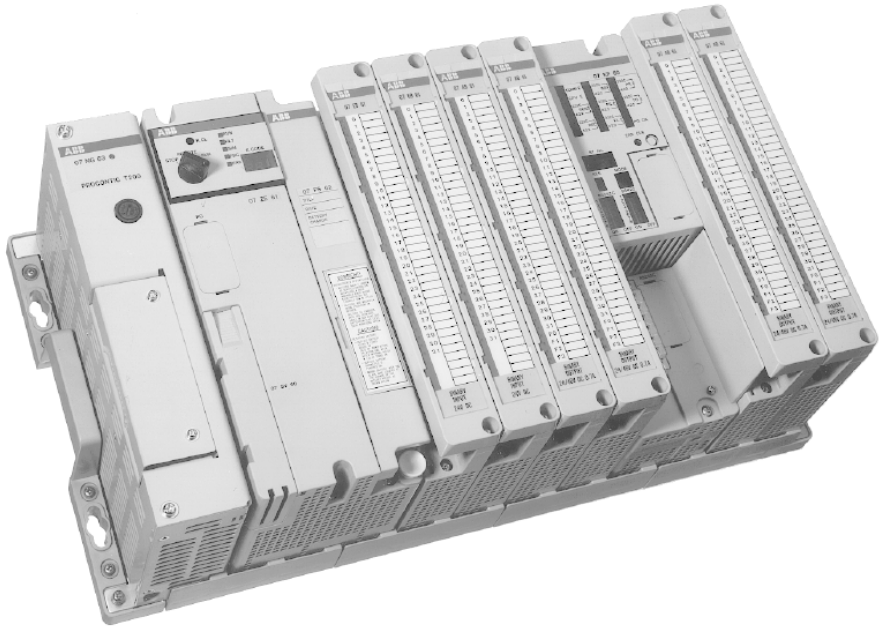
ABB Procontic T 200



The system

The ABB Procontic T200 programmable logic controller is a modular control system meeting the requirements of the latest automation technology, today and in the future, at the highest technical level.

Due to its modular system and its wide range of units, the ABB Procontic T200 can be configured for any application. The system's simple handling and project planning save time and money.

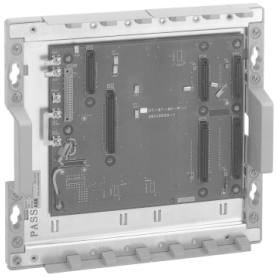
The ABB Procontic T200 has been fully integrated into the AC31 family. It features a convenient programming technique (907 PC 332) with IBM-compatible PC, has facilities for efficient process display and operation, and can be connected to the ABB Procontic buses, PDnet, ZB20, CS31 and MODBUS.

ABB Procontic systems are designed for rough industrial applications and are therefore sturdy and immune to interference (EMC). Extensive diagnostic functions of the ABB Procontic T200 simplify commissioning and troubleshooting in the plant.
In the simplest case, an ABB Procontic T200 controller consists of a subrack, a central unit, a program memory, several input/output units and a power supply unit for internal power supply.

Expansion subracks - centrally (in the immediate vicinity) or distributed - allow generous space for further input/output modules. Four central units, classified according to expansion capability, and a number of preprocessors and interface units allow the ABB Procontic T200 to be optimally matched to the respective control task.
Powerful serial bus systems connect in different areas

- The T200 exchanges process data with the other ABB systems and third-party controls via PDnet.
- The ABB Procontic T200 Bus ZB20 has been designed specifically for data exchange between ABB Procontic T200 stations and, in addition to process data, can also handle programs and parameters.
- Telecontrol applications are networked with RCOM.
- Simple, cross-manufacturer networking with MODBUS.
- CS31 field bus

ABB Procontic T 200
Controller in subrack
Ordering details



07 BT 61

Subracks

Basic/Expansion subracks for T200 components

Power supply unit slot	Central unit slot	Bus coupler slot	I/O slot	**Type**	**Order code**		Wt. / piece kg
1	1		5	**07 BT 61**	**GJV 307 4302 R 0001**		1.9
1	1		8	**07 BT 62**	**GJV 307 4303 R 0001**		2.5
1		1	7	**07 BE 61**	**GJV 307 4305 R 0001**		1.8
1		1	10	**07 BE 62**	**GJV 307 4306 R 0001**		2.4

Power supply units

Input voltage	Output voltage	Output current	**Type**	**Order code**		Wt. / piece kg
110/220 V AC	5 V DC 24 V DC	4 A 1.5 A	**07 NG 61**	**GJV 307 4311 R 0002**		1.3
110/220 V AC	5 V DC 24 V DC	9 A 0.5 A	**07 NG 63**	**GJV 307 4313 R 0002**		1.2
24 V DC	5 V DC 24 V DC	4 A 1.5 A	**07 NG 66**	**GJV 307 4315 R 0002**		1.2
24 V DC	5 V DC 24 V DC	9 A 0.5 A	**07 NG 68**	**GJV 307 4317 R 0002**		1.2

07 ZE 61

ABB Procontic T200 central units

Central units in subrack, 1 serial port, real-time clock, online program modification

Max. central inputs/ outputs	Subracks max.	Instructions	(Memory in kByte)	**Type**	**Order code**		Wt. / piece kg
max. 256	1	7.6 K	(30.4)	**07 ZE 60**	**GJV 307 4320 R0302**		0.8
max. 576	2	15.7 K	(62.8)	**07 ZE 61*)**	**GJV 307 4321 R 0302**		0.8
max. 1856	6	48.5 K	(194)	**07 ZE 62*)**	**GJV 307 4322 R 0302**		1.0
max. 1856	6	15.7 K	(62.8)	**07 ZE 63*)**	**GJV 307 4323 R 0302**		0.9

*)In conjunction with 907 PC 336 and safety-orientated I/O units, can be used as a safety-orientated system

Programming software

Description	Language	**Type**	**Order code**		Wt. / piece kg
Programming and test software, General description of programming environment excl. software (for SW see 907 PC 332)	 German English	 **907 PC 33** **907 PC 33**	 **GJP 520 3900 R 0302** **GJP 520 4000 R 0302**		
Programming and test software in IL, FBD, LD System-specific part incl. software on disk, Documentation	 German English	 **907 PC 332** **907 PC 332**	 **GJP 520 4300 R 0202** **GJP 520 4400 R 0202**		

ABB Procontic T 200
Controller in subrack
Ordering details

07 PS 62

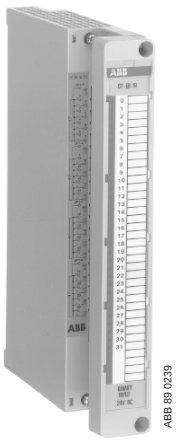
Programming cables

Cables for connecting automation units 07 ZE 60/61/62/63, 07 BR 61,07 KP 60 to a PC, cable length 3 m

Description	Plug	Type	Order code		Wt. / piece kg
Programming cable	25-pin	**07 SK 61**	**GJV 307 3906 R 0001**		0.2
Programming cable	9-pin	**07 SK 62**	**GJV 307 3907 R 0001**		0.2

Program memory

Program memory	Memory-location	Data memory for word flags	Online program modification	Type	Order code		Wt. / piece kg
CMOS-RAM	62.8 kB	16 k	No	**07 PS 62**	**GJV 307 4332 R 0002**		0.45
CMOS-RAM	62.8 kB	16 k	Yes	**07 PS 62**	**GJV 307 4332 R 0003**		0.5
CMOS-RAM	194 kB	50 k	No	**07 PS 63**	**GJV 307 4333 R 0002**		0.5
CMOS-RAM	194 kB	50 k	Yes	**07 PS 63**	**GJV 307 4333 R 0003**		0.55
EPROM	62.8 kB	16 k	No	**07 PR 62**	**GJV 307 4336 R 0002**		0.5
EPROM	194 kB	50 k	New	**07 PR 63**	**GJV 307 4337 R 0002**		0.5



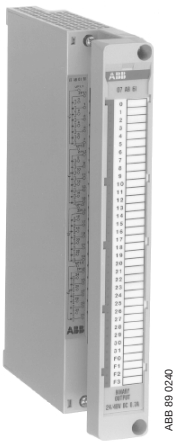
07 EB 61

Digital input modules

Digital input modules, electrically isolated with 1 slot, incl. front connector for screw-type terminals

Integral inputs (DI)	Power supply	Input delay max.	Type	Order code		Wt. / piece kg
32	4 V AC/DC	16 ms	**07 EB 61**	**GJV 307 4341 R 0001**		0.5
32	24 V DC	1 ms	**07 EB 62**	**GJV 307 4342 R 0001**		0.5
16	48 V AC/DC	16 ms	**07 EB 63**	**GJV 307 4343 R 0001**		0.45
32	48 V AC/DC	16 ms	**07 EB 64**	**GJV 307 4344 R 0001**		0.5
16	110 V AC	16 ms	**07 EB 66**	**GJV 307 4346 R 0001**		0.45
8	24 V DC	5 ms	**07 EB 90-S**[*)]	**GJR 525 0900 R 0101**		0.45

[*)] Only in conjunction with 907 PC 336 and central units 07 ZE 61, 07 ZE 62 or 07 ZE 63 via 07 CS 61 bus coupler



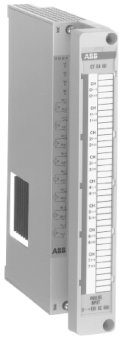
07 AB 61

Digital output modules

Digital output modules, electrically isolated with 1 slot, incl. front connector for screw-type terminals

Integral outputs (DO)	Power supply	Output load-ing capacity max.	Type	Order code		Wt. piece kg
16 Transistor	24/48 V DC	2 A	**07 AB 60**	**GJV 307 4360 R 0001**		0.6
32 Transistor	24/48 V DC	0.5 A	**07 AB 61**	**GJV 307 4361 R 0001**		0.6
32 Transistor sh-circuit-proof	24 V DC	0.5 A	**07 AB 63**	**GJV 307 4363 R 0001**		0.5
16 Relay	240 V AC	2 A	**07 AB 67**	**GJV 307 4364 R 0001**		0.6
8 Transistor	24 V DC	0.5 A	**07 AB 90-S**[*)]	**GJR 525 0800 R 0101**		0.47

[*)] Only in conjunction with 907 PC 336 and central units 07 ZE 61, 07 ZE 62 or 07 ZE 63 via 07 CS 61 bus coupler



07 EA 61

07 AA 61

07 ZG 60

Analogue input modules

Analogue input modules, electrically isolated with 1 slot, incl. front connector for screw-type terminals

Integral inputs (AI)	Input current range	Input voltage range	Res-olution	Tempera-ture range in °C	**Type**	**Order code**		Wt. / piece kg
8	4 - 20 mA		8 bit		**07 EA 61**	**GJV 307 4351 R 0001**		0.5
8		-10 to+10 V	12 bit		**07 EA 62**	**GJV 307 4352 R 0001**		0.5
8	4 - 20 mA		12 bit		**07 EA 63**	**GJV 307 4353 R 0001**		0.5
8	0 - 20 mA		8 bit		**07 EA 64**	**GJV 307 4355 R 0001**		0.5
8	0 - 20 mA		12 bit		**07 EA 65**	**GJV 307 4359 R 0001**		0.5
8 Pt-100			13 bit	-50 ... 400	**07 EA 66**	**GJV 307 4354 R0001**		0.5
8**) 4	 4 - 20 mA		13 bit 12 bit	0 ... 1600	**07 EA 67** **07 EA 90-S***)	**GJV 307 4358 R 0001** **GJR 525 1200 R 0101**		0.5 0.47

*) Only in conjunction with 907 PC 336 and central units 07 ZE 61, 07 ZE 62 or 07 ZE 63 via 07 CS 61 bus coupler
Thermocouple inputs Fe-CuNi, Ni-CrNi, Pt Rh-Pt

Analogue output modules

Analogue output modules, electrically isolated with 1 slot, incl. front connector for screw-type terminals

Integral outputs (AO)	Output current range	Output voltage range	Res-olution	**Type**	**Order code**		Wt. / piece kg
4		0 - 10 V	8 bit	**07 AA 60**	**GJV 307 4365 R 0001**		0.5
4	4 - 20 mA		8 bit	**07 AA 61**	**GJV 307 4366 R 0001**		0.5
4		-10 V to +10 V	12 bit	**07 AA 62**	**GJV 307 4367 R 0001**		0.5
4	4 - 20 mA		12 bit	**07 AA 63**	**GJV 307 4368 R 0001**		0.55
4	0 - 20 mA		8 bit	**07 AA 65**	**GJV 307 4369 R 0001**		0.5

Counters

High-speed counter with 1 slot, incl. front connector for screw-type terminal

Counter range	Count frequency	**Type**	**Order code**		Wt. / piece kg
16 bit	50 kHz	**07 ZG 60**	**GJV 307 4356 R 0001**		0.55

ABB Procontic T 200
Controller in subrack
Ordering details

07 BV 60

07 BR 60

Module for central expansion

Bus coupler for central I/O expansions without cable, 1 bus coupler slot in expansion subrack

Description	Type	Order code		Wt. / piece kg
Bus coupler	**07 BV 60**	**GJV 307 4370 R 0001**		0.4

Cables for bus couplers

Cable for bus coupler 07 BV 60 between CPU and expansion module or between two expansion modules

Description	Cable length		Type	Order code		Wt. / piece kg
Cable ZExx-BV60	0.5 m		**07 SV 60**	**GJV 307 4371 R 0001**		0.3
Cable Zexx-BV60	1.0 m		**07 SV 60**	**GJV 307 4371 R 0002**		0.4
Cable ZExxBV60	0.5 m		**07 SV 61**	**GJV 307 4372 R 0001**		0.3
Cable ZexxBV60	1.0 m		**07 SV 61**	**GJV 307 4372 R 0002**		0.4

Modules for distributed expansion/coupler

Distributed I/O coupler for	Cable	Slot	Type	Order code		Wt. / piece kg
Basic subrack	TRIAX	2	**07 BR 60**	**GJV 307 4375 R 0001**		0.9
Substation	TRIAX	2	**07 BR 61**	**GJV 307 4376 R 0001**		0.9
CS31 system bus		1	**07 CS 61**	**GJR 524 0300 R 0202**		0.9

ABB Procontic T 200
Controller in subrack
Ordering details

07 KP 60

07 KP 62

07 KP 64

07 ZB 69

Communication processors/couplers for networking

Communication protocols overview

T200	Communication module for coupling the ABB Procontic T200 to external computers via a fixed protocol with 2 serial ports (1 x RS232/ 1 x RS422)	07 KP 60
ASCII/CS31	Programmable communication module with 2 serial ports (2 x RS232)	07 KP 62
MODBUS	Communication module for MODBUS with 2 serial ports 1 RS232 connection for MODBUS Master 1 RS232 connection for MODBUS Slave	07 MK 62
RCOM	Communication module for tele communication via dedicated or dial-up lines 1 RS232 connection for RCOM 1 RS232 connection for programming and diagnosis	07 KP 64
PDnet*)	Communication module for connection to the Process Data Transport Network (PDnet)	07 KP 66
ZB20-Bus	Communication module for connecting the T200 to the ZB20 bus via triaxial cable	07 ZB 69

*) Lithiumbattery für 07 KP 62 see Accessories AC 31

Communication modules for networking

Protocol	Slot	Version	Software	Software to be ordered separately	**Type**	**Order code**		Wt. / piece kg
T200	2	—	None	No	**07 KP 60**	**GJV 307 4380 R 0101**		0.8
ASCII/CS31	1	—	907 PC 331	Yes	**07 KP 62**	**GJR 524 0400 R 0202**		0.9
MODBUS	1	—	On request	Yes (free)	**07 MK 62**	**GATS 110 143 R 0002**		1.0
RCOM	1	—	907 KP 64	Yes	**07 KP 64**	**GJR 524 0600 R 0101**		0.9
ZB20-Bus	2	—	None	No	**07 ZB 69**	**GJV 307 4379 R 0001**		0.9

Software packages including documentation and CE library

Software	Protocol	Unit	Language	**Type**	**Order code**		Wt. / piece kg
907 PC 331	ASCII/CS31	07 KP 62	German English	**907 PC 331***) **907 PC 331***)	**GJP 520 4500 R 0302** **GJP 520 4600 R 0302**		
907 KP 64	RCOM	07 KP 64	German English	**907 KP 64** **907 KP 64**	**GJP 520 4900 R 0202** **GJP 520 5000 R 0202**		

*) Programming cable 07 SK 90 required, see Accessories - AC31

ABB Procontic T 200
Controller in subrack
Ordering details

Accessories

Description	Can be used for	Details	**Type**	**Order code**		Wt. / piece kg
Lithium battery	07PS60/61/62/63, 07PR62/63		**07 LB 60**	**GJV 307 4399 R 0001**		0.2
Surge module		24 V DC	**07 SM 90**	**GJR 525 1900 R 0001**		0.1
Vacant housing		1 slot	**07 BA 60**	**GJV 307 4397 R 0001**		0.3
Terminal strip	I/O modules	20 pin		**GJV 307 4393 P 0001**		
Terminal strip	I/O modules	40 pin		**GJV 307 4393 P 0002**		
Fuse		5 A		**GJV 307 4395 P 0001**		
Fuse		7.5 A		**GJV 307 4395 P 0002**		

Power supply units

Description	Details	**Type**	**Order code**		Wt. / piece kg
Power pack	115 V AC, 230 V AC /24 V DC; 2.5A	**07 NG 32**	**GJV 307 5601 R 0001**		2.3
Power pack	15 V AC, 230 V AC /24 V DC; 5A	**07 NG 34**	**GJV 307 5602 R 0001**		4.2
Power pack	230 V AC (i),400 V AC (Y) / 24 V DC; 10A	**07 NG 35**	**GJV 307 5603 R 0001**		6.0
Power pack	230 V AC (i),400 V AC (Y) / 24 V DC; 20A	**07 NG 36**	**GJV 307 5604 R 0001**		15.0

Documentation

Description	Language	**Type**	**Order code**		Wt. / piece kg
General section, hardware, project planning and operating instructions, in a ring binder	German English		**GATS 131 499 R 1001** **GATS 131 499 R 2001**		

CS31 field bus coupler

Description	Details	**Type**	**Order code**		Wt. / piece kg
Coupler to CS31 system bus	1 slot	**07 CS 61**	**GJR 524 0300 R 0202**		0.9

ABB Procontic T 200-S

ABB 89 0691

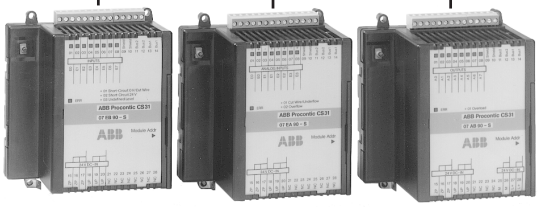


ABB 94 0097

Fields of application

The ABB Procontic T200-S is a safety-orientated automation system for plant and machines.

If a hazard analysis shows that, in the event of a fault, damage or injury could occur to persons, the environment or equipment, a safety-orientated system is required. This prevents a hazardous state by reverting to a planned safe state in the event of a fault.

The T200-S allows conventional safety circuits to be replaced. More complex safety circuits, which would be impossible or very costly to implement, are also possible.

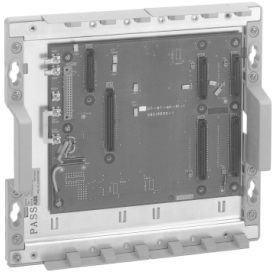
The T200-S is certified by the German Technical Inspection Authority (TÜV) and the German Employers' Liability Insurance Associations for Requirerment Category 4 to DIN V 19250 and Category 3 to EN 954-1. The detailed certification report and the list of application-related standards on which testing was based are available on request.

Advantages

- One controller for the safety-orientated and non-safety-orientated components of your system
- Reduction in the wiring complexity thanks to a consistently distributed system structure
- Simplification of wiring as the result of inputs/outputs designed internally on a two-channel basis
- Safety-orientated inputs/outputs directly on site in the terminal box
- Comprehensive diagnostic functions
- Safety through diversity-based, redundant software, internally redundant inputs/outputs and secure transfer.
- Mixing of safety-orientated and non-safety-orientated components in one system
  (from the CS31 and T200 module families).

Programming

Simple, time-saving programming (FBD, LD, IL).
This contains special, TÜV-certified safety function blocks and a permanently predefined structure with the separate programming components "Safety-Orientated" and "Non-Safety-Orientated".



07 BT 61

Subracks

Subracks for T200 components

Power supply unit slot	Central unit slot	Bus coupler slot	I/O slot	**Type**	**Order code**		Wt. / piece kg
1	1		5	**07 BT 61**	**GJV 307 4302 R 0001**		1.9
1	1		8	**07 BT 62**	**GJV 307 4303 R 0001**		2.5
1		1	7	**07 BE 61**	**GJV 307 4305 R 0001**		1.8
1		1	10	**07 BE 62**	**GJV 307 4306 R 0001**		2.4

Power supply units

Input voltage	Output voltage	Output current	**Type**	**Order code**		Wt. / piece kg
110/220 V AC	5 V DC 24 V DC	4 A 1.5 A	**07 NG 61**	**GJV 307 4311 R 0002**		1.3
110/220 V AC	5 V DC 24 V DC	9 A 0.5 A	**07 NG 63**	**GJV 307 4313 R 0002**		1.2
24 V DC	5 V DC 24 V DC	4 A 1.5 A	**07 NG 66**	**GJV 307 4315 R 0002**		1.2
24 V DC	5 V DC 24 V DC	9 A 0.5 A	**07 NG 68**	**GJV 307 4317 R 0002**		1.2

07 ZE 61

ABB Procontic T200 central units

Central units in subracks, 1 serial port, real-time clock, online program modification

Max. central inputs/ outputs	Subracks max.	Instructions	(Memory in kByte)	**Type**	**Order code**		Wt. / piece kg
max. 576	2	15.7 K	(62.8)	**07 ZE 61*)**	**GJV 307 4321 R 0302**		0.8
max. 1856	6	48.5 K	(194)	**07 ZE 62*)**	**GJV 307 4322 R 0302**		1.0
max. 1856	6	15.7 K	(62.8)	**07 ZE 63*)**	**GJV 307 4323 R 0302**		0.9

*) Can be used in conjunction with 907PC 336 and safety-orientated I/O modules as a safety-orientated system

Programming software

Description	Language	**Type**	**Order code**		Wt. / piece kg
Programming and test software, general description of programming environment without software (for SW see 907 PC 332)	German English	**907 PC 33** **907 PC 33**	**GJP 520 3900 R 0302** **GJP 520 4000 R 0302**		
Programming and test software on disk for safety-orientated PLCs including documentation, safety-orientated blocks and safety manual	German English	**907 PC 336** **907 PC 336**	**GJP 520 6300 R 0102** **GJP 520 6400 R 0102**		

07 PS 62

Programming cables

Cables for connecting 07 ZE 60/61/62/63, 07 BR 61,07 KP 60 automation units to a PC, cable length 3 m

Description	Plug	Type	Order code		Wt. / piece kg
Programming cable	25 pin	**07 SK 61**	**GJV 307 3906 R 0001**		0.2
Programming cable	9 pin	**07 SK 62**	**GJV 307 3907 R 0001**		0.2

Program memory for test mode

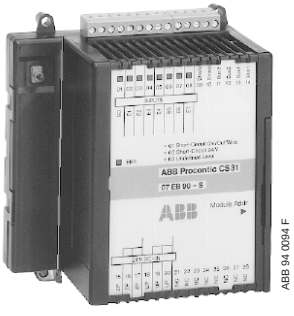
Program memory	Memory location	Data memory for word flags	Online program modification	Type	Order code		Wt. / piece kg
CMOS-RAM	62.8 kB	16 k	No	**07 PS 62**	**GJV 307 4332 R 0002**		0.45
CMOS-RAM	62.8 kB	16 k	Yes	**07 PS 62**	**GJV 307 4332 R 0003**		0.5
CMOS-RAM	194 kB	50 k	No	**07 PS 63**	**GJV 307 4333 R 0002**		0.5
CMOS-RAM	194 kB	50 k	Yes	**07 PS 63**	**GJV 307 4333 R 0003**		0.55

Program memory for safety mode

Program memory	Memory location	Data memory for word flags	Online program modification	Type	Order code		Wt. / piece kg
EPROM	62.8 kB	16 k	No	**07 PR 62**	**GJV 307 4336 R 0002**		0.5
EPROM	194 kB	50 k	No	**07 PR 63**	**GJV 307 4337 R 0002**		0.5

CS31 field bus coupler

Distributed I/O coupler for	Cable	Slot	Type	Order code		Wt. / piece kg
CS31 System bus		1	**07 CS 61**	**GJR 524 0300 R 0202**		0.9



07 EB 90-S

Safety-orientated input/output modules

I/O modules, safety-orientated, power supply 24 V DC, integral CS31 bus connection, electrically isolated from bus

Integral inputs/ outputs	Input-voltage/ range	Input delay max.	Details	Type	Order code		Wt. / piece kg
8 digital I	24 V DC	5 ms		**07 EB 90-S***)	**GJR 525 0900 R 0101**		0.45
8 digital O	24 V DC-0.5 A	Transistor		**07 AB 90-S***)	**GJR 525 0800 R 0101**		0.47
4 analogue I	4...20 mA		12 bit	**07 EA 90-S***)	**GJR 525 1200 R 0101**		0.47

*) Only in conjunction with 907 PC 336 and central units 07 ZE 61, 07 ZE 62 or 07 ZE 63 via 07 CS 61 bus coupler

Accessories

Description	Details			Type	Order code		Wt. / piece kg
Surge module	24 V DC			**07 SM 90**	**GJR 525 1900 R 0001**		0.1

Non-safety-orientated modules

T200: In addition, all T200 modules, such as input/output modules or couplers, can be used in the non-safety-related area.

AC31: In addition, all AC31 modules, including AC31 central units operating as slaves on the CS31 field bus, can be used in the non-safety-related area.

Documentation

Description	Language	Type	Order code		Wt. / piece kg
General section, hardware, project planning and operating instructions, in a ring binder	German English		**GATS 131 499 R 1001** **GATS 131 499 R 2001**		
Complete hardware description, project planning and operating instructions	German English		**1SAC 131 699 R 0101** **1SAC 131 699 R 0201**		
General section General section	German English		**GATS 131 699 R 1002** **FPTN 440 004 R 2001**		

Programming
CS31, AC31, AC31-S, T200 and T200-S

The following hardware and software is required for programming the CS31, CS31-S, AC31, T200 and T200-S controllers:

1. Hardware

1.1. Personal computer for programming software 907 PC 33/331/332/336/338 with:

- minimum 80386 processor, minimum 4 MB RAM
- minimum 15 MB free hard disk capacity
- 3.5", 1,44 MB floppy disk drive, mouse
- serial port EIA-RS-232 for the controller, parallel port for printer
- MS-DOS operating system, version 5.0 and above

1.2. Personal computer for programming software 907 AC 1131 with:

- minimum Pentium II processor, 133 MHz, minimum 32/64 MB RAM
- minimum 40 MB free hard disk capacity
- CD-ROM drive, mouse
- serial port EIA-RS-232 for the controller, parallel port for printer
- Windows 9x or Windows NT 4.0

1.2. Programming cable
(For further information please refer to the Ordering Details for the individual controllers)

- 07 SK 90 for CS31/AC31 central units - Series 30, 90 (25/9 pin)
- 07 SK 50 for CS31/AC31 central units - Series 40..50 (9 pin/Mini-DIN)
- 07 SK 61 for T200 and T200-S central units (25 pin)
- 07 SK 62 for T200 and T200-S central units (9 pin)

1.3. Programming unit for EPROM´s (only T200 and T200-S)
An EPROM programming unit for EPROM types upwards of 1 Mbit is required.
The unit must be capable of processing Intel-hexadecimal files.

2. Software

2.1. Programming software and documentation for central units ABB Procontic and Advant Controller
(For further information please refer to the Ordering Details for the individual controllers)

- 907 PC 33. General section for CS31/AC31, T200 and T200-S. Documentation (no software) for programming software.
- 907 PC 331. System-specific section for CS31 central units and communication processor 07KP62 (T200). Documentation and software.
- 907 PC 338. Add-on safety function package AC31-S.
- 907 PC 332. System-specific section for T200 central units. Documentation and software.
- 907 PC 336. System-specific section for T200-S central units. Contains software 907 PC 332 including German Technical Inspection Authority (TÜV)-certified safety function blocks and safety manual.

2.2. Programming software and documentation for ABB Procontic communication coupler
(For further information please refer to the Order Details for the individual couplers)

Operating Panels

MT 45

MT91

Man/machine communication

Operating Panels are used to observe machine statuses and intervene in machine routines.

MMC units (Man/Machine Communication)
MT30/45
MT65
MT91

Operating Panels MT30, MT45, MT65 and MT91 communicate using active drivers with controllers ABB Procontic T200, CS31 and Advant Controller 31.

This means that the MMC units have direct read and write access to all relevant data in the controllers. Consequently, there is no need for complex project planning instructions in respect of communication in the controllers.

With all the Operating Panels, communication takes place via the relevant programming interfaces or, in the case of MT45/65/91, via the optional ARCNET connection of the central unit.

The logically and ergonomically well-conceived operator prompting system of the terminals helps to optimise your production routines. The units feature sufficiently large operating keys which can be easily labelled for clear and unambiguous operation. The systematic colour coding of the operating keys means reliable operation of various machine routines by the operator.

Slide-in strips can be used to label the individual key areas, whilst still preserving enclosure IP 54 or 65.

Visually highlighted cursor keys featuring LEDs allow clear assignments of routines and provide visual assistance for operator prompting.

The softkeys which are mask-orientated on the MT91, provide the operator with further individual options for text displays as a function of machine statuses.

The text displays are 2-line on the MT30.

Up to 1000 texts can be saved in the 32 KByte EEPROM on the MT30. Depending on the selected font size (3 options), 8, 4 or 2 lines can be displayed by the operator on the text terminal MT45. Up to 100 process displays per language can be displayed on graphics terminal MT65 on the 256 x 64 pixel display. Up to 3 x 100 process displays and up to 6000 texts can be saved on the graphics terminal MT91.

What you need for project planning:

- **Editor for programming**
  for MT30, MT45, MT65 and MT91 — 935SPSPLUS Win
- **Programming cable** — VB30 (MT30, MT45, MT65, MT91)
- **Interface cable for Advant Controller 31 (CS31)**
  Series 90 — VB86 (MT30, MT45, MT60, MT91)
  Series 90 with MODBUS coupler (07KP93) — VB58 (MT30, MT45, MT60, MT91)
- **Interface cable for T200** — VB43 (MT30, MT45, MT60, MT91)

Display and operator control units
Ordering details

SST 021 96

MT 45

Operator control units - performance class Text

- Active communication concept
- Text polling by programmable controller, function keys or cursor
- Integral interference bit processing
- Histogram memory (up to 170 entries)
- Free variable insertion and editing (max. 15 per text)
- Dynamic menu branching
- Internal function key and softkey project planning
- Project planning for 3 languages
- ladbare Gerätetreiber cs 31, T 200, MODBUS (Master/Slave) und ARCNET (Profibus-DP in preparation)

Important Note: Operator control units with a CS31 driver can be used only in conjunction with central units 07 KR 91, 07 KT 92, 07 KT 93 and 07 KT 94 and07 KP 62 (T200)!

Lines/ Width (mm)	Char./ Height (mm)	Display type	Function/Alpha and System Keys/Softkeys	Unit driver/ Interface	**Type**	**Order code**		Wt. / piece kg
2/82.5	20/18	LCD	4/8/-	Loadable/RS232	**MT30**	**GATS 111 100 R 0001**		0.45
2/71	20/40	LCD	8/23/-	Loadable/RS232	**MT40**	**GATS 110 091 R 0001**		0.45
2/71	20/40	LCD	8/23/-	Loadable/RS485	**MT40**	**GATS 110 091 R 0201**		0.45
2/71	20/40	LCD	8/23/-	Loadable/ARCNET	**MT40**	**GATS 110 091 R 0401**		0.45

*) MT45 identical with MT40 in respect of hardware and project planning

SST 011 99

MT91

Operator control units - performance class Graphics

- All functions of Text performance class
- 100 process images per language
- Integral interference bit processing with acknowledge field (512 faults)
- Histogram memory (up to 1000 entries)
- Symbolic variable processing with scaling and limiting values (max. 25 per text)
- 3 editable character sets
- ladbare Gerätetreiber cs 31, T 200, MODBUS (Master/Slave) und ARCNET (Profibus-DP in preparation)

Important Note: Operator control units with a CS31 driver can be used only in conjunction with central units 07 KR 91, 07 KT 92, 07 KT 93 and 07 KT 94 and 07 KP 62 (T200)!

Lines/ Width (mm)	Char./ Height (mm)	Display type	Function/Alpha and System- Keys/Softkeys	Unit driver/ Interface	**Type**	**Order code**		Wt. / in kg
8/240	40/64	LCD	16/23/8	Loadable/RS232	**MT65***)	**GATS 110 092 R 1001**		0.75
8/240	40/64	LCD	16/23/8	Loadable/RS485	**MT65***)	**GATS 110 092 R 1201**		0.75
8/240	40/64	LCD	16/23/8	Loadable/ARCNET	**MT65***)	**GATS 110 092 R 1401**		0.75
—/120	—/64	VFD	16/23/8	Loadable/RS232	**MT91**	**GATS 110 167 R 0001**		0.75
—/120	—/64	VFD	16/23/8	Loadable/RS485	**MT91**	**GATS 110 167 R 0201**		0.75
—/120	—/64	VFD	16/23/8	Loadable/ARCNET	**MT91**	**GATS 110 167 R 0401**		0.75

*) MT65 identical with MT60 in respect of hardware and project planning

Display and operator control units
Ordering details

Programming cables

Operator control unit	Type	Order code		Wt. / piece kg
MT30/40/45/60/65/91	**VB30**	**GATS 110 094 R 0001**		

Communication cables

Operator panel unit	Commu-nication driver	PLC	Interface type	PLC interface	Type	Order code		Wt. / piece kg
MT30/45/ 60/65/91	AC31 AC31 MODBUS	Series 90 07KP62 AC31	RS232 RS232 RS232	COM1 COM1 COM2	**VB86**	**GATS 110 093 R 0011**		
	T200	T200	RS232	PG-SS	**VB43**	**GATS 110 093 R 0201**		
	MODBUS	07KP93	RS232	COM3/4	**VB58**	**1SAY 110 700 R 0001**		
	AC31 MODBUS	Series 50 Series 50	RS232 RS232	COM1 COM1	**VB67**	**1SAY 111 102 R 0001**		

Cable for interface RS485

Operator panel unit	Interface type	Details	Type	Order code		Wt./ piece kg
MT40/65/91	RS485	Open on PLC side	**VB69**	**1SAY 111 103 R 0001**		

Programming software for operate panels

Programming software 935SPSPLUS is supplied with documentation in all versions.

Operator panel unit	Incl. driver AC31/ T200/ MODBUS/ ARCNET	Programming software	Type	Order code		Wt. / piece kg
MT30/45 MT65/91	Yes	935SPSPLUS	**WIN**	**GATS 110 095 R 0003**		

Documentation

Manuals without software

Documentation	for	Language	Type	Order code		Wt. / piece kg
Planning manual	SPSPLUS Win SPSPLUS Win	German English		**GATS 111 104 R 0001** **GATS 111 104 R 0002**		
Equipment manual	MT30/40/45/60/65/91 MT30/40/45/60/65/91	German English		**GATS 111 106 R 0001** **GATS 111 106 R 0002**		