Determining Profile and Step Availability
Series F4S/D

The Series F4S/D has enough memory to create up to 40 profiles with a total of 256 steps divided between those profiles.

Profiles are assigned in sequence (PROFILE1, PROFILE2, …PROFILE40). The same is true for step numbers. It is possible to delete a profile that exist in the middle of the first and last profile. When files are deleted, the remaining files do not change names nor sequence. The Series F4S/D uses the next available profile sequence number for new profile creation. Each time a profile is created, an End step is placed in the profile. You insert steps before the End step to create a profile to meet your need. End steps can never be deleted but Profiles can be deleted.

When creating profiles on the Watlow Series F4S/D via a computer, it would be convenient to determine the available space in memory to create additional profile/steps. Additionally, it would be convenient to determine what file number can be used next.

There are two registers used to keep track of the number of files and steps that are available. Since the F4 has 256 steps available amongst 40 profiles it can be tricky to determine if all the files or all the steps are already allocated. The following two register can help:

Register 1218 Profiles remaining
Register 1219 Steps remaining

Read register 1218 to determine number of available open profiles. Then read register 1219 to determine how many steps are open for programming. We now know how much space is available but how can we tell if a profile number/profile step has been used?

Utilize register 4003, Step Type register to determine if a profile is used. An undocumented enumeration for this register is the value of –31300, which means "File or Step does not exist".

You would use it as follows:

1. Write to register 4000, the File number to check.
2. Write a 1 to register 4001, Step number to check.
3. Read register 4003, the Step Type.

If the controller returns a value of -31300 then the file doesn't exist otherwise continue to next step.

4. Write to register 4000, the File number to check.
5. Write a 2 to register 4001, Step number to check.
6. Read register 4003, the Step Type.

If the controller returns a value of -31300 when reading step 2 or greater, then the step doesn't exist. If a value of 5 is returned, then this is the End step.

1241 Bundy Blvd
Winona, MN 55987
Telephone (507) 494-5656

1241 Bundy Blvd
Winona, MN 55987
Telephone (507) 494-5656