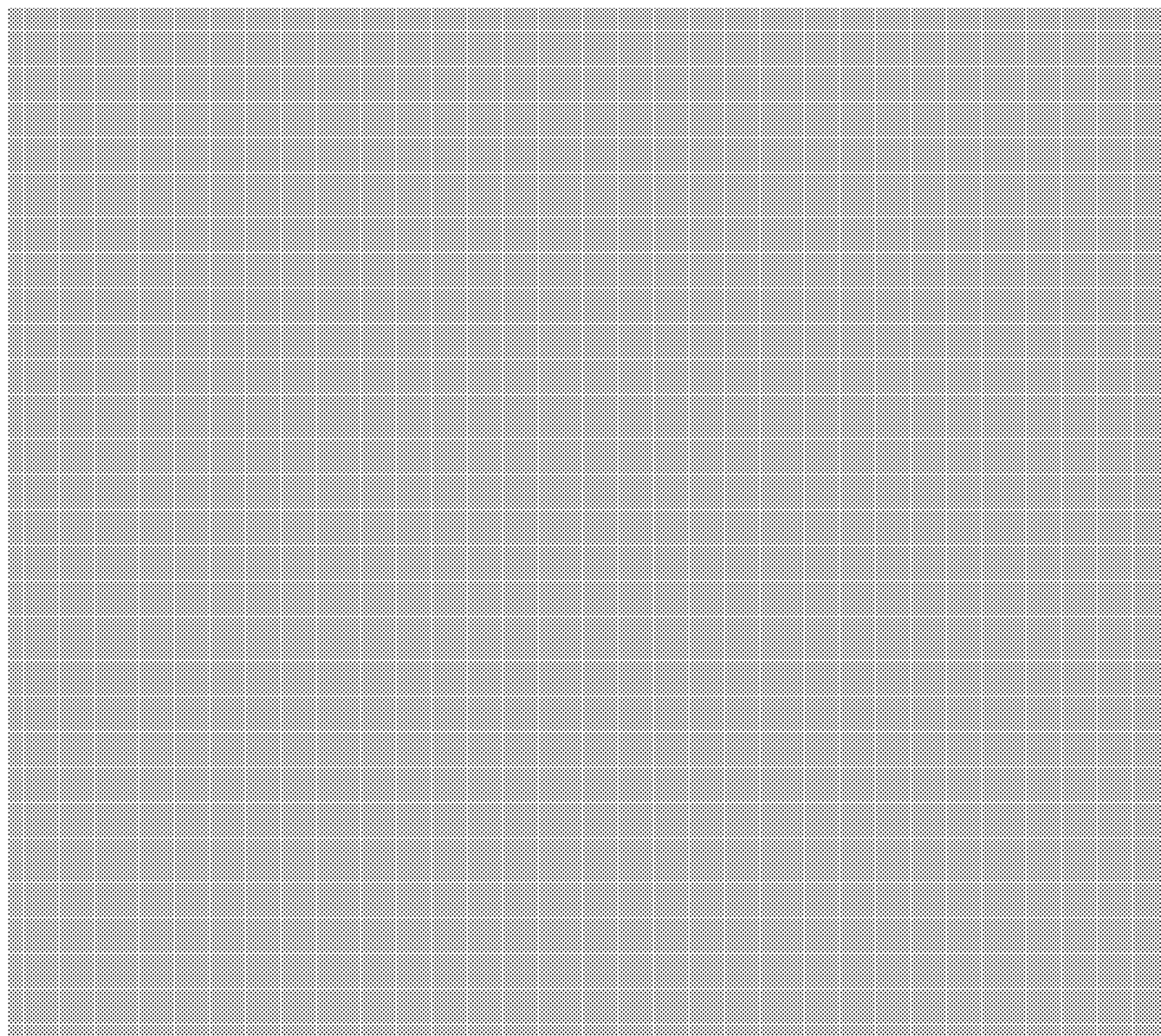


Equipment for special machines

WF 470 Display Module

Technical Description

Edition 12.94



Important features of the WF 470:

- Freely configurable picture and screen form generation via programmer with menu and softkey support.
- Graphic aids for a largely realistic visualization of machine and process.
- Operator hints and instructions in plain text.
- Efficient support of the SIMATIC S5 by storing and managing pictures and texts.
- Message logging via printer or message analysis in a higher-level computer to detect weak points.
- Listing of faults (e.g. of faults occurring during one shift) and printout.
- Colour hardcopy

An easily exchangeable OTPROM memory card contains the firmware for picture representation. Screen forms and process pictures can be built up from the following elements:

Individual symbols	• 128 standard symbols • 128 freely configurable symbols, 16 of them optional for representation of curves (symbols 240 to 255) • ASCII character set
Composite symbols	Combination of any number of individual symbols
Text display windows	• Statically faded in, colour change in case of change of the indicator bit, • Fading in/out in case of change of the indicator bit
Variable fields	• Process data input field • Process data input/output field • Process data output field • Standardizable process data input/output fields • Comment field • Date • Time
Bars, configurable in	• Position (vertical, horizontal) • Direction • 8 colour zones • Width • Length
Representation of curves through connection of points	• Up to 16 curves; • Points optionally either static or relative to the programmed position, preset by the controller; • Standardizable coordinate system; • Line colour and thickness configurable.
Magnifications	Value range: 1 to 16, in X and Y direction individually
Colours	8 different foreground and background colours

2.2 Hardware of the WF 470

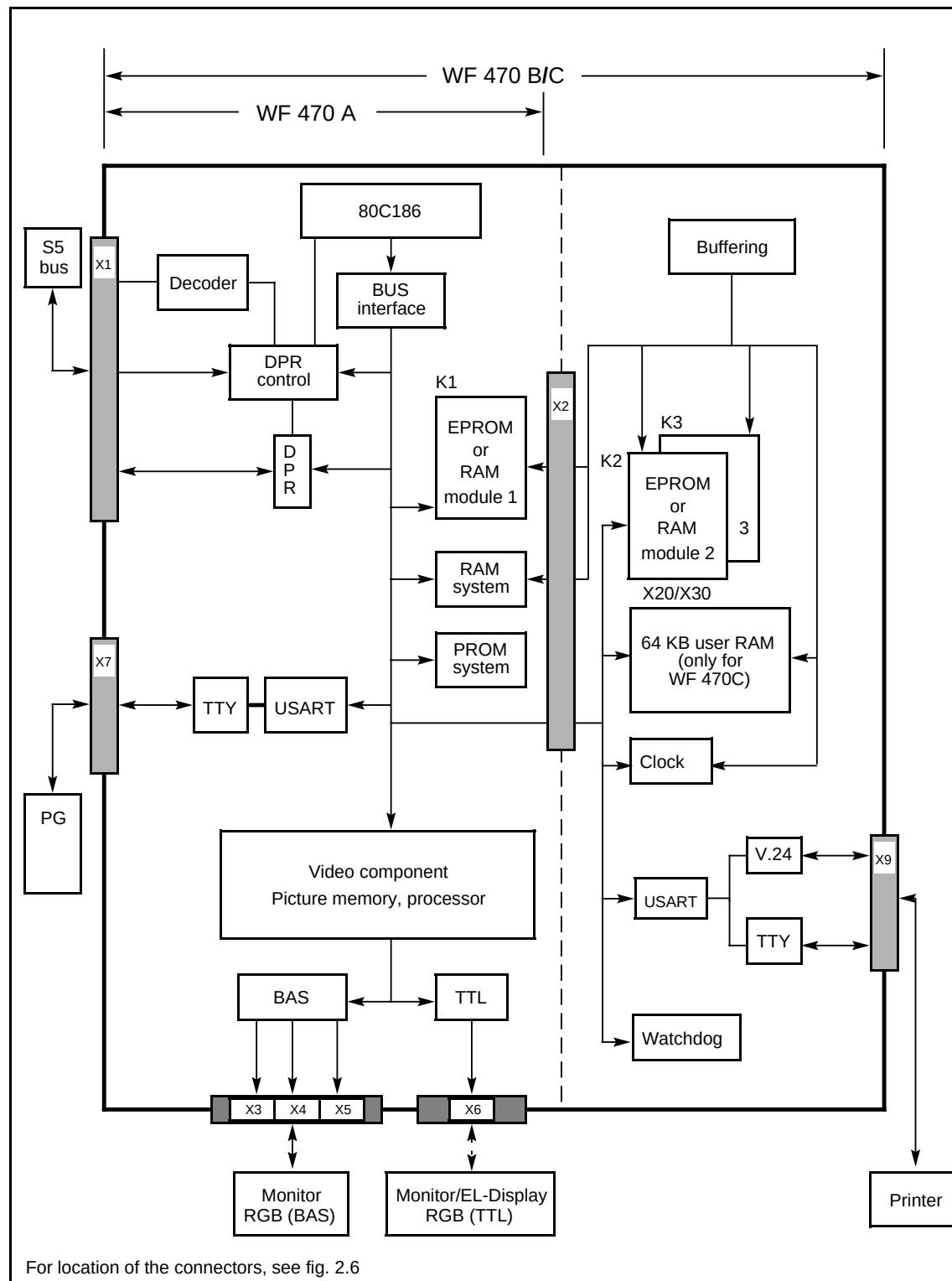


Fig. 2.4 Hardware of the WF 470A, WF 470B, WF 470C

Table 2.1 Technical data of the WF 470
(For order numbers 6FM1 470-xxx25, see Catalogue AR 10)

	WF 470A, WF 470B: monochrome and colour version WF 470C: colour version	
Microprocessor	INTEL 80C186 (12 MHz)	
Operating system	RMS real-time operating system	
Memory f. oper. software	256 Kbyte OTPROM memory card, 64 Kbyte internal RAM	
User memory RAM or EPROM modules	WF 470 A: 1 slot max. capacity 128 Kbyte	} for SIMATIC memory modules
	WF 470 B, C: 3 slots max. capacity 3 x 128 Kbyte The WF 470 C has an additional 64 Kbyte	
Timing	WF 470 A: Software clock	
	WF 470 B, C: Hardware clock (max. deviation 3 min./month)	
Interfaces for - Link with SIMATIC S5 - BAS output - TTL monitor output	via Dual-Port-RAM, 256 byte RGB, picture and line synchronous pulses; Sync. on green R, G, B, VSYNC, HSYNC	
Serial interface for PG	Yes	
SIMATIC S5 controllers	115U, 135U, 155U	
Power supply	via SIMATIC S5 bus; voltage level 5 V DC, 24 V external for active TTY interface.	
Current consumption (fully equipped)	WF 470 A: 1.3 A	} Low-power technology; can be operated without a fan
	WF 470 B, C: 1.8 A	
Dimension	Double-height Eurocard format	
Buffering battery	Lithium battery LS 12420 CNA, 3.5 V/800 mAh Ident No.: 10951586	
Operating temperature	0 to 55 °C	
Ambient temperature	– 40 to +70 °C (for storage and transport)	
Weight with packing	WF 470 A: 0.7 kg	
	WF 470 B, C: 1.0 kg	
Graphics	Resolution: 256 x 512 pixels, repeat frequency: 50 Hz	

2.4.2 WF 470 as a Peripheral Module

In this operating mode, the WF 470 can be plugged into a peripheral slot in the central unit (CU) or in the expansion unit (EU) (see section 2.5). Only expansion units which are linked to the central unit as follows are admitted:

Possible links via interface modules (IM)			Comments on the selected expansion unit
CU	First EU	Second EU	
IM 300 IM 301 IM 301	IM 312 IM 312 IM 310	IM 312 IM 312 IM 310	Digital/analog peripheral area (P area) or extended peripheral area (Q area)
IM 304	IM 314	IM 314	P or Q area. In addition, complete addresses (16 bits) are transferred by the link.

In an expansion unit which fulfils these conditions the WF 470 can be plugged into any peripheral place.



The WF 470 cannot be used in an expansion unit which is linked via AS 302 to AS 311. Consider the maximum current consumption.

The DPR is located in the analog area of the peripherals (peripheral bytes 128-255) or in the extended peripheral area (Q area).

DPR start address	DPR length (byte)
<i>PB 128 - 255 (analog area)</i> <i>QB 0 - 255 (Q area)</i> adjustable in increments of the DPR length	32, 64, 128 or 256



The WF 470 is not buffered in this operating mode via the SIMATIC S5 rack (WF 470B, C has its own buffering according to section 2.3).

A reduction of the DPR increases the data transfer time from the SIMATIC S5 to the WF 470. For that reason, choose the DPR length as long as possible.

The module should preferably be used in the central unit. If it is used as a peripheral module, the correct jumper setting depends on the CPU, the PLC, the expansion unit or the interface. This operating mode is therefore not recommended.