

SPECTRA POWERTWIN

PANEL PC, MODULAR CONCEPT

FEATURES

- Robust chassis
- Aluminium front IP65 protection class
- Panel PC with 8.4" to 24" industrial display
- Resistive or PCAP touchscreen (also available without touchscreen)
- Sunlight Readable models upon request
- Panel PC modules from Intel® Atom™ to 6th generation Core™ i
- PCIe, PCI or mPCIe expansion slots
- Passive cooling (fanless)
- Panel PC and Monitor modules with automatic display and resolution detection
- Easy replacement from display or module
- Panel & VESA mount



MODULAR CONCEPT

SPECTRA POWERTWIN

THE WAY TO A CUSTOMIZED SPECTRA POWERTWIN PANEL-PC

STEP 1 – SELECTION OF APPLICATION

PERFORMANT (P SERIES)

The Performant PowerTwin Panel PCs fulfill the desire for more performance with an Intel® Core™ i7 CPU, industrial RAM and data center SSD with PowerGuard function.

ROBUST (R SERIES)

The robust version is intended for rough industrial use. The used industrial RAM and industrial SSD with extended temperature range allow the use in particularly demanding environments.

STANDARD (S SERIES)

With the PowerTwin Panel PCs in the standard version, most requirements and operating conditions can be easily covered. They are the ideal devices for cost-conscious use in normal industrial environments.

SUNLIGHT READABLE (SR SERIES)

The sunlight readable PowerTwin Panel PCs with a luminance of 1500 or 1600 cd/m², Wide-Temp RAM and SSD with PowerGuard are even suitable for outdoor use.

STEP 2 – SELECTION OF PERFORMANCE OF PC-MODULE



Whiskey Lake CPU

- Intel® Core™ i5-865UE CPU
- Intel® Core™ i3-8145UE CPU
- Optional PCI/PCIe expansion slot



Skylake CPU

- Intel® Core™ i7-6600U CPU
- Intel® Core™ i5-6300U CPU
- Intel® Core™ i3-6100U CPU
- Optional PCI/PCIe expansion slot



Apollo Lake CPU

- Intel® Atom™ x7-3950 CPU
- Intel® Pentium® N4200 CPU



Bay Trail CPU

- Intel® Atom™ E3845 CPU
- Intel® Celeron® J1900 CPU
- Optional Universal Bracket Socket for expansions

STEP 3 – SELECTION OF DISPLAY-MODULE



Sunlight-readable:	yes	no
Size:	8" to 19"	8" to 24"
Touchscreen:	PCAP	resistive / PCAP / without Touch

RESULT – INDIVIDUAL SPECTRA POWERTWIN PANEL PC



According to the same principle, the combination of a display module with a monitor module results in a monitor that is ready to switch on. (see page 22)

SPECTRA POWERTWIN

TECHNICAL DATA PC-MODULES



Whiskey Lake

Skylake

Apollo Lake

Bay Trail

Modell	PowerTwin i3WL / i5WL		PowerTwin i3SL / i5SL / i7SL		PowerTwin AL	PowerTwin BT	
	Basis Modell	Modell mit Erweiterung	Basis Modell	Modell mit Erweiterung		Basis Modell	Modell mit Erweiterung

SYSTEM

Processor	Intel® Core™ i5-8365UE / i3-8145UE	Intel® Core™ i5-6300U / i3-6100U / i7-6600U	Intel® Atom™ x7-3950	Intel® Atom™ E3845
Chipset	SoC			
Memory	max. 64 GB DDR4	max. 32 GB DDR4	max. 8 GB DDR3L	max. 8 GB DDR3L
Drives	2 x 2.5" SATA 1 x removable bay (RAID 0/1)		1 x 2.5" SATA	

I/O INTERFACES

USB	3x USB 3.2, 2x USB 2.0	4x USB 3.0, 1x USB 2.0	4x USB 3.0	1x USB 3.0, 3x USB 2.0
serial	6x RS-232/422/485	6x RS-232/422/485	4x RS-232/422/485	2x RS-232/422/485
Network	1x Intel® I219LM GLAN, 1x Intel® I210IT GLAN	1x Intel® I219LM GLAN, 1x Intel® I210AT GLAN	2 x Intel® I210AT GLAN	
Graphics	1x VGA, 1x DP	1x VGA, 1x DVI-D	1x VGA, 1x DP	
Others	Line-out, Mic-in, DIO: 8 in / 8 out, isolated, Remote Power ON, Connector for ext. fan		Line-out, Mic-in, DIO: 4 in / 4 out, isolated	

EXPANSION SLOTS

mPCIe / PCIe / PCI	2x mPCIe (Full-Size) 2x Compact Interface (proprietary)		2x mPCIe (Full-Size) (o. 2 mSATA (RAID 0/1)) 1x Compact Interface (proprietary) 1x Universal Bracket		2x mPCIe (Full-Size) 1 of which as mSATA compatible	1x mPCIe (Full-Size)	
	–	1x PCI/PCIe 2x Universal Bracket	–	1x PCI/PCIe	–	–	2x Universal Bracket
Further slots	1 x SIM (with front access)				–	1 x CFast	
	1x M.2 E Key		1 x CFast		–	1 x CFast	

MECHANICAL DATA

Dimensions (WxHxD)	254,5 x 41,5 x 190 mm	254,5 x 61 x 190 mm	254,5 x 54 x 220 mm	254,5 x 72 x 220 mm	204,5 x 41,5 x 149 mm	204,5 x 37,5 x 149 mm	204,5 x 60 x 149 mm
Weight	2,2 kg	2,7 kg	2,92 kg	3,18 kg	1,49 kg	1,34 kg	1,54 kg

TEMPERATURES OF READY-TO-RUN PANEL-PC SYSTEMS (Pending on series, see previous page)



Whiskey Lake

Skylake

Apollo Lake

Bay Trail

Performant (P)	0° C bis 50° C	0° C bis 50° C	–	–
Robust (R)	-10° C bis 70° C	-10° C bis 70° C	-10° C bis 70° C	-10° C bis 70° C
Standard (S)	0° C bis 50° C	0° C bis 50° C	0° C bis 50° C	0° C bis 50° C
Sunlight-Readable (SR)	-10° C bis 70° C	-10° C bis 70° C	-10° C bis 70° C	-10° C bis 70° C

For full configurations and further technical data of the Spectra PowerTwin Series visit: www.spectra.de/power twin

SPECTRA POWERTWIN

TECHNICAL DATA DISPLAY-MODULES



Model	PowerTwin P08	PowerTwin P10	PowerTwin PH10	PowerTwin P12	PowerTwin PH12	PowerTwin P15
Display size / Aspect ratio	8.4" / 4:3	10.4" / 4:3		12.1" / 4:3		15" / 4:3
Resolution	800 x 600	800 x 600	1.024 x 768	800 x 600	1.024 x 768	1.024 x 768
Dimensions (WxHxD)	262 x 186,2 x 56,2 mm	295 x 227,3 x 56,2 mm		345 x 265,3 x 57 mm		408 x 312,4 x 59,2 mm
Weight	1,62 kg	2,24 kg		3,16 kg		4,36 kg
Cut-out Size (WxH)	248 x 172 mm	281 x 213 mm		331 x 251 mm		394 x 298,5 mm

STANDARD DISPLAYS

Brightness (cd/m ²)	400	400	400	450	500	350
Contrast ratio	600:1	700:1	1400:1	800:1	700:1	700:1
Viewing angles (h/v)	150°/130°	160°/130°	178°/178°	160°/140°	160°/160°	160°/150°
Touchscreen	Resistive / PCAP		Resistive/PCAP/without Touch	Resistive / PCAP	Resistive/PCAP/without Touch	

SUNLIGHT READABLE DISPLAYS

Brightness (cd/m ²)	1600	–	1500	–	1500	1600
Contrast ratio	600:1	–	1400:1	–	700:1	800:1
Viewing angles (h/v)	160°/140°	–	178°/178°	–	160°/160°	160°/160°
Touchscreen	PCAP, 7H hard glas, UV-resistant	–	PCAP, 7H hard glas, UV-resistant	–	PCAP, 7H hard glas, UV-resistant	

Modell	PowerTwin PW15	PowerTwin P17	PowerTwin P19	PowerTwin PW21	Spectra PowerTwin PW24
Display size / Aspect ratio	15.6" / 16:9	17" / 5:4	19" / 5:4	21.5" / 16:9	24" / 16:9
Resolution	1.366 x 768	1.280 x 1.024	1.280 x 1.024	1.920 x 1.080	1.920 x 1.080
Dimensions (WxHxD)	420 x 254 x 66,2 mm	450 x 350 x 63,2 mm	510 x 389,3 x 63,2 mm	550 x 330,5 x 63,2 mm	605 x 373 63,2 mm
Weight	4,25 kg	5,64 kg	6,96 kg	5,56 kg	6,92 kg
Cut-out Size (WxH)	406 x 240 mm	436 x 336 mm	496 x 375 mm	536 x 316,5 mm	591 x 359 mm

STANDARD DISPLAYS

Brightness (cd/m ²)	400	350		300	300
Contrast ratio	500:1	800:1	1000:1	5000:1	5000:1
Viewing angles (h/v)	170°/160°	160°/140°	170°/160°	178°/178°	178°/178°
Touchscreen	Resistive/PCAP/without Touch				

SUNLIGHT READABLE DISPLAYS

Brightness (cd/m ²)	–	1500	1600	–	–
Contrast ratio	–	800:1	1000:1	–	–
Viewing angles (h/v)	–	160°/160°	170°/160°	–	–
Touchscreen	–	PCAP, 7H hard glas, UV-resistant		–	–

SPECTRA POWERTWIN-SERIE

POSSIBLE CONFIGURATIONS

Size	Displays						Panel PC Baytrail		Panel PC Apollo Lake	Panel PC Skylake		Panel PC Whiskey Lake	
	Wide-screen	High Resolution	Resistive	PCAP	Without Touch	Sunlight readable	-	with 2 Universal Brackets	-	with PCIe/PCI Steckplatz	-	with PCIe/PCI Steckplatz	
8.4"			■	■		■	■	■	■				
10.4"		■	■	■	■	■	■	■	■				
12.1"		■	■	■	■	■	■	■	■	■			
15"			■	■	■	■	■	■	■	■	■	■	
15.6"	■		■	■	■		■	■	■	■	■	■	
17"			■	■	■	■	■	■	■	■	■	■	
19"			■	■	■	■	■	■	■	■	■	■	
21.5"	■		■	■	■		■	■	■	■	■	■	
24"	■		■	■	■		■	■	■	■	■	■	

FUNCTIONALITIES

I/O EXPANSIONS ON UNIVERSAL BRACKET

LAN, COM, USB expansion kits



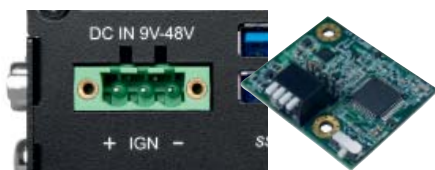
EXPANSION SLOTS

PCIe or PCI expansion slots

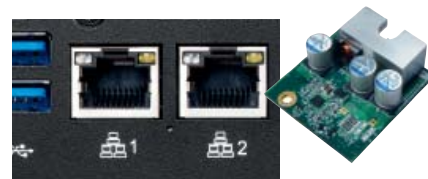


FUNCTION EXPANSIONS

Power Ignition function for mobile applications



PoE+ function for power supply over Ethernet



RFID EQUIPMENT



SPECTRA POWERTWIN

MONITORS, MODULAR CONCEPT

FEATURES

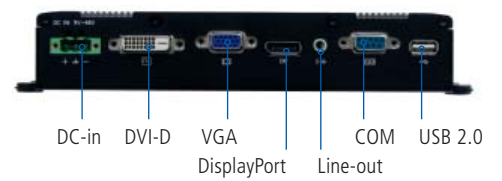
- Robust chassis
- Aluminium front IP65 protection class
- Monitors with 8" to 24" Industrial Display
- Resistive, PCAP or PCAP Sunlight readable Touchscreen
Also without Touchscreen erhältlich
- 15", 21" & 24" Models with Widescreen
- VGA, DVI-D & DP inputs
- Monitor modules with automatic display and resolution detection
- Easy replacement from display or module
- Panel & VESA mount
- Same design as the Panel PC of the Panel-PC of the Spectra-PowerTwin-Series



MODULAR CONCEPT



I/O INTERFACES



SPECTRA POWERTWIN

TECHNICAL DATA

Model	Spectra PowerTwin M08R M08C	Spectra PowerTwin M10R M10C	Spectra PowerTwin MH12R MH12C	Spectra PowerTwin M15R M15C	Spectra PowerTwin MW15R MW15C
Article n°	145462 158214	145467 145477	145478 145480	145485 145487	145490 145491

DISPLAY

Display Size / Aspect ratio	8.4" / 4:3	10.4" / 4:3	12.1" / 4:3	15" / 4:3	15.6" / 16:9
Resolution	800 x 600		1.024 x 768		1.366 x 768
Brightness (cd/m ²)	400		500	350	400
Contrast ratio	600:1	700:1		800:1	500:1
Viewing angles (h/v)	150°/130°	160°/130°	160°/160°	160°/150°	170°/160°
MTBF Backlight (h)	30.000	70.000	30.000	50.000	
Touchscreen	resistive PCAP	resistive PCAP	resistive PCAP	resistive PCAP	resistive PCAP

I/O INTERFACES

Graphics	1 x VGA, 1 x DVI-D, 1 x DP
Other	1 x USB 2.0, 1 x RS-232, 1 x Line-out

MISCELLANEOUS

Speakers	2 x 5 W
OSD Menu	LCD on/off, Brightness

MECHANICAL DATA & ENVIRONMENT CONDITIONS

Chassis	Display: Sheet steel housing, Aluminium front, grey, Front IP65 / Module: Aluminium, grey				
Mounting	Panel, Wall, Stand (VESA100)				
Dimensions (W x H x D)	262 x 186,2 x 66 mm	295 x 227,3 x 66 mm	345 x 265,3 x 66,5 mm	408 x 312,4 x 69 mm	420 x 254 x 76
Cut-out size (W x H)	248 x 172 mm	281 x 213 mm	331 x 251 mm	394 x 298,5 mm	406 x 240 mm
Weight	2,74 kg	3,36 kg	4,28 kg	5,48 kg	5,37 kg
Operating temperature	0°C to 50°C				

POWER

Type	9 to 48 VDC, incl. 12 V 60 W power adapter
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Model	Spectra PowerTwin M17R M17C	Spectra PowerTwin M19R M19C	Spectra PowerTwin MW21R MW21C	Spectra PowerTwin MW24R MW24C
Article n°	145492 145496	145497 145499	150639 150641	157756 157755

DISPLAY

Display Size / Aspect ratio	17" / 5:4	19" / 5:4	21.5" / 16:9	24" / 16:9
Resolution	1.280 x 1.024		1.920 x 1.080	
Brightness (cd/m ²)	350		300	
Contrast ratio	800:1	1000:1	5000:1	
Blickwinkel (h/v)	160°/140°	170°/160°	178°/178°	
MTBF Backlight (h)	50.000			
Touchscreen	resistive PCAP	resistive PCAP	resistive PCAP	resistive PCAP

I/O INTERFACES

Graphics	1 x VGA, 1 x DVI-D, 1 x DP
Other	1 x USB 2.0, 1 x RS-232, 1 x Line-out

MISCELLANEOUS

Speakers	2 x 5 W
OSD Menu	LCD on/off, Brightness

MECHANICAL DATA & ENVIRONMENT CONDITIONS

Chassis	Display: Sheet steel housing, Aluminium front, grey, Front IP65 / Module: Aluminium, grey	Aluminium, grey, Front IP65		
Mounting	Panel, Wall, Stand (VESA100)			
Dimensions (W x H x D)	450 x 350 x 73 mm	510 x 389,3 x 73 mm	550 x 330,5 x 73 mm	605 x 373 x 73 mm
Cut-out size (W x H)	436 x 336 mm	496 x 375 mm	536 x 316,5 mm	591 x 359 mm
Weight	6,76 kg	8,08 kg	6,68 kg	8,04 kg
Operating temperature	0°C to 50°C			

POWER

Type	9 to 48 VDC, incl. 12 V 60 W power adapter
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powered by individuality



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