What is a load correction device or CAPACITOR used for with PIXIE?

Dimmers · https://pixiepartners.com.au/support-docs/what-is-a-load-correction-device-or-capacitor-used-for-with-pixie/

A load correction device or CAPACITOR (also the part number if you need to order more from SAL) is included in every PIXIE smart switch (and used to be provided in the dimmer - as of 2025 this is not longer included in the dimmer).

These are used for 2 different scenarios depending on whether you are using a dimmer or a switch.

Load Correction for Dimmers

The provided capacitor should only be installed as needed - to assist as per the scenarios below. DO NOT install this if no load is connected to your DIMMER as this will damage the dimmer (SDD300BTAM). It is OK to install the capacitor if no load is connected with the smart switch (SWL600BTAM or STS600BTAM)

A load correction device is most often used for dimming loads when flickering occurs when dimming low.

When attempting to dim a single downlight or a very small LED load (less than 10w as a rule of thumb) it may be beneficial to install a capacitor across the LOAD and NEUTRAL connections.

Remember PIXIE smart dimmers and switches do not need a Neutral at the switch so depending on the wiring on site, this may be at the light point in the ceiling.

These *may* have the effect of smoothing out dimming performance and / or allowing a deeper dimming performance - or eliminating the flickering altogether at lower dimmed levels - **if this has**

been experienced.

There is no sure-fire way to identify if this will be needed *(or if it will actually produce the desired result)* but trying to dim a 3W or 4W load on a dimmer (like the PIXIE SDD300BTAM) which has a minimum load requirement of 2W, will probably produce a sub-optimal result.

In this example it may be better to simply switch that lighting load instead of dimming it!

Note installing a load correction device WILL NOT have any impact of flickering LED lights due to the off-peak hot water tone experienced in NSW and QLD.

You can read more about how to solve that issue here:

> Why are my LED Lights flickering?

Embedded media: https://pixiepartners.com.au/support-docs/why-are-my-led-lights-flickering/embed/#?secret=WUTOsQ5fCN#?secret=2mLneLlVwd

Load Correction for a Switch

Using the load correction device for a PIXIE switch has a few more varied applications.

This is because the PIXIE switches have a minimum load requirement of about 13W for the little relay inside to be able to operate reliably.

Issue with minimum load most commonly occur with:

- - Single lamp or downlight loads less than 13W
- - Try to operate a CONTACTOR (which typically have no or low load on the input side of the capacitor)

If you want to avoid this minimum load issue, **especially as it relates to driving contactors**, use of the PIXIE Dual Relay Controller (PC206DR/R/BTAM) may be a better option as it has NO MINIMUM LOAD requirements and be controlled from the App, by connecting standard bell-press mechs from

any vendor and by a PIXIE Multifunction controller too.

More about that here:

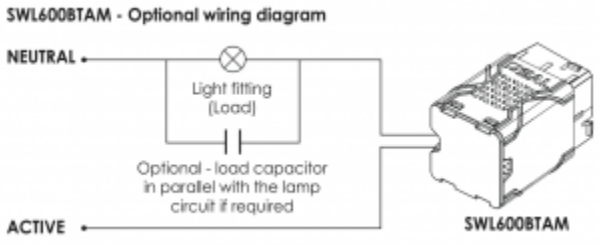
> PIXIE Dual Relay Controller

Embedded media: https://pixiepartners.com.au/pixie-dual-relay-controller/embed/#?secret=g9tBUzUUnw#?secret=SmH4RYYNmK

For Lighting Loads

This is recommend for small lighting loads that are being switched.

We most commonly see this being installed for bed-side lamps which have a very small lamp less than 13w which is being switched on and off



For Contactor Loads

Using a PIXIE switch to drive a contactor is a great way to operate a larger load.

However as the input side of the Contactor presents almost no load to the PIXIE switch 1 or more capacitors or load correction device will need to be installed across LOAD and NEUTRAL for the contactor to operate and stay latched.

For Iron Core Transformer Loads - Garden Lights

Using a load correction device with a PIXIE switch to operate garden lighting is normally necessary.

However we would recommend reading this article first if that is what you are planning on doing:

> Can PIXIE control garden lights?

Embedded media: https://pixiepartners.com.au/support-docs/can-pixie-control-garden-lights/embed/#?secret=nfVhyTn3Xg#?secret=8O702bTQ2X