

Re: How much current safe for 30m extension?

Source: <http://sci.tech-archive.net/Archive/sci.electronics.equipment/2005-02/0174.html>

From: Watson A.Name - \ (NOSPAM_at_dslextrreme.com)

Date: 02/13/05

Date: Sat, 12 Feb 2005 17:38:20 -0800

<ehsjr@bellatlantic.net> wrote in message
news:REtPd.19619\$ya6.6306@trndny01...
> *Watson A.Name - "Watt Sun, the Dark Remover" wrote:*
>
> > *"Sammo" <noone@no-where.com> wrote in message*
> > *news:95FB7BA1F25441A7D4@130.133.1.4...*
> >
> >
> > > *I am in the UK (so mains voltage is about 230V or 240V).*
> > >
> > > *I'm in the U.S. and this gives me a flashback on what I was thinking*
> > > *about trying a few months ago. We have a PBX at work that's on 48V*
> > > *batteries, but the batteries are 9 yrs old and need replacing. They*
> > > *cost a bundle so I thought it would be possible to run a power cable*
> > > *underground to the big UPS we have in our computer room. Problem is*
> > > *that the PBX's rectifier takes 30A max at 120VAC, or about 3.6kW.*
And
> > *the distance between is about 1300 feet or about 400m.*
> >
> > *I would guess that the UPS output should go into a transformer and*
come
> > *out 480VAC, so the cable losses would be minimized. Then another*
transf
> > *on the PBX end to bring it back to 120VAC.*
> >
> > *Hmmm... if you do it, just connect the PBX directly to the*
> > *480 volts. Just think how much faster the phone calls will*
> > *be at 480 vs 48! :-)*
>
> > *I think installing a half mile of # 4 might be "politically" cost*
> > *prohibitive, regardless of the technical merits. And I doubt*
> > *it would be a good financial solution. How many times*
> > *can you replace the batteries for the cost of digging a*
> > *1/4 mile trench, and installing conduit, cable, fittings,*
> > *transformers, etc ?*

Last time we had a major failure of the batteries and rectifier it cost

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over \$15,000 to get it repaired. Obviously that was before 1996, when the present batteries were installed. So the price would be somewhat higher today.

The spare conduit is already in place underground, all that is needed are the power cable and associated switchgear.

We regularly have the 4160VAC cabling HiPot tested on campus, and on occasion a section has to be replaced. Y'ever see this stuff? It's 600MCM, with heavy insulation and shielding. The copper is as big as your thumb, and it's expensive!! I have a footlong section of it on my desk, and when someone asks what it is, I tell them it's high speed datacomm cable! ;-) WOW! Really??

I googled for that and this URL says that 600MCM is 29mm. Fat pipe! Imagine all the data you could shove thru it!
<http://www.appatech.com/a-30.htm>

> *Ed*

[snip]