

Re: motor starting relay

Re: motor starting relay

Source: <http://sci.tech-archive.net/Archive/sci.electronics.misc/2007-01/msg00251.html>

- *From:* "Maxwell" <luv2fly99@xxxxxxx>
 - *Date:* Sun, 28 Jan 2007 16:10:22 -0600
-

"John Fields" <jfields@xxxxxxxxxxxxxxxxxxxxxx> wrote in message
<news:506qr251akt2st9rk7p4429thg7mf5ahin@xxxxxxxxxxx>

On Sun, 28 Jan 2007 14:13:56 -0600, "Maxwell" <luv2fly99@xxxxxxx>
wrote:

"John Fields" <jfields@xxxxxxxxxxxxxxxxxxxxxx> wrote in message
<news:92epr2dco468v2q9fm11fsh9a77j0sm65h@xxxxxxxxxxx>

On Sun, 28 Jan 2007 02:17:42 GMT, "Homer J Simpson"
<nobody@xxxxxxxxxxx> wrote:

"Maxwell" <luv2fly99@xxxxxxx> wrote in
message
[news:JwTuh.18131\\$8U4.9385@xxxxxxxxxxxxxxxxxxx](news:JwTuh.18131$8U4.9385@xxxxxxxxxxxxxxxxxxx)

Well now, it does have a 5
hp contactor that works off a
pressure
switch
now. On at 150 psi, off at
175 psi. That contactor
makes connection of
the
two 120v legs that supply
power. But it also has a
spring loaded
switch
that switches out the starting
capacitors at about 1400
rpm or so,
it's
a

Re: motor starting relay

17XX rpm motor. The 5 hp contactor and power leads to the motor are something different.

The relay I want to add would switch on the starting capacitors immediately when the power is switched on by the existing 5 hp contactor, and break that connection about 1.5 seconds later. So although I know the main contactor has to be rated for switching a 5 hp single phase motor, that normally draws 23 amps (and has a lock rotor rating of much much more), I don't know how much amperage is being supplied through, and has to be broken, by the capacitor circuit. Now that I think about it, it's only about a 14 or 16 gage wire, so it would have to be a lot less amperage than the power legs though the 5 hp contactor. The contactor closes a 30 amp circuit wired with #10 copper.

For sure you don't want the contacts to weld together however it may be that the starting current through the capacitor start circuit is quite reasonable once the motor gets up to speed.

Re: motor starting relay

"Quite reasonable"??? It goes to zero, you fucking moron,
once the
motor gets up to a certain speed and the centrifugal switch
opens,
disconnecting the caps from the starting winding. So you
don't know
anything about motors, either? What a surprise.

So any half way reasonable contactor should
do the job OK – inc. a pre owned one!

"Half way reasonable"? What the hell is that goddam
gobbledygook
supposed to mean?

Plus, the OP doesn't need a contactor, he needs a relay that
connects the capacitors to the starting winding when power is
connected to the motor via the 5HP contactor he's using now.
Then
1.5 seconds or so later, he wants the relay to drop out and
disconnect the caps from the starting winding. He's stated
that
very clearly, I think, so either you can't read worth a shit or
your
reading comprehension is very, very poor. The turn-off
delay
function is easily achievable, so the only thing that's up in the
air is how much current the relay contacts have to be able to
handle.

To the OP:

If you can measure the current in the starting winding and
post what
you find then any number of us (except Homer) can help you
pick a
suitable relay.

I'm not sure how accurate it is, but my meter was indicating about 28 amps
at startup, and 5 amps during run on the capacitor circuit, and about 120
amps at start up, and 23 amps during run on the line voltage.

Re: motor starting relay

I couldn't find a size on the wires in the capacitor circuit, but it appears to be about a #14, it only measures .116" on the outside of the insulation.

I'm confused.

I would have thought that after the centrifugal switch disconnected the capacitor circuit the current in that circuit would have gone to zero. Maybe there's more to this than meets the eye?

Do you have a manufacturer and part number for the motor?

Confused me too John, but now that I think about it, I think it is probably a cap start, cap run motor. It has both a large pair and small pair of caps. I was probably measuring the cap run circuit when I made that observation. But every circuit in the cap box ran either 28 or 23 on start up. Oddly enough, I checked a 2 hp disk sander I have been having the same problem with, and it showed 20 amps on start up. But it's only a single cap motor. It has a single cap about the same size as the two small caps on the 5 hp.