D&H DECODERS STAY-ALIVE

There are 3 types of stay alives:

1. Electronic stay alives (3 wires):

They have separate charge- and discharge circuits.

They are often manufacturer-specific.

These units are not supported by the D&H decoder except the proprietary 4-wire D&H unit (not available in UK).

2. Stay alive units (2 wires):

They are already equipped with charging resistor and discharging diode, sometimes also have a voltage limiter.

Without a voltage limiter the track voltage must never exceed capacitor voltage plus 1.4 volts.

These can be either directly connected to the decoder or to the locomotive circuit board depending on the interface.

3. Capacitors only:

These can not directly be connected to the D&H decoders.

You will have to add charging resistor (min 100 ohms) and discharging diode and the track voltage must never exceed capacitor voltage plus 1.4 volts.

Together with these additional components they can be either directly connected to the decoder or to the locomotive circuit board depending on the interface.

Connection to the decoder depends on decoder interface.

First you have to identify the + and - of the stay alive (unit). In most cases + Plus is the blue (or maybe red) wire while - Minus ist most often the black wire.

This can not always be guaranteed so carefully check before.

Stay alive Minus has to be connected to decoder Minus which usually is GND (ground) and stay alive Plus has to be connected to decoder positive voltage supply (Plus) which is usually marked as + or VS or SV or ZVS.

NEVER CONNECT TO TRACK VOLTAGE.

It is best to connect the stay alive (unit) to the locomotive circuit board in case of Next18 or 21 pin interface..

Please always check the manual of your loco or ask your retailer or the manufacturer where you can find the respective solder pads.

If this is absolutely impossible, you have to solder on the decoder.

Be sure you are able to do fine soldering because mishandling is not covered by the warranty.

Please refer to the D&H decoder manual:

https://doehler-haass.de/cms/media/pdf3/SD18A_SD21A.pdf

6pin is SD10 page 6,

8pin is SD16 page 7,

Next18 is SD18 page 8,

21pin is SD21 page 10.

On each picture you can identify the solder pads for GND which is Minus -.
SD10 and SD21 also show the solder pads VS or ZVS for Plus +.

On the 8 pin SD16 you can grab Plus + from the blue wire.
The Next18 has no connection for Plus + so you have to take it from the loco PCB.

The respective pins on the 21pin interface are
- pin 14 for Minus or - or GND
- pin 18 for Plus or + or VS or SV or ZVS.