

SIEMENS

Add 7 AddFEM Sequence of Event

Manual

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SIEMENS

Add 7

**AddFEM SoE
Sequence of Event**

Manual

Preface

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A5E00075541X-05

Legal information

Warning notice system

This manual contains notices you have to observe in order to ensure your personal safety, as well as to prevent damage to property. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring only to property damage have no safety alert symbol. These notices shown below are graded according to the degree of danger.

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WARNING

indicates that death or severe personal injury **may** result if proper precautions are not taken.

CAUTION

indicates that minor personal injury can result if proper precautions are not taken.

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indicates that property damage can result if proper precautions are not taken.

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We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.

Preface

Product family Add 7

Add-on products of the Add 7 product family offer cost-effective solutions for the integration of demanding, high-performance applications in the field of process control and automation technology. They are based on long standing experience in the field of process control technology, and on comprehensive know-how of the current system generation 7 in the SIEMENS "Totally Integrated Automation" program.

As part of the Add 7 product family, the Front End Module AddFEM features a **Front-End Function SoE (FEF SoE)** meets the specific requirements of power plants with respect to logging states for the analysis of hazardous incidents. AddFEM SoE is dedicated to the ultra-precise, time-based logging of signal changes at the inputs. The module satisfies the demanding requirements of power plant and process control technology.

Further support

If you have any questions about the use of products described in this manual, and have not found the right answers there, please contact your SIEMENS partner at your local SIEMENS office and agencies.

CE Label



Our products meet the requirements of EC Directive 2004/108/EC "Electro-Magnetic Compatibility" and of harmonized European standards (EN) defined in those Directives.

You can view the EC Declaration of Conformity in the appendix. It is available to responsible authorities, according to the EC Directives mentioned earlier, at:

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Application

1

Section overview

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1.1 Classification and features

Add-on products of the Add 7 product family offer cost-effective solutions for the integration of demanding, high-performance applications in the field of process control and automation technology.

The Front End Module AddFEM SoE of the Add 7 product family is a tailored solution for special applications in power plant and process control technology, dedicated to ultra-precise acquisition of time-based signal changes, and thus provides essential data for logging the states of a power plant as a basis for the analysis of hazardous incidents, and for general logging.

AddFEM SoE features versatile options of technical combinations. It may be used in combination with SIMATIC S7 systems, or SPPA-T3000 systems, and is controlled by a host automation processor (SPPA-T3000 for example) via PROFIBUS DP bus system.

The basic functions of AddFEM are described in the manual of AddFEM [1]. The manual of AddFEM SoE describes the functionality of SoE only.

Signal IO

Signal IO of AddFEM SoE:

- 31 digital inputs (DI) of AddFEM (6DL3100-8AC), with time stamping.
Note: These are the 15 digital input channels 1 to 3 and 5 to 16 on connector X6 as well as the 16 channels on connector X7, which can be used as digital inputs 17 to 32 or alternatively as digital outputs 1 to 16. The use as digital input or output can be set individually for each channel.
- The additional 8 analog inputs and 12 analog outputs can be used as on AddFEM 6DL3100-8AC (see [1])

For the full technical specifications of the IO, refer to [1].

Resolution

The time stamp of digital signals has a real-time resolution of 1 ms.

PROFIBUS DP connection

AddFEM SoE features two PROFIBUS DP interfaces (DP A and DP B) operating in parallel, and thus supports the interconnection of redundant communications media. Process input data are always routed in parallel via both PROFIBUS DP interfaces. However, events are only reported at the active PROFIBUS DP interface.

In contrast, process output data are routed to the output pins via the currently active DP interface. Process output data at the currently passive DP interface are analyzed to monitor the process. The automation processor can determine the master / reserve state of both DP interfaces, i.e. the active or passive state of the DP interfaces with respect to output information.

Design

2

Section overview

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2.1 AddFEM SoE, design

The AddFEM SoE (6DL3100-8AC03) is based on AddFEM 6DL3100-8AC. The **Sequence of Event** (SoE) functionality is implemented as **Front-End-Function** (FEF) running on the coprocessor of AddFEM. This document is primarily a description of the SOE functionality.

For information about the layout of connecting elements, connection names and the basic technical specifications, refer to the manual for AddFEM 6DL3100-8AC [1].

3

Mode of operation

Section overview

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3.1 AddFEM SoE overview

The next section provides an overview of the function principle of event logging (Sequence of Event).

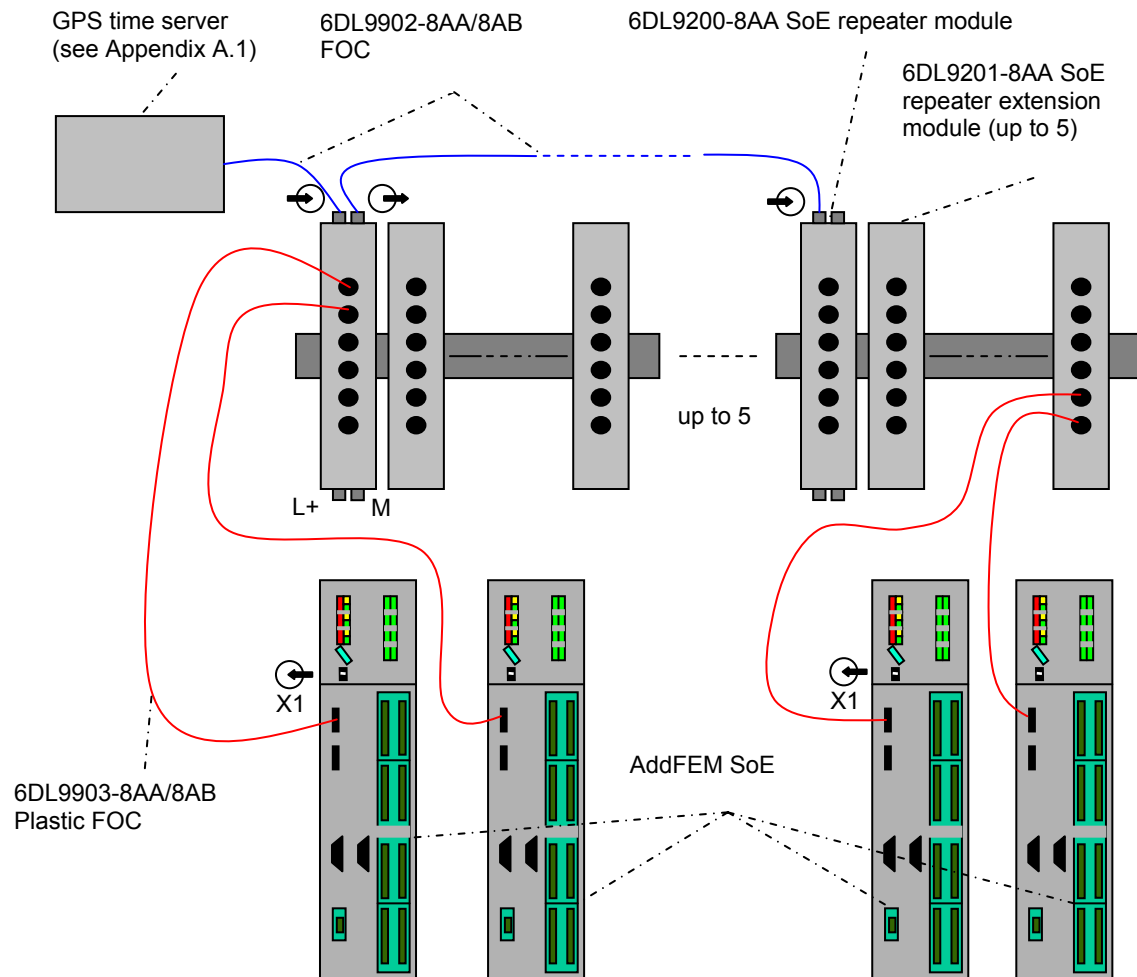


Fig. 3-1 System layout

Date and time

The GPS time server provides high-precision date and time data (GPS = Global Positioning System).

The module distributes the date / time information in parallel to the host systems and AddFEM modules.

The date / time information is output to the host systems via LAN.

Synchronization

When system startup (AddFEM) is completed, the system sets the default date/time 1.1.1984, 0:00:00.

As of FEF03 software revision 5, the date is set to 1.1.2012. The system synchronizes its date/time information with current data immediately after the first valid synchronization frame has been output.

Display of the synchronization status	As of FEF03 software revision 5, the synchronization status can be read from the LED display to facilitate commissioning, see section 5.2.
Synchronization protocol	The system uses synchronization protocol DCF77-Clock. AddFEM uses the service interface (front connector X1, pin , plastic fiber optic cable) as signal input for this function.
Transfer medium	Fiber optic cables are used as medium for data transfer between the GPS time server and AddFEM modules. Maximum length of fiber optic cables: 1000 m (between GPS time server and SoE repeater module, or SoE repeater module <-> SoE repeater module.)

3.2 SoE repeater

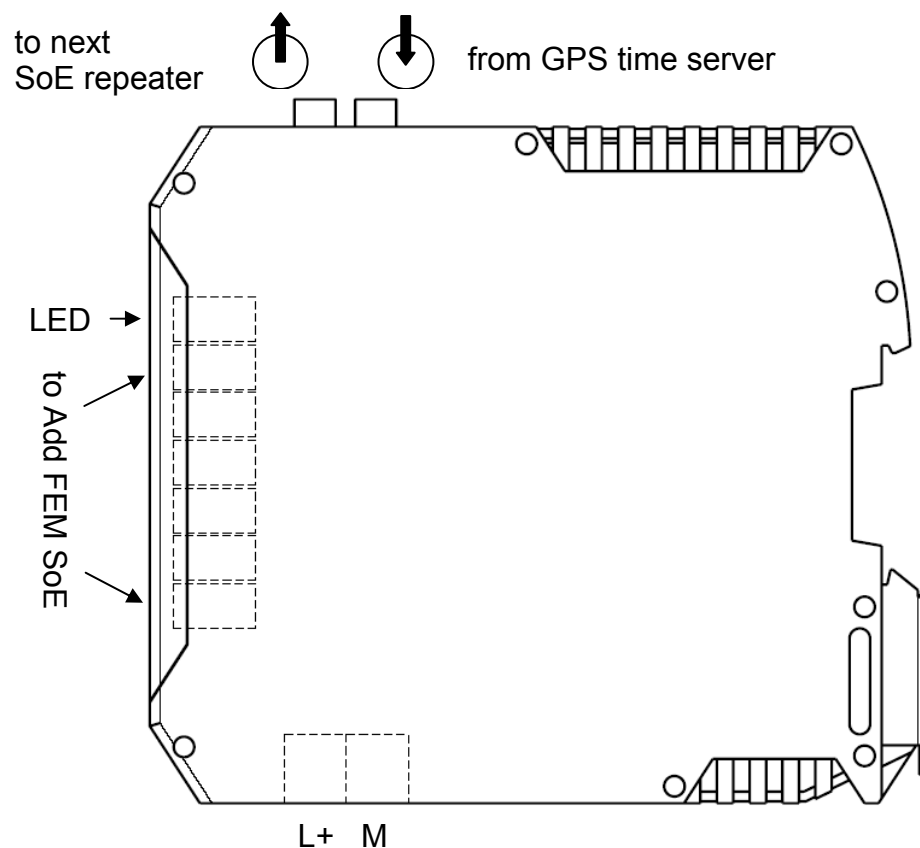


Fig. 3-2 SoE repeater module

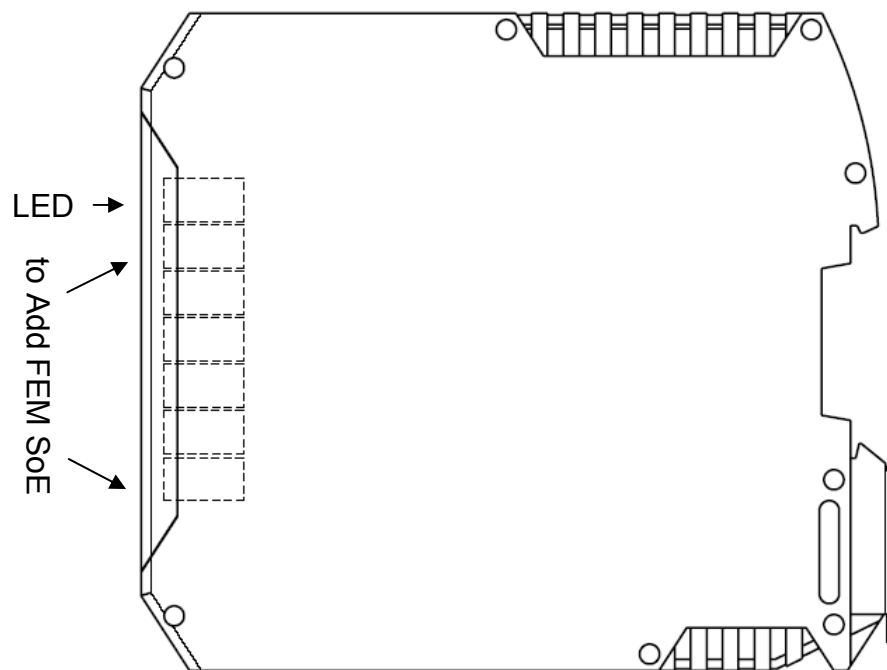


Fig. 3-3 SoE repeater extension module

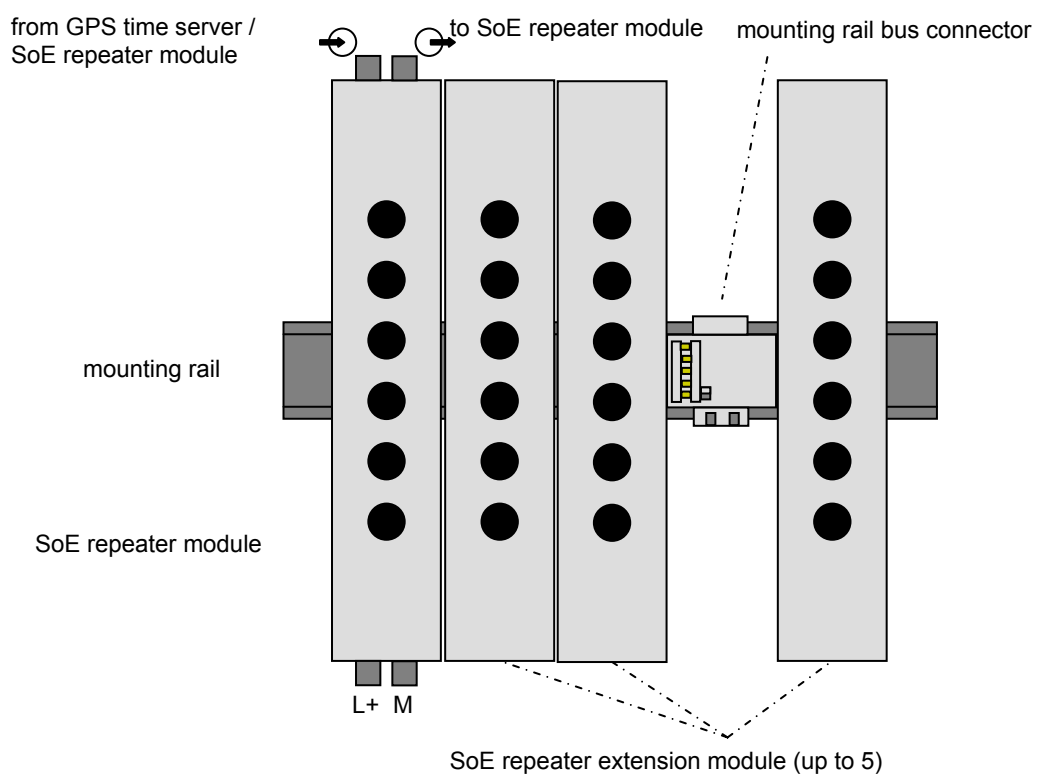


Fig. 3-4 SoE repeater layout

SoE repeater module	The SoE repeater module is required for local signal distribution, the adaptation of media (FOC -> plastic FOC), and for signal inversion. SoE repeater modules can be cascaded, i.e. up to 5 units may be interconnected in series. Up to six AddFEMs can be connected to each SoE repeater module via plastic fiber optic cable (FOC). The AddFEM service interface X1 (pin ) is used as signal input. Fiber optic cables are used as transfer medium between the GPS time server and the SoE repeater module, in order to handle far distances between the GPS time server and AddFEM. The SoE repeater module is installed alongside with the AddFEM in the same electronic cabinet, and supplied with 24 V DC. The SoE repeater module does not contain any intelligent components. It inverts the logic of the input signals, and passes these to the outputs without any modification of their time-base. The SoE repeater and the extension modules are mounted on the mounting rail TH 35 – 7,5 EN 60 715 or TH 35 – 15 EN 60 715. The supply of SoE repeater extension modules is carried out by the SoE repeater module via a mounting rail bus connector.
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3.3 SoE functions

AddFEM configuration	AddFEM SoE (6DL3100-8AC03) modules support redundant or non-redundant connections to a host system (SPPA-T3000, for example) via PROFIBUS DP. AddFEM polls the signal state of transducers, and transfers these data cyclically to the host via PROFIBUS DP in standard data frames for loop control and control functions. AddFEM logs events, applies time stamps and manages events in parallel, and without any restriction in IO functionality. The overall complex of those add-on functions is formed by AddFEM SoE.
Event logging	AddFEM SoE logs signal transitions at a resolution of one ms. This is achieved by an ultra-precise control of the ("internal") AddFEM clocks. Logged events are assigned a precise time stamp, saved to an interim ring buffer by the Front End Function SoE, and are then read by the host in separate acyclic frames. All source events correctly sorted by time stamp are used to analyze hazardous incidents. The transfer of events with precise time stamping is not time-sensitive. Precise synchronization of all participating "clocks" of the overall system by the "clock source" is vital in achieving a correct, subsequent sequence of events.
Event Buffer	When the Event_Buffer stack is filled, or the time set at the "EVENT_BUF_TRANS_INTERVALL" parameter has expired, an alarm frame is output to the PROFIBUS master informing it of incoming alarms. The alarm transfer to the PROFIBUS master is initiated by the alarm mechanism according to [2].
Buffer overflow	A buffer overflow not to be expected in usual applications, because of the generous stack depth of 1800 events (messages). Buffer overflow is indicated by a corresponding event. When buffer overflow is detected, logging is stopped until the host has deleted entries to release stack memory.

Transfer of messages to the PROFIBUS master	Message transfer to the PROFIBUS master is based on the application of the process alarm mechanism. A process alarm reports incoming messages to the PB master. Finally, these messages are transferred on request by the PB master. Note: Any transferred events, or events (messages) fetched by the host, are concluded for SoE and are removed from the internal buffer.
Transfer of events	The internal time format of AddFEM and events are transferred to the host in compliance with the "PROFIBUS Guideline [2].
Reporting of Exception Events	Exception_Events are transferred as time-stamped alarms in an Event_Buffer block, including signal Trigger_Events, thus providing a complete time-based sequential log of signal Trigger_Events and Exception_Events. A complete Exception_Event always consist of two associated alarms ("incoming" and "outgoing".)

Exception Events**START_THE_PROCESS**

The beginning of the start information of signals to log is reported in Exception_Event with Subtype 1. The end of the last start information is reported in Exception_Event with Subtype 0.

All events time stamped between the start and end of this Exception_Event do not represent trigger events, but rather show the actual state of signals at the time of process startup.

AddFEM generates this information after all DPV1 parameters of SoE-FEF are set.

CLOCK_DIFFERENCE

The synchronization time and the time of the internal clock were offset by more than 1 ms during time stamping. The full information always consists of two successive Exception_Event data records.

Subtype 1: Time_Value = time of the internal clock

Subtype 0: Time_Value = synchronization time

The internal clock is corrected to the Time_Value of Exception_Event with Subtype 0.

BUFFER_OVERFLOW

When all Event_Buffers are filled, the Exception_Event with Subtype 1 will be saved as last data record to the Event_Buffer block. This event with Subtype 0 will be entered immediately at the beginning of the next released Event_Buffer block.

The system does not generate any time stamps in between those two events, and all events will be lost.

SOE_SIGN_OF_LIVE

Life-sign monitoring of SoE functionality. The FEF-SoE generates this Exception_Event if no events are logged within the life-sign interval.

Subtype 1: Time_Value = time of the internal clock

Subtype 0: Time_Value = synchronization time

SYNC_FAILURE

The system reports synchronization failure if no clock pulse is detected. This does not immediately affect the accuracy of the internal clock.

Note: The time stamp bit Synch_Status = 1 (invalid time stamp) will only be set if the system does not detect a clock pulse within an interval of 3 minutes.

Subtype 1: Synchronization failure

Subtype 0: Synchronization is active again

FLUTTER_SUPPRESS

The system generates this channel-specific alarm if flutter suppression is enabled for this channel at the FL_MON_ON parameter, and the flutter monitoring function of this channel has responded.

Subtype 1: Flutter suppression is active

Subtype 0: Flutter suppression is passive

Channel-oriented logging of signal changes

Precise logging of the time of change, including time stamping. The signals of digital inputs are logged based on the pattern of the base cycle of AddFEM, i.e. simultaneous logging of 15 digital inputs (DI) plus 16 combined digital inputs / outputs, a total of 31 signals.

Cyclic process image	The process image contains the raw data of measured values of all active analog and binary inputs. Data of the module's user data range are transferred cyclically to the PROFIBUS master of the host systems, where these can be read by a user program. The module's algorithm for logging measured values writes the raw data of measured values cyclically to the process image of inputs. The function always performs this cyclic update, irrespective of the use of other functions. Events are generated and managed in parallel to other processes.
IO mode	Module operation in this mode is dedicated to high-speed, cyclic acquisition and output of binary and analog signals.
SoE mode	This mode expands the task scope of the module by logging the time stamp of binary input signals at an accuracy of 1 ms, buffering these data and their transfer to the host system. Mixed IO / SoE mode is also possible, i.e. it is not necessarily required to process all signals in SoE mode.
Flutter suppression	The flutter suppression function detects abnormal signal profiles in the process, such as the frequent fluctuation (bounce) of input signals between "0" and "1" state. Flutter suppression can be programmed for all digital inputs.

The diagram below demonstrates the principle of flutter suppression.

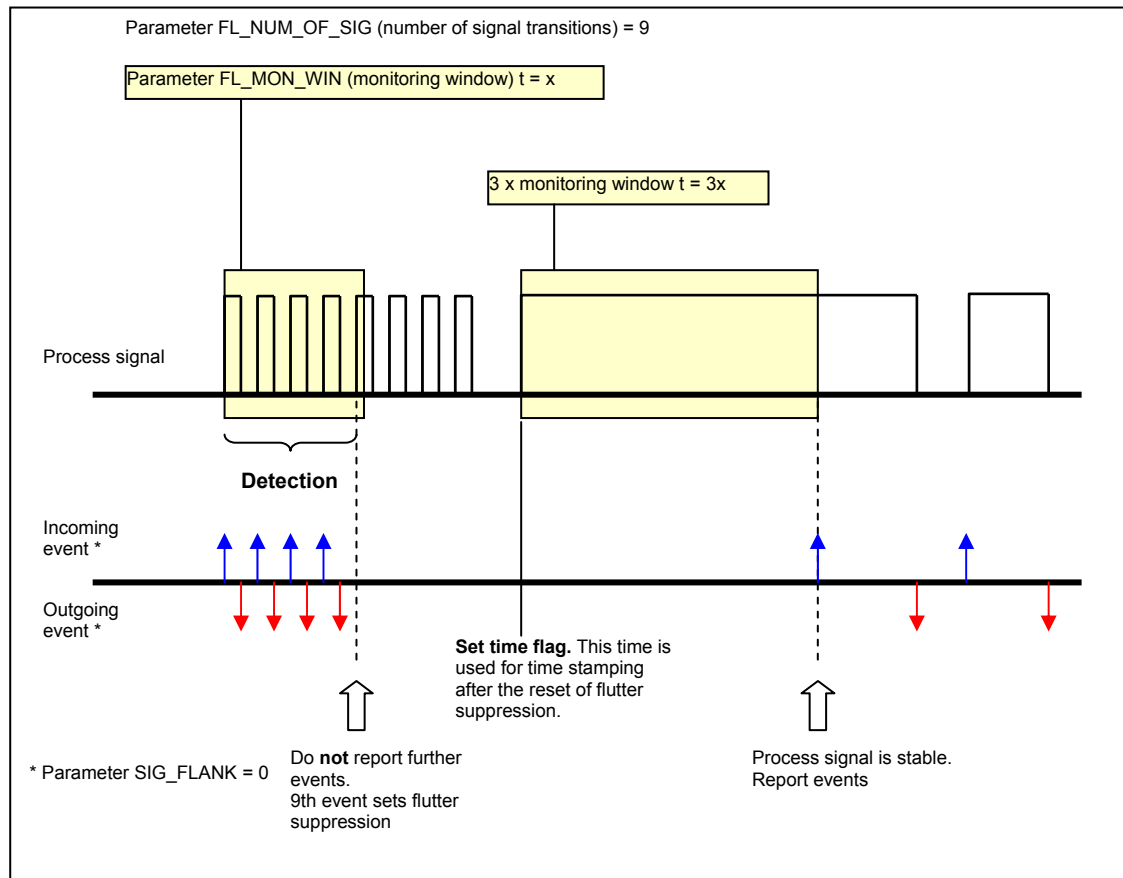


Fig. 3-5 Principle of flutter suppression

- Trigger condition:
The configured number of signal transitions equals the number process signal transitions within the programmed monitoring time. After it has expired, the monitoring time is retriggered at the next signal transition.
- Reset condition:
Flutter suppression will be reset if no signal transition is detected within 3 x monitoring time.
- Error message:
Exception_Event FLUTTER_SUPPRESS (group message) reports the time of the start and end of flutter suppression.

3.4 Operating modes

System configurations

AddFEM SoE may be configured for operation in stand-alone mode on one, or in redundant mode on two PROFIBUS DP connections. The module supports two different operating modes.

Mode 0

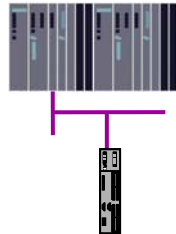


Fig. 3-1 Mode 0

- Stand-alone host
- Stand-alone AddFEM SoE
- PROFIBUS DP connection only at PROFIBUS DP interface X3A

Mode 1

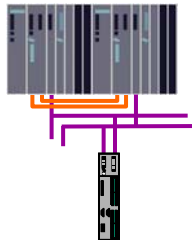


Fig. 3-2 Mode 1

- Redundant host
- Stand-alone AddFEM SoE
- PROFIBUS DP connections at PROFIBUS DP interface X3A and PROFIBUS DP interface X3B

3.5 AddFEM SoE redundancy functions

Redundant PROFIBUS DP interfaces

Mode 1 (see above) represents a redundant connection between the host and AddFEM at two PROFIBUS connections. The PROFIBUS DP interfaces X3A and X3B are always homogeneous.

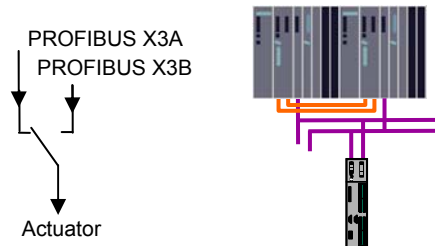


Fig. 3-3 Redundant PROFIBUS DP connection

Data are transferred in parallel between

AddFEM and the AS 400 at both PROFIBUS connections.

Events are reported to the AS only at the active PROFIBUS.

Analog outputs of AddFEM only accept one of two output data records received in parallel at the PROFIBUS interfaces, i.e. incoming data at PROFIBUS interface X3A or X3B, and then pass these to the outputs, and thus to the actuator.

4

Technical specifications

Section overview

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4.1 Technical specifications

General data	
Basic hardware	See the technical specifications in the operating instructions for AddFEM 6DL3100-8AC on which AddFEM SoE is based.
Number of SoE channels for AddFEM SoE	31 binary inputs - Digital inputs: Channels 1 to 3 and 5 to 16 (connector X 6) - Digital inputs/outputs: Channels 17 to 32 (connector X7)
Processing	SoE functions are processed on the coprocessor of AddFEM, in parallel to the functions for signal logging and data exchange on PROFIBUS DP handled by the master processor of AddFEM.
Cycle time	All 31 binary input channels are processed cyclically and in parallel within a permanently set cycle time of 0.666 ms.
Reaction time	An additional execution time for data exchange between both processors plus signal preparation times are added to the cyclic processing time at the 31 input channels. The cumulated time required to make alarm data available on the host is also determined by the transfer interval time and alarm execution time set at the host (data transfer mechanism.)
Remaining resources	Minimum resources available to other functions in parallel to the SoE function in a full configuration with 31 binary input channels: Analog inputs (AI): 12 Analog outputs (AO): 8 Digital inputs (DI): - Digital outputs (DO): - Counters (FI): -
Real-time resolution of high-speed, reliable signal logging	1 ms
Accuracy of high-speed, reliable signal logging	1 ms
Maximum drift of the internal clock within 20 s	1 ms
Maximum event buffer capacity (alarms)	1800
Maximum number of single events available in the event buffer	17
Data structure of event buffers	Event data structures according to [2]
Response time to read request (DP_Read.req)	
Average time	1.5 ms
maximum time	3 ms

Table 4-1 General technical specifications

SoE repeater module	
Dimensions (height x width x depth)	99 x 107 x 22,6
Input voltage	
Nominal value	24 V DC
Valid range	19 to 30 V DC
Nominal input current	
Repeater module supply	50 mA
Repeater extension module supply	35 mA
Repeater module + 5 extension modules supply	225 mA
Overriding of power failures	At least 10 ms (at input voltage 19 to 30 V DC)
Power dissipation	
Repeater module	1,2 W
Per repeater extension module	0.85 W
Repeater module supply fuse	F1A (internal as protection against damage, cannot be replaced)
Maximum number of repeater extension modules per repeater module	5
Maximum cascading of repeater modules	5
Number of connectable AddFEMs per repeater module	6
Repeater modules are mounted on mounting rail	TH 35 – 7.5 EN 60715 1mm thick TH 35 – 15 similar EN 60715 1.5mm thick

Table 4-2 SoE repeater module data

Commissioning, operation, maintenance

5

Section overview

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5.1 Installation of the AddFEM SoE

For installation and operating instructions, refer to the AddFEM manual for 6DL3100-8AC [1].

5.2 Error indicators of the AddFEM SoE

The general LED indicators relating to startup and operating states are the same as those described in the manual for 6DL3100-8AC [1].

As of FEF03 software version 05 (cross on the front FEF03-label), AddFEM SoE additionally features a display for the synchronization status.

This can be used for commissioning to check whether the optical synchronization pulse of the GPS time server typically sent every minute is fed correctly to the AddFEM.

On AddFEM LED USR 1, the quality of the received light pulse is shown as follows.

LED	Status	Display	Meaning
USR1	Quality of synchronization pulse	INTF DISO EXTf USR1 BUSF1 SSA BUSF2 USR2 RED RES STOP RUN	LED flashes in synch with the incoming pulse (by the second): The incoming optical pulses from the GPS time server are error-free and synchronization is possible. LED flickers (8 Hz): Pulses are arriving, but they cannot be decoded without error. Possible cause: Bad signal quality or no DFC77 encoding LED is off: The AddFEM detects no light pulse Possible cause: Defect in optical receiver of AddFEM or fault in the optical transmission route between GPS time server and AddFEM.

Caution: If you want to check the light pulse on the fiber optic cable 6DL9903-8AA/8AB that is plugged into the AddFEM, please do not look directly into the open end of the cable after disconnecting it from the AddFEM, because the pulse of light sent by the SoE repeater module is very bright.

5.3 Accessories for the AddFEM SoE

Description	Order no.
SoE repeater module including mounting rail bus connector	6DL9200-8AA
SoE repeater extension module including mounting rail bus connector	6DL9201-8AA
FOC GPS time server – > SoE repeater module	6DL9902-8AA 15 m 6DL9902-8AB 25 m
FOC SoE repeater → AddFEM SoE (Plastic FOC)	6DL9903-8AA 1,5 m 6DL9903-8AB 2,5 m

Standard accessories such as the connector set are described in the AddFEM manual for 6DL3100-8AC [1].

5.4 Configuration of the AddFEM SoE

The Front-End Function SoE is configured based on GSD sources, using an appropriate engineering tool, such as HW Config. The GSD files "SiT580A3.GS?" or "SiT680A3.GS?" can be used to configure the SoE function. For further information about GSD files, refer to "readme.pdf" on the current AddFEM CD.

The SoE function is always programmed with the help of DPV1 services. Data records for the parameter set are transferred to AddFEM by means of write requests.

Each AddFEM supports the implementation of up to 31 binary SoE or high-speed IO channels.

The SoE channels should be enabled separately. A default order of procedures is not defined. Although channel operation as SoE input should preferably be enabled at system startup, the function may also be modified in online mode.

Configuration data not only define the monitored binary inputs, but also the signal edges (0 -> 1 or 1 -> 0) to be reported as "incoming" or "outgoing" event. The signal edge to evaluate is configured channel-specific to PROFIBUS standard.

Parameters of general SoE functionality		
Name	Description	Default
EVENT_BUF_TRANS_INTERVALL	Interval for transferring data from the partially filled event buffer (less than 17 events in the stack.) A buffer transfer is not initiated if the stack does not contain any events. Resolution 10 ms Adjustment range: 10 ms – 655.35 s (adjustable in steps of 10 ms) 0 = function disabled, no transfer of partially filled event buffer.	0
SOE_SIGN_OF_LIVE_INTERVALL	Interval within which the SoE function generates and reports a life-sign exception event. Resolution 10 ms Adjustment range: 10 ms – 655.35 s (adjustable in steps of 10 ms) 0 = function disabled, no transfer of life-sign events.	0
EVENT_NR	Max. number of events for intermediate storage in the internal buffer. The system reports Exception_Event BUFFER_OVERFLOW when this limit is reached. Adjustment range: 1 – 1800	64

Table 5-1 Parameters of general SoE functionality

Parameters of digital inputs (channel-specific)		
Name	Description	Default
SOE_CTRL_ON	Toggles between standard and SoE functions 0 = standard function 1 = SoE functionality	0
SOE_SIGFLANK	0 = Signal transition 0 -> 1 = incoming Signal transition 1 -> 0 = outgoing 1 = Signal transition 0 -> 1 = outgoing Signal transition 1 -> 0 = incoming Note: The incoming/outgoing event trigger is saved to the data record for Delta_Trigger_Discrete_Events.	0
FL_MON_ON	Flutter monitoring on 0 = flutter suppression off 1 = flutter suppression on	0
FL_NUM_OF_SIG	Flutter suppression: number of signal changes Adjustment range: 2 to 255	5
FL_MON_WIN	Flutter suppression: monitoring window Resolution 10 ms Adjustment range: 10 ms – 655.35 s (in steps of 10 ms)	10 s

Table 5-2 Parameters of digital inputs (channel-specific)

Appendix

A

A.1 Information on the GPS time server

A GPS time server can, for example, be built from the following components supplied by the HOPF company:

- GPS satellite clock, e.g. type 6842
- Fiber-optic converter card type 7247 for instantaneous optical coupling of the satellite clock with SoE repeater module 6DL9200-8AA
- LAN board type 7270 for coupling the satellite clock to Simatic CPUs via LAN

For details see <http://www.hopf.com/>

A.2 References

- [1] Add 7 AddFEM (Front End Module) Manual A5E00075541C-06
[2] PROFIBUS-Guideline "Time Stamp" Version 1.0 July 2001, Order No. 2.192

A.3 Terms and abbreviations

AddFEM	AddFEM, order no. 6DL3100-8AC
AddFEM SoE	AddFEM SoE, order no. 6DL3100-8AC03
AI	A nalog I nput, analog input of AddFEM
AO	A nalog O utput, analog output of AddFEM
DI	D igital I nput, digital input of AddFEM
DO	D igital O utput, digit output of AddFEM
DP	D istributed P eripherals, distributed IO
FEM	F ront- E nd M odule
FEF	F ront- E nd F unction
FEPROM	F lash E PROM, read-only memory for program code
GSD	Device database file (PROFIBUS DP)
IO	I nput/ O utput
FOC	F iber O ptic C able
Mbps	Transmission speed in M egabit p er s econd
PDM	SIMATIC PDM: P rocess D evice M anager
RMS	R oot M ean S quare value
S7	SIMATIC product
µs	Microseconds

A.4 EC Declaration of Conformity

SIEMENS

EG-Konformitätserklärung EC Declaration of Conformity

No. A5E00047256H DS02

Hersteller,
Manufacturer: Siemens AG, Industry, Industry Automation (I IA)
Anschrift,
Address: Würzburger Str. 121, D-90766 Fürth

Produkt-
bezeichnung: AddFEM 6DL3100-8Axxx.....
(Komponenten siehe Anhang)
Product
description (components refer to annex).....
.....

Das bezeichnete Produkt stimmt in der von uns in Verkehr gebrachten Ausführung mit den Vorschriften folgender Europäischer Richtlinien überein:
The product described above in the form as delivered is in conformity with the provisions of the following European Directives:

2004/108/EG Richtlinie des Rates zur Angleichung der Rechtsvorschriften der Mitgliedstaaten über die elektromagnetische Verträglichkeit

Council Directive on the approximation of the laws of the Member States relating to electromagnetic compatibility

Die Konformität mit den Richtlinien wird nachgewiesen durch die Einhaltung folgender Normen:
Conformity to the Directives is assured through the application of the following standards:

Referenznummer Reference number	Ausgabedatum Edition	Referenznummer Reference number	Ausgabedatum Edition
EN 61000-6-2	2005.....	EN 61000-6-4	2007
.....			

Fürth, den / the 20.05.2011

Siemens Aktiengesellschaft

Dr. Ralf Michael Wagner
Head I IA CE SE

Name, Funktion
Name, function

Unterschrift
signature

Klaus Indefrey
Head I IA CE SE R&D

Name, Funktion
Name, function

Unterschrift
signature

Diese Erklärung bescheinigt die Übereinstimmung mit den genannten Richtlinien, ist jedoch keine Beschaffenheits- oder Haltbarkeitsgarantie nach §443 BGB.
Die Sicherheitshinweise der mitgelieferten Produktdokumentation sind zu beachten.
This declaration certifies the conformity to the specified directives but contains no assurance of properties. The safety documentation accompanying the product shall be considered in detail.

Siemens Aktiengesellschaft: Chairman of the Supervisory Board: Gerhard Cromme; Managing Board: Peter Loescher, Chairman, President and Chief Executive Officer; Roland Busch, Brigitte Ederer, Klaus Helmrich, Joe Kaeser, Barbara Kux, Hermann Requardt, Siegfried Russwurm, Peter Y. Solmsen, Michael Suess;
Registered offices: Berlin and Munich, Germany; Commercial registries: Berlin Charlottenburg, HRB 12300, Munich, HRB 6684; WEEE-Reg.-No. DE 23891322



Anhang zur EG-Konformitätserklärung Annex to EC Declaration of Conformity

No. A5E00047256H DS02

Die Produktfamilie AddFEM 6DL3100-8Axxx, für die die CE-Kennzeichnung gilt, besteht aus folgenden Komponenten:

The AddFEM product family to which the CE marking applies with respect to 2004/108/EC consists of the following components:

6DL3100-8AA	AddFEM
6DL3100-8AB	AddFEM
6DL3100-8AC	AddFEM
6DL3100-8AC02	AddFEM PoCo
6DL3100-8AC03	AddFEM SoE
6DL3100-8AC04	AddFEM FSO
6DL3100-8AC05	AddFEM PoCo Plus

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