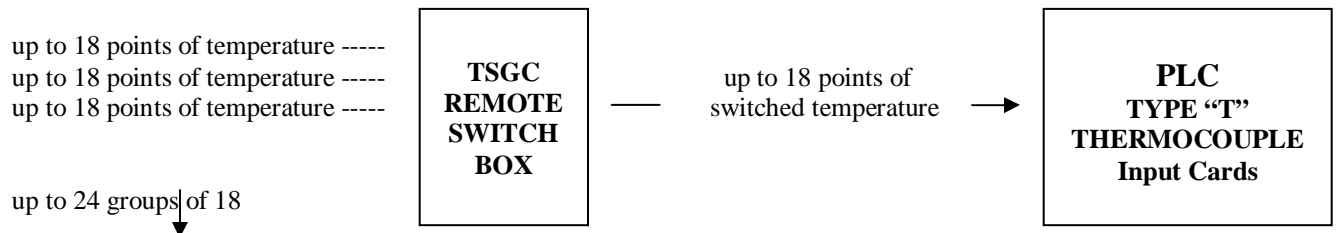


# TSGC Remote Relay Switch to PLC Wiring Instructions

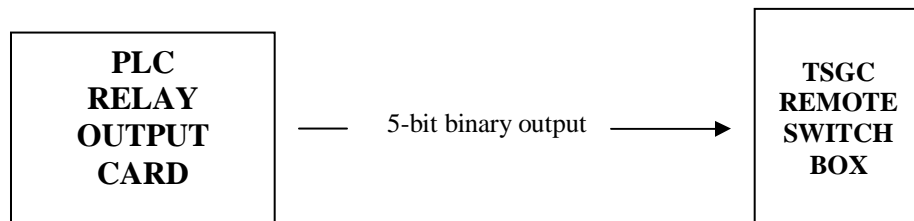
Following is information interfacing the TSGC remote temperature switching station to a programmable logic controller (PLC).

The TSGC remote switching is compatible with a standard, off-the-shelf PLC. The TSGC remote switching station is designed to switch any of 24 groups of up to 18 points of temperature to a common 18-point output.

The TSGC remote switching station requires a 5-bit binary code to select the switching card to be chosen. From the PLC, this is typically accomplished from a relay output card. The common 18-point output from the TSGC remote switching station is then scanned by the PLC utilizing thermocouple input cards. It is important to keep in mind when selecting the PLC thermocouple input card that the thermocouple is type "T".



After the temperatures from the common 18-point output are scanned by the PLC, the next switching card is selected and the common 18-point output scanned again. This is repeated for each switching card installed into the TSGC remote switching station.

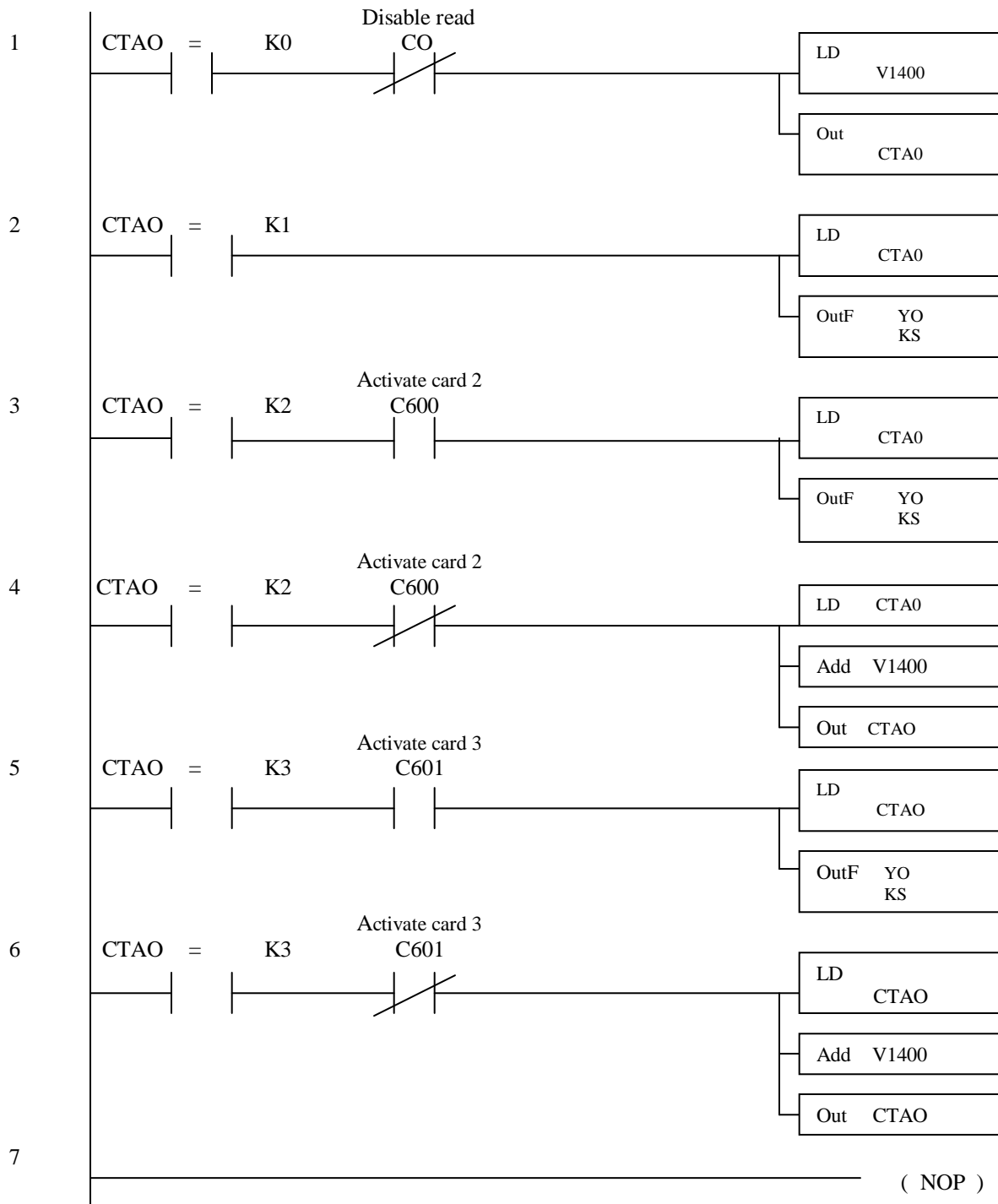


A properly programmed operator interface or HMI software attached to the PLC provides the operator with the required information from the measured temperatures.

In addition to a relay output card (an 8-point card is typically utilized for this application) and the thermocouple input card (or cards depending on the type of PLC and number of type "T" thermocouple inputs available on the input card), a 24 VDC power supply is required. This power supply provides 24 VDC to the TSGC remote switching station and is also used to select the switching card via the binary selection PLC outputs. A 2.4 amp supply has been used successfully for this application, however, the distance from the PLC/power supply to the remote switching station and the number of remote switching stations can have an effect on this requirement.

While the above describes an 18-point output, the switching cards can switch just 6 or 12 points also (which reduces the total number of points available to the TSGC remote switching station, but also reduces the thermocouple requirement to the PLC).

Below is a PLC programming example (**NOTE** – *This is only one of many possible programming examples as the program depends on the brand of the PLC being utilized*):



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