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- (81) **Designated States (unless otherwise indicated, for every kind of national protection available):** AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, **BR**, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, **HR**, HU, **ID**, IL, IN, IS, **JP**, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW
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9 October 2008



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(54) **Title:** PROCESS DATA STORAGE FOR PROCESS PLANT DIAGNOSTICS DEVELOPMENT

(57) **Abstract:** A number of techniques are disclosed to facilitate process data collection and monitoring. The techniques may involve and support the selection of process parameters to be monitored, including scanning techniques for automated identification of such parameters. The techniques may also involve the management of data storage and archiving operations to facilitate continued process data collection arising from an on-line process. In these and other ways, the disclosed techniques are well-suited for process data collection and monitoring in connection with diagnostic elements of a process control system and other contexts involving process status indicators and the underlying process variables.

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2007/019238

A. CLASSIFICATION OF SUBJECT MATTER INV. G05B15/02		
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED		
Minimum documentation searched (classification system followed by classification symbols) G05B		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and where practical search terms used)		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document with indication where appropriate of the relevant passages	Relevant to claim No
X	WO 02/06919 A (AEGIS ANALYTICAL CORP [US]) 24 January 2002 (2002-01-24) page 21, line 5 - page 23, line 2 -----	1, 2, 6, 13
X	US 2005/197803 A1 (ERYUREK EVREN [US] ET AL) 8 September 2005 (2005-09-08) paragraph [0106] - paragraph [0107] -----	1, 13
<input type="checkbox"/> Further documents are listed in the continuation of Box C		
<input checked="" type="checkbox"/> See patent family annex		
* Special categories of cited documents		
'A' document defining the general state of the art which is not considered to be of particular relevance	'T' ¹ later document published after the International filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention	
'E' ¹ earlier document but published on or after the international filing date	'X' document of particular relevance, the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone	
'L' document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	'Y'* document of particular relevance, the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents such combination being obvious to a person skilled in the art	
'O'* document referring to an oral disclosure, use, exhibition or other means	'&' document member of the same patent family	
'P' ¹ document published prior to the international filing date but later than the priority date claimed		
Date of the actual completion of the international search <div style="text-align: center; font-weight: bold;">8 April 2008</div>	Date of mailing of the international search report <div style="text-align: center;">17/07/2008</div>	
Name and mailing address of the ISA/ European Patent Office, P B 5318 Patentlaan 2 NL - 2280 HV Rijswijk Tel (+31-70) 340-2040, Tx 31 651 epo nl Fax (+31-70) 340-3016	Authorized officer <div style="text-align: center; font-weight: bold;">Kelperis, K</div>	

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2007/019238

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6 4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this international search report covers allsearchable claims.

2. As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.

3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. NO required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-16

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-16

A method of data storage for a plurality of process parameters indicative of operation of a process, the method comprising the steps of:
establishing communications with one or more data sources of process data for the plurality of process parameters;
collecting the process data for the plurality of process parameters; and, storing the collected process data in a set of data storage files; wherein each data storage file of the set of data storage files is arranged within a file hierarchy and dedicated to the process data collected during a specified time frame for a respective process parameter of the plurality of process parameters.

2. claims: 17-22

A method of storing process data for a plurality of process parameters indicative of operation of a process, the method comprising the steps of:
storing the process data in a memory buffer having a plurality of data arrays corresponding with the plurality of process parameters, respectively;
selecting sequentially a data array of the plurality of data arrays; and, writing the process data stored within the selected data array in a data storage file associated with the respective process parameter.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2007/019238

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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