



A Rockwell Automation Company

Millar Western Pulp Ltd. Sample of Genius I/O Configuration Reports

The Client:

Millar Western Pulp Ltd. opened the Whitecourt Plant as their first pulp mill in 1987. The plant provides 600 metric tons per day of softwood and softwood/hardwood blended pulp using a mechanical/chemical

pulping method. The mill has two main production lines to facilitate maintenance work and stabilize plant operation.

The Requirement:

The mill has over 800 GE Fanuc Genius I/O blocks and 40 Series Six Bus Controllers installed throughout the plant. Each block is individually configurable. The mill has about twenty electrical and instrumentation maintenance personnel on staff. The maintenance personnel are responsible for equipment changes, repairs, modifications to plant controls and associated configuration changes to the blocks. Sometimes a block configuration will be altered without maintenance records reflecting the changes. This happens especially when new members of the maintenance group have made modifications or if people are scrambling during a shutdown.

It was desirable to provide a method to extract the

block configurations throughout the plant, combine them in a conventional database structure, and generate some meaningful reports. This would require a maintenance person to use a GE Fanuc hand held monitor and manually connect to a bus and page through each block, copying down each configuration parameter. These reports would then need to provide a convenient structure to allow maintenance personnel to note additional blocks or configuration changes. It would be desirable to query the database specifically for unusual configurations and provide a "hot list" of suspect blocks for the maintenance personnel to check .

The Design Solution:

Hinz has developed some special application software to operate in conjunction with a GE Fanuc PCIM (Personal Computer Interface Module) to interrogate all the blocks on a Genius bus and download their configurations. The PCIM is a GE Fanuc product designed especially for direct connection to an operating Genius bus LAN. The application software was written specifically for the PCIM to gather Genius block configurations. This is connected to the Genius bus, just as the handheld monitor is connected, and the application program prompts for text descriptions of the PLC and bus names, then retrieves configuration information for all blocks that are on the bus. Then the configuration information for all blocks is downloaded and written to a database file in a few seconds. The connection is moved to the next bus and the process is

repeated for all Genius buses in the plant. All eleven mill PLCs and location reports were collected in about three hours. The various database files were merged into one large database and the following series of reports were generated:

- Block by Bus PLC Point Configuration Report
- Raw Data Block by Bus by PLC Report
- Point Configuration by Quantity Report
- Block Model & Firmware Report
- Suspect Block Configuration Interpretation and Recommendation
- Any GE Genius Bus Configuration



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Genius I/O System Configuration Report - Interpreted Data										
Location	Bus Config		Interpreted Model & Rev			Interpreted Point Configs (discretes only)				
	PLC	Sba	Addr	Part Number	Description	Rev	1	2	7	8
59PLC	0	0				0				
59PLC	1	1	IC660BBS100	Isolated 8 pt I/O 115V	2	O n	O n	O n	O n	
59PLC	2	9	IC660BBS100	Isolated 8 pt I/O 115V	2	O n	O n	O n	O n	
59PLC	3	17	IC660BBD100	Grouped 8 pt I/O 115VAC	18	I	I	I	I	
59PLC	4	25	IC660BBD100	Grouped 8 pt I/O 115VAC	18	I	I	I	I	
59PLC	5	33	IC660BBD100	Grouped 8 pt I/O 115VAC	18	I	I	O n	O n	
59PLC	6	41	IC660BBD100	Grouped 8 pt I/O 115VAC	18	O n	O n	I	I	
59PLC	7	49	IC660BBD100	Grouped 8 pt I/O 115VAC	18	O n	I	I	O n	

Point Configuration Distribution		
Type	Qty	Type (Interpretation)
1	2852	I
34	1065	O n
2	733	O
129	241	I
162	230	O n
42	153	O hn
38	96	O on
37	80	I
166	53	O on
10	45	O hn
33	43	I
165	40	I
161	20	I
6	20	O o
130	14	O
46	8	O ohn
170	8	O hn
65	5	I F
5	3	I
9	1	I
66	1	O F
98	1	O nF

Firmware Revisions for Blocks				
Type	Qty	Model	Description	Rev
69	17	IC660BBD100	Grouped 8 pt I/O 115VAC	0.0
69	21	IC660BBD100	Grouped 8 pt I/O 115VAC	1.1
69	314	IC660BBD100	Grouped 8 pt I/O 115VAC	1.2
70	7	IC660BBS100	Isolated 8 pt I/O 115V	2.1
70	1	IC660BBS100	Isolated 8 pt I/O 115V	2.2
73	2	IC660BBD022	Source I/O 16Ckt 12/24 DC	1.2
75	30	IC660BBD024	Source I/O 16Ckt 12/24 DC	0.0
75	3	IC660BBD024	Source I/O 16Ckt 12/24 DC	1
75	3	IC660BBD024	Source I/O 16Ckt 12/24 DC	1.1
81	27	IC660BBD110	Inputs Only 16pt 115VAC	0.0
81	15	IC660BBD110	Inputs Only 16pt 115VAC	1.1
82	17	IC660BBD101	Low-Leakage 8CktGrp 11 5V	0.0
82	18	IC660BBD101	Low-Leakage 8CktGrp 11 5V	1.2
82	2	IC660BBD101	Low-Leakage 8CktGrp 11 5V	1.4
82	4	IC660BBD101	Low-Leakage 8CktGrp 11 5V	2
131	6	IC660BBD100	Analog 4in/2out 115VAC	2.2

Blocks Reporting Configuration Information				
Type	Qty	Part Number	Description	Rev
69	334	IC660BBD100	Grouped 8 pt I/O 115VAC	
70	312	IC660BBS100	Isolated 8 pt I/O 115V	
79	24	IC660BBR101	Normally Open Relay Block	
82	21	IC660BBD101	Low-Leakage 8CktGrp 11 5V	
81	15	IC660BBD110	Inputs Only 16pt 115VAC	
131	6	IC660BBA100	Analog 4in/2out 115VAC	
75	6	IC660BBD024	Source I/O 32Ckt 12/24VDC	
80	2	IC660BBR100	Normally Closed Relay Block	
	720	Total Blocks		

Firmware Revision for Bus Controllers				
Type	Qty	Model	Description	Rev
6	20	IC660CBB902	Bus Controller c/w Diag	0
6	40	IC660CBB902	Bus Controller c/w Diag	12
6	22	IC660CBB902	Bus Controller c/w Diag	1.4
6	8	IC660CBB902	Bus Controller c/w Diag	2
6	1	IC660CBB902	Bus Controller c/w Diag	2.2
	91	Total Bus Controllers		

- I Input
- O Output
- F Forced Point (not recommended for normal operations)
- n No Load Faults Disabled (only required when supervision of a control device is desired)
- h Hold Last State Enabled (Outputs will retain their state when communication to the PLCs are lost. Recommended for outputs that should stay on (or off) in the event of a catastrophic PLC failure.)
- o Overload Protection Disabled [Outputs will not shut down on overload (output current exceeds 2 amps for 0.1 seconds) The output point is still protected by short circuit (20 amps) and a thermal cutout. Recommended for large loads (eg over 1.5 amps)

For further information or to contact a Hinz office near you, please check our website at:

www.hinz.com