

Shift Book

Information Management



What is the primary purpose of an electronic shift book?

During the operation of a plant, a large number of events occur that need to be documented. In addition, operators have to document what actions are being performed. This documentation is obligatory in many plants. In the past, this was usually done in paper form.

Retrieval of information about past events was rather time-consuming — an analysis of the information for optimizing the operation, the workflow or the safety measures nearly impossible.

Electronic shift books or operation journals can bring about substantial savings.



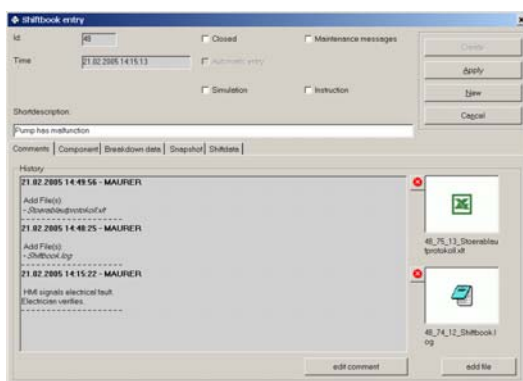
Functions offered by the shift book

- Recording of manual shift book entries
- Generating automatic shift book entries which are initiated by process signals
- Diagnostic functions
- Transfer of maintenance-relevant shift book entries to the Maintenance Management System
- Statistical reports
- Distributing reports by e-mail
- Shift handover logs
- Simulation and to-do lists

Recording of shift book entries

Users with the necessary access rights can create new shift messages manually. The messages are automatically allocated to the ongoing shift. In addition to formatable text entries, it is possible to link certain documents to an entry and have them displayed. The use of text modules (e.g. working instructions) saves time, especially in the case of lengthy descriptions.

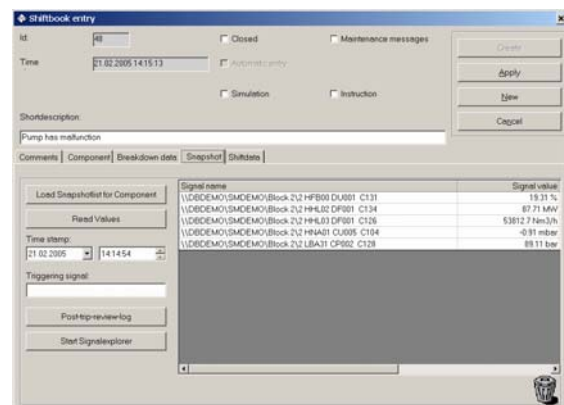
Components can be selected from a hierarchically structured object catalog. The system also offers damage and root-cause catalogs. These catalogs help users to evaluate the shift messages statistically.



If a Plant Information Management System provides a link to the process, further process values from the time of the event can be retrieved. A signal list (snapshot) can be generated for each message. The values are read directly from the archive of the information management system for further fault analysis.

Generation of automatic shift book entries initiated by process signals

Many shift book entries are made on the basis of information (e.g. disturbance messages) the shift supervisor receives from the operating and monitoring systems. Having analyzed the information, he creates a shift book entry where he manually adds the relevant measuring data and the component concerned. The shift book program automates this time-consuming procedure. Each component can be assigned certain binary signals that automatically generate a shift book entry in the case of an event. Every logical combination can be supplemented by a specific message text and a snapshot list.



Diagnostic functions

The post trip log is an important tool for fault diagnostics. A post trip log is generated automatically on the basis of the configured snapshot lists. MS Excel serves as the platform for this log. The Excel template for the log can be easily adapted to customer-specific requests.

By default, this log indicates the values measured during one hour before the event until half an hour after the event for each signal, at selectable intervals.

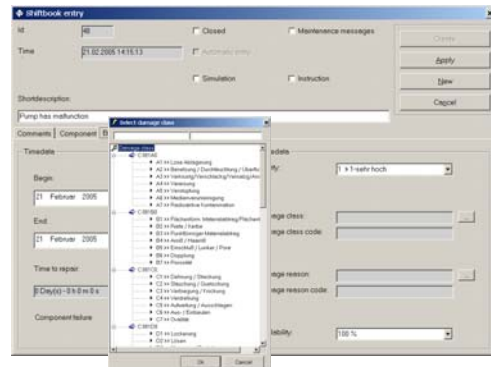
Zeitpunkt	1	2	3	4	5	6	7	8	9
11:44:39	98.980	181.758	0.000	196.294	0.000	87402.700	41.420	136.388	150.714
11:45:39	97.770	181.824	0.000	199.099	0.000	87010.100	40.436	130.716	147.176
11:46:39	96.512	181.300	0.906	196.667	0.000	87287.700	41.436	136.183	154.464
11:47:39	97.814	181.290	0.000	198.796	0.000	86448.000	41.400	136.989	151.026
11:48:39	96.576	180.954	0.907	196.962	0.000	87191.200	41.366	136.033	154.583
11:49:39	97.586	182.408	0.990	198.356	0.000	86543.100	40.521	139.024	154.923
11:50:39	96.422	180.620	0.909	196.330	0.000	87076.400	41.322	136.931	154.714
11:51:39	98.101	180.409	0.996	198.014	0.000	86668.600	40.561	139.112	152.777
11:52:39	96.590	180.307	0.991	196.607	0.000	86971.700	41.283	136.817	152.644
11:53:39	98.510	180.271	0.994	197.693	0.000	86789.600	40.636	139.237	152.610
11:54:39	96.220	179.953	0.993	197.664	0.000	86992.100	41.237	136.899	151.099
11:55:39	99.261	180.804	0.907	192.008	0.000	86763.700	41.430	138.640	149.820
11:56:39	99.849	180.820	0.963	192.294	0.000	87037.100	41.056	142.460	149.820
11:57:39	99.820	180.820	0.969	193.340	0.000	87040.800	40.410	142.749	149.820
11:58:39	98.680	179.944	0.920	194.136	0.000	86693.600	40.660	138.387	149.507
11:59:39	96.900	178.730	0.040	203.610	0.000	86616.200	40.340	137.710	146.200
12:00:39	96.900	178.730	0.040	204.460	0.000	86616.200	40.340	137.710	146.200
12:01:39	96.900	178.730	0.040	204.460	0.000	86616.200	40.340	137.710	146.200
12:02:39	96.900	178.730	0.040	204.460	0.000	86616.200	40.340	137.710	146.200

Transfer of maintenance-relevant shift book entries to the Maintenance Management System

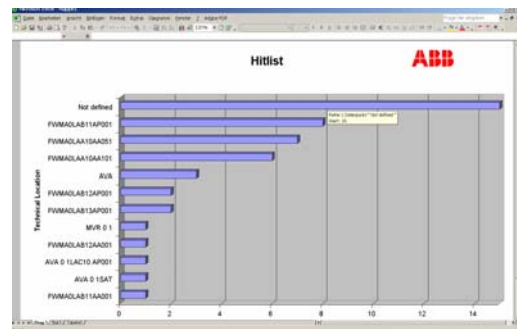
The contents of many shift book entries is relevant to the maintenance activities. In order to avoid double data input, a shift book entry can also be used to generate a maintenance request (message) in the maintenance system (SAP PM, API PRO).

In order to ensure data consistency in the shift book and in the maintenance system, the catalog data (object lists, damage catalogs, message types, etc.) are imported from the maintenance system into the shift book database.

Statistical reports



As compared to the paper version, electronic recording of shift messages offers the advantage that the messages can be analyzed statistically. The MS Excel application supports statistics over time or in the form of hit lists. The object of reference may either be components, damage classes, causes of damages, or priorities. Statistics can help identify weak points.



Distributing reports by e-mail

Any shift book entries can be selected and transmitted by e-mail. The contents of the shift book entries are imported into an MS Word document that is attached to the e-mail message. This way, the recipient does not need to have a special shift book software on his computer in order to read the entries.

Shift Book

Information Management

Shift handover

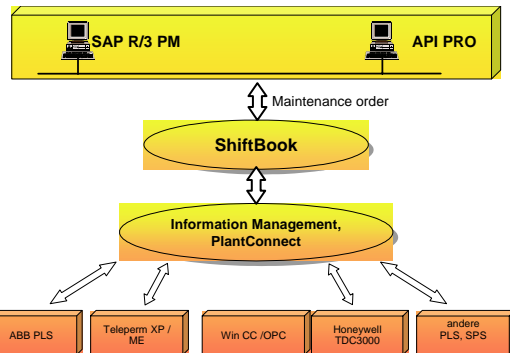
At the end of a shift, the shift handover to the next shift supervisor is recorded. After the shift handover, the shift book entries can no longer be changed. It is possible, however, to attach comments or change the "Pending" status. This way, manipulation of entries is prevented.

Upon shift handover, the operator can have a shift book entry generated automatically, describing the plant status along with the most important measured values.

Simulation and to-do lists

Shift book entries leading to a specific action can be marked as "Pending"; entries describing a simulation can be assigned the "Simulation" status. In special cross-shift views, all pending entries and simulations are listed. This way, all important messages are available to operators at a glance.

ID	Status	Date/Time	Description
45	8	11.02.2008 14:15:13	Druckmessung
46	8	11.02.2008 09:12:46	AE - Anemeter Ummantelung - Einträge auf
47	8	11.02.2008 09:12:46	AE - Anemeter Ummantelung - Einträge auf
48	8	11.02.2008 12:24:57	Messwertanaloge für die Ummantelung
49	8	11.02.2008 10:00:00	Control valve open in position closed
50	8	11.02.2008 08:54:22	AE - Anemeter Ummantelung - Einträge auf
51	8	11.02.2008 08:54:22	AE - Anemeter Ummantelung - Einträge auf
52	8	11.02.2008 08:54:22	AE - Anemeter Ummantelung - Einträge auf
53	8	11.02.2008 08:54:22	AE - Anemeter Ummantelung - Einträge auf
54	8	11.02.2008 08:54:22	AE - Anemeter Ummantelung - Einträge auf
55	8	11.02.2008 08:54:22	AE - Anemeter Ummantelung - Einträge auf
56	8	11.02.2008 08:54:22	AE - Anemeter Ummantelung - Einträge auf
57	8	11.02.2008 08:54:22	AE - Anemeter Ummantelung - Einträge auf
58	8	11.02.2008 08:54:22	AE - Anemeter Ummantelung - Einträge auf
59	8	11.02.2008 08:54:22	AE - Anemeter Ummantelung - Einträge auf
60	8	11.02.2008 08:54:22	AE - Anemeter Ummantelung - Einträge auf



Structure of the shift book system

Savings potential

- Replaces the paper version of the book
- To-do and simulation lists provide information about pending or outstanding work for shift handover
- The state of the plant (selected measured values) is documented automatically for shift handover
- Automatically generated entries save time when a disturbance is to be analyzed and a message needs to be created (snapshot of preconfigured signals)
- Catalogs are useful for evaluating the messages for diagnosis and optimization purposes
- Plant know-how can be collected and maintained in the form of text modules
- Maintenance-relevant entries can be transmitted to the maintenance system
- Automatically generated post trip logs facilitate fault diagnostics
- Reports reveal the weak points and opportunities for optimization



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