Process Display and Control

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The system description of the hardware for the 07 PM 11 process graphic module is to be ordered under the order number GATS 1340 02 R2001.

The 07 PM 11 process graphic module enables the realisation of an operating station, with which processes can be visualised and operated. The process graphic module operates together with a black-and-white or a colour screen. It is an integral component of the man–machine communication (MMC) between the operator and a programmable control (PLC) for the ABB Procontic system.

The 07 PM 11 process graphic module frees the ABB Procontic system from display-specific tasks: images, values and colours can be changed without information concerning the form and colour of the image elements being known to the PLC.

Other features:

- Communication–specific data and image variables are stored on the 07 PM 11 process graphic module in EPROMs. The memory of the PLC is not occupied in this way. The 07 PM 11 process graphic module can save data for approx. 20 ... 71 images.
- 100 image variables per image
- Various image types to represent
  - values (numbers, bars) and/or
  - status (colours, flashing, fields)
- Simple up-dating of the image variables independently of the image structure.
  - Passive mode: with logical commands
  - Active mode: by automatic reading of the values from the ABB Procontic system.
- Monitor interface (R, G, B; TTL)
- 3 serial interfaces to connect
  - ABB Procontic system
  - Keyboard (TTL and RS-232–C)
  - Printer

The process operating station 35 BS 94 is provided for the connection of the 07 PM 11 process graphic module. This is a colour monitor suitable for industry with an operating keyboard for the basic operation.

For small requirements, it is possible to create a process operating station with the graphic module 07 PM 11, an acquired PC monitor and a keyboard. Design requirements of a customer-specific process operating station can also be fulfilled in this way.

The configuration of the 07 PM 11 process graphic module is carried out with the image configurator 935 BK 70.
The system description of the hardware for the 35 BS 93 operating station is to be ordered under the order no. GATS 1340 03 R2001.

Processes can be visualised and operated by means of the 35 BS 93 operating station. It is an integral component of the man–machine communication (MMC) between the operator and a programmable control (PLC) for the ABB Proconpic system.

The 35 BS 93 operating station is suitable for installation into 19" frames as well as in switchboards. The front is designed according to the type of protection IP 65.

The 35 BS 93 operating station includes a 12" colour screen, a machine keyboard with 40 keys and a soft key keyboard with 8 keys. The keyboards are designed as membrane keyboards and have keys with a pressure point.

The 35 BS 93 operating station frees the ABB Proconpic system from display–specific tasks: images, values and colours can be altered without information concerning the form and colour of the image elements being known to the PLC.

Other features:

- Communication–specific data and image variables are stored on the 35 BS 93 operating station in EPROMs. The memory of the PLC is therefore not occupied. The 35 BS 93 operating station can save data for approx. 20 ... 71 images.
- 100 image variables per image
- Various image variable types to represent:
  - Values (numbers, bars) and/or
  - Status (colours, flashing, fields)
- Simple up–dating of the image variables independently of the image structure.
- Passive mode: with logical commands
- Active mode: through automatic reading of the values from the ABB Proconpic system.
- Serial interface to connect ABB Proconpic.

The configuration of the 35 BS 93 operating station is carried out with the image configurator 935 8K 70.
The system description of the hardware for the 35 BS 94 operating station is to be ordered under the order no. GATS 1340 04 R2001.

The 35 BS 94 operating station is a colour monitor suitable for industry with an operating keyboard for the basic operation.

Together with the 07 PM 11 process graphic module, it forms a process display and operating station. It includes a 12" colour screen and a machine keyboard with 40 keys and 8 soft keys. The machine keyboard is designed as a membrane keyboard with pressure points. The station is for installation in 19" frames as well as in switch boards. The front is designed according to IP 65.
The system description of the hardware for the 35 BS 95 operating station is to be ordered under the order number GATS 1340 05 R2001.

The 35 BS 95 operating station consists of a 12" multi-sync colour monitor (800 x 600 image points) with an integrated IBM AT compatible computer.

Technical data:
- 80286 CPU
- 1 Mbyte RAM
- 20 Mbyte hard disk
- 1.44 Mbytes 3 1/2" disk drive
- Coprocessor 80287
- EGA card with a 256 kbyte RAM
- 640 x 350 image points
- 16 colours
- 2 serial interfaces
- 1 parallel printer interface
- 1 interface for an external disk drive
- 1 interface for the IBM AT keyboard
- Maschine keyboard with 40 keys
- 8 soft keys
- Installation in a standard 19" cabinet, 8 U high, 405 mm deep
- Supply voltage: 220 V AC
- IP 65 type of protection: front panel and membrane

The 935 PM 71 software and the 935 PM 73 software can run on the 35 BS 95 operating station but if using the 935 PM 73 software, an auxiliary communication processor, the ACOM communication card, must be used.
Display configurator 935 BK 70 R402

The 935 BK 70 image configurator is supplied together with a manual, order number GJP5123300R0402.

The 935 BK 70 image configurator is a complete package with all the configuration aids from the screen editor through to the automatic programming of the image EPROMs. The 935 BK 70 can be run on an IBM compatible personal computer.

Other features:

- Editor for the allocation table: notes are made here, where data can be found (in which PLC, in which flags) and how they are to be interpreted for the separate image variables.

- Editor for the text output: the user can recall from an editor of his choice from the 935 BK 70 image configurator.

- Test functions: the configurations set up can be tested without a PLC connection in this way.
The 935 PM 71 software is supplied together with a manual, order number GJP5220100R102.

The software for the 935 PM 71 process display and operation enables the realisation of an operating station on an IBM compatible PC, with which processes can be visualised and operated. It is an integral element of the man – machine communication (MMC) between the operator and the programmable controls (PLC) for the ABB Procontic system.

The ABB Procontic controls are connected via the ABB area bus ZB 10. They are connected with the operating station via the 07 ZV 86 bus manager. The ABB Procontic controls are freed from display-specific tasks: images, values and colours can be altered without information concerning the form and colour of the image elements being known to the PLC.

The 935 PM 71 is a menu-guided system. The desired functions are selected by function keys or the cursor; the user does not have to learn any commands by heart! Every function is explained with an auxiliary help text.

The 935 PM 71 can be run on commercial personal computers, type IBM PC/XT/AT. The following equipment is required:

- 640 kbytes RAM
- A hard disk with min. 20 Mbytes
- MS DOS from version 3.3
- Math. Co Processor
- EGA graphics with a 256 kbyte RAM
- Hardware clock
- RS 232C (COM1) serial interface to the 07 ZV 86
- Parallel interface for the printer
- 5.25"/360 kbytes or 3.5"/720 kbytes disk drive to load the 935 PM 71

ABB offers the IBM/AT compatible industrial computer 35 BS 95 as the operating station.

The 935 PM 71 includes an integrated graphic editor for the image configuration. The process variable definition is guided by menus. The actions for "programming" the event control are simply selected by function keys.
The 907 PB 33 software is a PLC software library with an application description for the 35 BS 93 and 07 PM 11/35 BS 94 process display and control components in the passive mode together with the programmable control ABB Procontic T300 PLC. The software and a manual (only in German) can be ordered under the order number GJP5200400R0102.
The system description of the hardware is supplied together with the 35 TA 10 text display (GJV307E301R1).

The 35 TA 10 text display displays information concerning machine status, machine operation, maintenance, etc., in explanatory text. The operator is clearly informed and instructed. This saves time and costs.

The texts are displayed via a fluorescent display. They are therefore legible even with unfavourable light. The 35 TA 10 text display can be stored permanently in EPROMs.

The 35 TA 10 text display can be operated in several operating modes:

- **Direct registration**: The message is displayed, while the message number is located at the inputs.

  - **Initial message**: The first message is displayed. A maximum of 19 other messages are saved in the order in which they occurred.

  - **Cyclical message**: A maximum of 19 saved messages are displayed consecutively.

  - **External variable**: Text can be combined with variable values from the ABB Procontic. The number and positions of the variables in the text is not limited.

The control is carried out via process outputs by the ABB Procontic.
The 935 TA 10 editor (order no. GJV3901101R102) is supplied together with a set of operating instructions.

The 35 TA 10 text display is programmed on an IBM compatible personal computer with the 935 TA 10 editor. The EPROMs are compiled with the 07 PP 31/32 PROM programmer. Other PROM programmers with a RS 232 serial interface and an Intel-Hex protocol can also be used.
The system description of the hardware is supplied together with the 35 BS 40 operating station (order number GJV3075304R1).

The 35 BS 40 operating station displays information concerning machine status, instructions for the machine operation, maintenance, etc., in explanatory text. The operator is clearly informed and instructed. This saves time and costs.

The texts are displayed via a fluorescent display. They are therefore clearly legible even with unfavourable light conditions. The operator can also affect the machine sequence via the 35 BS 40 operating station. It is possible to control parts of the machine and to alter operating modes and nominal values, for example, by using the keys.

The 35 BS 40 operating station has large keys and the IP 55 type protection for the front.

The communication between the 35 BS 40 operating station and the ABB Procontic control is carried out via a serial interface RS-232.
The editor is supplied together with a set of operating instructions.

The 35 BS 40 operating station is programmed on an IBM compatible personal computer with the 935 BS 40 editor. The texts for the displays, including the variable values, and the entries via the function keys are programmed with the 935 BS 40 editor. The data are transferred directly to the RAM of the 35 BS 40 operating station via the serial interface. The data can also be saved in the 35 PR 41 (EPROM) program memory or 35 PR 42 (EPROM) as an option. The 35 PR 41 and 35 PR 42 program memories are programmed via the 35 BS 40 operating station.