

## Re: queries regarding ALTIVAR 58

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"dhananjay" <bandyaggroup@yahoo.co.in> wrote in message  
news:a63783ae.0503152256.3a5be864@posting.google.com...

> Hello,

> Our chemical plant is having a crane (40/5 Te) with MH, CT, LT motion  
> and was operated by slip ring motor (for two speeds 100% & 10%) with  
> rotor resistance control (may be and mechanical gear boxes) by our  
> electrical and mechanical operators etc, i am an electronic engineer  
> and been called to take the job 'now', as the installation is changed  
> to an induction motor with ALTIVAR 58 drive (flux vector control  
> sensorless)for MH and ALTIVAR 28 drive for CT, LT.

>

> The queries are as following regarding this

> 1) the literature says that the 58 drive is a sensorless flux vector  
> control but has an encoder card option for speed control? also it says  
> that there is a series called ALTIVAR 58F which is flux vector control  
> with or without sensor and is recommended for material handling  
> operations, vertical and horizontal where high dynamics and precision  
> etc is required, i have learnt while searching the postings that, for  
> crane applications it is good to have a FVC drive in close loop etc,  
> so now i dont understand that after putting the encoder card to altivar  
> 58, will it become a close loop FVC? Also the term "sensor" in the  
> literature i guess, does not refer to the speed sensor, is it so?(the  
> 58F drive which is titled as flux vector control with sensor is also  
> having an option card for speed feedback), so what is this sensor and  
> how the drive can function with or without this sensor?

>

> 2)i am also not sure which type of control this drive uses in its  
> algorithms, how can i understand is it indirect or direct torque  
> control?

>

> 3)also the literature of ALTIVAR 58F suggests that DC injection  
> braking is not compatible with FVC close loop and suggests dynamic  
> braking, since we have ALTIVAR58 and there is no such incompatibility  
> shown for DC injection braking i have a doubt regarding this as  
> follows: for crane application which is good combination "DC  
> injection braking, dynamic braking resistor and openloop FVC drive  
> (our installation)" OR "FVC close loop drive (like altivar 58f) AND no

- > *DC injection braking (dynamic resistor braking in its place)"*
- > *considering the safety?*
- > *also why is it incompatible, please explain?*

D'jay, it sounds like you need to do some reading up on the operation of variable speed drives – and there is plenty of info available on the Web – but to get you going:

For your Hoist control, you should fit an encoder card wired to a suitable rotary encoder (possibly the 'sensor' you speak of) on the shaft of the hoist motor. This will allow the drive to ensure you don't get 'slip' or 'drop' when the hoist stops with a load on board.

For both the Hoist and Travel drives you will need to fit braking resistors (Dynamic Braking) to enable the drives to properly stop the crane. When the crane is decelerating (stopping) there is a large amount of energy that needs to be dissipated and if you use DC Injection the drive will likely fail and your crane will crash.

Have fun,  
Cameron:–)