

24VDC CONTROL SYSTEM FOR BOILER FAN

Power Supply: 24VDC FROM CP-B8001

Motor Control Circuit:

- Power supply: 24VDC FROM CP-B8001
- Fuses: FU1A (0.25A, CLASS CC), FU1B (0.25A, CLASS CC), FU2 (1A, CLASS CC)
- Thermal Relay: CPT 600:120V 150VA
- Motor: M (BF23 BOILER CONTROL ROOM FAN, 0.75HP, 1.2FLA, 600V)

Control Unit (LCP-BF23):

- START button (XX 1)
- STOP button (XX 2)
- Interlocking contacts: XX 3, XX 4

Status Monitoring:

- RUN STATUS indicator (G)
- EP (End Point)
- Terminal blocks: TB01, TB02

Notes:

- NOTE 1: BF23-LOS
- NOTE 2: LCP-BF23
- NOTE 3 (TYP.): XX 1

The diagram illustrates the electrical connections between the BF23 starter compartment and the control room. A central vertical busbar is connected to the starter compartment on the left and the control room on the right.

Starter Compartment (Left):

- BF23 POWER CONNECTION:** A terminal block with three terminals: T1 (RD), T2 (BK), and T3 (BL).
- BF23 LOCK OUT SWITCH:** A terminal block (TB01) with six terminals: 1 (BF23-1), 2 (BF23-2), 3 (BF23-1), 4 (BF23-2), 5 (BF23-3), 6 (BF23-4), and X2.
- RUN STATUS:** A terminal block (TB02) with two terminals: 200 (BF23-200) and 201 (BF23-201).

Control Room (Right):

- 1x3C 12AWG TECK90 1kV C-BF23-1:** A cable connecting the starter compartment to the control room.
- JB:** A junction box with three terminals: AØ, BØ, and CØ.
- BF23 BOILER CONTROL ROOM FAN:** A motor (M) connected to the JB terminals.
- BF23-LOS (NOTE 2 TYP.):** A terminal block (XX) with two terminals: 1 (BF23-1) and 2 (BF23-2).
- LCP-BF23:** A terminal block (XX) with four terminals: 1 (BF23-1), 2 (BF23-2), 3 (BF23-3), and 4 (BF23-4).
- HS-BF23-01 CONTROL CIRCUIT:** A terminal block (XX) with four terminals: 1 (BF23-1), 2 (BF23-2), 3 (BF23-3), and 4 (BF23-4).
- CP-BB001:** A terminal block (XX) with two terminals: 1 (BF23-200) and 2 (BF23-201).
- RUN STATUS:** A terminal block (XX) with two terminals: 1 (BF23-200) and 2 (BF23-201).

Other Labels:

- EXISTING -** Labels for existing equipment and connections.
- (NOTE 4 TYP.)** and **(NOTE 6)** are present near the busbar and cable connections.
- REF. 2** is a reference to a specific part of the diagram.

1. LOCK-OUT SWITCH LOCATED AT MOTOR.
2. PRIOR TO DEMOLITION LOCAL CONTROL PANEL TERMINALS TO BE VERIFIED BY CONTRACTOR DURING INSTALLATION.
3. TO PLC DISCRETE INPUT. TERMINAL BLOCK NUMBERS TO COORDINATE WITH DCS MIGRATION PROJECT.
4. PRIOR TO DEMOLITION FIELD CABLE TAGS TO BE VERIFIED BY CONTRACTOR DURING INSTALLATION.
5. GREY LINETYPE DENOTES EXISTING. ENGINEER'S SEAL APPLIES TO NEW WORKS ONLY.
6. WHERE FIELD CONDITIONS NECESSITATE AN EXTENSION TO EXISTING CABLES IN ORDER TO REACH NEW MCC, SEE REFERENCE DRAWING 2.

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2	1-0101-EMCL-B034-001	ELECTRICAL – SCHEMATIC WIRING DIAGRAM DETAILS – TYPICAL EXISTING WIRING
1	1-0101-ESLD-B001-001	ELECTRICAL – MCC-B7001 SINGLE LINE DIAGRAM
NO.	DRAWING NUMBER	REFERENCE DRAWING TITLE
REFERENCE DRAWINGS		


**EE ENGINEERS
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MANITOBA**

Certificate of Authorization

KGS Group

No. 245


B.M.					
ELEV.					
CONSTRUCTION COMPLETION DATE: YYYY MM DD					
1	RE-ISSUED FOR CONSTRUCTION		2025	04	30
0	ISSUED FOR CONSTRUCTION		2025	03	25 CLR
NO.	REVISIONS		DATE		BY

		DESIGNED BY	AMS	CHECKED BY	CLR
		DRAWN BY	FA	APPROVED BY	CLR
		SCALE:	N.T.S.	RELEASED FOR CONSTRUCTION	
		DATE:	2025 03 26	DATE:	

ENGINEER'S SEAL

CONSULTANT DRAWING NUMBER

23-0107-010_PB_E2-11

 <div style="text-align: center;"> <h1>THE CITY OF WINNIPEG</h1> <h2>WATER AND WASTE DEPARTMENT</h2> <h3>ENGINEERING DIVISION</h3> </div>	
<p>NORTH END SEWAGE TREATMENT PLANT (NEWPCC) BACKUP BOILER SYSTEM AREA B – BOILER ROOM ELECTRICAL SCHEMATIC WIRING DIAGRAM – BF23 BOILER CONTROL ROOM FAN</p>	
CITY DRAWING NUMBER	<div style="display: flex; justify-content: space-between;"> 1-0101-EMCL-B011-001 <div> SHEET 1 OF 1 </div> </div>

BID OPPORTUNITY: 277-2025
CONTRACT NUMBER:

FILE PATH: R:\Projects\2023\23-0107-010\Dwg\Elec\2_PermBoiler\
FILE NAME: 1-0101-EMCL-B011-001.DWG