



如何判断电源故障 - 例如 电池故障?

▼显示订货号

- 6ES7810-4.. SIMATIC S7, STEP7 Vx.x
- 6ES7810-5.. SIMATIC S7, STEP7 PROF

描述:

如果事件出现是由电源故障 (仅对 S7-400) 或者缓冲区触发的, CPU 的操作系统会访问 OB81。错误被改正后, 会再次访问 OB81。在 S7-400 中只有 **BATT.INDIC** 开关被激活在电池监测时, 发生电池故障的情况下才会访问 OB81。如果 OB81 未编程, CPU 也不会转换为 STOP 方式。如果 OB81 不存在, 当电源故障产生时 CPU 会继续保持运行状态。

在示例程序中, 来自 OB81 的临时变量 "OB81_FLT_ID" 的数值用来判断电池故障。如果发生电池故障这个变量显示故障码 "22_{hex}"。通过查询比较, 如果条件满足 (电池故障), 标志位 M81.1 被接通。变量 "OB81_EV_CLASS" 表示可能发生的两种事件级别:

- B#16#39: 到来事件, 电池故障。
- B#16#38: 离去事件, 电池故障已经清除。

根据这个变量的数值置位或者复位标志位 M81.0。

OB81 : "Power Supply Fault"

```

Network 1: Error of Battery, incoming event
L   #OB81_FLT_ID           //Load the error code
L   B#16#22                 //Error code of missing voltage
==I
=   M   81.1                //Set flag for error of battery
L   #OB81_EV_CLASS         //Event class: outgoing, incoming
L   B#16#39                 //Inquiry of incoming event
==I
=   M   81.2                //Set flag of incoming event

U   M   81.1                //Flag of battery error
U   M   81.2                //Flag of incoming event
S   M   81.0                //Set flag for indication of error

Network 2: Battery OK, outgoing event

L   #OB81_EV_CLASS         //Event class: outgoing, incoming
L   B#16#38                 //Inquiry of outgoing event
==I
R   M   81.0                //Reset flag for indication of error

```

图 1: OB81 中的故障判断示例程序

在图 1 (OB81 例程) 标志位 M81.0 当标志位 M81.1 和 M81.2 的信号状态全是 "TRUE" (电源故障和到来事件)时被置位。当查询到事件级别 ID 是离去事件时标志位 M81.0 被复位。

注意:

上面所提到的程序只有 CPU 在实际运行时电池故障发生后才执行。如果电池故障发生在 STOP 模式下, 到来事件 (调用 OB81) 只有在 CPU 返回到 RUN 模式时才触发。如果电源被关断, 到来事件 (电池故障) 不会被触发。

关于 OB81 的更多信息可以参考 STEP 7 在线帮助中的 "Power supply failure OB (OB81)"。

重要事项:

示例程序是免费软件。每个用户都可以免费使用, 复制或转发该程序。程序的作者 and 拥有者对于该软件的功能性和兼容性不负任何责任。使用该软件的风险完全由用户自行承担。由于它是免费的, 所以



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Keywords:

异步错误 OB，错误 ID

条目号:19492329

日期:2008-03-14

How can you evaluate a power supply error - e.g. battery failure?

▼ [Display part number](#)

6ES7810-4.. SIMATIC S7, STEP7 Vx.x
6ES7810-5.. SIMATIC S7, STEP7 PROF

Instructions:

The operation system of the CPU accesses the OB81 if an event occurs that is triggered by an error in the power supply (only with S7-400) or by the buffering.

After correction of the error, the OB81 will be accessed again. In the case of a battery fault, the OB81 will only be accessed at the S7-400, if the **BATT.INDIC** switch is activated in the battery check. If the OB81 is not configured, the CPU will not go into the operating status STOP. If the OB81 is not available, the CPU will keep running when a power supply error occurs.

In the sample program, the temporary variable "OB81_FLT_ID" from OB81 is evaluated to determine a battery failure. In this case the variable contains the error code "22_{hex}". If, when querying a comparison, the condition is fulfilled (battery failure), then flag M81.1 is addressed. With the variable "OB81_EV_CLASS" it is possible to recognize two classes of event:

- B#16#39: incoming event, battery has failed.
- B#16#38: outgoing event, battery failure has been cleared.

Evaluation of these variables sets and resets the M81.0 flag.

OB81 : "Power Supply Fault"

Network 1: Error of Battery, incoming event

```

L   #OB81_FLT_ID      //Load the error code
L   B#16#22           //Error code of missing voltage
==I
=   M   81.1          //Set flag for error of battery
L   #OB81_EV_CLASS   //Event class: outgoing, incoming
L   B#16#39           //Inquiry of incoming event
==I
=   M   81.2          //Set flag of incoming event

U   M   81.1          //Flag of battery error
U   M   81.2          //Flag of incoming event
S   M   81.0          //Set flag for indication of error

```

Network 2: Battery OK, outgoing event

```

L   #OB81_EV_CLASS   //Event class: outgoing, incoming
L   B#16#38           //Inquiry of outgoing event
==I
R   M   81.0          //Reset flag for indication of error

```

Fig. 1: Sample program for error evaluation in OB81

In Fig. 1 (Sample program in OB81) flag M81.0 is set if flag 81.1 and flag M81.2 have signal status "TRUE" (power failure and incoming event). Flag M81.0 is reset when querying the ID is an outgoing event.

**Note:**

The program described above only works when the battery failure occurs when the CPU is actually running. If the battery failure occurs in STOP mode, the incoming event (call OB81) is only triggered when the CPU is back in RUN mode. If the power supply is switched off, the incoming event (battery failure) is not triggered.

More information on OB81 is available in the Online Help of STEP 7 under "Power supply failure OB (OB81)".

IMPORTANT

The sample program is freeware. Every user can use, copy or forward this program FREE OF CHARGE. The authors and owners of this program take no responsibility whatsoever for the functionality and compatibility of this software. Use of the software is entirely at the users own risk. Since this software is free of charge, there is **no warranty, no claim for error correction and no hotline support.**

Keywords:

Asynchronous error OB, Error ID

Entry ID:19492329

Date:2008-01-29