



# A6

## APPLICATION PROGRAM MEMORY MODULES, FP128 / FP384 - 128 / 384 KBYTE FLASH PROM

PLC SYSTEMS  
MULTICONTROL COMPONENTS

FP128 / FP384 - TYPE B - 128 / 384 KBYTE FLASH PROM



### FP128 / FP384

- FlashPROM Application Program Memory Module for Type B CPUs and Type B Parallel Processors
- 128/384 KByte FlashPROM for Max. 42 K Instructions, 34 KByte System Module and 52/308 KByte Application Data
- Programming and Deleting in Processor Module
- Write Protect Switch
- Programming LED

#### ORDER DATA

<b>ECFP128-0</b>	FlashPROM Application Program Memory Module, 128 KByte FlashPROM for Max. 42 K Instructions, 34 KByte System Module and 52 KByte Application Data
<b>ECFP128MP-0<sup>1)</sup></b>	Combination of Network Capable On-line Interface Module with Modem Interface and Application Program Memory Module (128 KByte FlashPROM for Max. 42 K Instructions, 34 KByte System Module and 52 KByte Application Data).
<b>ECFP384-0</b>	FlashPROM Application Program Memory Module, 384 KByte FlashPROM for Max. 42 K Instructions, 34 KByte System Module and 308 KByte Application Data

#### General Information

The technology used in FlashPROM memory is similar to that in EPROM memory. The main difference is that erasing the FlashPROM can be done in the processor module instead of with UV light as is the case with EPROM memory.

#### Application Data Memory

The FlashPROM memory has 52 KByte (FP128) or 308 KByte (FP384) data memory for the user. Programming this application memory is done from the application program, the same as erasing or comparing.

The FP128 module has a memory block of 128 KByte. Areas in memory cannot be deleted. The entire chip is always erased. If the application data area should be deleted, then the application program and the system module must also be reprogrammed because they are all in the same block.

The FP384 module is equipped with three memory blocks, each with 128 KBytes. You can erase a certain block without affecting the other two. The data in the second and third 128 KByte block can be deleted without affecting the application program or the system module. If the application data in the first 128 KByte block should be deleted, then the application program and the system module must be reprogrammed because they are in the same block.

<sup>1)</sup> The combination of network capable on-line interface module with modem interface and application program memory module is described in section A7 "PLC Programming / On-line Networks and Modem Diagnosis".

#### TECHNICAL DATA

#### FP128, FP384

Utilized with CPUs Peripheral Processors	CP60, CP70, NTCP6# PP60, PP60 MEM
Memory Capacity and Type	128/384 KByte Flash PROM
Programming	In the Processor Module with a Command From the Programming Device
Deleting	In the Processor Module
Security	Write Protect Switch as protection against Accidentally Overwriting a Program
Status LED	PGM LED (Programming Display)
Documentation German English French Italian Spanish	Hardware Manual MULTICONTROL MAHWMULTI-0 MAHWMULTI-E MAHWMULTI-F MAHWMULTI-I MAHWMULTI-S

#### Downloading an Application Program

When transferring an application program from a programming device to the processor module (RUN), this program is stored in the internal RAM of the processor module and started whether another program is stored in the FlashPROM module or not and even if a FlashPROM module doesn't exist.

#### Programming the Flash PROM Memory

By giving the "F1 PROGRAM" command from the PROM menu of the programming device, the processor module is abandoned in order to copy the application program from internal RAM to the FlashPROM module. During the FlashPROM programming, the programming LED is lit. After the programming procedure is finished, the write protect switch (WE/WP) is to be set to WP (Write Protected). This ensures that the program will not be accidentally overwritten.

#### Uninterrupted Application Program Transferal

An application program can be downloaded into the internal RAM of the processor module with the programming command "XFER" and without any influence on the program running in the FlashPROM module. The program in RAM and the one in the FlashPROM can be switched between with a command on the programming device. The switch is made synchronous to the program cycle.

#### Loading Application Programs from the FlashPROM Module

Application programs can be loaded back into the programming device from the FlashPROM. This can also be done when an application program is running. A program that is loaded back into the programming device from the FlashPROM module can be run again but no longer has any comments, ladder diagram pictures or symbol assignments.

#### Power-On Behavior

Since type B processor modules have internal RAM, no PROM module is required. If no FlashPROM is in the processor module when the system is powered on, then the program is tested and started in internal RAM.

If there is a FlashPROM module in the processor module, then it must contain a valid program. If the FlashPROM module is blank or if the program that is stored on it has an error, the processor module remains in HALT state and the status LED lights. CPUs with a status display also show an error number.