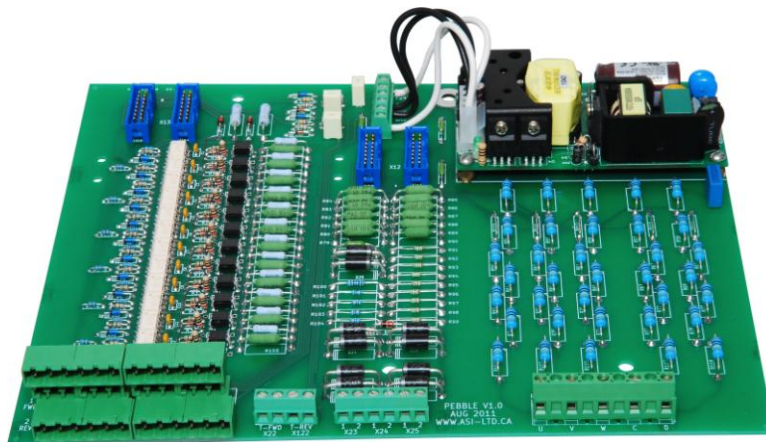


Interface board for Reliance's Thyristor bridge to ABB's DCS800 DC Drive



By
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After our previous success of our FlexPak retrofit board, ASI has done it again! New for 2011, ASI is introducing an interface board to be used with ABB's industrial DC Motor Drive, the DCS800.

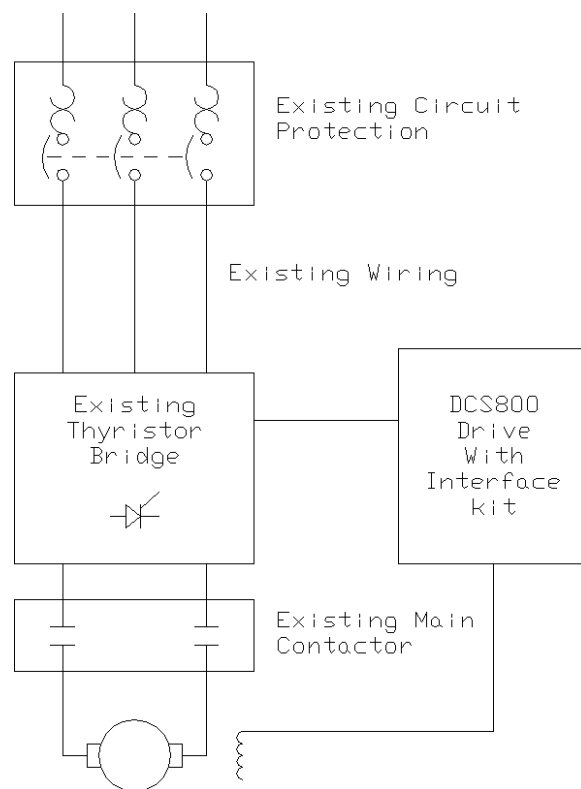
This Interface board fits right inside a small DCS800 drive to fire an existing Thyristor bridge. By doing so, an older analog or digital system can be replaced in a cost effective and time efficient manner.



When considering a drive upgrade, a few factors go into whether to do a retrofit or not. If the driven motor is over 300HP, then there are multiple reasons to consider a retro fit package.

The best reason to consider using our Interface board with a DCS800 drive is the installation cost. After removing the analog or the older digital drive, there should be more than enough room to install the DCS800. Installation of the drive is quick and easy. All the heavy wiring to the motor and to the transformers is left in place, saving a great deal of time and installation cost. Due to the small footprint of the drive, the work can be done by a single electrician.

The older high horsepower bridges typical take up an entire cabinet making them time consuming to remove in a short shutdown. This problem forces the mill to consider installing a brand new cabinet beside the older cabinets with all new heavy wiring and conduits to the motor and to the transformers. To be able to do this with in a shorter shutdown requires a lot of pre-wiring and preparation. This is by no means a trivial task. Both the labor cost and the equipment costs makes the project a deal breaker that typically delays these projects till they are well over due causing unnecessary production loss.



Keeping the existing Reliance thyristor bridge has numerous advantages that should not be over looked as well. The older SCR assemblies are no less reliable than the newer assemblies. In the case of a bad SCR, the individual SCR units can easily be removed from the cabinet and replace with another SCR assembly.

To replace all the SCR assemblies within a bridge with spare assemblies from storage should only take a single electrician 30 to 40 minutes of down time. The individual assemblies can be shipped in 1 cubic foot boxes that weigh less than 25lbs to have them serviced. In contrast, a non-retro fit package would either have to be serviced in place or would have to be completely removed and replace. Servicing a unit in place requires considerable amount of know-how, precision and time. A complete replacement would require multiple electricians and overhead hoists to remove and replace the drive.

As far as replacement parts for the older thyristor bridge, all the parts of the bridge are available. This includes the heat sinks, capacitors, resistors, MOVs, gate firing boards, and the SCR pucks. The SCRs themselves have not changed should remain available for the foreseeable future. The typical cost of having them serviced is minimal.

If the motor's field is 25Amps or less, then the drive's internal field supply can be used. If the motor exceeds 25Amps, then a separate field kit module would be used. After the drive has been installed, the software setup of the drive is the same as any other DCS800 drive.

Customers tend to have a backup drive in the case of a drive electronics failure. Using a Retrofit solution the cost of a spare drive is well below any other solution.

Transitioning to a modern digital system:

An upgrade to a complete digital system can be achieved in multiple stages on regular shutdown days.

Replacement of the analog drives on one or more shutdowns would be the first step. Due to the rich features of the DCS800 drive, the references to the drives can remain as analog signals until a PLC like Allen-Bradley's ControlLogix, can be implemented.

Summary

- The fastest and least expensive installation.
- Small foot print and only 21 Lbs
- Low cost solution for both the drives and their respective spare.
- Ideal for 300HP and greater drive systems.
- No additional field supplies are required if the current requirement is 25Amps or less. If the field exceeds 25Amps, then an additional field kit can be purchased.
- Conditions signals so that the drive can use existing Reliance style gate firing boards.
- Protected against failing SCRs and MOVs.
- Opto-isolation between the controller board and the gate driver boards.
- High current output to the SCR's gate driver boards ensure the SCRs will be triggered correctly.
- Should a drive ever fail, most of the wiring to the drive is on plug-in connectors so replacement is quick and easy. The drive is light enough that it can easily be replaced by one electrician within a few minutes.