



## **Basic Electrical Motor Controls**

**&**

## **VFDs Course**

**November 13, 2024**

**Gander, NL**

**November 14, 2024**

**St. John's, NL**

### **Objective:**

To provide the water and wastewater personnel with a basic understanding of basic electrical theory, introduction to motor controls, VFDs and safety practices.

### **Basic Electrical Terms, Definitions & CEC**

- What is electricity
- Voltage; Amperage/Current; Resistance; Power/Watts/Kilowatts; Horsepower; Torque
- CEC – Definitions; overview of Sections and Tables

### **Ohm's Law & Misc. Formulas**

- Use Ohm's Law to determine Voltage, Amperage, Resistance, Power in a circuit
- Practice several formulas to determine power usage in a circuit/motor

### **Multi-meters & Meggers**

- Multimeters... Voltage Testers; Ohmmeters; Current Meters
- Meggers
- Hands-on

### **Motors, Motor Starters, Soft Starters, VFDs**

- Understanding basic construction of three phase motors
- Determining the proper operation of three phase motors
- Overview of Contactors / Overloads / Starters (Auxiliary Contacts, Coils, etc)
- Introduction & overview to Soft Starters
- Introduction & overview to VFDs
- Static displays of Motor Controls, Soft Starters & VFDs
- VFD demonstration with programming of parameters

### **Applications & Troubleshooting**

- Review various Applications
- Common causes of faults
- Nuisance tripping of Motor Controls
- Preventative Maintenance
- Knowing when to bring in the experts

**Electrical Safety**

- Proper PPE
- LOTO – Lock Out Tag Out
- Knowing how to protect yourself and others
- Understanding the dangers of electricity
- Knowing your limits

**PRESENTER:**

Dave Galbraith- Sansom Equipment

**COURSE FORMAT:**

Every attempt is made to keep the course informal and an enjoyable day-long training experience. Registration starts at 8:00 am, and the instructor will start shortly after 8:30. Wrap-up time is usually around 4:00 pm. Though all workshops are non-smoking, ample breaks are provided for coffee and discussion.

**CONTACT INFORMATION:**

Registration can be made by faxing or mailing the registration form on the reverse of this page, or on-line at [www.acwwa.ca](http://www.acwwa.ca). For further information, please contact ACWWA Section office at 902-434-6002.

**COURSE LOCATION:**

Gander Location  
Albatross Gander  
114 Trans Canada Hwy

St. John's Location  
St. John's Municipal Depot (Cedar Room)  
25 Blackler Avenue



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### Basic Electrical Motor Controls & VFDs Course

November 13, 2024

Gander, NL \_\_\_\_\_

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Name: \_\_\_\_\_

Organization: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

City, Province: \_\_\_\_\_ Postal Code: \_\_\_\_\_

Phone: \_\_\_\_\_ Email: \_\_\_\_\_

ACWWA Membership No: \_\_\_\_\_ WEF Membership No: \_\_\_\_\_

If no membership number is listed, you will be invoiced as a non-member. See pricing below.

#### Fee for ACWWA or WEF Members & Employees of UTILITY Members

Course: \$275.00 + \$41.25 HST = \$316.25

#### Fee for Non – Members

Course: \$300.00 + \$45.00 HST = \$345.00

Fees include coffee break

**Invoices will be sent to the address listed above.**

PO number to be included on the invoice \_\_\_\_\_

**Payment can be made by Visa, Master Card or cheque.**

Card Holder's Name \_\_\_\_\_

Credit Card Number \_\_\_\_\_ Expiry \_\_\_\_\_ CVV \_\_\_\_\_

Signature \_\_\_\_\_

Email address for credit card receipt \_\_\_\_\_

Cheques should be made payable to:

**ACWWA**

PO Box 28141 · Dartmouth, NS · B2W 6E2

Phone 902-434-6002 Fax 902-435-7796