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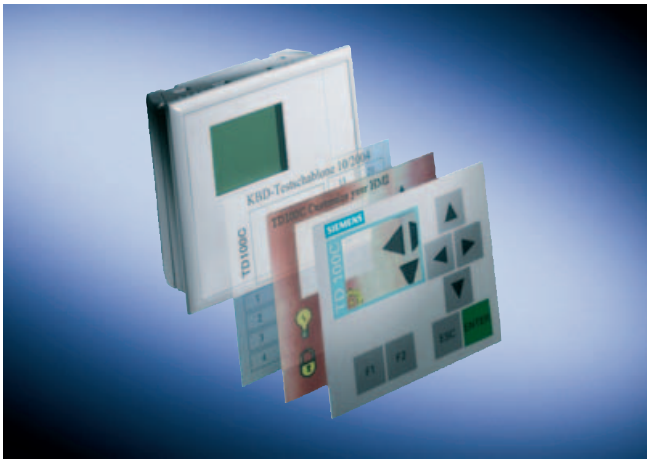
Overview



- The low-cost text display for the S7-200 with customized display
- For HMI functions:
  display of message texts, interventions in the control program, setting of inputs and outputs
- Direct connection to CPU interface
- No separate power supply required
- No separate parameterization software required
- Front design can be selected individually
- Addressing and setting of contrast in supplied menu

Technical specifications

	6ES7 272-1BA10-0YA0
Power supply	
Input voltage	
• Rated value (DC)	24 V; Supply from S7-200 communication interface
Input current	
• Rated value at 24 V DC	25 mA
MPI	
Transmission speed (PPI), max.	187.5 kBit/s
1st interface	
Physics	RS 485
Functionality	
• PPI	Yes
PPI	
• Number of nodes, max.	126; S7-200, OP, TP, TBP, PG/PC
Operator control and monitoring	
Display	
• Type	LC display (reflecting)
• Number of lines	4
• Number of characters per line	12
• Font size	3.34 mm
Environmental requirements	
Operating temperature	
• min.	0 °C
• max.	60 °C
Storage/transport temperature	
• min.	-20 °C
• max.	70 °C
Degree and class of protection	
• IP 65	Yes
Dimensions and weight	
Width	90 mm
Height	76 mm
Depth	36 mm; max. 44 mm with fittings
Mounting cutout, width	82 mm
Mounting cutout, height	69.5 mm
Cabinet/switchboard strength	1.5 mm
Weights	
Weight, approx.	120 g

Ordering data

	Order No.
Text Display TD 100C With individually configurable control elements on the device front; for connecting to SIMATIC S7-200; for use with STEP 7 Micro/WIN V4 and higher, plug-in cable required	**6ES7 272-1BA10-0YA0**
Connecting cables For connecting TD 100C or TD 200C to S7-200	**6ES7 901-3EB10-0XA0**
Blank film For printing customized keyboard layouts; 6 perforated foils per sheet; 10 sheets per packing unit	**6ES7 272-1BF00-7AA0**
Accessories for supplementary ordering	
Connecting cables	see catalog ST 80
Connectors	see catalog ST 80

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Text Display TD 200

Overview

- The user-friendly text display for the S7-200
- For control and monitoring:
  Message text display, intervention in PLC program, setting of inputs and outputs
- Direct connection to CPU interface using supplied cable or incorporation into network (also via EM 277)
- No separate power supply required
- No separate parameterization software required
- Addressing and setting of contrast in supplied menu

Technical specifications

	6ES7 272-0AA30-0YA0
Power supply	
Input voltage	
• Rated value (DC)	24 V; Supply through S7-200 communication interface or optional external power supply unit. Sensor power supply (24 V DC) of the CPU is not loaded
Input current	
• Rated value at 24 V DC	120 mA
MPI	
Transmission speed (PPI), max.	187.5 kBit/s
1st interface	
Physical	RS 485
Functionality	
• PPI	Yes
PPI	
• Number of nodes, max.	126; S7-200, OP, TP, TBP, PG/PC
Operator control and monitoring	
Display	
• Type	LCD backlit
• Number of lines	2
• Number of characters per line	20; Chars/line: ASCII, Cyrillic; 10 chars per line: Chinese
• Font size	5 mm
Environmental requirements	
Operating temperature	
• min.	0 °C
• max.	60 °C
Storage/transport temperature	
• min.	-40 °C
• max.	70 °C
Degree and class of protection	
• IP 65	Yes; at front
Dimensions and weight	
Width	148 mm
Height	76 mm
Depth	27 mm
Mounting cutout, width	138 mm
Mounting cutout, height	68 mm
Cabinet/switchboard strength	0.3 mm
Weights	
Weight, approx.	250 g

Ordering data

	Order No.
Text Display TD 200	
for connection to SIMATIC S7-200; can be used with STEP 7-Micro/WIN V3.2 SP4 or higher, incl. connecting cable	**6ES7 272-0AA30-0YA0**
Connecting cables	
For connecting TD 100C or TD 200C to S7-200	**6ES7 901-3EB10-0XA0**
Accessories for supplementary ordering	
Connecting cables	see catalog ST 80
Connectors	see catalog ST 80

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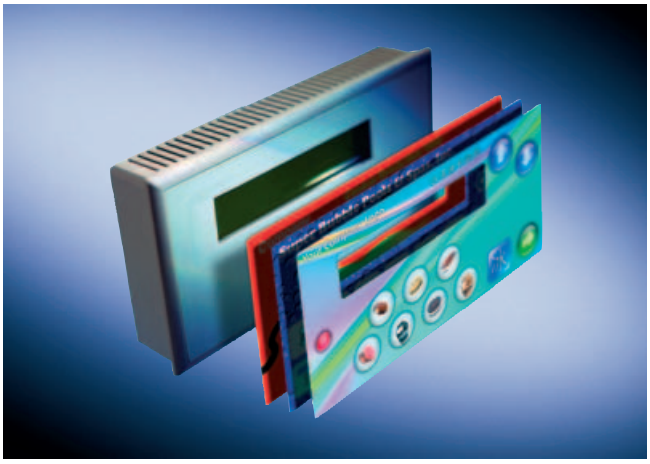
Overview



- The user-friendly text display for the S7-200 with customizable display
- For control and monitoring:
  Message text display, intervention in PLC program, setting of inputs and outputs
- Direct connection to CPU interface using supplied cable or incorporation into network (also via EM 277)
- No separate power supply required
- No separate parameterization software required
- Frontpanel design can be individually selected
- Addressing and setting of contrast in supplied menu

Technical specifications

	6ES7 272-1AA10-0YA0
Power supply	
Input voltage	
• Rated value (DC)	24 V; Supply through S7-200 communication interface or optional external power supply unit. Sensor power supply (24 V DC) of the CPU is not loaded
Input current	
• Rated value at 24 V DC	120 mA
MPI	
Transmission speed (PPI), max.	187.5 kBit/s
1st interface	
Physics	RS 485
Functionality	
• PPI	Yes
PPI	
• Number of nodes, max.	126; S7-200, OP, TP, TBP, PG/PC
Operator control and monitoring	
Display	
• Type	LCD backlit
• Number of lines	2
• Number of characters per line	20; Chars/line: ASCII, Cyrillic; 10 chars per line: Chinese
• Font size	5 mm
Environmental requirements	
Operating temperature	
• min.	0 °C
• max.	60 °C
Storage/transport temperature	
• min.	-20 °C
• max.	70 °C
Degree and class of protection	
• IP 65	Yes
Dimensions and weight	
Width	148 mm
Height	76 mm
Depth	28 mm
Mounting cutout, width	138 mm
Mounting cutout, height	68 mm
Cabinet/switchboard strength	0.3 mm
Weights	
Weight, approx.	200 g

Ordering data

	Order No.
Text Display TD 200C	
With individually configurable control elements on the device front; for connecting to SIMATIC S7-200; for use with STEP 7 Micro/WIN V4 and higher, incl. plug-in cable	**6ES7 272-1AA10-0YA0**
Connecting cables	**6ES7 901-3EB10-0XA0**
For connecting TD 100C or TD 200C to S7-200	
Accessories for supplementary ordering	
Connecting cables	see catalog ST 80
Connectors	see catalog ST 80s

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SIMATIC TP 177micro

Overview

- Touch panel for operator control and monitoring of small machines and plants
- Low-cost starter device in the touch panel class with graphical capability complete with all the basic functions required for simple tasks
- Pixel graphics 5.7" STN touch screen (analog/resistive), Bluemode (4 levels)
- Specifically for SIMATIC S7-200:
  Communication to the PLC is performed via the integrated interface over a point-to-point connection
- Connected to the PLC via MPI or PROFIBUS DP cable
- The SIMATIC TP 177micro is the redesigned successor to the SIMATIC TP 070/TP 170micro touch panels

Technical specifications

	6AV6 640-0CA11-0AX0
Supply voltage	
Supply voltage	24 V DC
Permitted range	+20,4 to +28,8 V DC
Rated current	0.24 A
Memory	
Type	Flash
Memory usable for project data	256 kByte User memory
Time	
Clock	
• Clock	Software clock, not battery backed
Configuration	
Configuration tool	WinCC flexible ES Micro as of Version 2004 SP 1 (must be ordered separately)
Display	
Display type	STN liquid crystal display (LCD), 4 blue scales
Size	5.7"
Resolution (W x H in pixels)	320 x 240
MTBF backlighting (at 25 °C)	approx. 50000 h
Operating mode	
Operating elements	Touch screen
Function keys, programmable	none
System keys	0
Touchscreen	analog, resistive
Numeric/alphabetical input	Yes / Yes
Degree of protection	
Front	IP65, NEMA 4X (when installed)
Rear	IP20
Certifications & Standards	
Certifications	CE, GL, ABS, BV, DNV, LRS, FM Class I Div. 2, UL, CSA, cULus, EX zone 2/22, C-Tick, NEMA 4X
• Ship classification society	Yes

	6AV6 640-0CA11-0AX0
Ambient conditions	
Mounting position	vertical
Maximum permissible angle of incliniation without external ventilation	+/- 35°
Max. relative humidity (in %)	90%
Temperature	
• Operation (vertical installation)	0 to +50°C
• Operation (max. tilt angle)	0 to +40°C
• Transport, storage	-20 to +60°C
Interfaces	
Interfaces	1 x RS485 (max. 0.1875 Mbit/s)
Operating systems	
Operating system	Smart
Processor/hardware	
Processor	ARM
Functionality under WinCC flexible	
Task planner	Yes
Help system	Yes
Status/control	not possible
Message system	
• Number of messages	500
• Bit messages	Yes
• Analog messages	Yes
• Message buffer	Circulating buffer (n x 128 Entries)
Process pictures/number	
• Process images	250
• Tags	250
• Limit values	Yes
• Multiplexing	Yes

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Technical specifications (continued)

	6AV6 640-0CA11-0AX0
Image elements	
• Text objects	500 Text elements
• Graphics objects	Bitmaps, Icons, Icon (screen filling), Vector graphic
• Dynamic objects	Bar
Lists	
• Text lists	150
• Graphics lists	100
• Libraries	Yes
Security	
• Number of user groups	1
• Number of users	1
• Passwords exportable	Yes
Data medium support	
• Multi Media Card	No
Logging/printer driver	
• Printer driver	-
Fonts	
• Keyboard fonts	US American (English)
Languages	
• Online languages	5
• Configuration languages	German, English, French, Italian, Spanish, Chinese traditional, Chinese simplified, Danish, Finnish, Greek, Japanese, Korean, Dutch, Norwegian, Polish, Portuguese, Russian, Swedish, Czech, Turkish, Hungarian
• Fonts	WinCC flexible-Standard, Pictographic languages
Transfer (Upload/Download)	
• Transfer of configuration	serial
Process connecting	
• Connection to controller	S7-200, see catalog ST 80, chapter "system interfaces"
Expandability/openness	
• OPP	No
Dimensions	
Front panel W x H (mm)	212 mm x 156 mm
Mounting cutout/depth W x H x D (mm)	198 mm x 142 mm / 45 mm Device depth
Weights	
Weight	0.75 kg

Ordering data

	Order No.
SIMATIC TP 177micro F)	**6AV6 640-0CA11-0AX0**
Touch Panel for connection to the SIMATIC S7-200, 5.7" STN display	
TP 177micro starter package F)	**6AV6 650-0DA01-0AA0**
Consisting of:	
• TP 177micro Touch Panel	
• SIMATIC WinCC flexible Micro engineering software	
• SIMATIC HMI Manual Collection (DVD), 5 languages (English, French, German, Italian, Spanish), comprising: all currently available user manuals, manuals and communication manuals for SIMATIC HMI	
• MPI cable (5m) (for test purposes)	
Configuring	
with SIMATIC WinCC flexible	see section 7, page 7/55
Documentation (to be ordered separately)	
Operating Instructions OP 73micro, TP 177micro	
• German	**6AV6 691-1DF01-0AA0**
• English	**6AV6 691-1DF01-0AB0**
• French	**6AV6 691-1DF01-0AC0**
• Italian	**6AV6 691-1DF01-0AD0**
• Spanish	**6AV6 691-1DF01-0AE0**
User Manual WinCC flexible Micro	
• German	**6AV6 691-1AA01-0AA0**
• English	**6AV6 691-1AA01-0AB0**
• French	**6AV6 691-1AA01-0AC0**
• Italian	**6AV6 691-1AA01-0AD0**
• Spanish	**6AV6 691-1AA01-0AE0**
SIMATIC HMI Manual Collection E)	**6AV6 691-1SA01-0AX0**
Electronic documentation, on DVD	
5 languages (English, French, German, Italian, Spanish); contains: all currently available user manuals, manuals and communication manuals for SIMATIC HMI	
Accessories for supplementary ordering	
Service packages, protective cover, cover foil, adapter, connecting cables, connectors, system interfaces	see catalogs ST 80, CA 01 or in the A&D Mall

E) Subject to export regulations: AL: N and ECCN: EAR99S

F) Subject to export regulations: AL: N and ECCN: 5D002ENC3

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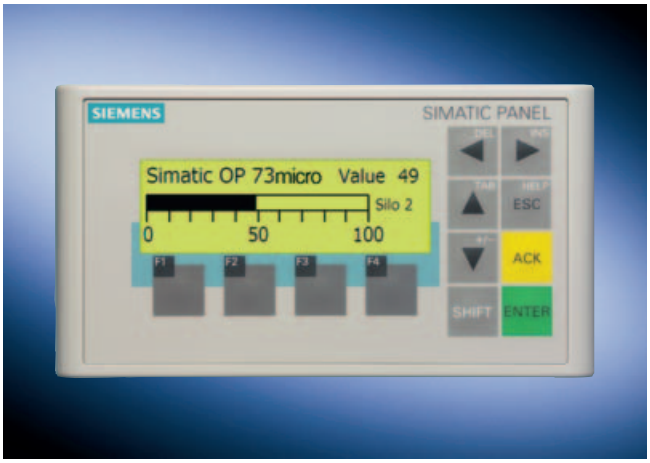
SIMATIC OP 73micro

Overview



- Operator Panel for controlling and monitoring machines and systems.
- Graphics in a new dimension: small and smart
- Pixel-graphics 3" LCD, monochrome
- 8 system keys, 4 user-configurable function keys
- Specific to the SIMATIC S7-200:
  Communication with the controller takes place via the integrated interface (point-to-point)
- Connection to the controller via MPI or PROFIBUS DP cable

Technical specifications

	6AV6 640-0BA11-0AX0
Supply voltage	
Supply voltage	24 V DC
Permitted range	+20.4 bis +28.8 V DC
Rated current	0.1 A
Memory	
Type	Flash
Memory usable for project data	128 kByte User memory
Time	
Clock	
• Clock	Software clock, not battery backed
Configuration	
Configuration tool	WinCC flexible ES Micro as of Version 2004 SP 1 (must be ordered separately)
Display	
Display type	STN liquid crystal display (LCD), Black and white
Size	3 "
Resolution (W x H in pixels)	160 x 48
MTBF backlighting (at 25 °C)	approx. 100000 h
Operating mode	
Operating elements	Membrane keyboard
Function keys, programmable	4 Function keys
System keys	8
Touchscreen	No
Numeric/alphabetical input	Yes / Yes
Connection for mouse/keyboard/barcode reader	- / - / -
Degree of protection	
Front	IP65, NEMA 4X (when installed)
Rear	IP 20

	6AV6 640-0BA11-0AX0
Certifications & Standards	
Certifications	CE, GL, ABS, BV, DNV, LRS, UL, CSA, cULus, C-Tick, NEMA 4X
• Ship classification society	Yes
Ambient conditions	
Mounting position	vertical
Maximum permissible angle of incliniation without external ventilation	+/- 80°
Max. relative humidity (in %)	90%
Temperature	
• Operation (vertical installation)	0 to +50 °C
• Operation (max. tilt angle)	0 to +40 °C
• Transport, storage	-20 to +60 °C
Interfaces	
Interfaces	1 x RS 485 (max. 0.1875 Mbit/s)
Operating systems	
Operating system	Smart
Processor/hardware	
Processor	ARM
Functionality under WinCC flexible	
Task planner	Yes
Help system	Yes
Status/control	not possible
Message system	
• Number of messages	250
• Bit messages	Yes
• Analog messages	Yes
• Message buffer	Circulating buffer (n x 100 Entries)
Process pictures/number	
• Process images	250
• Tags	500
• Limit values	Yes
• Multiplexing	Yes

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Technical specifications (continued)

	6AV6 640-0BA11-0AX0
Image elements	
• Text objects	1000 Text elements
• Graphics objects	Bitmaps, Icons, Icon (screen filling)
• Dynamic objects	Bar
Lists	
• Text lists	150
• Graphics lists	0
• Libraries	Yes
Security	
• Number of user groups	1
• Number of users	1
• Passwords exportable	Yes
Data medium support	
• Multi Media Card	No
Logging/printer driver	
• Printer driver	-
Fonts	
• Keyboard fonts	US American (English)
Languages	
• Online languages	5
• Configuration languages	German, English, French, Italian, Spanish, Chinese traditional, Chinese simplified, Danish, Finnish, Greek, Japanese, Korean, Dutch, Norwegian, Polish, Portuguese, Russian, Swedish, Czech, Turkish, Hungarian
• Fonts	WinCC flexible-Standard, Pictographic languages
Transfer (Upload/Download)	
• Transfer of configuration	serial
Process connecting	
• Connection to controller	S7-200, see catalog ST 80, chapter "system interfaces
Expandability/openness	
• OPP	No
Dimensions	
Front panel W x H (mm)	154 mm x 84 mm
Mounting cutout/depth W x H x D (mm)	138 mm x 68 mm / 28.5 mm Device depth
Weights	
Weight	0.25 kg

Ordering data

	Order No.
SIMATIC OP 73micro F) Operator panel for connection to the SIMATIC S7-200, with 3" display, monochrome incl. mounting accessories	**6AV6 640-0BA11-0AX0**
OP 73micro starter package F) Consisting of: • OP 73micro Operator Panel • SIMATIC WinCC flexible Micro engineering software • SIMATIC HMI Manual Collection, 5 languages (English, French, German, Italian, Spanish), comprising: all currently available user manuals, manuals and communication manuals for SIMATIC HMI • MPI cable (5 m) (for test purposes)	**6AV6 650-0BA01-0AA0**
Configuring	
with SIMATIC WinCC flexible	see section 7, page 7/55
Documentation (to be ordered separately)	
Operating Instructions OP 73micro/TP 177micro	
• German	**6AV6 691-1DF01-0AA0**
• English	**6AV6 691-1DF01-0AB0**
• French	**6AV6 691-1DF01-0AC0**
• Italian	**6AV6 691-1DF01-0AD0**
• Spanish	**6AV6 691-1DF01-0AE0**
User Manual WinCC flexible Micro	
• German	**6AV6 691-1AA01-0AA0**
• English	**6AV6 691-1AA01-0AB0**
• French	**6AV6 691-1AA01-0AC0**
• Italian	**6AV6 691-1AA01-0AD0**
• Spanish	**6AV6 691-1AA01-0AE0**
SIMATIC HMI Manual Collection E) Electronic documentation, on DVD 5 languages (English, French, German, Italian and Spanish); contains: all currently available user manuals, manuals and communication manuals for SIMATIC HMI	**6AV6 691-1SA01-0AX0**
Accessories for supplementary ordering	
Service packages, connecting cables, connectors, system interfaces	see catalogs ST 80, CA 01 or in the A&D Mall

E) Subject to export regulations: AL: N and ECCN: EAR99S

F) Subject to export regulations: AL: N and ECCN: 5D002ENC3

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3

Software

Overview

- Software for the SIMATIC S7-200
- Functions for all phases of an automation project:
  - Planning, configuring and parameterization of hardware and communication
  - Creation of a user program
  - Documentation
  - Testing, commissioning and service
  - Process control
  - Archiving

The following are available:

- STEP 7- Micro/WIN
- STEP 7 Micro/WIN command library
- WinCC flexible micro
- S7-200 PC-Access

For further information see section 7.

PPI cable

Overview

- For connecting devices with RS 232 or USB interface to SIMATIC S7-200 or PPI network (RS 485)
- The following are available:
  - Intelligent RS 232/PPI multimaster cable:
    For connecting devices with RS 232 interface to the RS 485 interface of the SIMATIC S7-200 or to the PPI network; can be used as master on a multimaster PPI network.
  - Intelligent USB/PPI multimaster cable:
    For connecting devices with USB interface to the RS 485 interface on SIMATIC S7-200 or to the PPI network; can be used as master on a multimaster PPI network.

Technical specifications

	6ES7 901-3CB30-0XA0	6ES7 901-3DB30-0XA0
Power supply		
Description	from CPU	from USB interface
Protocols		
PPI	Yes; 10/11 bit	Yes; 10/11 bit
ASCII	Yes; Freeport	
MPI		
Transmission speed (PPI), max.	187.5 kBit/s; 9.6 / 19.3 / 187.5 kBits/s; Setting: DIP switch; RS 232 not required	187.5 kBit/s; 9.6 / 19.2 / 187.5 kBits/s; Setting: not required
Status information/ alarms/diagnostics		
Diagnostics indication LED		
• Description	Tx (green): RS-232-transmit indication; Rx (Grün): RS-232-receive indication; PPI (Green): RS-485-transmit indication	Tx (green): USB transmit indication; Rx (Grün): USB receive indication; PPI (Green): RS-485-transmit indication

	6ES7 901-3CB30-0XA0	6ES7 901-3DB30-0XA0
Isolation		
Galvanic isolation	Yes	Yes
Software requirement		
Software required	STEP 7 Micro/WIN V3.2 SP4 or higher	STEP 7 Micro/WIN V3.2 SP4 or higher
Weights		
Weight, approx.	300 g	300 g

Ordering data

		Order No.
Intelligent RS 232/PPI multi-master cable For connecting devices with an RS 232 interface to SIMATIC S7-200 or PPI network Master in multi-master PPI network	A)	**6ES7 901-3CB30-0XA0**
Intelligent USB/PPI multi-master cable For connecting devices with a USB interface to SIMATIC S7-200 or PPI network; Master in multi-master PPI network	A)	**6ES7 901-3DB30-0XA0**

A) Subject to export regulations: AL: N and ECCN: EAR99H

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Overview

- Intelligent RS 232/PPI multi-master cable;
  for connecting devices with RS 232 interface to the RS 485 interface of the SIMATIC S7-200 or to the PPI network;
  can be used as master in a multi-master PPI network

	SIPLUS cable 901
Order No.	**6AG1 901-3CB30-2XA0**
Order No. based on	**6ES7 901-3CB30-0XA0**
Ambient temperature range	-25 to +70 °C; -25 to +55 °C (for applications with cUL approval), condensation permissible
Ambient conditions	Suitable for extraordinary medial load (for example by chloric and sulphuric atmospheres).
Conformity with standard for electronic devices on rail vehicles (EN 50155, temperature T1, category 1)	No
Approvals	CE, cUL
Technical data	The technical data are identical with the technical data of the based on modules.

Ordering data

	Order No.
SIPLUS cable 901 (extended temperature range and medial load) Intelligent RS 232/PPI multi-master cable; for connecting devices with an RS 232 interface to SIMATIC S7-200 or PPI network Master in multi-master PPI network	**6AG1 901-3CB30-2XA0**