MPE a division of Englobe	SETTINGS SHEET VARIABLE FREQUENCY DRIVE	Page: 1 of 3 ID: VFD-L01

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

WINDSOR PARK LIFT PUMPING STATION
2025 UPGRADES
VARIABLE FREQUENCY DRIVE SETTING LETTERS
LIFT PUMP
P-L01

City Document Number	5-0197L-E0001-001
Project	S-1306

Engineer's Seal

PROVINCE OF MANITOBA
R.G
CFSTIE
Member
44405
REGISTERED PROFESSIONAL ENGINEER

11/13/2024

Rev.	Description	Date	Created By	Checked By	Approved By
0	For Construction	11/13/2024	S.A.	J.A.S.	R.G.O.

VFD DATA

Control Schematics: 1-0197L-E0017-001					
Size:	75 HP	Voltage:	600 VAC	Nominal Output Current:	75 A
Manufacturer:	Schneider Electric	Model:	ATV630	Nominal Efficiency:	98%

MOTOR DATA

Power:	75 HP	Voltage:	600 VAC	Speed:	1200 RPM
Manufacturer:	TBD	Model:	TBD	Pump Rating:	75 HP
FLA: TBD	Code: TBD	Power Factor:	TBD	Service Factor:	1.15

Parameter	Description	Set Point	Note	Rev.
BFR	Motor Standard	[60 Hz NEMA] 60	1	
NPR	Nominal Motor Power	75 HP		
UNS	Nominal Motor Voltage	600 VAC		
NCR	Nominal Motor Current	100		
FRS	Nominal Motor Frequency	60 Hz		
NSP	Nominal Motor Speed	1200 RPM		
ITH	Motor Current Thermal Monitoring (FLA x Service Factor)	115		
TCC	2/3-Wire Control	[2-Wire Control] 2C	2	
TFR	Maximum Output Frequency	60 Hz		
ACC	Acceleration	5.00 s		
DEC	Deceleration	5.00 s		
LSP	Low Speed	41 Hz		
HSP	High Speed	60 Hz		
APPT	Application Selection	GPMP	2	
CTT	Motor Control Type	[U/F VC Quad.] UFQ		
DRT	Dual Rating	Normal	2	
MPC	Motor Parameter	[Nominal Motor Power] NPR	2	
CHCF	Control Mode	[I/O profile] IO		
FR1	Ref Freq 1 Config	[Not Configured] NO		
FR1b	Ref Freq 1B Config	AI2		
RCB	Ref 1B switching	[DI3] Li3		
RIN	Reverse Disable	No		
RFC	Frequency Switch Assign	[DI4] Li4		
FR2	Ref Freq 2 Config	AI1		
RRS	Reverse Assign	[DI2] Li2		
PIF	PID Feedback Assign	No		
STT	Type of Stop	[Freewheel] NST		

a division of Englobe	**SETTINGS SHEET** **VARIABLE FREQUENCY DRIVE**	Page: 2 of 3 ID:

Parameter	Description	Set Point	Note	Rev.
AI1T	AI1 Type	[Voltage] 10U	2	
UIL1	AI1 Min. Value	0.0 Vdc	2	
UIH1	AI1 Max. Value	10.0 Vdc	2	
AI1F	AI1 Filter	0.10 s		
AI1E	AI1 Interm. Point X	0%		
AI1S	AI1 Interm. Point Y	0%		
AI1L	AI1 Range	[0-100%] POS	2	
AI2T	AI2 Type	[Current] 0A		
CRL2	AI2 Min. Value	4 mA		
CRH2	AI2 Max. Value	20 mA	2	
AI2F	AI2 Filter	0.10 s		
AI2E	AI2 Interm. Point X	0.0 %		
AI2S	AI2 Interm. Point Y	0.0 %		
AI2L	AI2 Range	[0- 100%] POS	2	
AO1	AQ1 Assignment	[Motor Frequency] OFR	2	
AO1T	AQ1 Type	[Current] 0A	2	
AOL1	AQ1 Min. Output	4.0 mA		
AOH1	AQ1 Max. Output	20.0 mA	2	
ASL1	Scaling AQ1 Min.	0.0%	2	
ASH1	Scaling AQ1 Max.	100.0%	2	
AO1F	AQ1 Filter	2.0 s		
AO2	AQ2 Assignment	[Motor Current] OCR		
AO2T	AQ2 Type	[Current] 0A		
AOL2	AQ2 Min. Output	4.0 mA		
AOH2	AQ2 Max. Output	20.0 mA		
ASL2	Scaling AQ2 Min.	0.0%		
ASH2	Scaling AQ2 Max.	100.0%		
AO2F	AQ2 Filter	2.0 s		
R1	Relay 1 Assignment	[Operating State Fault] FLT		
R2	Relay 2 Assignment	[Reverse] MRRS		
R3	Realy 3 Assignment	[Forward] MFRD		
R1D	Relay 1 Delay Time	0 ms	2	
R1S	Relay 1 Active at	[1] POS	2	
R1H	Relay 1 Hold Time	0 ms	2	
R2D	Relay 2 Delay Time	0 ms	2	
R2S	Relay 2 Active at	[1] POS	2	
R2H	Relay 2 Hold Time	0 ms	2	
R3D	Relay 3 Delay Time	0 ms	2	
R3S	Relay 3 Active at	[1] POS	2	
R3H	Relay 3 Hold Time	0 ms	2	
OPL	Output Phase Loss Assign	[OPF Error Triggered] YES	2	
ODT	Output Phase Loss Delay	0.5 s	2	
IPL	Input Phase Loss Assign	[Freewheel Stop] YES	2	
LFL1	AI1 Signal Loss	[Ignore] NO	2	
LFL2	AI2 Signal Loss	[Freewheel] YES		
USB	Undervoltage Response	[Error Triggered] 0	2	
URES	Rated Mains Voltage	[600 VAC] 600		
USL	Undervoltage Level	310 VAC	3	
UST	Undevolatage Timeout	0.5 s		
STP	Stop Type PLoss (undervolatge)	[Inactive] NO	2	
CLI	Current Limitation	100.0 A	4	
TLA	Torque Limit Active	[Yes] YES		
TPMM	Pmax Motor	300%	2	
OHL	Drive Temp Error Response	[Freewheel Stop] YES	2	

a division of Englobe	SETTINGS SHEET VARIABLE FREQUENCY DRIVE	Page: 3 of 3 ID:

Parameter	Description	Set Point	Note	Rev.
THA	Drive Thermal State Warning	100%	2	
LNG	Language	English		
SVL	Motor Surge Limit	[Yes] YES		
SOP	Attenuation Time	[10 µs] 10		

Notes

1. Parameter must be modified before any other changes.
2. Factory Setting.
3. Line to Neutral Value, verify format of value in drive configuration.
4. Scaling factor results in 20 mA output at 100.0 A motor current.
5. The installer is responsible for ensuring proper parameter values are utilized. MPE assumes no responsibility for incorrect parameter values that result in equipment damage.

MPE a division of Englobe	SETTINGS SHEET VARIABLE FREQUENCY DRIVE	Page: 1 of 3 ID: VFD-L02

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

WINDSOR PARK LIFT PUMPING STATION
2025 UPGRADES
VARIABLE FREQUENCY DRIVE SETTING LETTERS
LIFT PUMP
P-L02

City Document Number	5-0197L-E0002-001
Project	S-1306

Engineer's Seal

PROVINCE OF MANITOBA
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Member
44405
REGISTERED PROFESSIONAL ENGINEER

11/13/2024

Rev.	Description	Date	Created By	Checked By	Approved By
0	For Construction	11/13/2024	S.A.	J.A.S.	R.G.O.

VFD DATA

Control Schematics: 1-0197L-E0017-001					
Size:	75 HP	Voltage:	600 VAC	Nominal Output Current:	75 A
Manufacturer:	Schneider Electric	Model:	ATV630	Nominal Efficiency:	98%

MOTOR DATA

Power:	75 HP	Voltage:	600 VAC	Speed:	1200 RPM
Manufacturer:	TBD	Model:	TBD	Pump Rating:	75 HP
FLA: TBD	Code: TBD	Power Factor:	TBD	Service Factor:	1.15

Parameter	Description	Set Point	Note	Rev.
BFR	Motor Standard	[60 Hz NEMA] 60	1	
NPR	Nominal Motor Power	75 HP		
UNS	Nominal Motor Voltage	600 VAC		
NCR	Nominal Motor Current	100		
FRS	Nominal Motor Frequency	60 Hz		
NSP	Nominal Motor Speed	1200 RPM		
ITH	Motor Current Thermal Monitoring (FLA x Service Factor)	115		
TCC	2/3-Wire Control	[2-Wire Control] 2C	2	
TFR	Maximum Output Frequency	60 Hz		
ACC	Acceleration	5.00 s		
DEC	Deceleration	5.00 s		
LSP	Low Speed	41 Hz		
HSP	High Speed	60 Hz		
APPT	Application Selection	GPMP	2	
CTT	Motor Control Type	[U/F VC Quad.] UFQ		
DRT	Dual Rating	Normal	2	
MPC	Motor Parameter	[Nominal Motor Power] NPR	2	
CHCF	Control Mode	[I/O profile] IO		
FR1	Ref Freq 1 Config	[Not Configured] NO		
FR1b	Ref Freq 1B Config	AI2		
RCB	Ref 1B switching	[DI3] Li3		
RIN	Reverse Disable	No		
RFC	Frequency Switch Assign	[DI4] Li4		
FR2	Ref Freq 2 Config	AI1		
RRS	Reverse Assign	[DI2] Li2		
PIF	PID Feedback Assign	No		
STT	Type of Stop	[Freewheel] NST		

a division of Englobe	**SETTINGS SHEET** **VARIABLE FREQUENCY DRIVE**	Page: 2 of 3 ID:

Parameter	Description	Set Point	Note	Rev.
AI1T	AI1 Type	[Voltage] 10U	2	
UIL1	AI1 Min. Value	0.0 Vdc	2	
UIH1	AI1 Max. Value	10.0 Vdc	2	
AI1F	AI1 Filter	0.10 s		
AI1E	AI1 Interm. Point X	0%		
AI1S	AI1 Interm. Point Y	0%		
AI1L	AI1 Range	[0-100%] POS	2	
AI2T	AI2 Type	[Current] 0A		
CRL2	AI2 Min. Value	4 mA		
CRH2	AI2 Max. Value	20 mA	2	
AI2F	AI2 Filter	0.10 s		
AI2E	AI2 Interm. Point X	0.0 %		
AI2S	AI2 Interm. Point Y	0.0 %		
AI2L	AI2 Range	[0- 100%] POS	2	
AO1	AQ1 Assignment	[Motor Frequency] OFR	2	
AO1T	AQ1 Type	[Current] 0A	2	
AOL1	AQ1 Min. Output	4.0 mA		
AOH1	AQ1 Max. Output	20.0 mA	2	
ASL1	Scaling AQ1 Min.	0.0%	2	
ASH1	Scaling AQ1 Max.	100.0%	2	
AO1F	AQ1 Filter	2.0 s		
AO2	AQ2 Assignment	[Motor Current] OCR		
AO2T	AQ2 Type	[Current] 0A		
AOL2	AQ2 Min. Output	4.0 mA		
AOH2	AQ2 Max. Output	20.0 mA		
ASL2	Scaling AQ2 Min.	0.0%		
ASH2	Scaling AQ2 Max.	100.0%		
AO2F	AQ2 Filter	2.0 s		
R1	Relay 1 Assignment	[Operating State Fault] FLT		
R2	Relay 2 Assignment	[Reverse] MRRS		
R3	Realy 3 Assignment	[Forward] MFRD		
R1D	Relay 1 Delay Time	0 ms	2	
R1S	Relay 1 Active at	[1] POS	2	
R1H	Relay 1 Hold Time	0 ms	2	
R2D	Relay 2 Delay Time	0 ms	2	
R2S	Relay 2 Active at	[1] POS	2	
R2H	Relay 2 Hold Time	0 ms	2	
R3D	Relay 3 Delay Time	0 ms	2	
R3S	Relay 3 Active at	[1] POS	2	
R3H	Relay 3 Hold Time	0 ms	2	
OPL	Output Phase Loss Assign	[OPF Error Triggered] YES	2	
ODT	Output Phase Loss Delay	0.5 s	2	
IPL	Input Phase Loss Assign	[Freewheel Stop] YES	2	
LFL1	AI1 Signal Loss	[Ignore] NO	2	
LFL2	AI2 Signal Loss	[Freewheel] YES		
USB	Undervoltage Response	[Error Triggered] 0	2	
URES	Rated Mains Voltage	[600 VAC] 600		
USL	Undervoltage Level	310 VAC	3	
UST	Undevolatage Timeout	0.5 s		
STP	Stop Type PLoss (undervolatge)	[Inactive] NO	2	
CLI	Current Limitation	100.0 A	4	
TLA	Torque Limit Active	[Yes] YES		
TPMM	Pmax Motor	300%	2	
OHL	Drive Temp Error Response	[Freewheel Stop] YES	2	

a division of Englobe	**SETTINGS SHEET** **VARIABLE FREQUENCY DRIVE**	Page: 3 of 3 ID:

Parameter	Description	Set Point	Note	Rev.
THA	Drive Thermal State Warning	100%	2	
LNG	Language	English		
SVL	Motor Surge Limit	[Yes] YES		
SOP	Attenuation Time	[10 µs] 10		

Notes

1. Parameter must be modified before any other changes.
2. Factory Setting.
3. Line to Neutral Value, verify format of value in drive configuration.
4. Scaling factor results in 20 mA output at 100.0 A motor current.
5. The installer is responsible for ensuring proper parameter values are utilized. MPE assumes no responsibility for incorrect parameter values that result in equipment damage.

MPE a division of Englobe	SETTINGS SHEET VARIABLE FREQUENCY DRIVE	Page: 1 of 3 ID: VFD-L03

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

WINDSOR PARK LIFT PUMPING STATION
2025 UPGRADES
VARIABLE FREQUENCY DRIVE SETTING LETTERS
LIFT PUMP
P-L03

City Document Number	5-0197L-E0001-001
Project	S-1306

Engineer's Seal

PROVINCE OF MANITOBA
R.G OFSTIE
Member
44405
REGISTERED PROFESSIONAL ENGINEER

11/13/2024

Rev.	Description	Date	Created By	Checked By	Approved By
0	For Construction	11/13/2024	S.A.	J.A.S.	R.G.O.

VFD DATA

Control Schematics: 1-0197L-E0021-001					
Size:	75 HP	Voltage:	600 VAC	Nominal Output Current:	75 A
Manufacturer:	Schneider Electric	Model:	ATV630	Nominal Efficiency:	98%

MOTOR DATA

Power:	75 HP	Voltage:	600 VAC	Speed:	1200 RPM
Manufacturer:	TBD	Model:	TBD	Pump Rating:	75 HP
FLA: TBD	Code: TBD	Power Factor:	TBD	Service Factor:	1.15

Parameter	Description	Set Point	Note	Rev.
BFR	Motor Standard	[60 Hz NEMA] 60	1	
NPR	Nominal Motor Power	75 HP		
UNS	Nominal Motor Voltage	600 VAC		
NCR	Nominal Motor Current	100		
FRS	Nominal Motor Frequency	60 Hz		
NSP	Nominal Motor Speed	1200 RPM		
ITH	Motor Current Thermal Monitoring (FLA x Service Factor)	115		
TCC	2/3-Wire Control	[2-Wire Control] 2C	2	
TFR	Maximum Output Frequency	60 Hz		
ACC	Acceleration	5.00 s		
DEC	Deceleration	5.00 s		
LSP	Low Speed	41 Hz		
HSP	High Speed	60 Hz		
APPT	Application Selection	GPMP	2	
CTT	Motor Control Type	[U/F VC Quad.] UFQ		
DRT	Dual Rating	Normal	2	
MPC	Motor Parameter	[Nominal Motor Power] NPR	2	
CHCF	Control Mode	[I/O profile] IO		
FR1	Ref Freq 1 Config	[Not Configured] NO		
FR1b	Ref Freq 1B Config	AI2		
RCB	Ref 1B switching	[DI3] Li3		
RIN	Reverse Disable	No		
RFC	Frequency Switch Assign	[DI4] Li4		
FR2	Ref Freq 2 Config	AI1		
RRS	Reverse Assign	[DI2] Li2		
PIF	PID Feedback Assign	No		
STT	Type of Stop	[Freewheel] NST		

a division of Englobe	**SETTINGS SHEET** **VARIABLE FREQUENCY DRIVE**	Page: 2 of 3 ID:

Parameter	Description	Set Point	Note	Rev.
AI1T	AI1 Type	[Voltage] 10U	2	
UIL1	AI1 Min. Value	0.0 Vdc	2	
UIH1	AI1 Max. Value	10.0 Vdc	2	
AI1F	AI1 Filter	0.10 s		
AI1E	AI1 Interm. Point X	0%		
AI1S	AI1 Interm. Point Y	0%		
AI1L	AI1 Range	[0-100%] POS	2	
AI2T	AI2 Type	[Current] 0A		
CRL2	AI2 Min. Value	4 mA		
CRH2	AI2 Max. Value	20 mA	2	
AI2F	AI2 Filter	0.10 s		
AI2E	AI2 Interm. Point X	0.0 %		
AI2S	AI2 Interm. Point Y	0.0 %		
AI2L	AI2 Range	[0- 100%] POS	2	
AO1	AQ1 Assignment	[Motor Frequency] OFR	2	
AO1T	AQ1 Type	[Current] 0A	2	
AOL1	AQ1 Min. Output	4.0 mA		
AOH1	AQ1 Max. Output	20.0 mA	2	
ASL1	Scaling AQ1 Min.	0.0%	2	
ASH1	Scaling AQ1 Max.	100.0%	2	
AO1F	AQ1 Filter	2.0 s		
AO2	AQ2 Assignment	[Motor Current] OCR		
AO2T	AQ2 Type	[Current] 0A		
AOL2	AQ2 Min. Output	4.0 mA		
AOH2	AQ2 Max. Output	20.0 mA		
ASL2	Scaling AQ2 Min.	0.0%		
ASH2	Scaling AQ2 Max.	100.0%		
AO2F	AQ2 Filter	2.0 s		
R1	Relay 1 Assignment	[Operating State Fault] FLT		
R2	Relay 2 Assignment	[Reverse] MRRS		
R3	Realy 3 Assignment	[Forward] MFRD		
R1D	Relay 1 Delay Time	0 ms	2	
R1S	Relay 1 Active at	[1] POS	2	
R1H	Relay 1 Hold Time	0 ms	2	
R2D	Relay 2 Delay Time	0 ms	2	
R2S	Relay 2 Active at	[1] POS	2	
R2H	Relay 2 Hold Time	0 ms	2	
R3D	Relay 3 Delay Time	0 ms	2	
R3S	Relay 3 Active at	[1] POS	2	
R3H	Relay 3 Hold Time	0 ms	2	
OPL	Output Phase Loss Assign	[OPF Error Triggered] YES	2	
ODT	Output Phase Loss Delay	0.5 s	2	
IPL	Input Phase Loss Assign	[Freewheel Stop] YES	2	
LFL1	AI1 Signal Loss	[Ignore] NO	2	
LFL2	AI2 Signal Loss	[Freewheel] YES		
USB	Undervoltage Response	[Error Triggered] 0	2	
URES	Rated Mains Voltage	[600 VAC] 600		
USL	Undervoltage Level	310 VAC	3	
UST	Undevolatage Timeout	0.5 s		
STP	Stop Type PLoss (undervolatge)	[Inactive] NO	2	
CLI	Current Limitation	100.0 A	4	
TLA	Torque Limit Active	[Yes] YES		
TPMM	Pmax Motor	300%	2	
OHL	Drive Temp Error Response	[Freewheel Stop] YES	2	

a division of Englobe	**SETTINGS SHEET** **VARIABLE FREQUENCY DRIVE**	Page: 3 of 3 ID:

Parameter	Description	Set Point	Note	Rev.
THA	Drive Thermal State Warning	100%	2	
LNG	Language	English		
SVL	Motor Surge Limit	[Yes] YES		
SOP	Attenuation Time	[10 µs] 10		

Notes

1. Parameter must be modified before any other changes.
2. Factory Setting.
3. Line to Neutral Value, verify format of value in drive configuration.
4. Scaling factor results in 20 mA output at 100.0 A motor current.
5. The installer is responsible for ensuring proper parameter values are utilized. MPE assumes no responsibility for incorrect parameter values that result in equipment damage.

a division of Englobe	SETTINGS SHEET STANDALONE HVAC CONTROLLER	Page 1 of 2 ID: TIC-L670

THE CITY OF WINNIPEG
WATER AND WASTE DEPARTMENT

WINDSOR PARK LIFT PUMPING STATION
2025 UPGRADES
HVAC CONTROLLER SETTING LETTERS
HONEYWELL T775U2006
TIC-L670

City Document Number: 5-0219L-A0001-001

Project: S-1306

Engineer's Seal

11/13/2024

Rev.	Description	Date	Created By	Checked By	Approved By
00	For Construction	11/13/2024	S.Azimizadeh	J. Swain	R. Ofstie

Menu Location	Variable	Set Point	Note	Rev.
SENSORS	# SENSORS	2		
SENSORS/SENSOR A	UNITS	DEG C		
SENSORS/SENSOR A	LABEL	TT_L721		
SENSORS/SENSOR A	TYPE	4-20MA		
SENSORS/SENSOR A	MIN VAL	0°C		
SENSORS/SENSOR A	MAX VAL	85°C		
SENSORS/SENSOR B	UNITS	DEG C		
SENSORS/SENSOR B	LABEL	TE_L721_3		
SENSORS/SENSOR B	MIN VAL	0°C		
SENSORS/SENSOR B	MAX VAL	85°C		
OUTPUTS/MOD 1	TYPE	0-10V		
OUTPUTS/MOD 1	MIN OUT%	0%	1	
OUTPUTS/MOD 1	INTEGRAL	400	1	
OUTPUTS/MOD 1	DERIVATIVE	0	1	
PROGRAM/MOD 1	ACTION	HEAT	1	
PROGRAM/MOD 1	SENSOR	SENSOR A		
PROGRAM/MOD 1	SETPOINT	22°C		
PROGRAM/MOD 1	SETBACK	-40°C		
PROGRAM/RELAY 1	ACTION	HEAT	1	
PROGRAM/RELAY 1	SENSOR	SENSOR A		
PROGRAM/RELAY 1	SETPOINT	30°C		
PROGRAM/RELAY 1	DIFFERENTIAL	4°C		
PROGRAM/RELAY 1	SETBACK	-40°C		
PROGRAM/RELAY 2	ACTION	COOL		
PROGRAM/RELAY 2	SENSOR	SENSOR A		

Menu Location	Variable	Set Point	Note	Rev.
PROGRAM/RELAY 2	**SETPOINT**	26°C		
PROGRAM/RELAY 2	**DIFFERENTIAL**	4°C		
PROGRAM/RELAY 2	**SETBACK**	-40°C		
OUTPUTS	**# RELAYS**	2		
OUTPUT/OPTIONS	**DI OPTS**	SETBACK		
OUTPUT/OPTIONS	**SHOW RT**	YES	1	
OUTPUTS/MOD 2	**TYPE**	0-10V		
OUTPUTS/MOD 2	**MIN OUT%**	0%		
OUTPUTS/MOD 2	**INTEGRAL**	400		
OUTPUTS/MOD 2	**DERIVATIVE**	0		
PROGRAM/MOD 2	**ACTION**	HEAT		
PROGRAM/MOD 2	**SENSOR**	SENSOR **B**		
PROGRAM/MOD 2	**SETPOINT**	22°C		
PROGRAM/MOD 2	**SETBACK**	-40°C	5	

Notes
1. Factory Setting.
2. Output Discrete Relays Not Used
3. Hold the “MENU” button for 5 seconds to access the setup configuration
4. Contractor is responsible for ensuring proper parameters are entered.
5. Setback active on methane gas alarm to turn off duct heater.