

Document Code: 508042-0000-47ED-0003 Revision: 00 Client: City of Winnipeg Project: Montcalm Wastewater Pumping Station Description: P-L1 and P-L4 Lift Pumps	Professional Seal Original Sealed By: C. J. Reimer SNC-Lavalin Inc. Member #21968 2012/02/23 Rev. 00																				
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:10%;">Rev</th> <th style="width:15%;">Date</th> <th style="width:20%;">By</th> <th style="width:20%;">Checked</th> <th style="width:35%;">Approved</th> </tr> </thead> <tbody> <tr> <td>00</td> <td>2012-02-09</td> <td>Brian Cleven</td> <td>C. Reimer</td> <td>C. Reimer</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	Rev	Date	By	Checked	Approved	00	2012-02-09	Brian Cleven	C. Reimer	C. Reimer											
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S.S. Data	Control Schematics: 1-0164L-E0017, 1-0164L-E0024		
	Size: 100 HP	Voltage: 600 V	Nominal Output Current: 108 A
	Manufacturer: Allen-Bradley	Model: 150-108NCD	Control Voltage: 120 VAC

P-L1 Motor Data	Size: 100 HP	Voltage: 575 V	R.P.M.: 1181
	Manufacturer: Optim ODP HE	FLA: 93.6	S.F.: 1.15

P-L4 Motor Data	Size: 100 HP	Voltage: 575 V	R.P.M.: 1170
	Manufacturer: Brook Electric Motors	FLA: 95	S.F.: 1.15

Param. No.	Description	Set Point	Note	Rev.
15	Motor Connection	Line	1	00
16	Line Voltage	600		00
17	Starting Mode	Soft Start	1	00
18	Ramp Time	10	1	00
19	Initial Torque	40		00
20	Cur Limit Start Level	350	1	00
22	Kickstart Time	0.0	1	00
23	Kickstart Level	0	1	00
24	Option Input 2	Disable	1	00
25	Starting Mode 2	Soft Start	1	00
26	Ramp Time 2	10	1	00
27	Initial Torque 2	70	1	00
28	Cur Limit Level 2	350	1	00
30	Kickstart Time 2	0.0	1	00
31	Kickstart Level 2	0	1	00
32	Stop Mode	Soft Stop	1	00
33	Stop Time	10		00
35	Braking Current	0	1	00
36	Braking Time (SMB)	0	1	00



Param. No.	Description	Set Point	Note	Rev.
37	Load Type (SMB)	0 - Standard	1	00
38	High Eff Brake (SMB)	0	1	00
39	Slow Speed Sel	SS High	1	00
40	Slow Speed Dir	SS FWD	1	00
41	Slow Accel Cur	0	1	00
42	Slow Running Cur	0	1	00
43	Stopping Current	0	1	00
44	Overload Class	Class 20		00
45	Service Factor	1.15	1	00
46	Motor FLC	93.6 / 95	2	00
47	Overload Reset	Manual	1	00
48	OL Shunt Time	0	1	00
49	OL Trip Enable/Disable	Enable	1	00
50	Overload A Lvl	0	1	00
51	Overload F Lvl	0	1	00
52	Underload F Dly	0	1	00
53	Underload A Lvl	0	1	00
54	Underload A Dly	0	1	00
55	Undervolt F Lvl	0	1	00
56	Undervolt F Dly	0	1	00
57	Undervolt A Lvl	0	1	00
58	Undervolt A Dly	0	1	00
59	Overvolt F Lvl	0	1	00
60	Overvolt F Dly	0	1	00
61	Overvolt A Lvl	0	1	00
62	Overvolt A Dly	0	1	00
63	Unbalance F Lvl	0	1	00
64	Unbalance F Dly	0	1	00
65	Unbalance A Lvl	0	1	00
66	Unbalance Dly	0	1	00
67	Jam F Lvl	0	1	00
68	Jam F Dly	0	1	00
69	Jam A Lvl	0	1	00
70	Jam A Dly	0	1	00
71	Stall Delay	0	1	00
72	Gnd Flt Enable	Disable	1	00
73	Gnd Flt Level	2.5	1	00
74	Gnd Flt Delay	0.5	1	00
75	Gnd Flt Inh Time	10	1	00
76	Gnd Flt A Enable	Disable	1	00
77	Gnd Flt A Lvl	2.0	1	00
78	Gnd Flt A Dly	10	1	00
79	PTC Enable	Disable	1	00



Param. No.	Description	Set Point	Note	Rev.
80	Phase Reversal	Enable		00
81	Starts Per Hour	0		00
82	Restart Attempts	0	1	00
83	Restart Delay	0	1	00
84	Line Fault Disable	Enable	1	00
85	Emergency Run	Disable	1	00
86	Current Loss	Enable	1	00
87	Logic Mask	0	1	00
104	Motor ID	0	1	00
105	CT Ratio	N/A		00
106	MV Ratio	N/A		00
107	Aux1 Config	Normal	1	00
108	Aux3 Config	External Bypass		00
109	Aux4 Config	Normal	1	00
110	Aux2 Config	Fault	1	00
111	Language	English	1	00
112	Timed Start	Disable	1	00
113	I Shut Off	0	1	00
114	UTS Level	75	1	00
116	Backspin Timer	0	1	00
117	V Shut Off Level	25	1	00
118	OL Reset Level	75	1	00
119	Ambient Temperature	50	1	00
120	Notch Position	87.5	1	00
121	Notch Maximum	70	1	00
122	Start Delay	0	1	00
123	By-pass Delay	0	1	00
129	Ramp Time E	0	1	00
130	Ramp Time 2E	0	1	00
131	Stop Time E	0	1	00
132	Option Input 1	Stop Option	1	00
133	Stop input	Coast	1	00

Notes

1. Default Value.
2. Set parameter 46 (Motor FLC) to 93.6 for MS-P-L1 and 95 for MS-P-L4.
3. The Contractor is responsible for ensuring proper parameter values are utilized. SNC-Lavalin assumes no responsibility for incorrect parameter values that result in equipment damage.