

SIEMENS

SIMATIC

S7-300

CPU 315F-2 DP, 6ES7315-6FF01-0AB0, Edition 01, as of firmware V2.0.1

Product Information

Introduction

This Product Information contains important information on 6ES7315-6FF01-0AB0. It is a separate component and should be considered more up-to-date than the information in the manuals and catalogs if uncertainties arise.

Validity of this Product Information

This Product Information is valid for CPU 315F-2 PN/DP with order number 6ES7315-6FF01-0AB0, as of hardware release 01 and as of firmware version V2.0.1.

In this document we describe the specifications for the CPU 315F-2 DP in comparison to CPU 315-2 DP. Information on the CPU 315-2 DP and the S7-300 is available in the documentation package 6ES7398-8FA10-8BA0 which you require in addition to this Product Information.

Areas of Application

CPU 315F-2 DP is mainly designed for personal and machine safety and burner controls. In addition to the safety program, you can also program standard applications.

You intend to use CPU 315F-2 DP for	then you require
Safety-related applications	STEP 7 as of version 5.1 + Service Pack 6 STEP 7 as of version 5.2 + Service Pack 1 + HSP 126 (for firmware as of V2.6.1) Optional package S7 Distributed Safety as of V 5.2
Standard applications	STEP 7 as of version 5.1 + Service Pack 6 STEP 7 as of version 5.2 + Service Pack 1 + HSP 126 (for firmware as of V2.6.1)

Overview of the extended functions of the CPU 315F-2 DP

Function	CPU 315-2 DP (6ES7315-2AG10-0AB0)	CPU 315F-2 DP (6ES7315-6FF01-0AB0)
Integrated Work Memory	128 Kbytes	192 Kbytes
Size I/O process image	128 Bytes/128 Bytes	384 Bytes/384 Bytes

Retentive behavior of DBs of the standard user program with CPU 315F-2 DP

The CPU 315F-2 DP provides you with 192 KB of work memory. You can use 128 KB of this work memory as data memory. If you exceed this amount by loading/generating additional DBs, this step is denied by the F-CPU with an error message.

Background:

Data blocks of safety program are not saved retentively. This means they are not included in the 128 KB of retentive data memory.

Special Handling of the "RAMtoROM" Function:

Data blocks of the safety program are not copied to the load memory by the work memory.

Startup protection for inconsistent safety program

The CPU 315F-2 DP in connection with safety programs which were created with S7 Distributed Safety as of V5.4 SP1, supports the detection of an inconsistent safety program. This means that the F-CPU detects an inconsistent safety program in the startup. The F-CPU then goes in Stop and the following diagnostic event is then entered in the diagnostic buffer of the F-CPU:

- "Inconsistent safety program"

Restrictions with SFC 22 "CREAT_DB", SFC 23 "DEL_DB" and SFC 82 "CREA_DBL"

F-DBs can neither be created nor deleted.

Restrictions with SFC 83 "READ_DBL" and SFC 84 "WRIT_DBL"

The target address may not point to an F-DB.

Restrictions when configuring the retentive behavior of data blocks

The configuration of retentive data blocks is not supported for F-DBs.

This means that the current values of the F-DBs will not be retentive in the event of Power OFF/ON and Restart (STOP-RUN) of the F-CPU. The F-DBs retain the initial values from the loading memory.

In the block properties of the F-DBs, the "Non-Retain" check box is activated and thus grayed out.

Probabilities of Failure

Below are the values for the CPU 315F-2 DP probabilities of failure:

	Operation in Low Demand Mode low demand mode (average probability of failure on demand)	Operation in High Demand or Continuous Mode high demand/continuous mode (probability of dangerous failure per hour)	Proof-test interval
F-compatible CPU 315F-2 DP 6ES7315-6FF01-0AB0	2.38 E-05	5.43E-10	10 years

Operation with Safety Protector 6ES7195-7KF00-0XA0

WARNING

The safety protector (order number 6ES7195-7KF00-0XA0, product version **01** and **02**) unlike other modules, must not be inserted in the same rack as the F-CPU. This restriction does not apply to safety protector product versions **03** and higher.

Delay of the user program in the case of station failure of the DP master

Please note the following when using the CPU 315F-2 DP as I-Slave: A station failure of the DP master (for example by line interruption of the PROFIBUS connection) can extend processing of the user program in the I-Slave due to error handling by up to 20 ms.

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