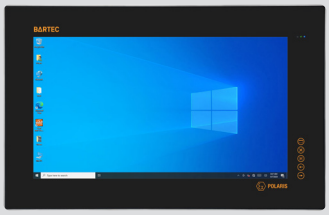
POLARIS Smart HMI

17"/21.5"/24" Panel PC's / Thin Clients for Zone 1 and 21

The POLARIS Smart HMI's are an innovative, modular, and explosion-protected panel PC series. The devices come standard with an Intel® Atom processor from the Elkhart Lake series. Windows 10 LTSC is used as the operating system. As a Thin Client solution, the BARTEC Zero Client Shell or PXE boot is available.

The POLARIS Smart HMI's 17", 21.5", and 24" are available with a standard resolution of 1920 x 1080 pixels in 16:9 format and are designed for use in Zones 1 and 21. The devices come equipped with a multitouch display as standard, which uses optical bonding to ensure optimal contrast even in poor lighting conditions. Features include an Ethernet interface as well as various USB ports that can be used to connect different operating accessories such as keyboard, trackball and more. The devices can also be equipped with additional interfaces and functions via Smart Modules and Smart Devices.

- TPM 2.0 security standard, Windows 11 compliant
- Capacitive touch display
- Low reflection due to „optical bonding"
- Display resolution of 1920 x 1080 pixels
- Windows Operating System for external visualisation software
- Front panel mounting for easy installation and integration



POLARIS Smart HMI 17"

POLARIS Smart HMI 21.5"

POLARIS Smart HMI 24"

Explosion protection

ATEX Marking	Ⓔx II 2G Ex eb q [ib] IIC T4 Gb Ⓔx II 2D Ex tb IIIC T120 °C Db
ATEX Certification	IBExU 24 ATEX 1023 X
IECEx Marking	Ex eb q [ib] IIC T4 Gb Ex tb IIIC T120 °C Db
IECEx Certification	IECEx IBE 24.0004X

The marking is variable and depends on type and components used.
Other approvals and certificates see bartec.com

Technical data

Design	Front-panel fitting
Material	front: capacitive tempered glass front on anodized aluminum plate back: stainless steel
Protection class	front / rear: IP64 acc. to EN/IEC 60079-0
Relative air humidity	5 to 95 % non-condensing
Colours	16.7M (3 x 8 Bit)
Resolution	HD (1920x1080)
Touch	capacitive
Optical Bonding	Yes
Backlighting	LED
Service life approx. (at +25 °C)	50.000 hours
Power dissipation AC Module	P_{out} 50 W ≤ 7 W P_{out} 100 W ≤ 14 W
Rated voltage Optional with AC power supply	DC 24 V AC 100 V bis 240 V, 50/ 60 Hz

Electronic Unit

Processor	CPU Intel® Atom x6425RE Quad Core with 4 x 1.9 GHz, 16 GB RAM Alternative: CPU Intel® Atom x6413E Quad Core with 4 x 1.5 (Burst 3,0 GHz), 8 GB RAM
Hard drive	SSD with 240 GB (MLC) Power protected
Operating system	Windows®
Interfaces	2 x Ex i-USB 2.0 2 x Ex e-USB 2.0 1 x Ethernet 100 BaseT

Optional accessories

Smart device	– Bluetooth – WLAN
Smart module	– USB to Ethernet (10/100BaseT) and USB – USB to BARTEC PROFIBUS DP – USB to Serial (TTY, RS422/485, 2x RS232) – USB Hub (3 x USB 2.0 Out)
Operating accessories	– Bluetooth or wired hand scanner – POLARIS Keyboard – POLARIS Trackball

Variants

POLARIS Smart HMI	17" W	21.5" W	24" W
TFT colour display	17.3" Wide	21.5" Wide	24.0" Wide
Visible area approx.	381.9 mm x 214.8 mm	476.6 mm x 268.1 mm	531.4 mm x 289.9 mm
Brightness	400 cd/m²	1000 cd/m²	300 cd/m²
Contrast	600:1	5000:1	5000:1
Dimensions (W x H x D in mm)	540 mm x 351 mm x 110 mm	632 mm x 401 mm x 110 mm	681 mm x 443 mm x 110 mm
Wall cut-out (W x H) (Tolerance + 1 mm)	489 mm x 301 mm	581 mm x 351 mm	630 mm x 392 mm
Weight approx.	approx. 18.5 kg	approx. 24 kg	approx. 27 kg
Weight with AC Power Supply approx.	approx. 21.0 kg	approx. 26.5 kg	approx. 29.5 kg
Max. power dissipation DC 24 V	$P_{max.}$ (with USB) < 40 W $P_{max.}$ (without USB) < 35 W standard operation without USB: approx. 22 W	$P_{max.}$ (with USB) < 50 W $P_{max.}$ (without USB) < 45 W standard operation without USB: approx. 35 W	$P_{max.}$ (with USB) < 44 W $P_{max.}$ (without USB) < 39 W standard operation without USB approx. 29 W
Permissible ambient temperature	Operating: 0 °C up to +60 °C Storage: -20 °C up to +60 °C	Operating: -20 °C up to +60 °C Storage: -20 °C up to +60 °C	Operating: -20 °C up to +60 °C Storage: -20 °C up to +60 °C

Order details

1	7	-	7	1	V	9	-	A	1	1	B	5	D	0	0	/	0	0	0	0
								A			B	C	D							

A	Display sizes **3** – POLARIS Smart HMI 17" W **4** – POLARIS Smart HMI 21.5" W **5** – POLARIS Smart HMI 24" W
B	CPU unit **4** – CPU Intel® Atom x6425RE Quad Core with 4 x 1.9 GHz, 16 GB RAM BIOS Modus: UEFI / PXE-Boot **5** – CPU Intel® Atom x6413E Quad Core with 4 x 1.5 (Burst 3,0 GHz), 8 GB RAM BIOS Modus: UEF / PXE-Boot
C	Hard drive **5** – M.2 SATA SSD Power protected (actual 240 GByte)
D	Operating system **6** – Panel PC: Windows 10 IoT Enterprise LTSC 2021 64 Bit; Version 21H2 (OS Build 19044) **7** – Thin Client: Windows 10 IoT Enterprise LTSC 2021 64 Bit; with Bartec Zero Client Shell **8** – Panel PC Windows 11 IoT Enterprise LTSC 2024 64 Bit

Order number

Additional AC Power supply	AC power supply DC 24 V / 100 W wide input range Polaris Smart HMI	17-71VY-E012