

# SH Blackline

## SH10, SH12, SH15 and SH21



The powerful computer for industry of the series **SH Blackline** in display sizes SH 10, SH 12, SH 15 and SH 21 offer highly-sensitive multi-touch technology behind safety glass.

## Industrial PC with multitouch panel behind safety glass

The IPC have been developed and produced in-house. They are designed especially for operation in rough environments. For this reason the **SH Blackline** is made of modern industry-proven components, which ensure reliable performance under extreme conditions.

The strong 4 mm anti-glare bulletproof glass layer above the screen withstands acid, cleaning fluids and disinfectants as well as extreme operational demands. Behind the glass there is a projective capacitive touch panel. A special sensitivity control allows for reliable gesture control – and this even when wearing gloves.

In its slim and light chassis the IPC contains either an energy saving Intel® Dual Core-, Intel® Quad Core-, Intel® Core i3- or Intel® Core i5-processor. By using LED displays they operate without any problems in temperature range from -35°C to +55°C.

The IPC **Blackline** SH10, SH12, SH15 and SH21 are especially suited for the use in a rough production area, commissioning trucks, incoming goods entrance in logistic centers or cold stores.

### Highlights

- Multi-Touch operation on the anti-glare glass panel, also when wearing gloves
- Particularly resistant against mechanical impact like shock and vibration
- Good protection against dust and moisture (IP65/67)
- Low temperature usage in a temperature range from -35°C to +55°C
- Display with LED-Backlight, to XGA and 500 cd/m<sup>2</sup> or Full HD, 1920 x 1080 at 21 Inch
- Intel® Dual Core 2 x 1,46 GHz with 4 GB,
- Intel® Quad Core 4 x 1,91 GHz with 4 GB,
- Intel® Core i3 or Core i5 with 4 / 8 or 16 GB
- Windows® 7 Prof. and Windows® Emb. Standard 7  
Windows® 10 or Windows® 10 IoT, Linux
- Motion sensor, programmable unit controller
- Extensive options like integrated LEGIC-reader or UHF reader for identification of pallets

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### Technical data SH Blackline SH10, SH12, SH15 und SH21

Chassis		Coated Aluminium, no-fan design
	<b>Mounting</b>	Bracket for stationary and mobile use
	<b>Size</b>	SH10: 278 x 223 x 66 mm, SH12: 325 x 254 x 66 mm, SH15: 380 x 305 x 67 mm, SH21: 555 x 360 x 84 mm, Depth by Core i3 and i5 +10 mm
Display LED (intern)	<b>Weight</b>	SH10: 3,6 kg, SH12: 4,7 kg, SH15: 6,5 kg, SH21: 10,8 kg, Weight Core i3 and i5 + 0,5 kg
		SH10: 10,4" Colour-TFT, SVGA 800 x 600, 400 cd/m <sup>2</sup> , 4,8 watt
		SH10: 10,4" Farb-TFT, XGA 1024 x 768, 400 cd/m <sup>2</sup> , 4,8 Watt
		SH12: 12.1" Colour-TFT, XGA 1024 x 768, 500 cd/m <sup>2</sup> , 9,0 watt
		SH12: 12.1" Colour-TFT, XGA 1024 x 768, 1100 cd/m <sup>2</sup> , 12,0 watt
		SH15: 15,0" Colour-TFT, XGA 1024 x 768, 400 cd/m <sup>2</sup> , 9,5 watt
		SH21: 21,5" Colour-TFT, WU XGA 1920 x 1080, 300 cd/m <sup>2</sup> , 19,5 watt
Touch-Screen		Multi-Touch, Projective Capacitive Touch incl. glassfront in carbon design
Architecture	<b>CPU / RAM</b>	Intel® E3826, 2 x 1,46 GHz Dual-Core, 4 GB RAM
		Intel® E3845, 4 x 1,91 GHz Quad-Core, 4 GB RAM
		Intel® Core i3-5010U, 2 x 2,1 GHz, 4 / 8 or 16 GB RAM
		Intel® Core i5-5350U, 2 x 1,8 GHz, 4 or 8 GB RAM
Software	<b>Sound</b>	On Board: Intel® high definition audio (Intel® HD audio) incl. amplifier
	<b>Operating-System</b>	Windows® 7 Professional, Windows® Embedded 7 Windows® 10 or Windows® 10 IoT, Linux
	<b>Emulation/Browser</b>	VT100, VT220, IBM 5250, Wavelink, Freefloat, Naurtech
Software certified		Topsystem Pick by Voice, Citrix Client, SOTI, SAP Client
Reader		RFID Legic, Mifare, Hitag and UHF
Mass storage	<b>SSD</b>	80 to 600 GB, industrial incl. write-protect
	<b>SDHC</b>	16 to 64 GB
	<b>CFast</b>	16, 32, 64, 128 GB
Interfaces below	<b>RS232</b>	2 x RS 232, COM1 with 5 and COM 2 with 5/12 VDC available for scanner
	<b>USB</b>	1 x USB 3.0, 2 x USB 2.0
	<b>RJ45</b>	Ethernet 10/100/1000 MBit/s on Board
Interfaces on-top	<b>USB</b>	1 x USB, 1 x SDHC
	<b>HDMI</b>	1 x HDMI for monitor connection
	<b>CFast</b>	1 x CFast base
WiFi	<b>WiFi, BT</b>	1 x PCIe Mini Card for WiFi or combimodul WiFi/Bluetooth
	<b>WiFi</b>	IEEE 802.11 a / b / g / n, Bluetooth 4.0
Aerial		Dual aerial or TNC, RP-TNC for offset aerial
Power supply (internal) for	<b>AC voltage</b>	110/230 VAC, 64 W, 50 to 60 Hz
	<b>Direct current</b>	12/24 VDC and 24/48 VDC, 40 W, galvanically isolated, voltage lack up to 10 Volts for max. 20 ms bridgeable internal USV optional 30 min.
	<b>Power consumption</b>	Typically 18 W to 40 Watt, Green Power EUP 2011 < 0,5 Watt idling cycle
Features	<b>Automatic shut-off</b>	Automatic switchoff via ignition signal or On/Off switch at the front
		Automatic brightness control for the display
		Screenblanking
		Status LED at the front for WiFi and Bluetooth
Environmental conditions	<b>Front keys</b>	S1-S4, KEY request, light/dark
	<b>Protective system</b>	IP65 / IP67 (after approved assembly of the cable cover)
	<b>Test symbol</b>	CE Class A (Europe), FCC (USA), CSA (Canada), CCC (China)
	<b>Temperature ranges</b>	Operation: -35° to +55°C, Storage: -40° to +70°C
	<b>Relative humidity</b>	10% to 90% at 40°C, non-condensing
	<b>Vibration/Shock</b>	Class 5M3 at EN 60721-3-5: 1998 (landcrafts)