 1/1	●	○	0 / 1
	Plus	10	N/A	8	0	0	32GB	480GB SSD 1/1	●	●	1 / 1
	Maximum	18	N/A	8	4	0	64GB	480GB SSD 1/1	●	●	1 / 1
9300	Base	10	N/A	0	0	0	16GB	480GB SSD 1/1	○	○	0 / 1
	Plus	10	N/A	8	0	0	32GB	480GB SSD 1/1	●	●	1 / 1
	Maximum	18	N/A	8	4	0	64GB	480GB SSD 1/1	●	●	1 / 1
9400	Base	10	N/A	4	0	0	16GB	960GB SSD 1/1	○	○	0 / 1
	Plus	10	N/A	12	0	0	32GB	960GB SSD 1/1	●	●	1 / 1
	Maximum	20	N/A	12	4	2	64GB	960GB SSD 1/1	●	●	1 / 1
9700	Base	6	N/A	4	0	0	32GB	960GB SSD 1/2	○	○	0 / 2
	Plus	6	N/A	12	0	0	64GB	960GB SSD 2/2	●	●	2 / 2
	Maximum	22	N/A	20	8	4	128GB	960GB SSD 2/2	●	●	2 / 2
9800	Base	6	N/A	4	0	0	32GB	960GB SSD 1/2	○	○	0 / 2
	Plus	6	N/A	12	0	0	64GB	960GB SSD 2/2	●	●	1 / 2
	Maximum	22	N/A	20	8	4	128GB	960GB SSD 2/2	●	●	2 / 2
19100	Base	0	2	8	0	0	64GB	960GB SSD 1/2	●	○	1 / 4
	Plus	0	2	8	4	0	96GB	960GB SSD 2/2	●	●	2 / 4
	Maximum	0	2	32	16	8	128GB	960GB SSD 2/2	●	●	4 / 4
19200	Base	0	2	8	0	0	96GB	960GB SSD 1/2	●	○	1 / 4
	Plus	0	2	8	4	0	128GB	960GB SSD 2/2	●	●	2 / 4
	Maximum	0	2	32	16	8	128GB	960GB SSD 2/2	●	●	4 / 4
29100	Base	0	2	8	0	0	128GB	960GB SSD 1/2	●	○	1 / 7
	Plus	0	2	16	4	0	196GB	960GB SSD 2/2	●	●	3 / 7
	Maximum	0	2	56	28	14	256GB	960GB SSD 2/2	●	●	7 / 7
29200	Base	0	2	8	0	0	128GB	960GB SSD 1/2	●	○	1 / 7
	Plus	0	2	16	4	2	196GB	960GB SSD 2/2	●	●	3 / 7
	Maximum	0	2	56	28	14	256GB	960GB SSD 2/2	●	●	7 / 7

## NETWORK ACCESSORIES

	9100, 9200, 9300, 9400	9700, 9800	19000	29000
Expansion Slots	1	2	4	7

### NETWORK I/O MODULES

SKU	CPAC-8-1/10F-D	CPAC-4-10/25F-D	CPAC-2-40/100F-D
			
Supported Models	9000, 19000, 29000	9000, 19000, 29000	9400, 9700, 9800, 19000, 29000
Number of Ports	8	4	2
Port Types	SFP+	SFP28	QSFP28
Speed	1/10 Gbps	10/25 Gbps	10/25/40/100 Gbps
Transceivers	CPAC-TR-1LX-D CPAC-TR-1SX-D CPAC-TR-1T-D CPAC-TR-10LR-D CPAC-TR-10SR-D CPAC-TR-10ER-D CPAC-TR-10T-D	CPAC-TR-10LR-D CPAC-TR-10SR-D CPAC-TR-10ER-D CPAC-TR-10T-D CPAC-TR-25LR-D CPAC-TR-25SR-D	CPAC-TR-10LR-D-ADP CPAC-TR-10SR-D-ADP CPAC-TR-10ER-D-ADP CPAC-TR-10T-D-ADP CPAC-TR-25LR-D-ADP CPAC-TR-25SR-D-ADP CPAC-TR-40SR-QSFP-100m-D CPAC-TR-40SR-QSFP-300m-D CPAC-TR-40SR-QSFP-BiDi-D CPAC-TR-40LR-QSFP-10Km-D CPAC-TR-40SWDM4 CPAC-TR-40ER4 CPAC-TR-100LR-D CPAC-TR-100SR-D CPAC-TR-100SWDM4-D CPAC-TR-100CWDM4-D CPAC-TR-100SR-BiDi CPAC-TR-100ER4

SKU	CPAC-8-1/10F-D	CPAC-4-10/25F-D	CPAC-2-40/100F-D
Supported Models	9000, 19000, 29000	9000, 19000, 29000	9400, 9700, 9800, 19000, 29000
Number of Ports	8	4	2
Port Types	SFP+	SFP28	QSFP28
Speed	10 Gbps	10/25 Gbps	10/25/40/100 Gbps
DACs	CPAC-DAC-10G-3M-D	CPAC-DAC-10G-3M-D CPAC-DAC-25G-3M-D	CPAC-DAC-10G-3M-D, w/adapter CPAC-DAC-25G-3M-D, w/adapter CPAC-DAC-40G-3M-D CPAC-DAC-100G-3M-D

**NETWORK TRANSCEIVER SPECIFICATION (1G Transceivers)**

SKU	CPAC-TR-1T-D	CPAC-TR-1SX-D	CPAC-TR-1LX-D
Supported Models	9000,19000, 29000	9000,19000, 29000	9000,19000, 29000
Form Factor	SFP+	SFP+	SFP+
Protocol	1000BASE-T	1000BASE-SX	1000BASE-LX
Wavelength (nm)	-	840 to 860	1260 to 1355
Connector	RJ-45	LC	LC
Distance (Max)	100m	300m (OM1) 550m (OM2/OM3/OM4)	10km
Supported Cable Type	CAT 5	Multi-Mode 62.5/125 µm Fiber (OM1) 50/125 µm Fiber (OM2/OM3/OM4)	Single Mode 9/125 µm Fiber
Input Level (Receive Power) dBm	N/A	0.0dBm to -23.0dBm	0.0dBm to -24.0dBm
Output Level (Transmit Power) dBm	N/A	-3.0dBm to -9.5dBm	-3dBm to -9.5dBm
Supported NIC	CPAC-8-1/10F-D	CPAC-8-1/10F-D	CPAC-8-1/10F-D

**NETWORK TRANSCEIVER SPECIFICATION (10G Transceivers)**

SKU	CPAC-TR-10T-D	CPAC-TR-10SR-D	CPAC-TR-10LR-D	CPAC-TR-10ER-D
Supported Models	9000,19200, 29000	9000,19200, 29000	9000,19200, 29000	9000,19200, 29000
Form Factor	SFP+	SFP+	SFP+	SFP+
Protocol	10GBASE-T	10GBASE-SR	10GBASE-LR	10GBASE-ER
Wavelength (nm)	-	840 to 860	1260 to 1355	1530 to 1565
Connector	RJ-45	LC	LC	LC
Distance (Max)	30m	33m(OM1) 82m(OM2) 300m(OM3) 400m(OM4)	10km	40km
Supported Cable Type	CAT6a, CAT7	Multi-Mode 62.5/125 µm Fiber(OM1)  50/125 µm Fiber(OM2/OM3/OM4)	Single Mode 9/125 µm Fiber	Single Mode 9/125 µm Fiber
Input Level (Receive Power) dBm	N/A	+0.5dBm. to -11.1dBm	+0.5dBm to -14.4dBm	-1.0dBm to -17dBm
Output Level (Transmit Power) dBm	N/A	-1.0dBm to -5.0dBm	+0.5dBm to -5.2dBm	+4.0dBm to - 4.7dBm
Supported NICs	CPAC-8-1/10F-D, CPAC-4-10/25F-D CPAC-2-40/100F-D(w/Adapter)	CPAC-8-1/10F-D, CPAC-4-10/25F-D CPAC-2-40/100F-D(w/Adapter)	CPAC-8-1/10F-D, CPAC-4-10/25F-D CPAC-2-40/100F-D(w/Adapter)	CPAC-8-1/10F-D, CPAC-4-10/25F-D CPAC-2-40/100F-D(w/Adapter)

**NETWORK TRANSCEIVER SPECIFICATION (25G Transceivers)**

SKU	CPAC-TR-25SR-D	CPAC-TR-25LR-D
Supported Models	9400, 9700, 9800,19200, 29000	9400, 9700, 9800,19200, 29000
Form Factor	SFP28	SFP28
Protocol	25GBASE-SR	25GBASE-LR
Wavelength (nm)	840 to 860	1260 to 1355
Connector	LC	LC
Distance (Max)	70m(OM3) 100m(OM4/OM5)	10km
Supported Cable Type	Multi-Mode 50/125 µm fiber (≠OM3/OM4/OM5)	Single Mode 9/125 µm Fiber
Input Level (Receive Power) dBm	+2.5dBm to -11 dBm	+2.0dBm to -12.0dBm
Output Level (Transmit Power) dBm	+2.5dBm to -7.6dBm	+2.0dBm to -7.0dBm
Supported NICs	CPAC-4-10/25F-D CPAC-2-40/100F-D(w/Adapter)	CPAC-4-10/25F-D CPAC-2-40/100F-D(w/Adapter)

**QSFP28 ADAPTORS with 10GbE and 25G TRANSCEIVERS**

Composed of a QSFP28 adaptor with an SFP+ & SFP28 transceiver to connect a Check Point security appliance QSFP28 port to a network SFP+ or SFP28 port. The graphic shows an adaptor without the transceiver (top) and the adaptor with an SFP+ or SFP28 transceiver inserted in the adaptor (bottom).

Supported on CPAC-2-40/100-D.



	Adaptor	Transceiver
<b>CPAC-TR-10SR-D-ADP:</b> QSFP28 adaptor with SFP+ transceiver module for short range links.	QSFP28	SFP+ 10GBase-SR
<b>CPAC-TR-10LR-D-ADP:</b> QSFP28 adaptor with SFP+ transceiver module for links up to 10km.	QSFP28	SFP+ 10GBase-LR
<b>CPAC-TR-10ER-D-ADP:</b> QSFP28 adaptor with SFP+ transceiver module for links up to 40km.	QSFP28	SFP+ 10GBase-ER
<b>CPAC-TR-10T-D-ADP:</b> QSFP28 adaptor with SFP+ transceiver module for links up to 30m over CAT6A or CAT7.	QSFP28	10GBASE-T RJ45 Copper
<b>CPAC-TR-25SR-D-ADP:</b> QSFP28 adaptor with SFP28 transceiver module for short range links.	QSFP28	SFP28 25GBase-SR
<b>CPAC-TR-25LR-D-ADP:</b> QSFP28 adaptor with SFP28 transceiver module for links up to 10km	QSFP28	SFP28 25GBase-LR
<b>CPAC-TR-QSFP28-SFP28:</b> 10G/25G fiber adaptor- QSFP28 to SFP28 Adapter	QSFP28	10G/25G Transceivers

**NETWORK TRANSCEIVER SPECIFICATION (40G Transceivers)**

SKU	CPAC-TR-40SR-QSFP-100m-D	CPAC-TR-40SR-QSFP-300m-D	CPAC-TR-40SR-QSFP-BiDi-D	CPAC-TR-40SWDM4	CPAC-TR-40LR-QSFP-10Km-D	CPAC-TR-40ER
Supported Models	9700, 9800,19200, 29000	9700, 9800,19200, 29000	9700, 9800,19200, 29000	9700, 9800,19200, 29000,	9700, 9800,19200, 29000,	9700, 9800,19200, 29000,
Form Factor	QSFP+	QSFP+	QSFP+	QSFP+	QSFP+	QSFP+
Protocol	40GBASE-SR4	40GBASE-eSR4	40GBASE-SR-BiDi	40GBASE-SWDM4	40GBASE-LR4	40GBASE-ER4
Wavelength (nm)	840 to 860	840 to 860	832, 918	850, 880, 910, 940	1271,1291,1311,1331	1271,1291,1311,1331
Connector	MPO-12	MPO-12	LC	LC	LC	LC
Distance (Max)	100m (OM3) 150m (OM4)	300m (OM3) 400m (OM4)	100m (OM3) 150m (OM4)	300m (OM3) 400m (OM4)	10km	40km
Supported Cable Type	Multi-Mode 50/125 µm Fiber(OM3/OM4)	Multi-Mode 50/125 µm Fiber(OM3/OM4)	Multi-Mode 50/125 µm Fiber(OM3/OM4)	Multi-Mode 50/125 µm Fiber(OM3/OM4)	Single Mode 9/125 µm Fiber	Single Mode 9/125 µm Fiber
Input Level (Receive Power) dBm	+2.5dBm to -9.5dBm	+3.5dBm to -9.5dBm	+5dBm to -9.1dBm	+3.0dBm to -9.0dBm	+3.3dBm to -11.5dBm	-4.5dBm to -21.2dBm
Output Level (Transmit Power) dBm	+0.0dBm to -7.6dBm	+0.5dBm to -7.6dBm	+5dBm to -4dBm	+3.0dBm to -7.5dBm	+2.3dBm to -7dBm	+4.5dBm to -3.7dBm
Supported NICs	CPAC-2-40/100F-D	CPAC-2-40/100F-D	CPAC-2-40/100F-D	CPAC-2-40/100F-D	CPAC-2-40/100F-D	CPAC-2-40/100F-D

**NETWORK TRANSCEIVER SPECIFICATION (100G Transceivers)**

SKU	CPAC-TR-100SR-D	CPAC-TR-100LR-D	CPAC-TR-100CWDM4-D	CPAC-TR-100SWDM4-D	CPAC-TR-100SR-BiDi	CPAC-TR-100ERL4
Supported Models	9700, 9800,19200, 29000	9700, 9800,19200, 29000	9700, 9800,19200, 29000	9700, 9800,19200, 29000	9700, 9800,19200, 29000	9700, 9800,19200, 29000
Form Factor	QSFP28	QSFP28	QSFP28	QSFP28	QSFP28	QSFP28
Protocol	100GBASE-SR4	100GBASE-LR4	100GBASE-CWDM4	100GBASE-SWDM4	100GBASE-SR1.2	100GBASE-ERL4
Wavelength (nm)	840 to 860	1295,1300, 1304,1309	1271,1291, 1311,1331	850,880, 910,940	855, 908	1295, 1300, 1304, 1309
Connector	MPO-12	LC	LC	LC	LC	LC
Distance (Max)	70m(OM3) 100m(OM4)	10km	2km	75m(OM3) 100m(OM4) 150m(OM5)	70m(OM3) 100m(OM4/5)	40km
Supported Cable Type	Multi-Mode 50/125 µm Fiber(OM3/OM4)	Single Mode 9/125 µm Fiber	Single Mode 9/125 µm Fiber	Multi-Mode 50/125 µm Fiber(OM3/OM4/OM5)	Multi-Mode 50/125 µm Fiber(OM3/OM4/OM5)	Single Mode 9/125 µm Fiber
Input Level (Receive Power) dBm	+2.4dBm to -11 dBm	+5.5dBm to -8.6dBm	+2.5dBm to -10.0dBm	+3.4dBm to -9.5dBm	+4.0dBm to -7.9dBm	-3.9dBm to -16.6dBm
Output Level (Transmit Power) dBm	+2.4dBm to -8.4dBm	+4.5dBm to -4.3dBm	+2.5dBm to -6.5dBm	+3.3dBm to -6.5dBm	+4.0dBm to -6.0dBm	+2.9dBm to -2.9dBm
Supported NIC	CPAC-2-40/100F-D	CPAC-2-40/100F-D	CPAC-2-40/100F-D	CPAC-2-40/100F-D	CPAC-2-40/100F-D	CPAC-2-40/100F-D

See SecureKnowledge sk92755 for more information

**DIRECT ATTACHED CABLES (10G, 25G, 40G and 100G)**

SKU	CPAC-DAC-10G-3M-D	CPAC-DAC-25G-3M-D	CPAC-DAC-40G-3M-D	CPAC-DAC-100G-3M-D
<b>Supported Models</b>	9000, 19200, 29000	9000, 19200, 29000	9000, 19200, 29000	9000, 19200, 29000
<b>Form Factor</b>	SFP+	SFP28	QSFP+	QSFP28
<b>Protocol</b>	10BASE-CU	25GBASE-CR1	40BASE-CR4	100BASE-CR4
<b>Distance (Max)</b>	3m	3m	3m	3m
<b>Cable Type</b>	30AWG	28AWG	30AWG	30AWG
<b>Compatible</b>	SFP+ MSA, SFF-8431, SFF-8432	SFP28 MSA, SFF-8402, SFF-8436	QSFP+ MSA, SFF-8436, SFF-8685	QSFP+ MSA, SFF-8436, SFF-8685
<b>Operation Relative Humidity</b>	10 to 90%	5 to 85%	5 to 85%	5 to 85%
<b>Supported NICs</b>	CPAC-8-1/10F-D, CPAC-4-10/25F-D CPAC-2-40/100F-D(w/Adapter)	CPAC-4-10/25F-D CPAC-2-40/100F-D(w/Adapter)	CPAC-2-40/100F-D	CPAC-2-40/100F-D

See SecureKnowledge sk148192 for more information

## STORAGE

Redundant drives are configured in a RAID1 mirror increasing system reliability. RAID status monitoring is available via SNMP.

### REDUNDANT STORAGE OPTIONS

	9100, 9200, 9300	9400	9700, 9800	19000	29000
<b>SSD Options</b>	480 SATA	960GB SATA	960GB NVMe	960GB NVMe	960GB NVMe
<b>Dual Redundant Drive</b>	-	-	Optional in Base, Included in Plus	Optional in Base, Included in Plus	Optional in Base, Included in Plus
<b>RAID Setup</b>	-	-	RAID-1	RAID-1	RAID-1

## POWER SUPPLIES

Dual power supplies increase the overall reliability of the security appliance. In the dual power supply configuration an audible alarm occurs when one power supply fails. Power Supply status is also monitored via SNMP or in the GAiA Web UI.

### POWER SUPPLY OPTIONS

	9100, 9200	9300, 9400, 9700, 9800	19000	29000
<b>Redundant Power Supply</b>	Included	Optional	Included	Included
<b>Redundant Power Supply BASE / PLUS</b>	2 / 2	1 / 2	2 / 2	2 / 2

### POWER SUPPLY SPECIFICATION

	9300, 9400	9700, 9800	19000	29000
<b>AC SKU</b>	CPAC-PSU-AC-9300/9400	CPAC-PSU-AC-9700/9800	CPAC-PSU-AC-19000	CPAC-PSU-AC-29000
<b>AC Power Input</b>	100 to 240V (47-63Hz)	100 to 240V (47-63Hz)	100 to 240V (47-63Hz)	100 to 240V (47-63Hz)
<b>Output Power</b>	320W	450W	850W	1300W

## LIGHTS-OUT MANAGEMENT

Lights-Out Management (LOM) provides out-of-band remote management to remotely diagnose, start, restart and manage the security appliance from a remote location.

### LIGHTS-OUT MANAGEMENT OPTIONS

	9000	19000	29000
<b>LOM</b>	Optional in Base, Included in Plus	Optional in Base, Included in Plus	Optional in Base, Included in Plus

### LIGHTS-OUT MANAGEMENT SPECIFICATION

SKU	Features
<b>CPAC-NLOM-D</b>	LOM/IPMI module with front 1 GbE RJ-45

## RACK MOUNT OPTIONS

Slide rails provide simple installation (5-10 minutes) and easy maintenance access for 19000 and 29000 Security Appliances in a standard 19-inch (48.26 cm) rack (see specification EIA-310-D).

### RACK KIT SPECIFICATION

	SKU	Depth
<b>9000</b>	CPAC-Rails-9000 CPAC-RAILS-EXT-9000	Single/Dual 9000 1U Shelf Rack Mount
<b>19000, 29000</b>	CPAC-RAIL-L CPAC-RAIL-EXT-L	22 in (55.9 cm) to 32 in (81.3 cm) 24 in (61 cm) to 36 in (91.4 cm)

## MEMORY

Additional system memory increases connection capacity and improves the overall ability of the security appliance.

### MEMORY OPTIONS

	19200	29100	29200
<b>Base GB</b>	96	128	128
<b>Plus GB</b>	128	192	192
<b>Maximums GB</b>	128	256	256

### MEMORY UPGRADE FRU KITS

Model	SKU	Start	Target	Modules
<b>9100, 9200, 9300, 9400</b>	CPAC-RAM16GB-9100/9400	16	32	2x 8GB ECC DDR4
<b>9100, 9200, 9300, 9400</b>	CPAC-RAM32GB-9100/9400	32	64	4x 8GB ECC DDR4
<b>9100, 9200, 9300, 9400</b>	CPAC-RAM48GB-9100/9400	16	64	4x 16GB ECC DDR4
<b>9700, 9800</b>	CPAC-RAM32GB-9700/9800	32	64	4x 8GB ECC DDR4
<b>9700, 9800</b>	CPAC-RAM64GB-9700/9800	64	128	4x 16GB ECC DDR4
<b>9700, 9800</b>	CPAC-RAM96GB-9700/9800	32	128	6x 16GB ECC DDR4
<b>19000</b>	CPAC-RAM32GB-19000	96	128	4x 8GB ECC DDR4
<b>29000</b>	CPAC-RAM64GB-29000	128	192	4x 16GB ECC DDR4
<b>19000/29000</b>	CPAC-RAM128GB-29000	128	256	8x 16GB ECC DDR4



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Check Point security gateway appliances are built with flexibility and expansion capability to meet the diverse requirements in today's enterprise networks.

		1 GbE Copper	1 GbE Fiber	10 GbE	10/25/40/100 GbE	Memory	Redundant Storage	Redundant Power	LOM
Spark	1535/55	6	0	0	0	-	○	○	-
	1575/95	10	0	0	0	-	○	○	-
	1600	18	0	0	0	-	○	○	-
	1800	18	2	1	0	-	●	●	-
	1900	18	0	4	0	-	●	●	-
	2000	18	0	4	0	-	●	●	-
6200	Base	10	0	0	-	8GB	-	-	○
	Plus	10	4	0	-	16GB	-	●	●
	Maximums	18	4	4	-	32GB	-	●	●
6400	Base	10	0	0	-	8GB	-	●	○
	Plus	10	4	0	-	16GB	-	●	●
	Maximums	18	4	4	-	32GB	-	●	●
6600	Base	10	0	0	-	8GB	-	○	○
	Plus	10	0	4	-	16GB	-	●	●
	Maximums	18	4	4	-	32GB	-	●	●
6700	Base	10	0	0	-	8GB	-	○	○
	Plus	10	0	4	-	16GB	-	●	●
	Maximums	18	4	4	-	32GB	-	●	●
6900	Base	10	0	0	-	16GB	○	○	○
	Plus	10	0	4	-	32GB	●	●	●
	Maximums	26	8	8	2	64GB	●	●	●
7000	Base	10	0	0	-	16GB	○	○	○
	Plus	10	0	4	-	32GB	●	●	●
	Maximums	26	8	8	2	64GB	●	●	●
Spark 16200	Base	10	0	0	-	48GB	○	○	○
	Plus	10	0	8	-	64GB	●	●	●
	Maximums	34	16	16	4	128GB	●	●	●
26000	Base	10	0	0	-	48GB	○	●	○
	Plus	10	0	12	-	96GB	●	●	●
	Maximums	66	32	32	8	128GB	●	●	●
28000	Base	2	0	4	-	64GB	○	●	○
	Plus	10	0	12	2	96GB	●	●	●
	Maximums	66	32	32	8	128GB	●	●	●

Lightspeed	QLS250	2	0	8	*2	128GB	●	●	●
	QLS450	2	0	8	*4	192GB	●	●	●
	QLS650	2	0	8	*6	192GB	●	●	●
	QLS800	2	0	0	*8	192GB	●	●	●
	MLS200	10	0	0	*2	64GB	●	●	●
	MLS400	2	0	0	*4	192GB	●	●	●

this is optional, \*Quantum Lightspeed (QLS) 100GbE ports accelerate firewall throughput at ultra-low latency

## NETWORK ACCESSORIES


	6200 - 6700	7000	16200	26000, 28000	QLS Lightspeed
Expansion Slots	1	2	4	8	-

### NETWORK I/O MODULES

SKU	CPAC-8-1C-C	CPAC-4-1F-C	CPAC-4-10F-C	CPAC-2-40/100F-C
				
Supported Models	6000, 7000, 16200, 26000, 28000	6000, 7000, 16200, 26000, 28000	6000, 7000, 16200, 26000, 28000, QLS	6900, 7000, 16200, 26000, 28000, QLS
Number of Ports	8	4	4	2
Port Types	RJ-45 (Copper) 10/100/1000Base-T	SFP	SFP+	QSFP28
Speed	10M/100M/1 Gbps	1 Gbps	1/10 Gbps	100 Gbps
Transceivers/DACs		CPAC-TR-1T-C CPAC-TR-1SX-C CPAC-TR-1LX-C	CPAC-TR-10ER-C CPAC-TR-10LR-C CPAC-TR-10SR-C CPAC-TR-10T-C	CPAC-TR-100SR CPAC-TR-100LR CPAC-TR-100CWDM4 CPAC-TR-100SWDM4 CPAC-TR-100SR-BiDi CPAC-TR-100ERL4 CPAC-TR-40SR-QSFP-300m CPAC-TR-40LR-QSFP-10Km CPAC-TR-40SR-QSFP-BIDI CPAC-TR-40SWDM4 CPAC-TR-40ER4 CPAC-TR-25SR-ADP CPAC-TR-25LR-ADP CPAC-TR-10ER-ADP CPAC-TR-10LR-ADP CPAC-TR-10T-ADP

SKU	CPAC-8-1C-C	CPAC-4-1F-C	CPAC-4-10F-C	CPAC-2-40/100F-C
Supported Models	6000, 7000, 16200, 26000, 28000	6000, 7000, 16200, 26000, 28000	6000, 7000, 16200, 26000, 28000, QLS	6900, 7000, 16200, 26000, 28000, QLS
Number of Ports	8	4	4	2
Port Types	RJ-45 (Copper) 10/100/1000Base-T	SFP	SFP+	QSFP28
Speed	10M/100M/1 Gbps	1 Gbps	1/10 Gbps	100 Gbps
DACs	N/A	N/A	CPAC-DAC-10G-3M	CPAC-DAC-100G-3M CPAC-DAC-40G-3M CPAC-DAC-25G-3M CPAC-DAC-10G-3M

### NETWORK TRANSCEIVER SPECIFICATION (1G Transceivers)

SKU	CPAC-TR-1T-C	CPAC-TR-1SX-C	CPAC-TR-1LX-C	CPAC-1500-TR-1SX	CPAC-1500-TR-1LX
					
Supported Models	6000, 7000, 16200, 26000, 28000	6000, 7000, 16200, 26000, 28000	6000, 7000, 16200, 26000, 28000	1575, 1595, 1800, 1900, 2000	1575, 1595, 1800, 1900, 2000
Form Factor	SFP	SFP	SFP	SFP	SFP
Protocol	1000Base-T	1000Base-SX	1000Base-LX	1000Base-SX rugged	1000Base-LX
Wavelength (nm)	-	840 to 860	1260 to 1355	840 to 860	1260 to 1355
Connector	RJ-45	LC	LC	LC	LC
Distance (Max)	100m	300m (OM1) 550m (OM2)	10km	550m	10K
Supported Cable Type	CAT 5	multi-mode 62.5/125 µm Fiber (OM1) 50/125 µm Fiber (OM2)	Single mode 9/125 µm Fiber	multi-mode	Single mode fiber (SMF)
Input Level (Receive Power) dBm	N/A	0 to -18dBm	0 to -19dBm	0dBm	-3dBm
Output Level (Transmit Power) dBm	N/A	-2.5 to -9dBm	-3 to -9.5dBm	-3 to -9.5dBm	-3 to -9.5dBm
Supported NIC	CPAC-4-1F-C	CPAC-4-1F-C	CPAC-4-1F-C	can	NA

## NETWORK TRANSCEIVER SPECIFICATION (10G Transceivers)

SKU	CPAC-TR-10T-C	CPAC-TR-10SR-C CPAC-TR-10SR-B	CPAC-TR-10LR-C CPAC-TR-SRLR-B	CPAC-TR-10ER-C				
								
<b>Supported Models</b>	6000, 7000, 16200, 26000, 28000, QLS, MLS	6000, 7000, 16200, 26000, 28000, QLS, MLS	6000, 7000, 16200, 26000, 28000, QLS, MLS	6000, 7000, 16200, 26000, 28000, QLS, MLS	1800, 1900, 2000	1800, 1900, 2000		
<b>Form Factor</b>	SFP+	SFP+	SFP+	SFP+	SFP+	SFP+		
<b>Protocol</b>	10GBASE-T	10GBASE-SR	10GBASE-LR	10GBASE-ER	1000Base-SX / 10GBase-SR Ethernet	1GBase-LX / 10GBase-LR		
<b>Wavelength (nm)</b>	-	840 to 860	1260 to 1355	1530 to 1565	840 to 860	1260 to 1355		
<b>Connector</b>	RJ-45	LC	LC	LC	Duplex LC	Duplex LC		
<b>Distance (Max)</b>	30m	<b>1GbE</b> 220m(OM1) 550m(OM2) >550m (OM3) >550m(OM4)	<b>10GbE</b> 26m(OM1) 82m(OM2) 300m(OM3) 400m(OM4)	10km	40km	<b>1GbE</b> 220m (OM1) 500m (OM2) 550m (OM3) >550m (OM4)	<b>10GbE</b> 26m (OM1) 82m (OM2) 300m (OM3) 400m (OM4)	10km
<b>Supported Cable Type</b>	CAT6a, CAT7	multi-mode 62.5/125 µm Fiber(OM1) 50/125 µm Fiber(OM2) 50/125 µm Fiber(OM3) 50/125 µm Fiber(OM4)	Single Mode 9/125 µm Fiber	Single Mode 9/125 µm Fiber	multi-mode 62.5/125 µm Fiber(OM1) 50/125 µm Fiber(OM2) 50/125 µm Fiber(OM3) 50/125 µm Fiber(OM4)	Single Mode 9/125 µm Fiber		
<b>Input Level (Receive Power) dBm</b>	N/A	+0.5 - 12.5dBm (1GbE) +0.5 - 13.5dBm (1GbE) +0.5 - 11.1dBm (10GbE)	62.5 um MMF 50 um MMF 50 um MMF	-3 to -19dBm (1GbE mode) +0.5 to -12.6dBm (10GbE mode)	+0.5 - 16dBm	<b>1GbE</b> +0.5 to -9.9dBm (1GbE) +0.5 to -9.9dBm (1GbE)	<b>10GbE</b> 62.5 um MMF 50 um MMF	0.5dBm
<b>Output Level (Transmit Power) dBm</b>	N/A	-1 to -9.5dBm (1GbE mode) -1 to -5dBm (10GbE mode)	-3 to -11dBm (1GbE mode) +0.5 to -8.2dBm (10GbE mode)	+4 - 4dBm	-1.2 to -7.3dBm (1GbE)	-8.2 - 0.5dBm		
<b>Supported NICs</b>	CPAC-4-10F-C CPAC-2-40/100-C	CPAC-4-10F-C CPAC-2-40/100-C	CPAC-4-10F-C CPAC-2-40/100-	CPAC-4-10F-C CPAC-2-40/100-C	CPAC-TR-10SR-C	N/A		

## QSFP28 ADAPTORS with 10GbE TRANSCEIVERS



Composed of a QSFP28 adaptor with an SFP+ transceiver to connect a Check Point security appliance QSFP28 port to a network SFP+ port. The graphic shows an adaptor without the transceiver (top) and the adaptor with an SFP+ transceiver inserted in the adaptor (bottom).

Supported on, QLS & MLS models. Matching I/O modules: NVIDIA 2-port 100G.



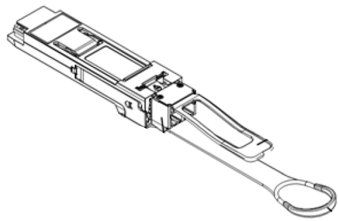
	Adaptor	Transceiver
<b>CPAC-TR-10SR-ADP:</b> QSFP28 adaptor with SFP+ transceiver module for short range links.	QSFP28	SFP+ 10GBase-SR
<b>CPAC-TR-10LR-ADP:</b> QSFP28 adaptor with SFP+ transceiver module for links up to 10km.	QSFP28	SFP+ 10GBase-LR
<b>CPAC-TR-10ER-ADP:</b> QSFP28 adaptor with SFP+ transceiver module for links up to 40km.	QSFP28	SFP+ 10GBase-ER
<b>CPAC-TR-10T-ADP:</b> QSFP28 adaptor with SFP+ transceiver module for links up to 30m over CAT6A or CAT7.	QSFP28	10GBASE-T RJ45 Copper

## NETWORK TRANSCEIVER SPECIFICATION (25G Transceivers)

SKU	CPAC-TR-25SR-ADP	CPAC-TR-25LR-ADP
		
<b>Supported Models</b>	16200, 16600,26000, 28000, 28600, QLS, MLS	16200, 16600,26000, 28000, 28600, QLS, MLS
<b>Form Factor</b>	SFP28 with QSFP28 adaptor	SFP28 with QSFP28 adaptor
<b>Protocol</b>	25GBASE-SR	25GBASE-LR
<b>Wavelength (nm)</b>	840 to 860	1260 to 1355
<b>Connector</b>	LC	LC
<b>Distance (Max)</b>	20m(OM2) 70m(OM3) 100m(OM4)	10km
<b>Supported Cable Type</b>	50/125 μm Fiber(OM2) 50/125 μm Fiber(OM3) 50/125 μm Fiber(OM4)	Single Mode 9/125 μm Fiber
<b>Input Level (Receive Power) dBm</b>	+3dBm to -11.dBm	+2dBm to -12dBm
<b>Output Level (Transmit Power) dBm</b>	+2.4dBm to -8.4dBm	+3dBm to -5dBm
<b>Supported NIC</b>	CPAC-2-40/100-C	CPAC-2-40/100-C

See SecureKnowledge sk92755 for more information

**QSFP28 ADAPTORS with 25GbE TRANSCEIVERS**

<p>Composed of a QSFP28 adaptor with an SFP28 transceiver to connect a Check Point security appliance QSFP28 port to a network SFP28 port. The graphic shows an adaptor with an SFP28 transceiver inserted in the adaptor.</p> <p>Supported on 16200, 16600, 26000, 28000, 28600, , QLS &amp; MLS models. Matching I/O modules: NVIDIA 2-port 100G.</p>		
	<b>Adaptor</b>	<b>Transceiver</b>
<b>CPAC-TR-25SR-ADP:</b> QSFP28 adaptor with SFP28 transceiver module for short range links.	QSFP28	SFP28 25GBase-SR
<b>CPAC-TR-25LR-ADP:</b> QSFP28 adaptor with SFP28 transceiver module for links up to 10km.	QSFP28	SFP28 25GBase-LR

**NETWORK TRANSCEIVER SPECIFICATION (40G Transceivers)**

SKU	CPAC-TR-40SR-QSFP-100m	CPAC-TR-40SR-QSFP-300m	CPAC-TR-40LR-QSFP-10Km	CPAC-TR-40SR-QSFP-BiDi	CPAC-TR-40SWDM4	CPAC-TR-40ER4
						
<b>Supported Models</b>	6700, 6900, 7000, 16200, 16600, 26000, 28000, 28600, QLS, MLS	6700, 6900, 7000, 16200, 16600, 26000, 28000, 28600, QLS, MLS	6700, 6900, 7000, 16200, 16600, 26000, 28000, 28600, QLS, MLS	6700, 6900, 7000, 16200, 16600, 26000, 28000, 28600, QLS, MLS	6700, 6900, 7000, 16200, 16600, 26000, 28000, 28600, QLS, MLS	6700, 6900, 7000, 16200, 16600, 26000, 28000, 28600, QLS, MLS
<b>Form Factor</b>	QSFP+	QSFP+	QSFP+	QSFP+	QSFP+	QSFP+
<b>Protocol</b>	40GBase-SR4	40GBase-SR4	40GBase-LR4	40GBase-SR-BiDi	40GBASE-SWDM4	40GBASE-ER4
<b>Wavelength (nm)</b>	840 to 860	840 to 860	1271,1291,1311,1331	832, 918	850, 880, 910, 940	1271,1291,1311,1331
<b>Connector</b>	MPO-12	MPO-12	LC	LC	LC	LC
<b>Distance (Max)</b>	100m (OM3) 150m (OM4)	300m (OM3) 400m (OM4)	10km	100m (OM3) 150m (OM4)	300m (OM3) 400m (OM4)	40km
<b>Supported Cable Type</b>	multi-mode 50/125 µm fiber (OM3) 50/125 µm Fiber(OM4)	multi-mode 50/125 µm fiber (OM3) 50/125 µm Fiber(OM4)	single mode 9/125 µm Fiber	multi-mode 50/125 µm fiber (OM3) 50/125 µm Fiber(OM4)	Multi-Mode 50/125 µm Fiber(OM3/OM4)	Single Mode 9/125 µm Fiber
<b>Input Level (Receive Power) dBm</b>	+0dBm to -7.6dBm	+4dBm to -11.1dBm	+3.5dBm to -11.5dBm	+5dBm to -9.1dBm	+3.0dBm to -9.0dBm	-4.5dBm to -21.2dBm
<b>Output Level (Transmit Power) dBm</b>	+2.5dBm to -9.5dBm	+0.5dBm to -7.5dBm	+2.3dBm to -7dBm	+5dBm to -4dBm	+3.0dBm to -7.5dBm	+4.5dBm to -3.7dBm
<b>Supported NIC</b>	CPAC-2-40/100-C	CPAC-2-40/100-C	CPAC-2-40/100-C	CPAC-2-40/100-C	CPAC-2-40/100F-C	CPAC-2-40/100F-C

**NETWORK TRANSCEIVER SPECIFICATION (100G Transceivers)**

SKU	CPAC-TR-100SR	CPAC-TR-100LR	CPAC-TR-100CWDM4	CPAC-TR-100SWDM4	CPAC-TR-100SR-BiDi	CPAC-TR-100ERL4
						
<b>Supported Models</b>	16200, 16600, 26000, 28000, 28600, QLS, MLS	16200, 16600, 26000, 28000, 28600, QLS, MLS	16200, 16600, 26000, 28000, 28600, QLS, MLS	16200, 16600, 26000, 28000, 28600, QLS, MLS	16200, 16600, 26000, 28000, 28600, QLS, MLS	16200, 16600, 26000, 28000, 28600, QLS, MLS
<b>Form Factor</b>	QSFP28	QSFP28	QSFP28	QSFP28	QSFP28	QSFP28
<b>Protocol</b>	100GBase-SR4	100GBase-LR4	100GBASE-CWDM4	100GBASE-SWDM4	100GBASE-SR1.2	100GBASE-ERL4
<b>Wavelength (nm)</b>	840 to 860	1295,1300, 1304,1309	1271,1291, 1311,1331	850,880, 910,940	855, 908	1295, 1300, 1304, 1309
<b>Connector</b>	MPO-12	LC	LC	LC	LC	LC
<b>Distance (Max)</b>	70m(OM3) 100m(OM4)	10km	2km	75m(OM3) 100m(OM4) 150m(OM5)	70m(OM3) 100m(OM4/5)	40km
<b>Supported Cable Type</b>	50/125 µm Fiber(OM3) 50/125 µm Fiber(OM4)	single mode 9/125 µm Fiber	single mode 9/125 µm Fiber	50/125 µm Fiber(OM3) 50/125 µm Fiber(OM4) 50/125 µm Fiber(OM5)	Multi-Mode 50/125 µm Fiber(OM3/OM4/OM5)	Single Mode 9/125 µm Fiber
<b>Input Level (Receive Power) dBm</b>	+2.4dBm to -10.3dBm	+4.5dBm to -10.6dBm	+2.5dBm to -10dBm	+3.4dBm to -9.5dBm	+4.0dBm to -7.9dBm	-3.9dBm to -16.6dBm
<b>Output Level (Transmit Power) dBm</b>	+2.4dBm to -8.4dBm	+4.5dBm to -4.3dBm	+2.5dBm to -4dBm	-3dBm to -5.5dBm	+4.0dBm to -6.0dBm	+2.9dBm to -2.9dBm
<b>Supported NIC</b>	CPAC-2-40/100-C	CPAC-2-40/100-C	CPAC-2-40/100-C	CPAC-2-40/100-C	CPAC-2-40/100-C	CPAC-2-40/100-C

See SecureKnowledge sk92755 for more information

**DIRECT ATTACHED CABLES (10G, 25G, 40G and 100G)**

SKU	CPAC-DAC-10G-1M CPAC-DAC-10G-3M	CPAC-DAC-25G-1M CPAC-DAC-25G-3M	CPAC-DAC-40G-1M CPAC-DAC-40G-3M	CPAC-DAC-100G-1M CPAC-DAC-100G-3M CPAC-DAC-100G-5M
<b>Supported Models</b>	5600, 5800, 5900, 6000, 7000, 15000, 16200, 23000, 26000, 28000, QLS, MLS	16200, 26000, 28000, QLS, MLS	5800, 6700, 6900, 7000, 15000, 16200, 16600, 23000, 26000, 28000, 28600, QLS, MLS	16200, 16600, 26000, 28000, 28600, QLS, MLS
<b>Form Factor</b>	SFP+	SFP28	QSFP+	QSFP28
<b>Protocol</b>	10BASE-CU	25GBASE-CR1	40BASE-CR4	100BASE-CR4
<b>Distance (Max)</b>	1M/3m	1m/3m	1m/3m	1m/3m/50
<b>Cable Type</b>	30AWG	30AWG	28AWG	28AWG
<b>Compatible</b>	SFP+ MSA, SFF-8431, SFF-8432	SFP28 MSA, SFF-8402, SFF-8436	QSFP+ MSA, SFF-8436, SFF-8685	QSFP+ MSA, SFF-8436, SFF-8685
<b>Operation Relative Humidity</b>	10 to 90%	5 to 85%	5 to 85%	5 to 85%
<b>Matching I/O Modules</b>	CPAC-4-10F-C CPAC-2-40/100-C	CPAC-2-40/100-C	CPAC-2-40/100-	CPAC-2-40/100-C

See SecureKnowledge sk148192 for more information

## FAIL-OPEN NETWORK I/O MODULES (6000, 7000, 16000, 26000, 28000)

SKU	CPAC-4-1C-BP-C	CPAC-2-10FSR-BP-C
Supported Models	6200, 6400, 6600, 6700, 6900, 7000, 16200, 26000, 28000	6200, 6400, 6600, 6700, 6900, 7000, 16200, 26000, 28000
Number of Ports	4	2
Port Types	RJ-45 (copper) 10/100/1000Base-T	SFP+ 10GBase-SR
Speed	1 Gbps	10 Gbps
Transceivers	NA	included

## STORAGE

Redundant drives are configured in a RAID1 mirror increasing system reliability. RAID status monitoring is available via SNMP.

### REDUNDANT STORAGE OPTIONS

	3000, 6200 - 6600	6700	6900, 7000, 16200, 16600, 26000, 28000, 28600	MLS200	QLS, MLS400
SSD Options	1x 240GB	1x 480GB	1x 480GB	2x 480GB	2x 960GB
Redundant Drive	NA	NA	Optional	✓	✓
RAID Setup			RAID1	RAID1	RAID1

## POWER SUPPLIES

Dual power supplies increase the overall reliability of the security appliance. In the dual power supply configuration an audible alarm occurs when one power supply fails. Power Supply status is also monitored via SNMP or in the GAiA Web UI.

### POWER SUPPLY OPTIONS

	3000	6200, 6400 <sup>1</sup>	6600, 6700, 7000, 6900, 16200	16600, 26000, 28000, 28600, QLS, MLS
Redundant Power Supply	Optional	NA	Optional	Included
DC Power Supply	NA	NA	Optional	Optional

<sup>1</sup> 6200, 6400 power supplies are not Field Replaceable Units (FRU)

### POWER SUPPLY SPECIFICATION (6000, 7000)

	6600, 6700, 6900	7000, MLS200
AC SKU	CPAC-PSU-AC-6600/6700/6900	CPAC-PSU-AC-7000/MLS200
AC Power Input	100 to 240V (47-63Hz)	100 to 240V (47-63Hz)
Output Power	300W	500W

### POWER SUPPLY SPECIFICATION (16000, 26000, Lightspeed)

	16200, QLS250	16600, 26000, 28000, 28600, QLS450, QLS650, QLS800, MLS400
AC SKU	CPAC-PSU-AC-16000	CPAC-PSU-AC-26000/28000/MLS400
AC Power Input	100 to 240V (47-63Hz)	100 to 240V (47-63Hz)
Output Power	1300W	850W



## LIGHTS-OUT MANAGEMENT

Lights-Out Management (LOM) provides out-of-band remote management to remotely diagnose, start, restart and manage the security appliance from a remote location.

### LIGHTS-OUT MANAGEMENT OPTIONS

	3000	6000, 7000, 16200, 26000, 28000	16600, 28600, QLS, MLS
<b>LOM</b>	NA	Optional	Included

### LIGHTS-OUT MANAGEMENT SPECIFICATION

SKU	Features
<b>CPAC-NLOM-C</b>	LOM/IPMI module with front 1 GbE RJ-45

## MEMORY

Additional system memory increases connection capacity and improves the overall ability of the security appliance.

### MEMORY OPTIONS

	3000	6200 6700	6900 7000	16200	16600	26000	28000 MLS200	28600	QLS250	QLS450 QLS650 QLS800 MLS400
<b>Base GB</b>	8	8	16	48	128	48	64	192	128	192
<b>Plus GB</b>	16	16	32	64	-	96	96	-	-	-
<b>Maximums GB</b>	NA	32	64	128	128	128	128	192	128	192

\* Plus options are not available in the QLS or MLS models, max memory of the MLS200 is 64 GB

### MEMORY SPECIFICATION

Model	SKU	Start	Target	Modules
<b>6200</b>	CPAC-RAM8GB-6200	8	16	1x 8GB DDR4
	CPAC-RAM16GB-6200	16	32	1x 16GB DDR4
	CPAC-RAM24GB-6200	8	32	3x 8GB DDR4
<b>6400</b>	CPAC-RAM8GB-6400	8	16	1x 8GB DDR4
	CPAC-RAM16GB-6400	16	32	1x 16GB DDR4
	CPAC-RAM24GB-6400	8	32	3x 8GB DDR4
<b>6600</b>	CPAC-RAM8GB-6600	8	16	1x 8GB DDR4
	CPAC-RAM16GB-6600	16	32	2x 8GB DDR4
	CPAC-RAM24GB-6600	8	32	3x 8GB DDR4
<b>6700</b>	CPAC-RAM8GB-6700	8	16	1x 8GB DDR4
	CPAC-RAM16GB-6700	16	32	2x 8GB DDR4
	CPAC-RAM32GB-6700	8	32	3x 8GB DDR4
<b>6900</b>	CPAC-RAM16GB-6900	16	32	2x 8GB DDR4
	CPAC-RAM48GB-6900	16	64	4x 16GB DDR4
	CPAC-RAM32GB-6900	32	64	2x 16GB DDR4
<b>7000</b>	CPAC-RAM16GB-7000	16	32	1x 16GB DDR4
	CPAC-RAM32GB-7000	32	64	2x 16GB DDR4
	CPAC-RAM48GB-7000	16	64	3x 16GB DDR4
<b>16200</b>	CPAC-RAM16GB-16000	48	64	2x 8GB ECC DDR4
	CPAC-RAM64GB-16000	64	128	8x 8GB ECC DDR4
	CPAC-RAM80GB-16000	48	128	10x 8GB ECC DDR4

26000	CPAC-RAM48GB-26000	48	96	4x 8GB ECC DDR4
	CPAC-RAM32GB-26000	96	128	4x 8GB ECC DDR4
	CPAC-RAM80GB-26000	48	128	10x 8GB ECC DDR4
28000	CPAC-RAM32GB-28000	64	96	4x 8GB ECC DDR4
	CPAC-RAM32GB-28000	96	128	4x 8GB ECC DDR4
	CPAC-RAM64GB-28000	64	128	8x 8GB ECC DDR4

## RACK MOUNT OPTIONS

Slide rails provide simple installation (5-10 minutes) and easy maintenance access for 6000, 7000, 16000, 26000, 28000 and Lightspeed Security Appliances in a standard 19-inch (48.26 cm) rack (see specification EIA-310-D). For the desktop form factor of the 3000 Security Appliances, shelf rack mount kits available. Slide rails are optional in the 6200 and 6400, included in the 6600 to 28000.

### RACK KIT SPECIFICATION


	SKU	Depth
16200, 16600, 26000, 28000, 28600, QLS, MLS	CPAC-RAIL-L CPAC-RAIL-EXT-L	22 in (55.9 cm) to 32 in (81.3 cm) 24 in (61 cm) to 36 in (91.4 cm)
6000, 7000	CPAC-RAILS-6000/7000 CPAC-RAIL-EXT-6000/7000	22 in (55.9 cm) to 32 in (81.3 cm) 24 in (61 cm) to 36 in (91.4 cm)
3600, 3800	CPAC-1500/3600/3800-RM-DUAL	Single/Dual 3000 1U Shelf Rack Mount L-23" x W-19" x H-3" (58.4 x 48.3 x 7.6 cm)
1535/1555/1575/1595	CPAC-1500/3600/3800-RM-DUAL	
1575R/1595R	CPAC-157xR/159xR-RM-DUAL	

## MAESTRO MHO - EXPAND NETWORK CAPACITY, INCREASE PERFORMANCE & RELIABILITY


### NETWORK TRANSCEIVER SPECIFICATION (1G Transceivers)

SKU	CPAC-TR-1T-B CPAC-TR-1T-C CPAC-TR-1T-D	CPAC-TR-1SX-B CPAC-TR-1SX-C CPAC-TR-1SX-D	CPAC-TR-1LX-B CPAC-TR-1LX-C CPAC-TR-1LX-D
			
<b>Supported Models</b>	MH0140	MH0140	MH0140
<b>Form Factor</b>	SFP	SFP	SFP
<b>Protocol</b>	1000Base-T	1000Base-SX	1000Base-LX
<b>Wavelength (nm)</b>	-	840 to 860	1260 to 1355
<b>Connector</b>	RJ-45	LC	LC
<b>Distance (Max)</b>	100m	300m (OM1) 550m (OM2)	10km
<b>Supported Cable Type</b>	CAT 5	multi-mode 62.5/125 µm Fiber (OM1) 50/125 µm Fiber (OM2)	Single mode 9/125 µm Fiber
<b>Input Level (Receive Power) dBm</b>	N/A	0 to -18dBm	0 to -19dBm
<b>Output Level (Transmit Power) dBm</b>	N/A	-2.5 to -9dBm	-3 to -9.5dBm

## NETWORK TRANSCEIVER SPECIFICATION (10G Transceivers)

SKU	CPAC-TR-10T-C	CPAC-TR-10SR-B CPAC-TR-10SR-C CPAC-TR-10SR-D	CPAC-TR-10LR-B CPAC-TR-10LR-C CPAC-TR-10LR-D	CPAC-TR-10ER-C
				
<b>Supported Models</b>	MH0140	MH0140	MH0140	MH0140
<b>Form Factor</b>	SFP+	SFP+	SFP+	SFP+
<b>Protocol</b>	10GBASE-T	10GBASE-SR	10GBASE-LR	10GBASE-ER
<b>Wavelength (nm)</b>	-	840 to 860	1260 to 1355	1530 to 1565
<b>Connector</b>	RJ-45	LC	LC	LC
<b>Distance (Max)</b>	30m	<b>1GbE</b> 220m(OM1) 550m(OM2) >550m (OM3) >550m(OM4)	<b>10GbE</b> 26m(OM1) 82m(OM2) 300m(OM3) 400m(OM4)	10km
<b>Supported Cable Type</b>	CAT6a, CAT7	multi-mode 62.5/125 µm Fiber(OM1) 50/125 µm Fiber(OM2) 50/125 µm Fiber(OM3) 50/125 µm Fiber(OM4)	Single Mode 9/125 µm Fiber	Single Mode 9/125 µm Fiber
<b>Input Level (Receive Power) dBm</b>	N/A	+0.5 - 12.5dBm (1GbE) +0.5 - 13.5dBm (1GbE) +0.5 - 11.1dBm (10GbE)	62.5 um MMF 50 um MMF 50 um MMF	-3 to -19dBm (1GbE mode) +0.5 to -12.6dBm (10GbE mode)
<b>Output Level (Transmit Power) dBm</b>	N/A	-1 to -9.5dBm (1GbE mode) -1 to -5dBm (10GbE mode)	-3 to -11dBm (1GbE mode) +0.5 to -8.2dBm (10GbE mode)	+4 - 4dBm

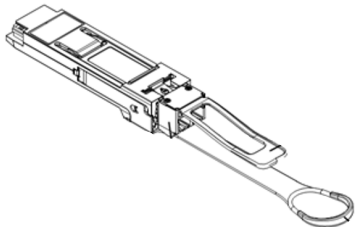
## QSFP28 ADAPTORS with 10GbE TRANSCEIVERS

<p>Composed of a QSFP28 adaptor with an SFP+ transceiver to connect a Check Point security appliance QSFP28 port to a network SFP+ port. The graphic shows an adaptor without the transceiver (top) and the adaptor with an SFP+ transceiver inserted in the adaptor (bottom).</p> <p>Supported on Maestro MH0175.</p>																
	<table border="1" style="width: 100%;"> <thead> <tr> <th style="width: 60%;"></th> <th style="width: 20%;">Adaptor</th> <th style="width: 20%;">Transceiver</th> </tr> </thead> <tbody> <tr> <td><b>CPAC-TR-10SR-ADP:</b> QSFP28 adaptor with SFP+ transceiver module for short range links.</td> <td>QSFP28</td> <td>SFP+ 10GBase-SR</td> </tr> <tr> <td><b>CPAC-TR-10LR-ADP:</b> QSFP28 adaptor with SFP+ transceiver module for links up to 10km.</td> <td>QSFP28</td> <td>SFP+ 10GBase-LR</td> </tr> <tr> <td><b>CPAC-TR-10ER-ADP:</b> QSFP28 adaptor with SFP+ transceiver module for links up to 40km.</td> <td>QSFP28</td> <td>SFP+ 10GBase-ER</td> </tr> <tr> <td><b>CPAC-TR-10T-ADP:</b> QSFP28 adaptor with SFP+ transceiver module for links up to 30m over CAT6A or CAT7.</td> <td>QSFP28</td> <td>10GBASE-T RJ45 Copper</td> </tr> </tbody> </table>		Adaptor	Transceiver	<b>CPAC-TR-10SR-ADP:</b> QSFP28 adaptor with SFP+ transceiver module for short range links.	QSFP28	SFP+ 10GBase-SR	<b>CPAC-TR-10LR-ADP:</b> QSFP28 adaptor with SFP+ transceiver module for links up to 10km.	QSFP28	SFP+ 10GBase-LR	<b>CPAC-TR-10ER-ADP:</b> QSFP28 adaptor with SFP+ transceiver module for links up to 40km.	QSFP28	SFP+ 10GBase-ER	<b>CPAC-TR-10T-ADP:</b> QSFP28 adaptor with SFP+ transceiver module for links up to 30m over CAT6A or CAT7.	QSFP28	10GBASE-T RJ45 Copper
	Adaptor	Transceiver														
<b>CPAC-TR-10SR-ADP:</b> QSFP28 adaptor with SFP+ transceiver module for short range links.	QSFP28	SFP+ 10GBase-SR														
<b>CPAC-TR-10LR-ADP:</b> QSFP28 adaptor with SFP+ transceiver module for links up to 10km.	QSFP28	SFP+ 10GBase-LR														
<b>CPAC-TR-10ER-ADP:</b> QSFP28 adaptor with SFP+ transceiver module for links up to 40km.	QSFP28	SFP+ 10GBase-ER														
<b>CPAC-TR-10T-ADP:</b> QSFP28 adaptor with SFP+ transceiver module for links up to 30m over CAT6A or CAT7.	QSFP28	10GBASE-T RJ45 Copper														

## NETWORK TRANSCEIVER SPECIFICATION (25G Transceivers)

SKU	CPAC-TR-25SR-ADP CPAC-TR-25SR-D-ADP	CPAC-TR-25LR-ADP CPAC-TR-25LR-D-ADP	CPAC-TR-25SR CPAC-TR-25SR-D	CPAC-TR-25LR CPAC-TR-25LR-D
				
<b>Supported Models</b>	MH0175	MH0175	MH0140	MH0140
<b>Form Factor</b>	SFP28 with QSFP28 adaptor	SFP28 with QSFP28 adaptor	SFP28	SFP28
<b>Protocol</b>	25GBASE-SR	25GBASE-LR	25GBASE-SR	25GBASE-LR
<b>Wavelength (nm)</b>	840 to 860	1260 to 1355	840 to 860	1260 to 1355
<b>Connector</b>	LC	LC	LC	LC
<b>Distance (Max)</b>	20m(OM2) 70m(OM3) 100m(OM4)	10km	20m(OM2) 70m(OM3) 100m(OM4)	10km
<b>Supported Cable Type</b>	50/125 µm Fiber(OM2) 50/125 µm Fiber(OM3) 50/125 µm Fiber(OM4)	Single Mode 9/125 µm Fiber	50/125 µm Fiber(OM2) 50/125 µm Fiber(OM3) 50/125 µm Fiber(OM4)	Single Mode 9/125 µm Fiber
<b>Input Level (Receive Power) dBm</b>	+3dBm to -11.dBm	+3dBm to -11.dBm	+2dBm to -12dBm	+2dBm to -12dBm
<b>Output Level (Transmit Power) dBm</b>	+2.4dBm to -8.4dBm	+2.4dBm to -8.4dBm	+3dBm to -5dBm	+3dBm to -5dBm







## QSFP28 ADAPTORS with 25GbE TRANSCEIVERS

<p>Composed of a QSFP28 adaptor with an SFP28 transceiver to connect a Check Point security appliance QSFP28 port to a network SFP28 port. The graphic shows an adaptor with an SFP28 transceiver inserted in the adaptor.</p> <p>Supported on Maestro MH0175.</p>		
<b>CPAC-TR-25SR-ADP:</b> QSFP28 adaptor with SFP28 transceiver module for short range links.	QSFP28	SFP28 25GBase-SR
<b>CPAC-TR-25LR-ADP:</b> QSFP28 adaptor with SFP28 transceiver module for links up to 10km.	QSFP28	SFP28 25GBase-LR

## NETWORK TRANSCEIVER SPECIFICATION (40G Transceivers)

SKU	CPAC-TR-40SR-QSFP-100m CPAC-TR-40SR-QSFP-100m-D	CPAC-TR-40SWDM4	CPAC-TR-40SR-QSFP-300m CPAC-TR-40SR-QSFP-300m-D	CPAC-TR-40LR-QSFP-10Km CPAC-TR-40LR-QSFP-10Km-D	CPAC-TR-40ER4	CPAC-TR-40SR-QSFP-BiDi CPAC-TR-40SR-QSFP-BiDi-D
						
<b>Supported Models</b>	MH0140/170/175	MH0140/170/175	MH0140/170/175	MH0140/170/175	MH0140/175	MH0140/170/175
<b>Form Factor</b>	QSFP+	QSFP+	QSFP+	QSFP+	QSFP+	QSFP+
<b>Protocol</b>	40GBase-SR4	40GBASE-SWDM4	40GBase-SR4	40GBase-LR4	40GBASE-ER4	40GBase-SR-BiDi
<b>Wavelength (nm)</b>	840 to 860	840 to 860	840 to 860	1271,1291,1311,1331	1271,1291,1311,1331	832, 918
<b>Connector</b>	MPO-12	LC	MPO-12	LC	LC	LC
<b>Distance (Max)</b>	100m (OM3) 150m (OM4)	300m (OM3) 400m (OM4)	300m (OM3) 400m (OM4)	10km	40km	100m (OM3) 150m (OM4)
<b>Supported Cable Type</b>	multi-mode 50/125 µm fiber (OM3) 50/125 µm Fiber(OM4)	Multi-Mode 50/125 µm Fiber(OM3/OM4)	multi-mode 50/125 µm fiber (OM3) 50/125 µm Fiber(OM4)	single mode 9/125 µm Fiber	Single Mode 9/125 µm Fiber	multi-mode 50/125 µm fiber (OM3) 50/125 µm Fiber(OM4)
<b>Input Level (Receive Power) dBm</b>	+0dBm to -7.6dBm	+3.0dBm to -9.0dBm	+4dBm to -11.1dBm	+3.5dBm to -11.5dBm	-4.5dBm to -21.2dBm	+5dBm to -9.1dBm
<b>Output Level (Transmit Power) dBm</b>	+2.5dBm to -9.5dBm	+3.0dBm to -7.5dBm	+0.5dBm to -7.5dBm	+2.3dBm to -7dBm	+4.5dBm to -3.7dBm	+5dBm to -4dBm

## NETWORK TRANSCEIVER SPECIFICATION (100G Transceivers)

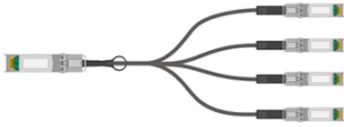

SKU	CPAC-TR-100SR-MH0140/170	CPAC-TR-100SR-BiDi	CPAC-TR-100SR	CPAC-TR-100LR	CPAC-TR-100CWDM4	CPAC-TR-100SWDM4 CPAC-TR-100SWDM4-D
						
Supported Models	MH0140/170	MH0175	MH0175	MH0140/170/175	MH0140/170/175	MH0140/170/175
Form Factor	QSFP28	QSFP28	QSFP28	QSFP28	QSFP28	QSFP28
Protocol	100GBase-SR4	100GBASE-SR1.2	100GBase-SR4	100GBase-LR4	100GBASE-CWDM4	100GBASE-SWDM4
Wavelength (nm)	840 to 860	855, 908	840 to 860	1295,1300, 1304,1309	1271,1291, 1311,1331	850,880, 910,940
Connector	MPO-12	LC	MPO-12	LC	LC	LC
Distance (Max)	70m(OM3) 100m(OM4)	70m(OM3) 100m(OM4/5)	70m(OM3) 100m(OM4)	10km	2km	75m(OM3) 100m(OM4) 150m(OM5)
Supported Cable Type	50/125 μm Fiber(OM3) 50/125 μm Fiber(OM4)	Multi-Mode 50/125 μm Fiber(OM3/OM4/ OM5)	50/125 μm Fiber(OM3) 50/125 μm Fiber(OM4)	single mode 9/125 μm Fiber	single mode 9/125 μm Fiber	50/125 μm Fiber(OM3) 50/125 μm Fiber(OM4) 50/125 μm Fiber(OM5)
Input Level (Receive Power) dBm	+2.4dBm to -10.3dBm	+4.0dBm to -7.9dBm	+2.4dBm to -10.3dBm	+4.5dBm to -10.6dBm	+2.5dBm to -10dBm	+3.4dBm to -9.5dBm
Output Level (Transmit Power) dBm	+2.4dBm to -8.4dBm	+4.0dBm to -6.0dBm	+2.4dBm to - 8.4dBm	+4.5dBm to -4.3dBm	+2.5dBm to -4dBm	-3dBm to -5.5dBm

## DIRECT ATTACHED CABLES (10G, 25G, 40G and 100G)

SKU	CPAC-DAC-10G-1M CPAC-DAC-10G-3M	CPAC-DAC-25G-3M	CPAC-DAC-140G-1M CPAC-DAC-40G-3M	CPAC-DAC-100G-1M CPAC-DAC-100G-3M
Supported Models	MH0140	MH0140/175	MH0140/170/175	MH0140/170/175
Form Factor	SFP+	SFP28	QSFP+	QSFP28
Protocol	10BASE-CU	25GBASE-CR1	40BASE-CR4	100BASE-CR4
Distance (Max)	1m/3m	3m	1m/3m	1m/3m
Cable Type	30AWG	30AWG	28AWG	28AWG
Compatible	SFP+ MSA, SFF-8431, SFF-8432	SFP28 MSA, SFF-8402, SFF-8436	QSFP+ MSA, SFF-8436, SFF-8685	QSFP+ MSA, SFF-8436, SFF-8685
Operation Relative Humidity	10 to 90%	5 to 85%	5 to 85%	5 to 85%

See SecureKnowledge sk148192 for more information

## SPLITTER CABLES (MH0140, MH0175)

	From	Connecting Cable	To
<b>CPAC-DAC-40/10G-1M / 3M</b> 40 GbE to four 10 GbE interfaces DAC Splitter, 3m length	1x Maestro QSFP+	Copper	4x 10G SFP+
Composed of a QSFP+ transceiver at one end and four individual SFP+ transceivers at the other end. Additional transceivers ARE NOT needed.			
	From	Connecting Cable	To
<b>CPAC-TR-40SPLIT-QSFP-xM</b> MTP/MPO to 4 Duplex LC Breakout Cable, OM3, 3 and 6 meter lengths	1x Maestro QSFP28, QSFP+ transceiver not included	Fiber	4x 10G SFP+ SFP+ transceivers not included
Composed of an MTP/MPO male connector at one end and four individual Duplex LC connectors at the other end.			

\* The CPAC-TR-40SR-QSFP-100m is recommended when using the splitters CPAC-TR-40SPLIT-QSFP-3M or CPAC-TR-40SPLIT-QSFP-6M



## APPENDIX: 2016 SECURITY APPLIANCE ACCESSORIES

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## 5000, 15000 AND 23000 ACCESSORY SUMMARY

These models are available in a base and a High Performance Pack (HPP) option. The HPP package includes the base system plus additional supported accessories such as Network Interface Cards (NIC), transceivers, disk drives, power supplies and memory for high connection capacity. Below is a summary comparison table.

		1 GbE Copper	1 GbE Fiber	10 GbE	40 GbE	100/25 GbE	Memory	Redundant Storage	Redundant Power	LOM
5100	Base	6	0	-	-	-	8	-	-	○
	HPP	6	4	-	-	-	16	-	-	●
	Maximums	14	4	-	-	-	32	-	-	●
5200	Base	6	0	-	-	-	8	-	-	○
	HPP	6	4	-	-	-	16	-	-	●
	Maximums	14	4	-	-	-	32	-	-	●
5400	Base	10	0	-	-	-	8	-	-	○
	HPP	10	4	-	-	-	16	-	-	●
	Maximums	18	4	-	-	-	32	-	-	●
5600	Base	10	0	0	-	-	8	-	○	○
	HPP	10	4	0	-	-	16	-	●	●
	Maximums	18	4	4	-	-	32	-	●	●
5800	Base	10	0	0	0	-	8	-	○	●
	HPP	10	0	2	0	-	16	-	●	●
	Maximums	26	8	8	4	-	32	-	●	●
5900	Base	10	0	0	0	-	8	○	○	●
	HPP	10	0	4	0	-	16	●	●	●
	Maximums	26	8	8	4	-	32	●	●	●
15400	Base	10	0	2	0	0	8	○	●	●
	HPP	10	0	6	0	0	24	●	●	●
	Maximums	26	12	12	6	6	64	●	●	●
15600	Base	10	0	2	0	0	16	●	●	●
	HPP	10	0	6	0	0	32	●	●	●
	Maximums	26	12	12	6	6	64	●	●	●
23500	Base	10	0	2	0	0	16	●	●	●
	HPP	10	0	10	0	0	64	●	●	●
	Maximums	42	20	20	10	10	128	●	●	●
23800	Base	10	0	2	0	0	32	●	●	●
	HPP	10	0	10	0	0	64	●	●	●
	Maximums	42	20	20	10	10	128	●	●	●
23900	Base	10	0	2	0	0	48	●	●	●
	HPP	10	0	10	0	0	64	●	●	●
	Maximums	42	20	20	10	10	128	●	●	●

○ this is optional

## 5000, 15000 AND 23000 SERIES NETWORK ACCESSORIES

Check Point 3000, 5000, 15000 and 23000 Security Appliances can be ordered with 1 GbE copper, 1 GbE fiber, 10 GbE fiber, 40 GbE or 100/25 GbE network interface cards. The modules and port density varies depending upon the security appliance and the number of expansion slots available.



	3100, 3200	5100, 5200, 5400, 5600	5800, 5900	15000	23000
Expansion Slots	0	1	2	3	5

### NETWORK I/O MODULES (5000, 15000 and 23000)

SKU	CPAC-8-1C-B	CPAC-4-1F-B	CPAC-4-10F-B	CPAC-2-40F-B	CPAC-2-100/25F
					
Supported Models	5000, 15000, 23000	5000, 15000, 23000	5600, 5800, 5900, 15000, 23000	5800, 5900, 15000, 23000	15000, 23000
Number of Ports	8	4	4	2	2
Port Types	RJ-45 (Copper) 10/100/1000Base-T	SFP	SFP+	QSFP+	QSFP28
Speed	1 Gbps	1 Gbps	10 Gbps	40 Gbps	100/25 Gbps
Transceivers		CPAC-TR-1T-B CPAC-TR-1SX-B CPAC-TR-1LX-B	CPAC-TR-10SR-B CPAC-TR-10LR-B	CPAC-TR-40SR-QSFP- 300m CPAC-TR-40LR-QSFP- 10K CPAC-TR-40SR-QSFP- BIDI	CPAC-TR25SR-ADP CPAC-TR-25LR-ADP CPAC-TR-100SR CPAC-TR-100LR

SKU	CPAC-8-1C-B	CPAC-4-1F-B	CPAC-4-10F-B	CPAC-2-40F-B	CPAC-2-100/25F
Supported Models	5000, 15000, 23000	5000, 15000, 23000	5600, 5800, 5900, 15000, 23000	5800, 5900, 15000, 23000	15000, 23000
Number of Ports	8	4	4	2	2
Port Types	RJ-45 (Copper) 10/100/1000Base-T	SFP	SFP+	QSFP+	QSFP28
Speed	1 Gbps	1 Gbps	10 Gbps	40 Gbps	100/25 Gbps
DACs	N/A	N/A	CPAC-DAC-10G- 3M	CPAC-DAC-10G-3M	CPAC-DAC-25G-3M CPAC-DAC-100G-3M



**FAIL-OPEN NETWORK I/O MODULES (5000, 15000 and 23000, transceivers included)**

SKU	CPAC-4-1C-BP-B	CPAC-2-10FSR-BP-B
		
<b>Supported Models</b>	5000, 15000, 23000	5600, 5800, 5900, 15000, 23000
<b>Number of Ports</b>	4	2
<b>Port Types</b>	RJ-45 (copper) 10/100/1000Base-T	SFP+ 10GBase-SR
<b>Speed</b>	1 Gbps	10 Gbps
<b>Transceivers</b>	NA	CPAC-TR-10SR

**NETWORK TRANSCEIVER SPECIFICATION (1G Transceivers)**

SKU	CPAC-TR-1T-B	CPAC-TR-1SX-B	CPAC-TR-1LX-B
			
<b>Supported Models</b>	5100 – 23900, MH0140	5100 – 23900, MH0140	5100 – 23900, MH0140
<b>Form Factor</b>	SFP	SFP	SFP
<b>Protocol</b>	1000Base-T 1G Ethernet	1000Base-SX 1G Ethernet	1000Base-LX 1G Ethernet
<b>Wavelength (nm)</b>		840 to 860	1260 to 1355
<b>Connector</b>	RJ-45	LC	LC
<b>Distance (Max)</b>	100m	300m (OM1) 550m (OM2)	10km
<b>Supported Cable Type</b>	Cat 5	multi-mode 62.5/125 µm Fiber (OM1) 50/125 µm Fiber (OM2)	Single mode/125 µm Fiber
<b>Input Level (Receive Power) dBm</b>	N/A	0 to -18dBm	0 to -19dBm
<b>Output Level (Transmit Power) dBm</b>	N/A	-2.5 to -9dBm	-3 to -9.5dBm
<b>Matching I/O Module</b>	CPAC-4-1F-B	CPAC-4-1F-B	CPAC-4-1F-B

**NETWORK TRANSCEIVER SPECIFICATION (10G Transceivers)**

SKU	CPAC-TR-10SR-B		CPAC-TR-10LR-B
			
<b>Supported Models</b>	5600 – 23900, MHO140		5600 – 23900, MHO140
<b>Form Factor</b>	SFP+		SFP+
<b>Protocol</b>	10GBASE-SR 10G		10GBASE-LR 10G
<b>Wavelength (nm)</b>	840 to 860		1260 to 1355
<b>Connector</b>	LC		LC
<b>Distance (Max)</b>	<b>1GbE</b> 220m(OM1) 550m(OM3) >550m (OM3) >550m(OM4)	<b>10GbE</b> 26m(OM1) 82m(OM2) 300m(OM3) 400m(OM4)	10km
<b>Supported Cable Type</b>	multi-mode 62.5/125 µm Fiber(OM1) 50/125 µm Fiber(OM2) 50/125 µm Fiber(OM3) 50/125 µm Fiber(OM4)		Single Mode 9/125 µm Fiber
<b>Input Level (Receive Power) dBm</b>	+0.5 - 12.5dBm (1GbE) +0.5 - 13.5dBm (1GbE) +0.5 -11.1dBm (10GbE)	62.5 um MMF 50 um MMF 50 um MMF	-3 to -19dBm (1GbE mode) +0.5 to -12.6dBm (10GbE mode)
<b>Output Level (Transmit Power) dBm</b>	-1 to -9.5dBm (1GbE mode) -1 to -5dBm (10GbE mode)		-3 to -11dBm (1GbE mode) +0.5 to -8.2dBm (10GbE mode)
<b>Matching I/O Modules</b>	CPAC-2-10F-B, CPAC-4-10F-B		CPAC-2-10F-B, CPAC-4-10F-B

**NETWORK TRANSCEIVER SPECIFICATION (40G Transceivers)**

SKU	CPAC-TR-40SR-QSFP-300m	CPAC-TR-40LR-QSFP-10K	CPAC-TR-40SR-QSFP-BiDi
			
<b>Supported Models</b>	5800 – 23900, MHO140/170/175	5800 – 23900, MHO140/170/175	5800 – 23900, MHO140/170/175
<b>Form Factor</b>	QSFP+	QSFP+	QSFP+
<b>Protocol</b>	40GBase-SR 40G	40GBase-LR 40G	40GBase-SR-BiDi 40G
<b>Wavelength (nm)</b>	840 to 860	1271,1291,1311,1331	832, 918
<b>Connector</b>	MPO-12	LC	LC
<b>Distance (Max)</b>	300m (OM3) 400m (OM4)	10km	100m (OM3) 150m (OM4)
<b>Supported Cable Type</b>	Aqua: multi-mode 50/125 µm fiber (OM3) 50/125 µm Fiber(OM4)	Yellow: single mode 9/125 µm Fiber	Aqua: multi-mode 50/125 µm fiber (OM3) 50/125 µm Fiber(OM4)
<b>Input Level (Receive Power) dBm</b>	+4dBm to -11.1dBm	+3.5dBm to -11.5dBm	+5dBm to -9.1dBm
<b>Output Level (Transmit Power) dBm</b>	+0.5dBm to -7.5dBm	+2.3dBm to -7dBm	+5dBm to -4dBm
<b>Matching I/O Module</b>	CPAC-2-40F-B	CPAC-2-40F-B	CPAC-2-40F-B

**NETWORK TRANSCEIVER SPECIFICATION (100/25G Transceivers)**

SKU	CPAC-TR25SR-ADP	CPAC-TR-25LR-ADP	CPAC-TR-100SR-B	CPAC-TR-100LR-B
				
<b>Supported Models</b>	15400 - 23900	15400 - 23900	15400 - 23900, MHO140/170/175	15400 - 23900, MHO140/170/175
<b>Form Factor</b>	SFP28 with QSFP28 adaptor	SFP28 with QSFP28 adaptor	QSFP28	QSFP28
<b>Protocol</b>	25GBASE-SR 25G Ethernet	25GBASE-LR 25G Ethernet	100GBase-SR4 100G Ethernet	100GBase-LR4 100G Ethernet
<b>Wavelength (nm)</b>	840 to 860	1260 to 1355	840 to 860	1295,1300, 1304,1309
<b>Connector</b>	LC	LC	MPO-12	LC
<b>Distance (Max)</b>	20m(OM2) 70m(OM3) 100m(OM4)	10km	70m(OM3) 100m(OM4)	10km
<b>Supported Cable Type</b>	50/125 µm Fiber(OM2) 50/125 µm Fiber(OM3) 50/125 µm Fiber(OM4)	Single Mode 9/125 µm Fiber	50/125 µm Fiber(OM3) 50/125 µm Fiber(OM4)	single mode 9/125 µm Fiber
<b>Input Level (Receive Power) dBm</b>	+3dBm to -11.dBm	+2dBm to -12dBm	+2.4dBm to -10.3dBm	+4.5dBm to -10.6dBm
<b>Output Level (Transmit Power) dBm</b>	+2.4dBm to -8.4dBm	+3dBm to -5dBm	+2.4dBm to -8.4dBm	+4.5dBm to -4.3dBm
<b>Matching I/O Module</b>	CPAC-2-100/25F	CPAC-2-100/25F	CPAC-2-100/25F	CPAC-2-100/25F

## POWER SUPPLIES

Dual power supplies increase the overall reliability of the security appliance. In the dual power supply configuration an audible alarm occurs when one power supply fails. Power Supply status is also monitored via SNMP or in the GAiA Web UI.

### POWER SUPPLY OPTIONS (5000, 15000 and 23000)

	3000	5100, 5200, 5400 <sup>1</sup>	5600, 5800, 5900	15000, 23000
Redundant Power Supply	NA	NA	Optional	Included
DC Power Supply	NA	Optional	Optional	Optional

<sup>1</sup> 5100, 5200, 5400 power supplies are not Field Replaceable Units (FRU)

### POWER SUPPLY SPECIFICATION (5000, 15000 and 23000)

	5600, 5800	5900	15000	23000
AC SKU	CPAC-PSU-5600/5800	CPAC-PSU-AC-5900	CPAC-PSU-AC-15000	CPAC-PSU-AC-23000
DC SKU	CPAC-PSU-DC-5600/5800	CPAC-PSU-DC-5900	CPAC-PSU-DC-Dual-15000/23000	
AC Power Input	90 to 240V [47-63Hz]	90 to 240V [47-63Hz]	90 to 240V [47-63Hz]	90 to 240V [47-63Hz]
AC Input Current	5600: 0.75A 5800: 0.84A	5900: 1.38A	15400: 7.1A 15600: 7.1A	23500: 9.4A 23800: 9.4A
DC Input Current			-40.5V/24A -48V/19.2A, -60V/16.0A	-40.5V/24A -48V/19.2A, -60V/16.0A
Output Power	275W	275W	AC(550W), DC(800W)	800W

## STORAGE

Redundant drives are configured in a RAID1 mirror increasing system reliability. RAID status monitoring is available via SNMP.

### REDUNDANT STORAGE OPTIONS (5000, 15000 and 23000)

	3000	5100 – 5800	5900	15400	15600, 23000
HDD Options		1x 1TB		1x 1TB	2x 1TB
SSD Options <sup>1</sup>	1x 240GB	1x 240GB	1x 480GB	1x 480GB	2x 480GB
Redundant Drive	NA	NA	Optional	Optional	Included
RAID Setup			RAID1	RAID1	RAID1

<sup>1</sup> Local logging and standalone configuration (management and gateway) may not be supported for the SSD option, see sk113053

## LIGHTS-OUT MANAGEMENT

Lights-Out Management (LOM) provides out-of-band remote management to remotely diagnose, start, restart and manage the security appliance from a remote location.

### LIGHTS-OUT MANAGEMENT OPTIONS (5000, 15000 and 23000)

	3100, 3200	5100, 5200, 5400, 5600	5800, 5900, 15000, 23000
LOM	NA	Optional	Included

### LIGHTS-OUT MANAGEMENT SPECIFICATION

SKU	Features
CPAC-LOM-B (5000-23000)	LOM/IPMI module with front 1 GbE RJ-45

## MEMORY

Additional system memory increases connection capacity and improves the overall ability of the security appliance.

### MEMORY OPTIONS (5000, 15000 and 23000)

	3100, 3200	5100, 5200	5400, 5600, 5800, 5900	15400	15600	23500	23800	23900
<b>Default</b>	8	8	8	8	16	16	32	48
<b>HPP</b>	NA	16	16	24	32	64	64	64
<b>Maximum</b>	NA	16	32	64	64	128	128	128

### MEMORY SPECIFICATION (5000, 15000 and 23000)

Model	SKU	Start	Target	Modules
5100, 5200, 5400, 5600, 5800	CPAC-RAM8GB-5000	8	16	1x 8GB DDR3
	CPAC-RAM16GB-5000	16	32	2x 8GB DDR3
	CPAC-RAM24GB-5000	8	32	3x 8GB DDR3
5900	CPAC-RAM8GB-5900	8	16	3x 8GB ECC DDR4
	CPAC-RAM24GB-5900	8	32	3x 8GB ECC DDR4
	CPAC-RAM16GB-5900	16	32	2x 8GB ECC DDR4
15400	CPAC-RAM16GB-15400	8	24	2x 8GB ECC DDR4
	CPAC-RAM40GB-15400	24	64	5x 8GB ECC DDR4
	CPAC-RAM56GB-15400	8	64	7x 8GB ECC DDR4
15600	CPAC-RAM16GB-15600	16	32	2x 8GB ECC DDR4
	CPAC-RAM32GB-15600	32	64	4x 8GB ECC DDR4
	CPAC-RAM48GB-15600	16	64	6x 8GB ECC DDR4
23500	CPAC-RAM48GB-23500	16	64	6x 8GB ECC DDR4
	CPAC-RAM64GB-23500	64	128	8x 8GB ECC DDR4
	CPAC-RAM112GB-23500	16	128	14x 8GB ECC DDR4
23800	CPAC-RAM32GB-23800	32	64	4x 8GB ECC DDR4
	CPAC-RAM64GB-23800	64	128	8x 8GB ECC DDR4
	CPAC-RAM96GB-23800	32	128	12x 8GB ECC DDR4
23900	CPAC-RAM16GB-23900	48	64	2x 8GB ECC DDR4
	CPAC-RAM64GB-23900	64	128	8x 8GB ECC DDR4
	CPAC-RAM80GB-23900	48	128	10x 8GB ECC DDR4

## RACK MOUNT OPTIONS

Slide rails provide simple installation (5-10 minutes) and easy maintenance access for 5000, 15000 and 23000 Security Appliances in a standard 19-inch (48.26 cm) rack (see specification EIA-310-D). A shelf rack mount kit is available for the 3100 and 3200. Slide rails are optional in the 5100 through the 5600 and included in the 5800 through the 23000.

### RACK KIT SPECIFICATION (3000, 5000, 15000 and 23000)

	SKU	Depth
15000, 23000	CPAC-RAIL-L	22 in (55.9 cm) to 32 in (81.3 cm)
	CPAC-RAIL-EXT-L	24 in (61 cm) to 36 in (91.4 cm)
5000	CPAC-RAIL-5000	22 in (55.9 cm) to 32 in (81.3 cm)
	CPAC-RAIL-EXT-5000	24 in (61 cm) to 36 in (91.4 cm)
3100, 3200	CPAC-RM-DUAL-3000	Single/Dual 3000 1U Shelf Rack Mount

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