

Polaris - Basic DATASHEET

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POLARIS Control

Features

- Graphic-capable, readable daylight blue-colour display
- Easy front panel fitting
- Intrinsically safe USB interface
- Direct linkage in explosive areas

Description

The POLARIS Control is the ideal solution for all simple applications requiring texts and small-scale graphics.

For the display, an extremely conveniently readable daylight blue-colour display is utilised.

With the Control, process visualizations can be directly connected in explosive areas without the need for additional intrinsically safe isolation cards. The laying of blue lines for intrinsically safe circuits is dropped. A separate wiring of the data line is not necessary.

The POLARIS Control can be directly connected to the PROFIBUS-DP or the communication interface of the control station. Available are e. g. RS422/RS485, PROFIBUS-DP.



An intrinsically safe USB interface for a USB Ex i-memory stick enables the device configuration's easy transferability.

On request the devices are also available as a ready-to-use system solution in a stainless steel enclosure for wall, floor or ceiling mounting.

The visualisation is created with the "BMS-Graf-pro" programming package (Version 6.xxx), which has been specially developed and optimised for that purpose.

➔ Explosion protection

Ex protection type

ATEX  II 2G Ex db eb qb [ib] IIC T4
 II 2D Ex tb IIIC T120°C IP 6X

Certification

IBExU 05 ATEX 1117 X

IECEx Ex db eb qb [ib] IIC T4
Ex tb IIIC T120°C IP 6X

Certification

IECEx IBE 11.0007 X

Further approvals

INMETRO, GOST-R

Protection class

IP 65 (front)
IP 54 (back)

➔ Technical data

Construction

Front panel fitting

Display

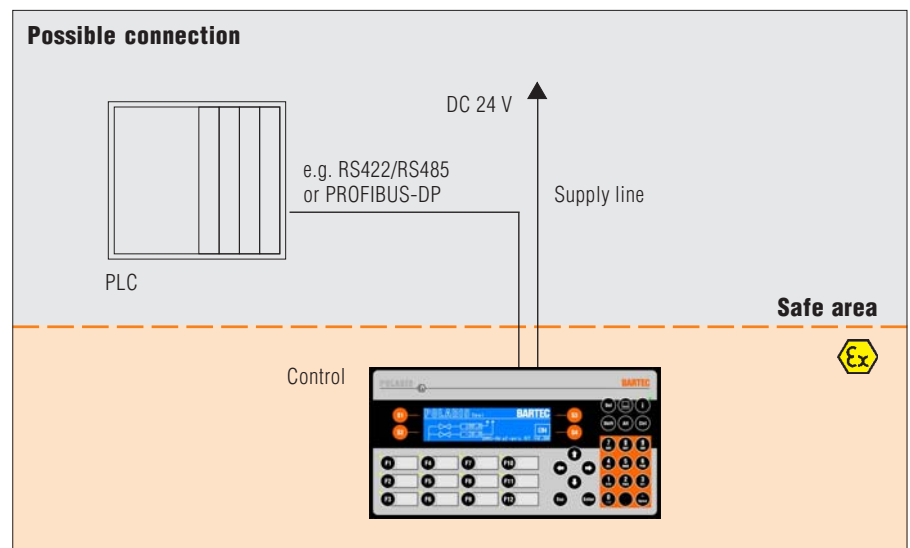
- LCD display
- 2 colours white/blue
- 240 x 64 pixels
- Visible area approx. 133 x 40 mm
- Antireflection coating glass pane
- Daylight display technology

Backlight illumination

LED technology

Keyboard (short-stroke keys)

- Alphanumeric key block
- 4 special keys
- 12 function keys able to be labelled with LEDs



Interface (Basic version)

- 1 x Ex i USB for Ex i memory stick
- 1 x Ex e RS422/RS485

Dimensions (width x height x depth)

290 mm x 151 mm x approx. 130 mm

Wall cut-out

275 mm x 131 mm + 0.5 mm

Weight

approx. 6 kg

Power supply

DC 24 V \pm 10 %

Max. power consumption

$P_{max.} < 15 \text{ W}$

Admissible ambient temperatures

Storage -20 °C to +50 °C

Operation 0 °C to +50 °C

System solution with heating on request.

Humidity

5 to 95 % non-condensing

Vibration

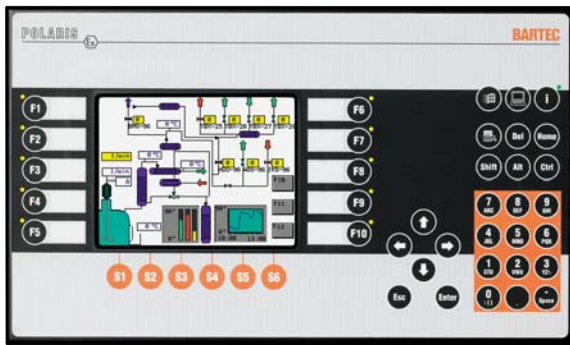
0.7 G/1 mm; 5 Hz - 500 Hz pulse in
all 3 axes

Shock

15 G, 11 ms pulse in all 3 axes

Material

| | |
|------------|---|
| Front | Polyester foil on anodised aluminium plate (conditionally UV resistant) |
| Rear panel | galvanised sheet steel bichromated |



POLARIS Panel PC 5.7"

Features

- Easy front panel fitting
- Intrinsically safe USB interface
- Graphic-capable TFT colour display
- Direct linkage in explosive areas

Description

The POLARIS Panel PC 5.7" is a consistent further development of the BAT 300 but still retains downward compatibility.

State-of-the-art TFT technology is used for the display with a very high view angle, which attains a level of brightness of 400 cd/m² in the Ex applications.

With the Panel PC 5.7", process visualizations can be directly connected in explosive areas without the need for additional intrinsically safe isolation cards.

The laying of blue lines for intrinsically safe circuits is dropped. A separate wiring of the data line is not necessary.

The Panel PC can be directly connected to the PROFIBUS-DP or the communication interface of the control station.



Available features include e. g. RS422/RS485, PROFIBUS-DP, RS232 or TTY. An intrinsically safe USB interface for a USB Ex i-memory stick enables the device configuration's easy transferability.

Upon request, the devices are also available as turn-key system solutions in a stainless steel enclosure as wall, floor or ceiling mounting versions.

The visualisation is created with the "BMS-Graf-pro" programming package (Version 6.xxx), which has been specially developed and optimised for that purpose.

➤ Explosion protection

Ex protection type

ATEX  II 2G Ex db eb qb [ib] IIC T4
 II 2D Ex tb IIIC T120°C IP 6X

Certification

IBExU 05 ATEX 1117 X

IECEx Ex db eb qb [ib] IIC T4
Ex tb IIIC T120°C IP 6X

Certification

IECEx IBE 11.0007 X

Further approvals

INMETRO, GOST-R

Protection class

IP 65 (front)

IP 54 (back)

➤ Technical data

Construction

Front panel fitting

Display

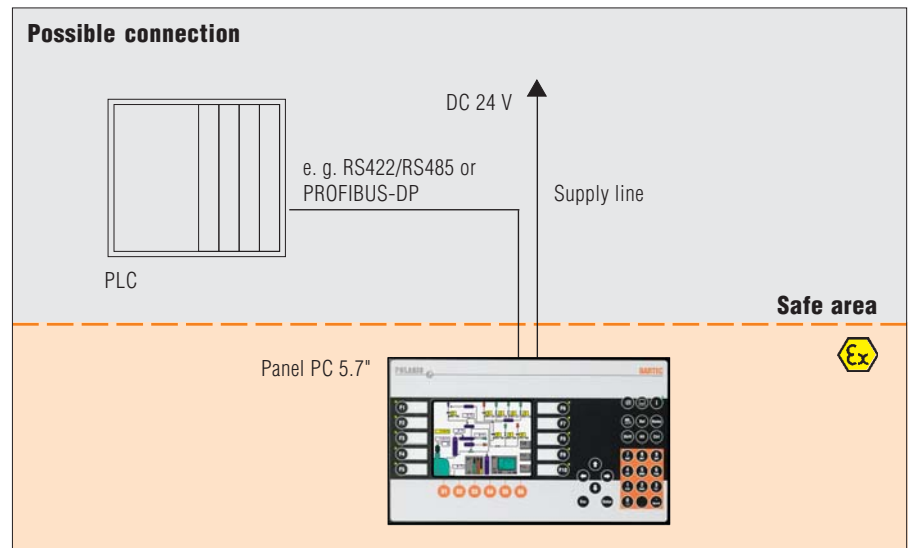
- 5.7" graphic-capable TFT colour display
- 262,144 colours
- QVGA resolution 320 x 240 pixels
- Brightness 400 cd/m²
- Visible area approx. 116 x 88 mm
- Contrast 300:1
- Antireflection coating glass pane

Backlight illumination

- CFL illumination
- Service life approx. 25,000 hours (at +25 °C)

Computer capacity

- Processor 500 MHz
- 256 MB RAM
- Compact Flash CF 512 MB



Keyboard (short-stroke keys)

- Alphanumeric key block
- 4 cursor keys
- 6 special keys
- 10 function keys able to be labelled with LEDs

Interface (Basic version)

- 1 x Ex e RS422/RS485
- 1 x Ex i USB for Ex i memory stick

Dimensions (width x height x depth)

335 mm x 199 mm x approx. 130 mm

Wall cut-out

321 mm x 179 mm + 0.5 mm

Weight

approx. 10 kg

Power supply

DC 24 V \pm 10 %

Max. power consumption

$P_{max.} < 30 \text{ W}$

Admissible ambient temperatures

Storage -20 °C to +50 °C

Operation 0 °C to +50 °C

System solution with heating on request.

Humidity

5 to 95 % non-condensing

Vibration

0.7 G/1 mm; 5 Hz - 500 Hz pulse in all 3 axes

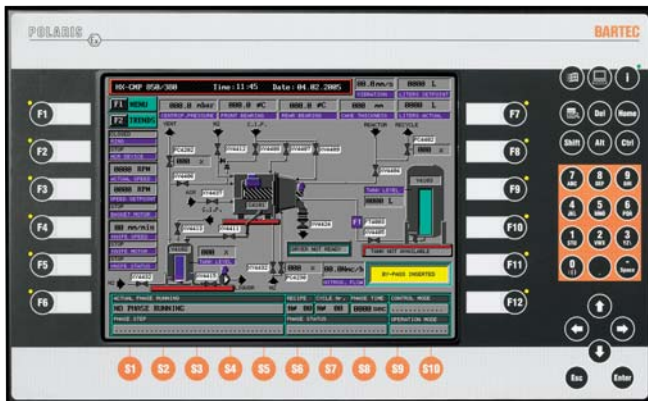
Shock

15 G, 11 ms pulse in all 3 axes

Material

Front Polyester foil on anodised aluminium plate (conditionally UV resistant)

Rear panel galvanised sheet steel bichromated



POLARIS Panel PC 10.4"

Features

- Easy front panel fitting
- Intrinsically safe USB interface
- Graphic-capable TFT colour display
- Direct linkage in explosive areas

Description

The POLARIS Panel PC 10.4" is a consistent further development of the BAT 600 but still retains downward compatibility.

State-of-the-art TFT technology is used for the display, which attains a brightness level of 450 cd/m² in Ex applications. As an option, the POLARIS Panel PC 10.4" is also available with a daylight readable display.

The Panel PC 10.4" allows process visualisations to be connected directly in explosive areas without the need for any additional intrinsically safe isolation cards. The laying of blue lines for intrinsically safe circuits is dispensed with and there is no need for separate data line wiring either. The Panel PCs can be connected directly to the PROFIBUS-DP or the control station's communication interface. Available features include e.g. RS422/485 or PROFIBUS-DP and the option of a supply module for hand-held scanners.

An intrinsically safe USB interface for a USB Ex i memory stick makes it easy to transfer the device's configuration.

On request the devices are also available as a ready-to-use system solution in a stainless steel enclosure for wall, floor or ceiling mounting.

The visualisation is created with the „BMS-Graf-pro“ programming package (Version 6.xxx), which has been specially developed and optimised for that purpose.

➤ Explosion protection

Ex protection type

ATEX Ex II 2G Ex db eb qb [ib] IIC T4
Ex II 2D Ex tb IIIC T120°C IP 6X

Certification

IBExU 05 ATEX 1117 X

IECEx Ex db eb qb [ib] IIC T4
Ex tb IIIC T120°C IP 6X

Certification

IECEx IBE 11.0007 X

Further approvals

INMETRO, GOST-R

Protection class

IP 65 (front)
IP 54 (back)

➤ Technical data

Construction

Front panel fitting

Display

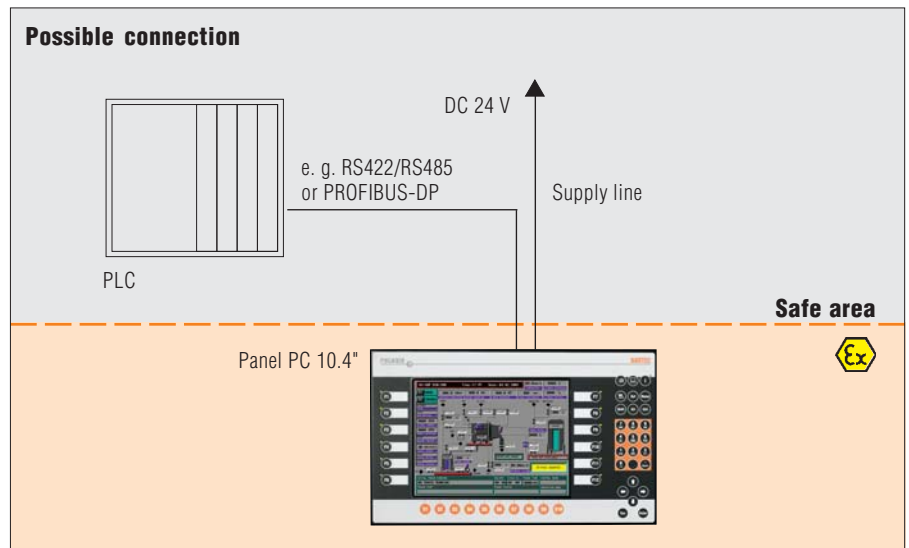
- 10.4" graphic-capable TFT colour display
- 262,144 colours
- VGA resolution 640 x 480 pixels
- Brightness up to 450 cd/m²
- Visible area approx. 211 x 158 mm
- Contrast 600:1
- Antireflection coating glass pane

Backlight illumination

- CFL technology
- Service life approx. 25,000 hours (at +25 °C)

Computer capacity

- Processor 500 MHz
- 256 MB RAM
- Compact Flash CF 512 MB



Keyboard (short-stroke keys)

- Alphanumeric key block
- 4 cursor keys
- 10 cursor keys
- 12 function keys able to be labelled with LEDs

Interface (Basic version)

- 1 x Ex e RS422/RS485
- 1 x Ex i USB for Ex i memory stick

Optional interface modules

1 x Ex i Supply module for hand-held scanner

Dimensions (width x height x depth)

400 mm x 246 mm x approx. 130 mm

Wall cut-out

386 mm x 226 mm + 0.5 mm

Weight

approx. 14 kg

Power supply

DC 24 V \pm 10 %

Max. power consumption

$P_{max.} < 30 \text{ W}$

Admissible ambient temperatures

Storage -20 °C to +50 °C

Operation 0 °C to +50 °C

System solution with heating on request.

Humidity

5 to 95 % non-condensing

Vibration

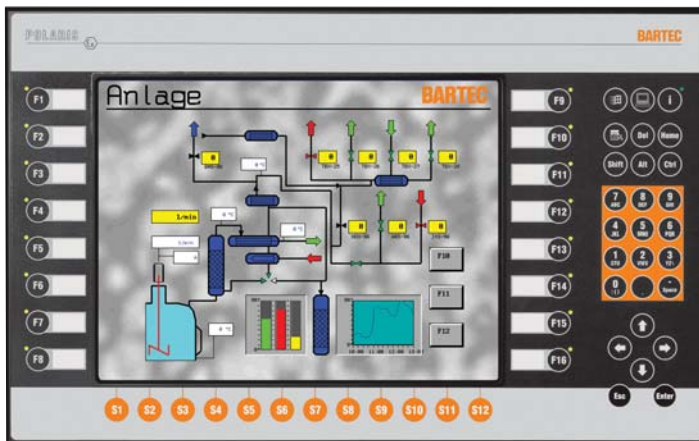
0.7 G/1 mm; 5 Hz - 500 Hz pulse in all 3 axes

Shock

15 G, 11 ms pulse in all 3 axes

Material

| | |
|------------|---|
| Front | Polyester foil on anodised aluminium plate (conditionally UV resistant) |
| Rear panel | galvanised sheet steel bichromated |



POLARIS Panel PC 12.1"

Features

- Easy front panel fitting
- Intrinsically safe USB interface
- Graphic-capable TFT colour display
- Direct linkage in explosive areas

Description

The POLARIS Panel PC 12.1" is a consistent further development of the BAT 800 but still retains downward compatibility.

State-of-the-art TFT technology is used for the display.

The Panel PC 12.1" allows process visualisations to be connected directly in explosive areas without the need for any additional intrinsically safe isolation cards.

The laying of blue lines for intrinsically safe circuits is dispensed with and there is no need for separate data line wiring either.

The Panel PCs can be connected directly to the PROFIBUS-DP or the control station's communication interface. Available features include e. g. RS422/RS485 or PROFIBUS-DP and the option of a supply module for hand-held scanners.

An intrinsically safe USB interface for a USB Ex i memory stick makes it easy to transfer the device's configuration.

On request the devices are also available as a ready-to-use system solution in a stainless steel enclosure for wall, floor or ceiling mounting.

The visualisation is created with the „BMS-Grafpro“ programming package (Version 6.xxx), which has been specially developed and optimised for that purpose.

➤ Explosion protection

Ex protection type

ATEX II 2G Ex db eb qb [ib] IIC T4
 II 2D Ex tb IIIC T120°C IP 6X

Certification

IBExU 05 ATEX 1117 X

IECEx Ex db eb qb [ib] IIC T4
Ex tb IIIC T120°C IP 6X

Certification

IECEx IBE 11.0007 X

Further approvals

INMETRO, GOST-R

Protection class

IP 65 (front)
IP 54 (back)

➤ Technical data

Construction

Front panel fitting

Display

- 12.1" graphic-capable TFT colour display
- 262,144 colours
- SVGA resolution 800 x 600 pixels
- Brightness 350 cd/m²
- Visible area approx. 249 x 188 mm
- Contrast 400:1
- Antireflection coating glass pane

Backlight illumination

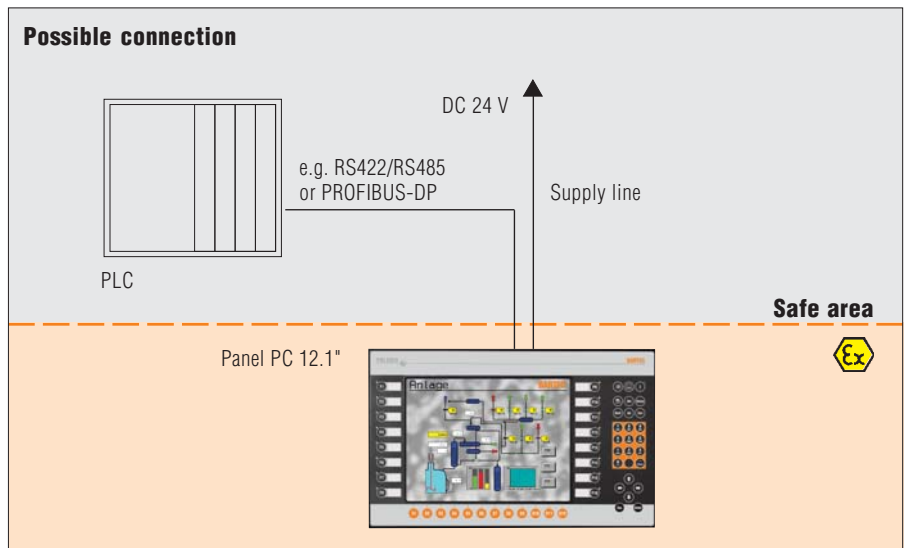
- CFL technology
- Service life approx. 25,000 hours (at +25 °C)

Computer capacity

- Processor 500 MHz
- 256 MB RAM
- Compact Flash CF 512 MB

Interface (Basic version)

- 1 x Ex e RS422/RS485
- 1 x Ex i USB for Ex i memory stick



Keyboard (short-stroke keys)

- alphanumerischer Tastenblock
- 4 cursor keys
- 12 Cursortasten
- 16 function keys able to be labelled with LEDs

Optional interface modules

- 1 x Ex i Supply module for hand-held scanner

Dimensions (width x height x depth)

440 mm x 275 mm x approx.130 mm

Wall cut-out

425 mm x 255 mm + 0.5 mm

Weight

approx. 18 kg

Power supply

DC 24 V \pm 10 %

Max. power consumption

$P_{max.} < 30 \text{ W}$

Admissible ambient temperatures

Storage -20 °C to +50 °C

Operation 0 °C to +50 °C

System solution with heating on request.

Humidity

5 to 95 % non-condensing

Vibration

0.7 G/1 mm; 5 Hz - 500 Hz pulse in all 3 axes

Shock

15 G, 11 ms pulse in all 3 axes



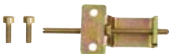


Material

Front Polyester foil on anodised aluminium plate sheet (conditionally UV-resistant)

Rear panel galvanised sheet steel, bichromated



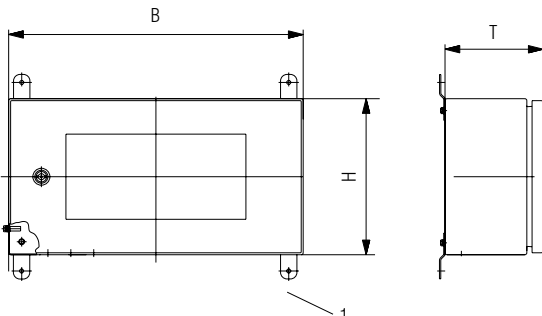


Selection chart Accessories

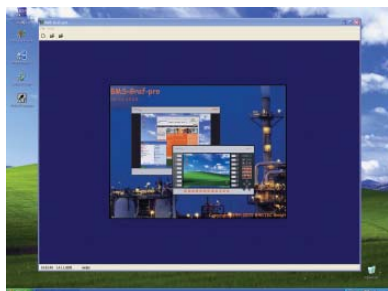
| Illustration | Description | |
|---|--|--|
|  | Ex i memory stick for POLARIS Panel PC and POLARIS Control | |
|  | Reinforcement frame Control Panel PC 5.7" Panel PC 10.4" Panel PC 12.1" | |
|  | Mounting clamps set 4 pieces 6 pieces | |
| | Label strip white DIN A4 sheet, for laser printer | |
|  | External converter Converter external RS232 - RS422, Non Ex | |
|  | MPI interface Converter external MPI - RS422, Non Ex | |
| | Original packing Control Panel PC 5.7" Panel PC 10.4" Panel PC 12.1" | |



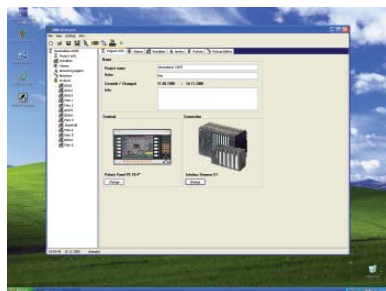
Selection chart stainless steel enclosure "Standard"

| Illustration | Description | |
|---|---|--|
|  | <p>Stainless steel enclosure "Standard"</p> <p>Technical data</p> <p>Material Stainless steel 1.4404; AISI 316 L</p> <p>Surface Brushed</p> <p>Protection class IP 65</p> <p>■ for floor mounting with stand for ATEX Zone 1</p> <p>Dimensions in mm (B x H x T)</p> <p>Control 450 x 240 x 150</p> <p>Panel PC 5.7" 500 x 280 x 200</p> <p>Panel PC 10.4" 560 x 320 x 200</p> <p>Panel PC 12.1" 600 x 350 x 200</p> <p>Complete solution with installed equipment</p> | |
|  | <p>■ for wall mounting including mounting straps for ATEX Zone 1</p> <p>Dimensions in mm (B x H x T)</p> <p>Control 600 x 350 x 200</p> <p>Panel PC 5.7" 500 x 280 x 200</p> <p>Panel PC 10.4" 560 x 320 x 200</p> <p>Panel PC 12.1" 600 x 350 x 200</p> <p>Complete solution with installed equipment</p> <p></p> <p>1 mounting strap for wall mounting</p> | |

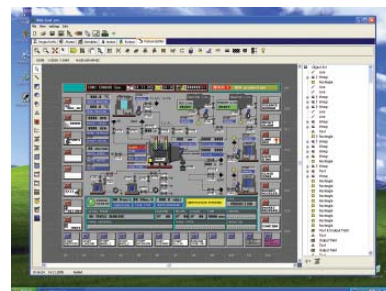
BMS-Graf-pro 6 Visualization Software



Starting page



Project planning



Conditioning

Description

The BMS-Graf-pro software package is a very convenient tool for the generation of process representations.

Individual images and projects are created on the PC and stored in the POLARIS Panel PC, POLARIS Control. The programme ensures that the single images use only very small amount of memory space.

This allows the storage of over 100 images. The well established and highly reliable functions of the BMS Graf are still available for example: input and output fields, bar graphs and vector graphics. All existing projects/application can be integrated within the new software.

The completely new WINDOWS based platform is suitable for most popular versions of WINDOWS NT, WIN 2000 and XP.

With the selection of the correct protocol driver (please refer to table) connections to various PLC systems are possible. BARTEC is continuously increasing the number of protocols available.

Logic controllers for serial coupling

| Description | PLC |
|------------------------------|---|
| AS511 on S5 Programming Port | S5-95U to 115U |
| MPI on S7 Programming Port | S7-300 S7-400 with MPI-Box |
| 3964R with RK 512 | S5 with communication processor CP524 to CP544 S7-300 with CP341 S7-400 with CP441-2 |
| Modbus RTU, Slave and Master | Telemecanique TSX-Series with communication processor TSXSCG1131 April AEG A-series with Modbus module, AEG Modicon, AEG Quantum Allen Bradley SLC500 with Pro Soft module (3150MCM) PLC5/40 or PLC5/60 with communications board 17-71-DBMM HIMA H51, HIMA H41, HIMA H11 Yokogawa SMCC Micro XL with communication processor PX1 Centrum CS with communication processor ACM11 GE-FANUC 90-30 with communication processor CMM311E 90-70 with communication processor CMM711 or PCM711 DCS Eurotherm, DCS Fisher&Porter SistemSix Foxboro DCS 80E, AS21 Honeywell TDC3000 Fisher Rosemount Delta V Saia PCD |
| Mitsubishi A | Mitsubishi A with communication processor ASJ71C24 |
| COMLI | Sattcontrol Alfa Laval |
| Hostlink | OMRON SYSMAC CQM1 |

Logic controllers for PROFIBUS-DP

| Description | PLC |
|------------------|---|
| Siemens | S5-95U with PROFIBUS-DP Master interface S5-135U with PROFIBUS-DP Master interface EM308C S7-300 with CPU 315-2 DP (Master) S7-400 with CPU 416-2 DP (Master) PCS 7 |
| Hartmann & Braun | Freelance 2000 with field controller |
| Schneider | TSX Premium with PROFIBUS coupling unit AEG Quantum with PROFIBUS coupling unit |

Software BMS Graf pro is including the latest handling units. For more possibilities ask us.

Technical data subject to change without notice.

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