SNC·LAVALIN	SETTINGS SHEET VARIABLE FREQUENCY DRIVE	Page 1 of 4 ID: VFD-G601

Document Code	112577-0116-47ED-0001
Revision	00
Client	City of Winnipeg
Project	SEWPCC Ventilation and Misc. Upgrades
Description	Supply Fan G601-SF

Rev	Date	By	Checked	Approved
00	2012-10-15	T. Church	C. Reimer	C. Reimer

Professional Seal

Original Document Sealed By:
T. M. Church
SNC Lavalin Inc.
Member #32682
2012-10-15
Rev. 00

VFD Data

Control Schematics:	1-0102G-E0036				
Size:	10 HP	Voltage:	600 V	Nominal Output Current:	13 A
Manufacturer:	ABB	Model:	ACS800-U1-0011-7	Nominal Efficiency:	98 %

Motor Data

Size:	3 HP			Voltage:	575 V	R.P.M:	1725
Manufacturer:	Note 5			Model:	Note 5	Serial Number:	Note5
FLA:	Note 5	Code:	Note 5	Nominal Efficiency:	Note 5	Service Factor:	Note 5

Param. No.	Description	Set Point	Note	Rev.
99.01	LANGUAGE	ENGLISH		00
99.02	APPLICATION MACRO	USER 1		00
99.03	APPLIC RESTORE	N/A		00
99.04	MOTOR CTRL MODE	SCALAR		00
99.05	MOTOR NOM VOLTAGE	575 V		00
99.06	MOTOR NOM CURRENT		5	00
99.07	MOTOR NOM FREQ	60 Hz		00
99.08	MOTOR NOM SPEED	1725 rpm		00
99.09	MOTOR NOM POWER	2.24 kW		00
99.10	MOTOR ID RUN MODE	N/A		00
99.11	DEVICE NAME	N/A		00
10.01	EXT1 STRT/STP/DIR	DI1		00
10.02	EXT2 STRT/STP/DIR	DI1		00
10.03	REF DIRECTION	FORWARD		00
10.06	JOG SPEED SELECT	NOT SEL		00
10.07	NET CONTROL	0 (Inactive)		00
10.08	NET REFERENCE	0 (Inactive)		00
11.01	KEYPAD REF SEL	REF2		00
11.02	EXT1/EXT2 SELECT	EXT1		00
11.03	EXT REF1 SELECT	AI2		00
11.04	EXT REF1 MINIMUM	0%		00

Param. No.	Description	Set Point	Note	Rev.
11.05	EXT REF1 MAXIMUM	100%		00
11.06	EXT REF2 SELECT	KEYPAD		00
11.07	EXT REF2 MINIMUM	0%		00
11.08	EXT REF2 MAXIMUM	100%		00
12.01	CONST SPEED SEL	DI5		00
12.06	DI5(SPEED5)	1725 RPM/60 Hz		00
13.01	MINIMUM AI1	0 V		00
13.02	MAXIMUM AI1	10 V		00
13.03	SCALE AI1	100%		00
13.04	FILTER AI1	0.10 s		00
13.05	INVERT AI1	NO		00
13.06	MINIMUM AI2	4 mA		00
13.07	MAXIMUM AI2	20 mA		00
13.08	SCALE AI2	100%		00
13.09	FILTER AI2	0.10 s		00
13.10	INVERT AI2	NO		00
14.01	RELAY RO1 OUTPUT	READY		00
14.02	RELAY RO2 OUTPUT	RUNNING		00
14.03	RELAY RO3 OUTPUT	FAULT (-1)		00
14.04	RO1 TON DELAY	0		00
14.05	RO1 TOFF DELAY	0		00
14.06	RO2 TON DELAY	0		00
14.07	RO2 TOFF DELAY	0		00
14.08	RO3 TON DELAY	0		00
14.09	RO3 TOFF DELAY	0		00
15.01	ANALOGUE OUTPUT1	NOT USED		00
15.02	INVERT AO1	NO		00
15.03	MINIMUM AO1	4 mA		00
15.04	FILTER AO1	0.10 s		00
15.05	SCALE AO1	100%		00
15.06	ANALOGUE OUTPUT2	NOT USED		00
15.07	INVERT AO2	NO		00
15.08	MINIMUM AO2	4 mA		00
15.09	FILTER AO2	0.10 s		00
15.10	SCALE AO2		3	00
16.01	RUN ENABLE	YES		00
16.02	PARAMETER LOCK	OPEN		00
16.03	PASS CODE	N/A		00
16.04	FAULT RESET SEL	NOT SEL		00
16.05	USER MACRO IO CHG	NOT SEL		00
16.06	LOCAL LOCK	OFF		00
16.09	CTRL BOARD SUPPLY	INTERNAL 24V		00
16.10	ASSIST SEL	OFF		00

Param. No.	Description	Set Point	Note	Rev.
20.01	MINIMUM SPEED	N/A	1	00
20.02	MAXIMUM SPEED	N/A	2	00
20.03	MAXIMUM CURRENT	5 A		00
20.04	TORQ MAX LIM1	300%		00
20.05	OVERVOLTAGE CTRL	ON		00
20.06	UNDERVOLTAGE CTRL	ON		00
20.07	MINIMUM FREQ	15		00
20.08	MAXIMUM FREQ	60 Hz		00
20.11	P MOTORING LIM	300%		00
20.12	P GENERATING LIM	-300%		00
20.13	MIN TORQUE SEL	MIN LIM1		00
20.14	MAX TORQUE SEL	MAX LIM1		00
20.15	TORQ MIN LIM1	0.0%		00
21.01	START FUNCTION	AUTO		00
21.03	STOP FUNCTION	COAST		00
21.04	DC HOLD	NO		00
21.08	SCALAR FLY START	YES		00
21.09	START INTRL FUNC	OFF2 STOP		00
21.10	ZERO SPEED DELAY	0.5 sec		00
22.01	ACC/DEC SEL	ACC/DEC 1		00
22.02	ACCEL TIME 1	5 sec		00
22.03	DECEL TIME 1	5 sec		00
22.06	ACC/DEC RAMP SHPE	0.0		00
27.01	BRAKE CHOPPER CTRL	OFF		00
30.01	AI<MIN FUNCTION	NO		00
30.02	PANEL LOSS	LAST SPEED		00
30.03	EXTERNAL FAULT	NOT SEL		00
30.04	MOTOR THERM PROT	NO		00
30.05	MOT THERM P MODE	DTC		00
30.10	STALL FUNCTION	FAULT		00
30.11	STALL FREQ HI	20 Hz		00
30.12	STALL TIME	20 sec		00
30.13	UNDERLOAD FUNC	NO		00
30.16	MOTOR PHASE LOSS	FAULT		00
30.17	EARTH FAULT	FAULT		00
30.18	COMM FLT FUNC	NO		00
30.19	MAIN REF DS T-OUT	15 sec		00
30.20	COMM FLT RO/AO	LAST VALUE		00
30.21	AUX DS T-OUT	15 sec		00
30.22	IO CONFIG FUNC	WARNING		00
30.23	LIMIT WARNING	0		00
31.01	NUMBER OF TRIALS	3		00
31.02	TRIAL TIME	30 SEC		00

Param. No.	Description	Set Point	Note	Rev.
31.03	DELAY TIME	3 SEC		00
31.04	OVERCURRENT	YES		00
31.05	OVERVOLTAGE	YES		00
31.06	UNDERVOLTAGE	YES		00
31.07	AI SIGNAL < MIN	YES		00
31.08	LINE CONV	YES		00

Notes
1. Parameter not applicable for SCALAR mode. See parameter 20.07.
2. Parameter not applicable for SCALAR mode. See parameter 20.08.
3. Adjust scaling factor so 20 mA output is at 5 A motor current.
4. Minimum frequency to be determined via commissioning on site.
5. To be supplied by fan manufacturer.

SNC·LAVALIN	SETTINGS SHEET VARIABLE FREQUENCY DRIVE	Page 1 of 4
		ID: VFD-G602

Document Code	112577-0116-47ED-0002
Revision	00
Client	City of Winnipeg
Project	SEWPCC Ventilation and Misc. Upgrades
Description	Supply Fan G602-SF

Rev	Date	By	Checked	Approved
00	2012-10-15	T. Church	C. Reimer	C. Reimer

Professional Seal

Original Document Sealed By:
T. M. Church
SNC Lavalin Inc.
Member #32682
2012-10-15
Rev. 00

VFD Data

Control Schematics:	1-0102G-E0036				
Size:	10 HP	Voltage:	600 V	Nominal Output Current:	13 A
Manufacturer:	ABB	Model:	ACS800-U1-0011-7	Nominal Efficiency:	98 %

Motor Data

Size:	5 HP			Voltage:	575 V	R.P.M:	1725
Manufacturer:	Note 5			Model:	Note 5	Serial Number:	Note5
FLA:	Note 5	Code:	Note 5	Nominal Efficiency:	Note 5	Service Factor:	Note 5

Param. No.	Description	Set Point	Note	Rev.
99.01	LANGUAGE	ENGLISH		00
99.02	APPLICATION MACRO	USER 1		00
99.03	APPLIC RESTORE	N/A		00
99.04	MOTOR CTRL MODE	SCALAR		00
99.05	MOTOR NOM VOLTAGE	575 V		00
99.06	MOTOR NOM CURRENT		5	00
99.07	MOTOR NOM FREQ	60 Hz		00
99.08	MOTOR NOM SPEED	1725 rpm		00
99.09	MOTOR NOM POWER	3.75 kW		00
99.10	MOTOR ID RUN MODE	N/A		00
99.11	DEVICE NAME	N/A		00
10.01	EXT1 STRT/STP/DIR	DI1		00
10.02	EXT2 STRT/STP/DIR	DI1		00
10.03	REF DIRECTION	FORWARD		00
10.06	JOG SPEED SELECT	NOT SEL		00
10.07	NET CONTROL	0 (Inactive)		00
10.08	NET REFERENCE	0 (Inactive)		00
11.01	KEYPAD REF SEL	REF2		00
11.02	EXT1/EXT2 SELECT	EXT1		00
11.03	EXT REF1 SELECT	AI2		00
11.04	EXT REF1 MINIMUM	0%		00

Param. No.	Description	Set Point	Note	Rev.
11.05	EXT REF1 MAXIMUM	100%		00
11.06	EXT REF2 SELECT	KEYPAD		00
11.07	EXT REF2 MINIMUM	0%		00
11.08	EXT REF2 MAXIMUM	100%		00
12.01	CONST SPEED SEL	DI5		00
12.06	DI5(SPEED5)	1725 RPM/60 Hz		00
13.01	MINIMUM AI1	0 V		00
13.02	MAXIMUM AI1	10 V		00
13.03	SCALE AI1	100%		00
13.04	FILTER AI1	0.10 s		00
13.05	INVERT AI1	NO		00
13.06	MINIMUM AI2	4 mA		00
13.07	MAXIMUM AI2	20 mA		00
13.08	SCALE AI2	100%		00
13.09	FILTER AI2	0.10 s		00
13.10	INVERT AI2	NO		00
14.01	RELAY RO1 OUTPUT	READY		00
14.02	RELAY RO2 OUTPUT	RUNNING		00
14.03	RELAY RO3 OUTPUT	FAULT (-1)		00
14.04	RO1 TON DELAY	0		00
14.05	RO1 TOFF DELAY	0		00
14.06	RO2 TON DELAY	0		00
14.07	RO2 TOFF DELAY	0		00
14.08	RO3 TON DELAY	0		00
14.09	RO3 TOFF DELAY	0		00
15.01	ANALOGUE OUTPUT1	NOT USED		00
15.02	INVERT AO1	NO		00
15.03	MINIMUM AO1	4 mA		00
15.04	FILTER AO1	0.10 s		00
15.05	SCALE AO1	100%		00
15.06	ANALOGUE OUTPUT2	NOT USED		00
15.07	INVERT AO2	NO		00
15.08	MINIMUM AO2	4 mA		00
15.09	FILTER AO2	0.10 s		00
15.10	SCALE AO2		3	00
16.01	RUN ENABLE	YES		00
16.02	PARAMETER LOCK	OPEN		00
16.03	PASS CODE	N/A		00
16.04	FAULT RESET SEL	NOT SEL		00
16.05	USER MACRO IO CHG	NOT SEL		00
16.06	LOCAL LOCK	OFF		00
16.09	CTRL BOARD SUPPLY	INTERNAL 24V		00
16.10	ASSIST SEL	OFF		00

Param. No.	Description	Set Point	Note	Rev.
20.01	MINIMUM SPEED	N/A	1	00
20.02	MAXIMUM SPEED	N/A	2	00
20.03	MAXIMUM CURRENT	8 A		00
20.04	TORQ MAX LIM1	300%		00
20.05	OVERVOLTAGE CTRL	ON		00
20.06	UNDERVOLTAGE CTRL	ON		00
20.07	MINIMUM FREQ	15		00
20.08	MAXIMUM FREQ	60 Hz		00
20.11	P MOTORING LIM	300%		00
20.12	P GENERATING LIM	-300%		00
20.13	MIN TORQUE SEL	MIN LIM1		00
20.14	MAX TORQUE SEL	MAX LIM1		00
20.15	TORQ MIN LIM1	0.0%		00
21.01	START FUNCTION	AUTO		00
21.03	STOP FUNCTION	COAST		00
21.04	DC HOLD	NO		00
21.08	SCALAR FLY START	YES		00
21.09	START INTRL FUNC	OFF2 STOP		00
21.10	ZERO SPEED DELAY	0.5 sec		00
22.01	ACC/DEC SEL	ACC/DEC 1		00
22.02	ACCEL TIME 1	5 sec		00
22.03	DECEL TIME 1	5 sec		00
22.06	ACC/DEC RAMP SHPE	0.0		00
27.01	BRAKE CHOPPER CTRL	OFF		00
30.01	AI<MIN FUNCTION	NO		00
30.02	PANEL LOSS	LAST SPEED		00
30.03	EXTERNAL FAULT	NOT SEL		00
30.04	MOTOR THERM PROT	NO		00
30.05	MOT THERM P MODE	DTC		00
30.10	STALL FUNCTION	FAULT		00
30.11	STALL FREQ HI	20 Hz		00
30.12	STALL TIME	20 sec		00
30.13	UNDERLOAD FUNC	NO		00
30.16	MOTOR PHASE LOSS	FAULT		00
30.17	EARTH FAULT	FAULT		00
30.18	COMM FLT FUNC	NO		00
30.19	MAIN REF DS T-OUT	15 sec		00
30.20	COMM FLT RO/AO	LAST VALUE		00
30.21	AUX DS T-OUT	15 sec		00
30.22	IO CONFIG FUNC	WARNING		00
30.23	LIMIT WARNING	0		00
31.01	NUMBER OF TRIALS	3		00
31.02	TRIAL TIME	30 SEC		00

Param. No.	Description	Set Point	Note	Rev.
31.03	DELAY TIME	3 SEC		00
31.04	OVERCURRENT	YES		00
31.05	OVERVOLTAGE	YES		00
31.06	UNDERVOLTAGE	YES		00
31.07	AI SIGNAL < MIN	YES		00
31.08	LINE CONV	YES		00

Notes
1. Parameter not applicable for SCALAR mode. See parameter 20.07.
2. Parameter not applicable for SCALAR mode. See parameter 20.08.
3. Adjust scaling factor so 20 mA output is at 8 A motor current.
4. Minimum frequency to be determined via commissioning on site.
5. To be supplied by fan manufacturer.

SNC·LAVALIN	SETTINGS SHEET VARIABLE FREQUENCY DRIVE	Page 1 of 4
		ID: VFD-G687

Document Code	112577-0116-47ED-0003
Revision	00
Client	City of Winnipeg
Project	SEWPCC Ventilation and Misc. Upgrades
Description	Exhaust Fan G687-EF

Rev	Date	By	Checked	Approved
00	2012/06/11	T. Church	C. Reimer	C. Reimer

Professional Seal

Original Document Sealed By:
T. M. Church
SNC Lavalin Inc.
Member #32682
2012-10-15
Rev. 00

VFD Data					
Control Schematics:	1-0102G-E0036				
Size:	10 HP	Voltage:	600 V	Nominal Output Current:	13 A
Manufacturer:	ABB	Model:	ACS800-U1-0011-7	Nominal Efficiency:	98 %

Motor Data							
Size:	10 HP			Voltage:	575 V	R.P.M:	1725
Manufacturer:	Note 5			Model:	Note 5	Serial Number:	Note5
FLA:	Note 5	Code:	Note 5	Nominal Efficiency:	Note 5	Service Factor:	Note 5

Param. No.	Description	Set Point	Note	Rev.
99.01	LANGUAGE	ENGLISH		00
99.02	APPLICATION MACRO	USER 1		00
99.03	APPLIC RESTORE	N/A		00
99.04	MOTOR CTRL MODE	SCALAR		00
99.05	MOTOR NOM VOLTAGE	575 V		00
99.06	MOTOR NOM CURRENT		5	00
99.07	MOTOR NOM FREQ	60 Hz		00
99.08	MOTOR NOM SPEED	1725 rpm		00
99.09	MOTOR NOM POWER	5.6 kW		00
99.10	MOTOR ID RUN MODE	N/A		00
99.11	DEVICE NAME	N/A		00
10.01	EXT1 STRT/STP/DIR	DI1		00
10.02	EXT2 STRT/STP/DIR	DI1		00
10.03	REF DIRECTION	FORWARD		00
10.06	JOG SPEED SELECT	NOT SEL		00
10.07	NET CONTROL	0 (Inactive)		00
10.08	NET REFERENCE	0 (Inactive)		00
11.01	KEYPAD REF SEL	REF2		00
11.02	EXT1/EXT2 SELECT	EXT1		00
11.03	EXT REF1 SELECT	AI2		00
11.04	EXT REF1 MINIMUM	0%		00

Param. No.	Description	Set Point	Note	Rev.
11.05	EXT REF1 MAXIMUM	100%		00
11.06	EXT REF2 SELECT	KEYPAD		00
11.07	EXT REF2 MINIMUM	0%		00
11.08	EXT REF2 MAXIMUM	100%		00
12.01	CONST SPEED SEL	DI5		00
12.06	DI5(SPEED5)	1725 RPM/60 Hz		00
13.01	MINIMUM AI1	0 V		00
13.02	MAXIMUM AI1	10 V		00
13.03	SCALE AI1	100%		00
13.04	FILTER AI1	0.10 s		00
13.05	INVERT AI1	NO		00
13.06	MINIMUM AI2	4 mA		00
13.07	MAXIMUM AI2	20 mA		00
13.08	SCALE AI2	100%		00
13.09	FILTER AI2	0.10 s		00
13.10	INVERT AI2	NO		00
14.01	RELAY RO1 OUTPUT	READY		00
14.02	RELAY RO2 OUTPUT	RUNNING		00
14.03	RELAY RO3 OUTPUT	FAULT (-1)		00
14.04	RO1 TON DELAY	0		00
14.05	RO1 TOFF DELAY	0		00
14.06	RO2 TON DELAY	0		00
14.07	RO2 TOFF DELAY	0		00
14.08	RO3 TON DELAY	0		00
14.09	RO3 TOFF DELAY	0		00
15.01	ANALOGUE OUTPUT1	NOT USED		00
15.02	INVERT AO1	NO		00
15.03	MINIMUM AO1	4 mA		00
15.04	FILTER AO1	0.10 s		00
15.05	SCALE AO1	100%		00
15.06	ANALOGUE OUTPUT2	NOT USED		00
15.07	INVERT AO2	NO		00
15.08	MINIMUM AO2	4 mA		00
15.09	FILTER AO2	0.10 s		00
15.10	SCALE AO2		3	00
16.01	RUN ENABLE	YES		00
16.02	PARAMETER LOCK	OPEN		00
16.03	PASS CODE	N/A		00
16.04	FAULT RESET SEL	NOT SEL		00
16.05	USER MACRO IO CHG	NOT SEL		00
16.06	LOCAL LOCK	OFF		00
16.09	CTRL BOARD SUPPLY	INTERNAL 24V		00
16.10	ASSIST SEL	OFF		00

Param. No.	Description	Set Point	Note	Rev.
20.01	MINIMUM SPEED	N/A	1	00
20.02	MAXIMUM SPEED	N/A	2	00
20.03	MAXIMUM CURRENT	10 A		00
20.04	TORQ MAX LIM1	300%		00
20.05	OVERVOLTAGE CTRL	ON		00
20.06	UNDERVOLTAGE CTRL	ON		00
20.07	MINIMUM FREQ	15		00
20.08	MAXIMUM FREQ	60 Hz		00
20.11	P MOTORING LIM	300%		00
20.12	P GENERATING LIM	-300%		00
20.13	MIN TORQUE SEL	MIN LIM1		00
20.14	MAX TORQUE SEL	MAX LIM1		00
20.15	TORQ MIN LIM1	0.0%		00
21.01	START FUNCTION	AUTO		00
21.03	STOP FUNCTION	COAST		00
21.04	DC HOLD	NO		00
21.08	SCALAR FLY START	YES		00
21.09	START INTRL FUNC	OFF2 STOP		00
21.10	ZERO SPEED DELAY	0.5 sec		00
22.01	ACC/DEC SEL	ACC/DEC 1		00
22.02	ACCEL TIME 1	5 sec		00
22.03	DECEL TIME 1	5 sec		00
22.06	ACC/DEC RAMP SHPE	0.0		00
27.01	BRAKE CHOPPER CTRL	OFF		00
30.01	AI<MIN FUNCTION	NO		00
30.02	PANEL LOSS	LAST SPEED		00
30.03	EXTERNAL FAULT	NOT SEL		00
30.04	MOTOR THERM PROT	NO		00
30.05	MOT THERM P MODE	DTC		00
30.10	STALL FUNCTION	FAULT		00
30.11	STALL FREQ HI	20 Hz		00
30.12	STALL TIME	20 sec		00
30.13	UNDERLOAD FUNC	NO		00
30.16	MOTOR PHASE LOSS	FAULT		00
30.17	EARTH FAULT	FAULT		00
30.18	COMM FLT FUNC	NO		00
30.19	MAIN REF DS T-OUT	15 sec		00
30.20	COMM FLT RO/AO	LAST VALUE		00
30.21	AUX DS T-OUT	15 sec		00
30.22	IO CONFIG FUNC	WARNING		00
30.23	LIMIT WARNING	0		00
31.01	NUMBER OF TRIALS	3		00
31.02	TRIAL TIME	30 SEC		00

Param. No.	Description	Set Point	Note	Rev.
31.03	DELAY TIME	3 SEC		00
31.04	OVERCURRENT	YES		00
31.05	OVERVOLTAGE	YES		00
31.06	UNDERVOLTAGE	YES		00
31.07	AI SIGNAL < MIN	YES		00
31.08	LINE CONV	YES		00

Notes

1. Parameter not applicable for SCALAR mode. See parameter 20.07.
2. Parameter not applicable for SCALAR mode. See parameter 20.08.
3. Adjust scaling factor so 20 mA output is at 15 A motor current.
4. 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.
5. To be supplied by fan manufacturer.