

Lab 2: Using SEL RTAC with SEL-849 Relay

1. Background information:

In the lab 2, you will develop a basic understanding of two types of IEDs. They will learn how to connect devices and how to use them. This lab will require manual wiring work, learning to use AcSELeRator RTAC and AcSELeRator QuickSet to complete the interconnection of devices, as well as changing device settings to measure voltage, current, and phase angle.

2. Learning outcomes

- ◆ Primary
 - Since they started with the SEL-849 in lab 1, you will control the SEL-849 through SEL RTAC.
 - How to work devices
- ◆ Secondary
 - Measuring the voltage and current by IEDs
 - Using a the KoCoS ARTES system to test an IED

3. Equipment

- Hardware:
 - SEL-849
 - SEL RTAC
 - KoCoS ARTES 460
 - Desktop
 - Wiring appropriate for connections (Four insulate voltage cables and four insulated current cables).
- Software:
 - AcSELeRator RTAC
 - AcSELeRator QuickSet

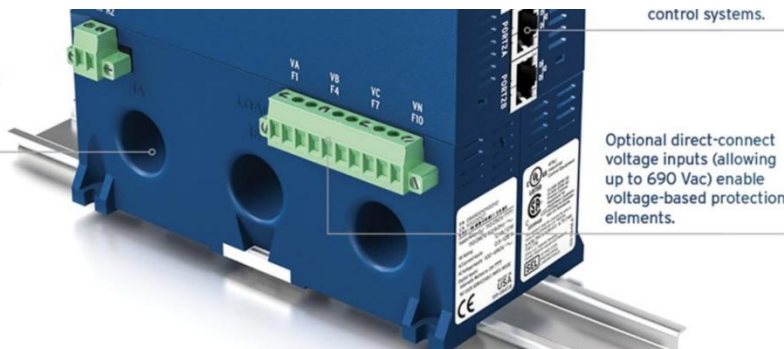
Lab Procedure

Log into Lab Computer

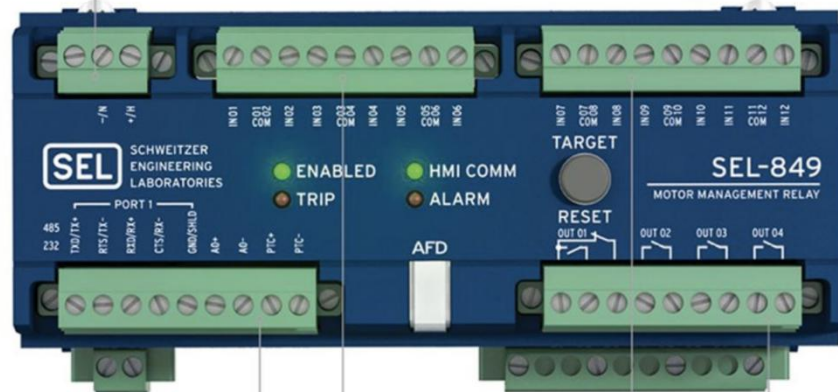
Connect the SEL 849 to the SEL RTAC using serial communication

-- Find the materials you need for the connection (Suitable cables and screwdriver)

You can use space-saving portals for motor conductors with a full-load ampere (FLA) rating range of 0.5–256 A or external CTs for an FLA rating of up to 6,000 A.



Power supply options include 110–240 Vac/110–250 Vdc or 24–48 Vdc.

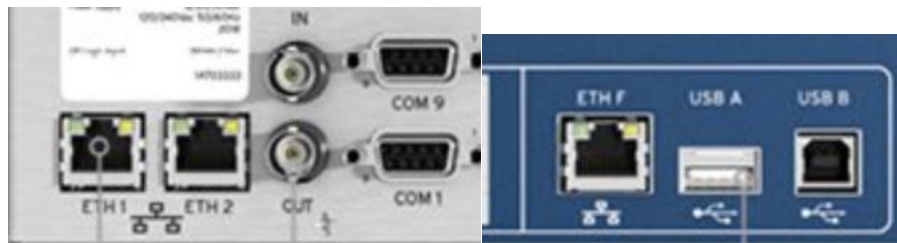


Connectors for the thermistor input and AO let you monitor the equipment temperature and integrate with a distributed control system (DCS).

Connectors for DIs and DOs provide a convenient way to issue control signals and monitor equipment.

Use a stripped male serial cable to connect the SEL 849 to the SEL RTAC.
Here is the table for SEL-849: (RTAC input):

Pin2- TXD	Red is 2
Pin3- RXD	Orange is 3
Pin5- GND	Blue is 4
Pin8- CTS	Brown is 5
	Black is 6
	White is 7
	Green is 8



Below is the table for RTAC IP ADDRESS:

192.168.1.2	Port 1
192.168.2.2	Port 2
192.168.3.2	Port F

Log into the software AcSELERator

- Create your Project
- Add the Device
- Check the connection by the software

Log into the AcSELQuickset

-- Show the settings of the SEL-849

Here is the link of SEL-849 sheet:

https://cdn.selinc.com/assets/Literature/Product%20Literature/Data%20Sheets/849_DS_20180907.pdf?v=20181023-134603

-- Change the Device name as our team name

-- Check the test range (voltage current) of SEL-849 (You will find that on the sheet, I recommend 60 V Line-Neutral, 2A Line-Neutral, and 60 Hz)

Work with KoCos AMST 460

-- Set the current voltage and phase angle by the device itself

Use the AcSELErator to test the voltage and current provided by KoCos ARTES 460