



**User Manual**

# **ABC-CPU Systems**

**Asynchronous balanced mode (CPU416/945, CPU416/948)**

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# **1. Asynchronous balanced mode (CPU416/945, CPU416/948)**

## **1.1 Introduction**

The ABC X-CPU-2 can be ordered in the asynchronous balanced mode S7/S5 variant. For an 115U system this is the ABC X-CPU-2 CPU416/945. For a 135/155U and 150U system this is the ABC X-CPU-2 CPU416/948. In the asynchronous balanced mode, S5 and S7 programs can be processed in one run.

## 1.2 Conventions

Functions	Description
UC FC 40000..40255	Calls up S5 component OB 0..255
UC FC 41000..41255	Calls up S5 component PB 0..255
UC FC 42000..42255	Calls up S5 component SB 0..255
UC FC 43000..43255	Calls up S5 component FB 0..255 (FB may not have parameters)
UC FC 44000..44255	Calls up S5 component FX 0..255 (FX may not have parameters)

Data components	Description
AUF DB 40000..40255	opens S5 component DB 0..255
AUF DB 41000..41255	opens S5 component DX 0..255

Marker	Description
z.B.: L MB 40000..40255	<p>The following operations can directly access the S5 marker area:</p> <ul style="list-style-type: none"> <li>- flank operations</li> <li>- loading/transfer operations</li> <li>- saving operations</li> <li>- linking operations</li> </ul> <p>MB 0...255, M0.0...M255.7</p>

S-Marker	Description
z.B.: T MB 41000..45095	<p>The following operations can directly access the S5 special marker area:</p> <ul style="list-style-type: none"> <li>- flank operations</li> <li>- loading/transfer operations</li> <li>- saving operations</li> <li>- linking operations</li> </ul> <p>SY 0...4095, S0.0...S4095.7</p>

Timer	Description
z.B.: SV T 40000..40255	<p>The following operations can directly access the S5 timer area:</p> <ul style="list-style-type: none"> <li>- time operations</li> </ul> <p>T 0..255</p>

Counters	Description
z.B.: S Z 40000..40255	<p>The following operations can directly access the S5 counter area:</p> <ul style="list-style-type: none"> <li>- counter operations</li> </ul> <p>T 0..255</p>

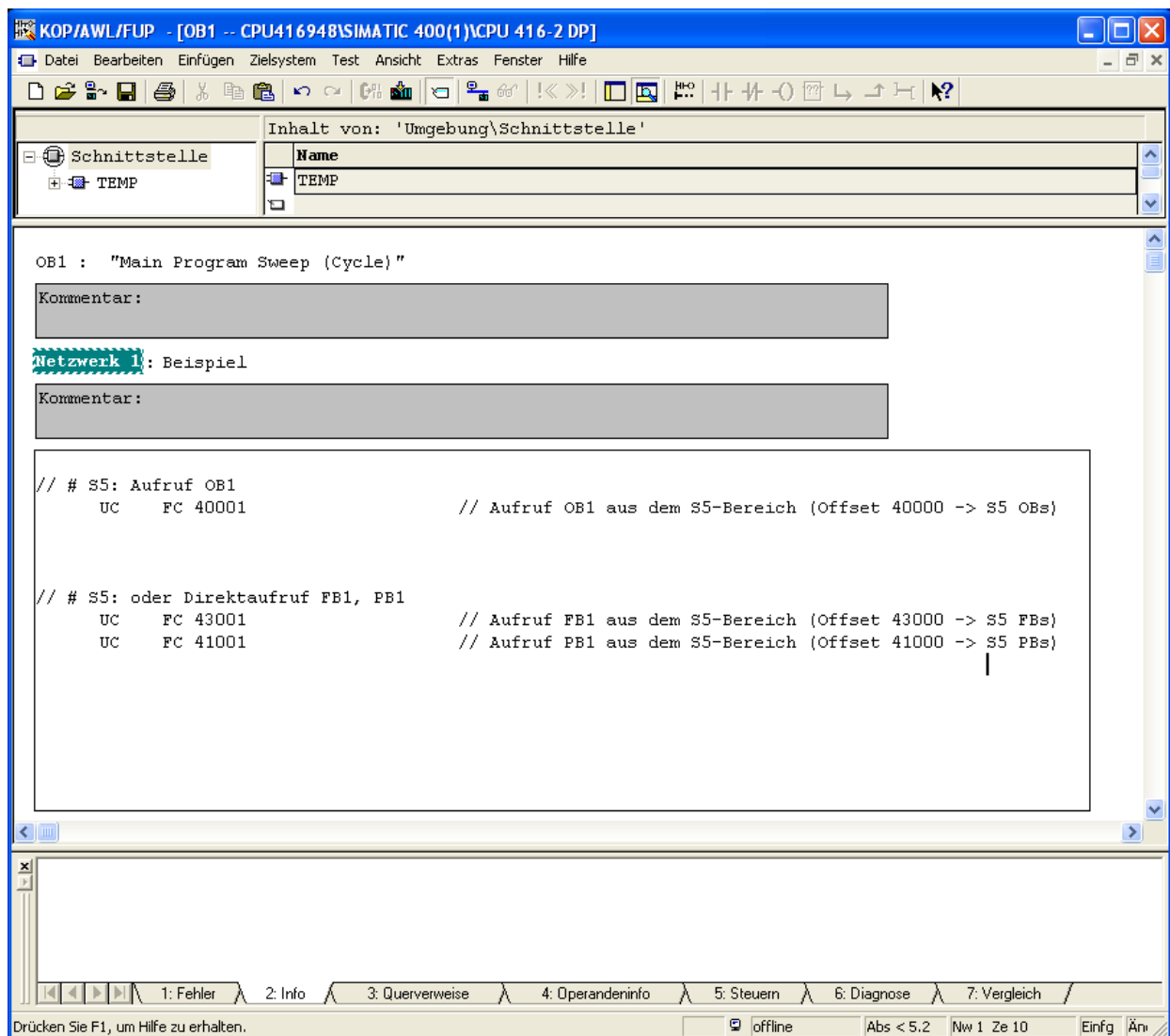
## 1.3 Call up S5 programs in S7 area

In the case of the ABC X-CPU-2 CPU416/945 and CPU416/948, it is primarily the S7 software that runs.

The S5 OBs (OB1, OB10..., OB20,...) are not called up in the asynchronous balanced mode. The corresponding call-ups: cyclical processing, wake-up alarms and start-up must be carried out from the S7 area.

You can find a template for the asynchronous balanced load in the samples. The samples are components of the delivery package or can be downloaded in the download area at [www.abcit.eu](http://www.abcit.eu).

S5 programs/components must be called up with special call-ups (see conventions).



## 1.4 Access to S5 data in the S7 area

Access in S7 to S5 data areas is realized with the Offset 40000 (see conventions).

