BMS-Graf-pro Version 7 Status 04.04.2023 Smart HMI Update Supplementary Manual



# BMS-Graf-pro Version 7.x.x.x Smart HMI Update

## Additional manual Installation manual



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Smart HMI Update Supplementary Manual

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## 1. General information

#### 1.1 Publisher

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IBM	is a registered trademark of IBM Corporation
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WINDOWS	is a registered trademark of MICROSOFT Corporation

## 2. Update installation

#### 2.1 Requirements for installing the update

the update for the Smart HMIs requires an existing installation of the BMS-Graf-pro V7.x.x.x. If this not installed, please install it first.

#### 2.2 Preparation of the installation

BMS Graf S	oftware				Download the update from the download	
BMS-Graf-pro V7 POLARIS PROFESSIONAL, P	OLARIS COMFO	RT Series			page:	
	Version	Datum	Betriebssystem	Download		
BMS Graf Pro V7	V7.17.0.0	22.02.2012	👯 Win 10* / Win 7 / XP	<u>a</u> a	hatta a lla cita da constitución la conta a cola lla constitución de la turc	
Smart HHI Update		03.04.2023	👯 Win 10* / Win 7 / XP	6 0	https://automation.bartec.de/bmsgraf.htm	
Handbuch/Manual/Manuel	V7			DE EN FR		
"Administratorrechte sind erfor	derlich zum Ausfü	ren der Softwar	e			



ZIP - Open and extract file

2

#### 2.2 Installation des Updates

Name ∨ Heute Die UpdateSetup.exe Update	Anderungzőstum 04.04.2023 1529 04.04.2023 15:29	Typ C	Start the "UpdateS	update by calling up the Setup.exe"	1
Der Computer geschützt Ver Menzeht Defred Einge wenden: Die Aufenzung Weitere Informationen	wurde durch Wir ritoren weite de Sart einer Reier Agrant u. U. ein Richo t	Indows In	Select th	e "Further information" buttor	2



Finish

## 3. Additions / Changes

#### 3.1 Extension of the PLC protocols by the Siemens 3964R RK512



The following Siemens systems are supported:

- S5 115U with CP 544
- S5 115U or 135U with CPU 928B or CPU 943B on 2nd PG-Port
- S7-300 with CP340 with Software 3964R RK512
- S7-300 with CP341
- S7-400 with CP441-2

#### 3.1.1 Settings / configurations on the CP 544 of the S5 controller

The CP544 must be set with the Siemens parameterisation software "COM PP" so that the baud rate, data bits, stop bits and parity match the settings of the Smart HMI.

The CP must also be set to the 3964R with RK512 protocol. The priority must be set to low.

A SYNCRON function call must be inserted in the PLC programme in each start-up OB.

The function calls "SEND ALL" and "RECEIVE ALL" must be called at least once in the programme cycle; for very long PLC programmes, it is recommended to insert several calls.



Wiring diagram CP544 with TTY plug-in card (6ES5752-0AA12)



Wiring diagram CP544 with RS422/485 plug-in card (6ES5752-0AA43)

#### 3.1.2 Settings / configurations S7-3xx with CP341 for 3964R RK512 protocol

				1.00	00.00
		*a 2-11 III I	<kein filter=""></kein>	- 9	2.88 4
(a) CP44 (P) Con (b) CP44 (P) Con (c) CP44 (P) Con (c	<b>Bil</b> Hardinare	0.0034			
) Iden Se Fl., un Hife zu erheben.		PCA	lapter(Auto)		

Open Step7 Manager. Then open "Hardware"



In HW Config, double-click to open the properties of the CP341. Here again, press the "Parameters..." button.

CPunkt-zu-Punkt-Kopplung paran Datei Bearbeiten Ansicht Extras Hilfe	netrieren - [CP 341-RS232C	(R0/S4) CP 34 🔳 🗖	X
8			
Protokoli: RK512	•		
	Patakal		-
rücken Sie F1, um Hilfe zu erhalten.			-

The parameterise point-to-point coupling dialogue opens. Now double-click on the "envelope" to enter the protocol dialogue.

Mark "with block check" to activate the 3964R frame.

Do not mark "use default values" as these must be changed.

Keep the default values in "character delay time" and "acknowledgement delay time".

"Set-up attempts" and "Transmission attempts" must each be set to the value "1"

Set "Baud rate", "Stop bits" and "Parity" the same as in the HMI.

"Priority" must be set to "low".

Open OB1 in the data block area

Here the function "P\_RCV\_RK" must be called cyclically with an instance DB.

For further parameters see left side, whereby the hardware address of the CP341 must be entered in "LADDR".

Protokoll		×
RK 512 Datenempfang		
Protokoll	Protokoll-Parameter Zeichenverzugszeit:	220 ms
Standardwerte verwenden	Quittungsverzugszeit: Aufbauversuche: Übertragungsversuche:	1
Geschwindigkeit Baudrate: 38400 IBits/s	enrahmen nbits: Stopbits: Parität 1 + keine	Prioritāt:
OK		Abbrechen Hilfe

en7\Fxamples\CP34x\_Pt1

111 E Ke OB1
 OB1
 OB10
 SFC59

DB33

• 7/ 5- FB7 6- D840

🗈 Datei Bearbeiten Ein	fügen Zelsystem Test Ansicht Extras Fenster Hife 옳 🗈 🔞 🔊 여 (대 🏫 🔽 🗣 64° (《))
- 1 Schnittstelle + 1 TEMP	Tnhalt von: 'Ungebung\Schnittstelle' Name TINF
Kommentar:	
Rommentar:	
CALL *	P_RCV_RK" , DB33
CALL *	P_RCV_RK" , DB33 :=TRUE
CALL " EN_R R	P_RCU_PK" , DB33 :=TRUE :=FRLSE
CALL ". EN_R R_ LADDR	P_RCW_RK* , DB33 :=TRUE :=FALSE :=256
CALL * EN_R R LADDR DB_NO	P_RCV_RK* , DB33 ==TRUE ==FALSE ==256 ==
CALL * EN_R R LADDR DB_NO DBB_NO	P_BCU_DH**, DB33 :=TROE :=FALGE :=ZEG := :=
CALL * EN_R R LADDR DB_NO DB_NO L_TYP	P_DCV_DX* _ DB33 =700 -=700 -=700 -=266 -= -= -= -=
CALL " EN_R LADDR DB_NO DBB_NO L_TTP L_NO	P_ECU_SK* , D003 :=TIUE :=TALES :=Z66 := := := := := := :=
CALL * EM_R R LADDR DBN0 DBB_N0 L_TYP L_N0 L_OFFS	P_DCV_SRC , D000 :-1700 -200 -200 -200 :- :- :- :- :- :- :- :- :- :- :-
CALL * EN_R R LADDR DBE_NO L_TTP L_N0 L_OTPS L_OTPS L_CTP_F	P_NCV_IN** _ DB33 TOU TALBE ZABE ZABE ZABE ZABE 
CALL * BM_R R LADDR DB_NO DBNO L_TYP L_NO L_OFPS L_CF_B L_CF_B	P_pCV_100* _ D033 - *7008 - *24.64 - *4.65 - * - * - * - * - * - * - * - *
CALL " EM R R LADDR DB NO DBE NO DE NO L TYP L NO L OFRS L CY B L CY B NDR	P_PCV_HKr, DB33 TONI TONI TONI          -
CALL * RN R R LADDR DB NO DB NO L TTP L TO C PF L C7 F L C7 F L C7 F R NDR R NDR R NDR R NDR NDR N	P_NCV_NVD000 TOUS TOUS ZLSE ZLSE ZLSE 

RK512

Protokall		Deatak all Davas	natar		
- TOTOKON		Zeichenvers	nerei	220	
mit Blockcheck		2.000101190120	yozen.	1220	
		Quittungsverz	ugszeit	12000	ms
) Stanualowerte verwenden		Aufbauversuc	:he:	1 🗄	
		Obertragungs	versuche:	1 🗄	]
Geschwindigkeit	Zeichenrah	men			
Baudrate:	Datenbits:	Stopbits:	Parität:	Prio	ikät
38400 V Bits/s	8 -	1 -	keine	<ul> <li>nie</li> </ul>	drig

#### 3.1.2 Project settings in the BMS-Graf-pro interface for 3964R RK512 protocol

Link parameters	
🗸 Accept 🗙 Cancel	
Not changeable during runtime.	
Baud rate	
9600	~
Data bits	
8	~
Stop bits	
1	~
Parity	
None	~
Protocol waiting time [ms]	
2000	~
Character waiting time [ms]	
200	·
High-byte, low-byte	~
Word orientation	
High-word, low-word	~

The settings for baud rate, data bits, stop bits and parity must be the same as the settings in the controller.

The protocol delay time (default 2000ms) corresponds to the maximum waiting time for a response from the controller in case of a protocol request.

The character delay time (default 200ms) corresponds to the maximum time between two consecutive characters.

Byte and word alignment is used to correct the byte and word order (big endian format / little endian format).

#### A3.1.3 Settings in the BMS-Graf-pro Runtime for 3964R RK512 Protocol

After transferring the project to the Smart HMI, the interface to the controller must be set. This is necessary, because the first time the Smart module is connected, the interface number is set. In addition, Smart module installs four interfaces (2xRS232, 1xRS422/485 and 1xTTY), so the correct one must be set for the connection to the control. Once this is set correctly and the hardware is no longer changed, the setting remains valid.

A.	Interface parameters process co	nnection	
Prozess-	3864R mit RK512 Siemens		
	Interface	COM1	~
Barcode Settings	baud rate	38400	
*	Data bits	8	
Runtime Settings	Stop bits	1	
	Parity	None	
	Protocol waiting time [ms]	500	
	Character waiting time [ms]	50	
	Station number	1	
	Byte alignment	High-Byte, Low-Byte	
		×	~
		cancel	accept

A.	Interface parameters process co	nnection	
Prozess-	3864R mit RK512 Siemens		
	Stop bits	1	
Barcode Settings	Parity	None	
Runtime	Protocol waiting time [ms]	500	
Settings	Character waiting time [ms]	50	
	Station number	1	
	Byte alignment	High-Byte, Low-Byte	
	Word alignment	High-Word, Low-Word	
	CharAlignment	"AB AB AB AB AB AB"	~
	SingleWordAlignment	High-Word, Low-Word	~
		×	$\checkmark$
		cancel	accept

The settings, baud rate, data bits, stop bits, parity, protocol delay time, character delay time, as well as the byte and word alignment are taken from the project settings.

The "CharAlignment" and "SingleWordAlignment" is an additional possibility to correct the byte or word alignment of strings and floating-point numbers of low precision.

#### 3.2 Expansion of selectable HMIs



The following HMIs are now also available:

unte a constante a constante	POLARIS Smart HMI 7 inch 800x480 pixels Touch panel	1
Windows 10	POLARIS Smart HMI 12 inch 1280x800 pixels Touch panel	2
	POLARIS Smart HMI 12 inch with software emulation of a POLARIS BASIC 10.4"	3
DATE THE THE THE	POLARIS Smart HMI 12 inch with software emulation of a POLARIS BASIC 12.1"	4

#### Description of emulation variants



In the BMS-Graf-pro interface, the images of the project are displayed as usual when an emulation variant is selected.



After the transfer to the HMI, the corresponding keyboard is displayed as touch fields, depending on the selected emulation.

The images are displayed in the virtual screen area.

The "keyboard" performs all keystrokes as on the "old" device except for a few restrictions. The restriction is the pressing of key combinations that are not possible with the touch.

Three colour schemes can be selected via the settings.



#### 3.3 Extension of the settings in the Runtime menu

The following items can be set in the BMS-Graf-pro Runtime:

With "HB-An-Time" and "HB-Manager" it is possible to activate the screen saver set in Windows. Previously only the backlight was switched off, now the complete monitor unit, except for the touch, is switched off.

The checkboxes "Show debug panel" and

"Log ..." are for troubleshooting during commissioning and should be switched off during normal operation.

If an emulation mode is active, a colour scheme can be selected with "Emulation keys colour scheme".

With "Keyboard type", the type of keyboard used can be set. It is important here that the keyboard displayed in emulation mode is equated with the "Front Panel Keyboard". An external keyboard therefore corresponds to an "MF2 keyboard".

The on-screen keyboard integrated into the runtime is activated when an input field is selected with the touch. Depending on the type of field, numeric or alphanumeric, the appearance changes. If you do not want the onscreen keyboard to appear, it can be switched to inactive.

The last item can be used to instruct the runtime to scale the project image to the actual resolution of the screen. This function cannot be activated in emulation mode.

Barcode Settings	Backlighting manager Show debug panel Alarm history activated Show alarm symbol			None   Log communication error Log communication block Log keystroke					
reungs	Emulation keys color scheme			Scheme Testmode ~					
	Focus Frame				Always on 🗸				
	Keyboard type					Frontpanel Keyboard			
	On Screen Keyboard			Available					
	Scale pictures to screen size				Enabled		~		
Argheend O		_	×	✓			cancel	accept	
	5								
	8	9	Enter						
Keyboard		_						×v	

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