PC-HLT • April, 2024
Published for the Basler Electric Power Systems Group

Application Note

BE1-50/51B Self-Powered Overcurrent Retrofit with Hot Line Tag (HLT)

Over the years, the BE1-50/51B Self-Powered Overcurrent Retrofit Relays have been an excellent addition to Basler Electric's protection line. These protective relays offer modern solid-state reliability and are function-packed in a convenient system that allows for direct replacement of existing electromechanical overcurrent relays. The solid-state BE1-50/51B is an effective upgrade that not only cuts short-term costs of wiring and panel work versus full replacement options but also, over time, lowers maintenance costs by eliminating the need for frequent testing and calibration.

Figure 1 - BE1-50/51B Retrofit with HLT

Hot Line Tag

The BE1-50/51B series offers an optional enhancement, the Hot Line Tag (HLT). This feature adds a highly visible red neon light and switch to the front of the relay. When activated, the switch turns on the light when trip voltage is present and modifies the relay's trip characteristics by either placing the Instantaneous Overcurrent (50) element in parallel with the Time Overcurrent (51) contacts or adding an additional 50 element in parallel with the 51 element. Taking advantage of the HLT feature allows significantly reduced clearing time to assist with reducing arc flash hazards.

Practical Application

An electric provider in Canada recently upgraded many of their existing electromechanical relays to Basler BE1-50/51B relays. Some feedback was provided from the customer. First, they felt that the relay made post-installation testing unnecessary, citing the benefits of the green power light on the front of the relay that confirms current transformer connection and the red HLT light that confirms trip voltage on the output. Next, the convenience to not have to touch fragile wiring or make cuts to the asbestos panels to mount the relays eliminated safety hazards and costs associated with asbestos releated work. Finally, the work could be completed without racking the breaker out of service, thereby ensuring safety for the installation personnel. These benefits made the BE1-50/51B with the HLT feature the obvious retrofit choice for this company.

Available Models

The Hot Line Tag feature is available as an addition to many of the existing models and is designated by the -25X suffix, where X is a number between 0 and 9. Below is a list of each BE1-50/51B model with the HLT feature.

BE1-50/51B-252 Plug-and-Play Model

- For General Electric IAC arc flash relays.
- Replaces relays with CTs located at terminals 5 and 6, and trip outputs located at terminals 1, 2, and 3.
- No wiring changes required.
- Fits into an existing case.

BE1-50/51B-253 Retrofit Model

- For General Electric IAC arc flash relays.
- Replaces relays with CTs located at terminals 5 and 6, and trip outputs located at terminals 1, 2, and 3.
- Wiring changes required. Contact a Basler application engineer for further information.
- Fits into an existing cutout.
- No panel drilling or cutting required.

BE1-50/51B-254 Plug-and-Play Model

- For ABB (Westinghouse) CO arc flash relays.
- Replaces relays with CTs located at terminals 8 and 9, and trip outputs located at terminals 1, 2, and 10.
- No wiring changes required.
- Fits into an existing FT-11 case.

BE1-50/51B-255 Plug-and-Play Model

- For ABB (Westinghouse) CO arc flash relays.
- Replaces relays with CTs located at terminals 8 and 9, and trip outputs located at terminals 1 and 10.
- No wiring changes required.
- Fits into an existing FT-11 case.

BE1-50/51B-256 Plug-and-Play Model

- For General Electric IAC arc flash relays.
- Replaces relays with CTs located at terminals 5 and 6, and trip outputs located at terminals 1 and 2.
- No wiring changes required.
- Fits into an existing case.

BE1-50/51B-257 Retrofit Model

- For General Electric IAC arc flash relays.
- Replaces relays with CTs located at terminals 5 and 6, and trip outputs located at terminals 1 and 2.
- Wiring changes may be required. Contact a Basler application engineer for further information.
- This relay fits into an existing cutout.
- No panel drilling or cutting required.

Other Retrofit Options

Alongside the BE1-50/51B line, Basler offers retrofits for electromechanical differential relays and reclosing relays. The BE1-87B retrofit relay (Figure 2), part number 9282300111, is a plug-and-play replacement for GE PVD21B and PVD21D relays. Additionally, the BE1-79A (Figure 3) replaces GE ACR reclosing relays. Furthermore, Basler supplies pre-made adapter plates fitting most existing cutouts for use with the advanced multi-function BE1-11 Protection System.

For More Information

For further assistance with product orders or questions, contact Basler Electric Technical Support at +1 618.654.2341.

For more application notes, product bulletins, and instruction manuals, visit www.basler.com, contact your Application Engineer, or contact Technical Support at +1 618.654.2341.

Figure 2 - BE1-87B Retrofit

Figure 3 - BE1-79A Retrofit

Basler Electric®

Highland, Illinois USA
Tel +1 618.654.2341
Fax +1 618.654.2351
email: info@basler.com

Suzhou, P.R. China
Tel +86 512.8227.2888
Fax +86 512.8227.2887
email: chinainfo@basler.com

Quality System Certification
Basler
ISO 9001:2015