





**SETTINGS SHEET  
VARIABLE FREQUENCY DRIVE**

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ID: VFD-L01

 <p><b>THE CITY OF WINNIPEG</b> WATER AND WASTE DEPARTMENT</p>	<p>Engineer's Seal</p>  <p align="center">2024-03-22</p>				
<p>CONWAY LIFT PUMPING STATION 2024 UPGRADES VARIABLE FREQUENCY DRIVE SETTING LETTERS LIFT PUMP P-L01</p>					
<p>City Document Number: 5-0131L-E0001</p>					
<p>Project: 177-2024 CONWAY LIFT PUMPING STATION 2024 UPGRADES</p>					
<b>Rev.</b>	<b>Description</b>	<b>Date</b>	<b>Created By</b>	<b>Checked By</b>	<b>Approved By</b>
00	For Construction	3/13/2024	J. Swain	R. Ofstie	R. Ofstie

<b>VFD Data</b>	Control Schematics: 1-0131L-E0011				
	Size:	35 HP	Voltage:	575 VAC	Nominal Output Current: 20 A
	Manufacturer:	Schneider Electric	Model:	ATV630	Nominal Efficiency: 98 %

<b>Motor Data</b>	Power:	35 HP	Voltage:	575 VAC	Speed: 1200 RPM
	Manufacturer:	TBD	Model:	TBD	Pump Rating: TBD
	FLA:	TBD	Code:	G	Power Factor:

Param. No.	Description	Set Point	Note	Rev.
<b>BFR</b>	Motor Standard	[60 Hz NEMA] 60	1	
<b>NPR</b>	Nominal Motor Power	35 HP		
<b>UNS</b>	Nominal Motor Voltage	575 VAC		
<b>NCR</b>	Nominal Motor Current	36A		
<b>FRS</b>	Nominal Motor Frequency	60 Hz		
<b>NSP</b>	Nominal Motor Speed	1200 RPM		
<b>ITH</b>	Motor Current Thermal Monitoring (FLA x Service Factor)	41A		
<b>TCC</b>	2/3-Wire Control	[2-Wire Control] 2C	2	
<b>TFR</b>	Maximum Output Frequency	60 Hz		
<b>ACC</b>	Acceleration	5.00 s		
<b>DEC</b>	Deceleration	5.00 s		
<b>LSP</b>	Low Speed	41 Hz		
<b>HSP</b>	High Speed	60 Hz		
<b>APPT</b>	Application Selection	GPMP	2	
<b>CTT</b>	Motor Control Type	[U/F VC Quad.] UFQ		
<b>DRT</b>	Dual Rating	Normal	2	



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Param. No.	Description	Set Point	Note	Rev.
<b>MPC</b>	Motor Parameter	[Nominal Motor Power] NPR	2	
<b>CHCF</b>	Control Mode	[I/O profile] IO		
<b>FR1</b>	Ref Freq 1 Config	[Not Configured] NO		
<b>FR1b</b>	Ref Freq 1B Config	AI2		
<b>RCB</b>	Ref 1B switching	[DI3] LI3		
<b>RIN</b>	Reverse Disable	No		
<b>RFC</b>	Frequency Switch Assign	[DI4] LI4		
<b>FR2</b>	Ref Freq 2 Config	AI1		
<b>RRS</b>	Reverse Assign	[DI2] LI2		
<b>FDB-PIF</b>	PID Feedback Assign	No		
<b>STT</b>	Type of Stop	[Freewheel] NST		
<b>AI1T</b>	AI1 Type	[Voltage] 10u	2	
<b>UIL1</b>	AI1 Min. Value	0.0 Vdc	2	
<b>UIH1</b>	AI1 Max Value	10.0 Vdc	2	
<b>AI1F</b>	AI1 Filter	0.10 s		
<b>AI1E</b>	AI1 Interm. Point X	0%		
<b>AI1S</b>	AI1 Interm. point Y	0%		
<b>AI1L</b>	AI1 Range	[0-100%] PoS	2	
<b>AI2T</b>	AI2 Type	[Current] 0A		
<b>CRL2</b>	AI2 Min. Value	4 mA		
<b>CRH2</b>	AI2 Max Value	20 mA	2	
<b>AI2F</b>	AI2 Filter	0.10 s		
<b>AI2E</b>	AI2 Interm. Point X	0.0%		
<b>AI2S</b>	AI2 Interm. point Y	0.0%		
<b>AI2L</b>	AI2 Range	[0-100%] PoS	2	
<b>AO1</b>	AQ1 Assignment	[Motor Frequency] oCr	2	
<b>AO1T</b>	AQ1 Type	[Current] 0A	2	
<b>AOL1</b>	AQ1 Min. Output	4.0 mA		
<b>AOH1</b>	AQ1 Max. Ouput	20.0 mA	2	
<b>ASL1</b>	Scaling AQ1 Min.	0.0%	2	
<b>ASH1</b>	Scaling AQ1 Max.	100.0%	2	
<b>AO1F</b>	AQ1 Filter	2.0 s		
<b>AO2</b>	AQ2 Assignment	[Motor Current] FLt		
<b>AO2T</b>	AQ2 Type	[Current] 0A		
<b>AOL2</b>	AQ2 Min. Output	4.0 mA		
<b>AOH2</b>	AQ2 Max. Ouput	20.0 mA		
<b>ASL2</b>	Scaling AQ2 Min.	0.0%		
<b>ASH2</b>	Scaling AQ2 Max.	100.0%		
<b>AO2F</b>	AQ2 Filter	2.0 s		
<b>R1</b>	Relay 1 Assignment	[Operating State Fault] FLt		
<b>R2</b>	Relay 2 Assignment	[Forward] MFrd		
<b>R3</b>	Relay 3 Assignment	[Reverse] MrrS		
<b>R1D</b>	Relay 1 Delay Time	0 ms	2	



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Param. No.	Description	Set Point	Note	Rev.
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] YES	2	
LFL1	AI1 Signal Loss	[Freewheel] YES		
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	Undervoltage Timeout	0.5 s		
STP	Stop Type PLoss (undervoltage)	[No] No	2	
CLI	Current Limitation	61.0 A	4	
TLA	Torque Limit Active	[Yes] YES		
TPMM	Pmax Motor	300%	2	
OHL	Drive Temp Error Response	[Freewheel] YES	2	
THA	Drive Thermal State Warning	100%	2	
LNG	Language	English		
SVL	Motor Surge Limit	[Yes] YES		
SOP	Attenuation Time	[8 μs] 8	2	

**Notes**

- Parameter must be modified before any other changes.
- Factory Setting.
- Line to Neutral Value, verify format of value in drive configuration.
- Scaling factor results in 20 mA output at 145.0 A motor current.
- The installer is responsible for ensuring proper parameter values are utilized. MPE assumes no responsibility for incorrect parameter values that result in equipment damage.



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VARIABLE FREQUENCY DRIVE**

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**THE CITY OF WINNIPEG  
WATER AND WASTE DEPARTMENT**

Engineer's Seal

CONWAY LIFT PUMPING STATION  
2024 UPGRADES  
VARIABLE FREQUENCY DRIVE SETTING LETTERS  
LIFT PUMP  
P-L02

City Document Number 5-0131L-E0002

Project 177-2024 CONWAY LIFT PUMPING STATION 2024 UPGRADES

Rev.	Description	Date	Created By	Checked By	Approved By
00	For Construction	3/13/2024	J. Swain	R. Ofstie	R. Ofstie

<b>VFD Data</b>	Control Schematics: 1-0131L-E0013				
	Size:	35 HP	Voltage:	575 VAC	Nominal Output Current: 20 A
	Manufacturer:	Schneider Electric	Model:	ATV630	Nominal Efficiency: 98 %

<b>Motor Data</b>	Power:	35 HP	Voltage:	575 VAC	Speed:	1200 RPM
	Manufacturer:	TBD	Model:	TBD	Pump Rating:	TBD
	FLA:	TBD	Code:	G	Power Factor:	Service Factor: 1.15

Param. No.	Description	Set Point	Note	Rev.
<b>BFR</b>	Motor Standard	[60 Hz NEMA] 60	1	
<b>NPR</b>	Nominal Motor Power	35 HP		
<b>UNS</b>	Nominal Motor Voltage	575 VAC		
<b>NCR</b>	Nominal Motor Current	36A		
<b>FRS</b>	Nominal Motor Frequency	60 Hz		
<b>NSP</b>	Nominal Motor Speed	1200 RPM		
<b>ITH</b>	Motor Current Thermal Monitoring (FLA x Service Factor)	41A		
<b>TCC</b>	2/3-Wire Control	[2-Wire Control] 2C	2	
<b>TFR</b>	Maximum Output Frequency	60 Hz		
<b>ACC</b>	Acceleration	5.00 s		
<b>DEC</b>	Deceleration	5.00 s		
<b>LSP</b>	Low Speed	41 Hz		
<b>HSP</b>	High Speed	60 Hz		
<b>APPT</b>	Application Selection	GPMP	2	
<b>CTT</b>	Motor Control Type	[U/F VC Quad.] UFQ		
<b>DRT</b>	Dual Rating	Normal	2	



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Param. No.	Description	Set Point	Note	Rev.
<b>MPC</b>	Motor Parameter	[Nominal Motor Power] NPR	2	
<b>CHCF</b>	Control Mode	[I/O profile] IO		
<b>FR1</b>	Ref Freq 1 Config	[Not Configured] NO		
<b>FR1b</b>	Ref Freq 1B Config	AI2		
<b>RCB</b>	Ref 1B switching	[DI3] LI3		
<b>RIN</b>	Reverse Disable	No		
<b>RFC</b>	Frequency Switch Assign	[DI4] Li4		
<b>FR2</b>	Ref Freq 2 Config	AI1		
<b>RRS</b>	Reverse Assign	[DI2] Li2		
<b>FDB-PIF</b>	PID Feedback Assign	No		
<b>STT</b>	Type of Stop	[Freewheel] NST		
<b>AI1T</b>	AI1 Type	[Voltage] 10u	2	
<b>UIL1</b>	AI1 Min. Value	0.0 Vdc	2	
<b>UIH1</b>	AI1 Max Value	10.0 Vdc	2	
<b>AI1F</b>	AI1 Filter	0.10 s		
<b>AI1E</b>	AI1 Interm. Point X	0%		
<b>AI1S</b>	AI1 Interm. point Y	0%		
<b>AI1L</b>	AI1 Range	[0-100%] PoS	2	
<b>AI2T</b>	AI2 Type	[Current] 0A		
<b>CRL2</b>	AI2 Min. Value	4 mA		
<b>CRH2</b>	AI2 Max Value	20 mA	2	
<b>AI2F</b>	AI2 Filter	0.10 s		
<b>AI2E</b>	AI2 Interm. Point X	0.0%		
<b>AI2S</b>	AI2 Interm. point Y	0.0%		
<b>AI2L</b>	AI2 Range	[0-100%] PoS	2	
<b>AO1</b>	AQ1 Assignment	[Motor Frequency] oCr	2	
<b>AO1T</b>	AQ1 Type	[Current] 0A	2	
<b>AOL1</b>	AQ1 Min. Output	4.0 mA		
<b>AOH1</b>	AQ1 Max. Ouput	20.0 mA	2	
<b>ASL1</b>	Scaling AQ1 Min.	0.0%	2	
<b>ASH1</b>	Scaling AQ1 Max.	100.0%	2	
<b>AO1F</b>	AQ1 Filter	2.0 s		
<b>AO2</b>	AQ2 Assignment	[Motor Current] FLt		
<b>AO2T</b>	AQ2 Type	[Current] 0A		
<b>AOL2</b>	AQ2 Min. Output	4.0 mA		
<b>AOH2</b>	AQ2 Max. Ouput	20.0 mA		
<b>ASL2</b>	Scaling AQ2 Min.	0.0%		
<b>ASH2</b>	Scaling AQ2 Max.	100.0%		
<b>AO2F</b>	AQ2 Filter	2.0 s		
<b>R1</b>	Relay 1 Assignment	[Operating State Fault] FLt		
<b>R2</b>	Relay 2 Assignment	[Forward] MFrd		
<b>R3</b>	Relay 3 Assignment	[Reverse] MrrS		
<b>R1D</b>	Relay 1 Delay Time	0 ms	2	



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Param. No.	Description	Set Point	Note	Rev.
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] YES	2	
LFL1	AI1 Signal Loss	[Freewheel] YES		
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	Undervoltage Timeout	0.5 s		
STP	Stop Type PLoss (undervoltage)	[No] No	2	
CLI	Current Limitation	61.0 A	4	
TLA	Torque Limit Active	[Yes] YES		
TPMM	Pmax Motor	300%	2	
OHL	Drive Temp Error Response	[Freewheel] YES	2	
THA	Drive Thermal State Warning	100%	2	
LNG	Language	English		
SVL	Motor Surge Limit	[Yes] YES		
SOP	Attenuation Time	[8 $\mu$ s] 8	2	

**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 145.0 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.



**SETTINGS SHEET  
HVAC CONTROLLER**

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ID: TIC-L600



**THE CITY OF WINNIPEG  
WATER AND WASTE DEPARTMENT**

Engineer's Seal

CONWAY LIFT PUMPING STATION  
2023 UPGRADES  
HVAC CONTROLLER SETTING LETTER  
TIC-L600

City Document Number 5-0131L-E0003

Project 177-2024 CONWAY LIFT PUMPING STATION 2024 UPGRADES

Rev.	Description	Date	Created By	Checked By	Approved By
00	Issued For Construction	3/13/2024	J. Swain	R. Ofstie	R. Ofstie

<b>Controller Data</b>	Loop Diagrams: 1-0131L-A0027-001, 1-0131L-A0028-001, 1-0131L-A0029-001				
	Manufacturer: Honeywell	Model: T775M2030	Voltage: 24 VAC		

Menu Location	Variable	Set Point	Note	Rev.
<b>SENSORS</b>	<b># SENSORS</b>	1		
<b>SENSORS/SENSOR A</b>	<b>UNITS</b>	DEG C		
<b>SENSORS/SENSOR A</b>	<b>LABEL</b>	DUCT A		
<b>OUTPUTS/MOD 1</b>	<b>TYPE</b>	0-10V		
<b>OUTPUTS/MOD 1</b>	<b>MIN OUT%</b>	0%		
<b>OUTPUTS/MOD 1</b>	<b>INTEGRAL</b>	400	1	
<b>OUTPUTS/MOD 1</b>	<b>DERIVATIVE</b>	0	1	
<b>PROGRAM/MOD 1</b>	<b>SETPOINT</b>	21°C		
<b>PROGRAM/MOD 1</b>	<b>SETBACK</b>	15°C		
<b>PROGRAM/MOD 1</b>	<b>SENSOR</b>	SENSOR A		
<b>PROGRAM/MOD 1</b>	<b>HEAT/COOL</b>	HEAT		
<b>OUTPUTS/MOD 1</b>	<b>TYPE</b>	0-10V		
<b>OUTPUTS/MOD 1</b>	<b>MIN OUT%</b>	50%		
<b>OUTPUTS/MOD 1</b>	<b>INTEGRAL</b>	400	1	
<b>OUTPUTS/MOD 1</b>	<b>DERIVATIVE</b>	0	1	
<b>PROGRAM/MOD 1</b>	<b>SETPOINT</b>	30°C		
<b>PROGRAM/MOD 1</b>	<b>SETBACK</b>	-40°C		
<b>PROGRAM/MOD 1</b>	<b>SENSOR</b>	SENSOR A		
<b>PROGRAM/MOD 1</b>	<b>HEAT/COOL</b>	COOL		
<b>OUTPUTS</b>	<b># RELAYS</b>	0	2	
<b>OUTPUT/OPTIONS</b>	<b>DI OPTS</b>	SETBACK		



**SETTINGS SHEET  
HVAC CONTROLLER**

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ID: TIC-L600

Menu Location	Variable	Set Point	Note	Rev.
OUTPUT/OPTIONS	SHOW RT	YES		

**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.