

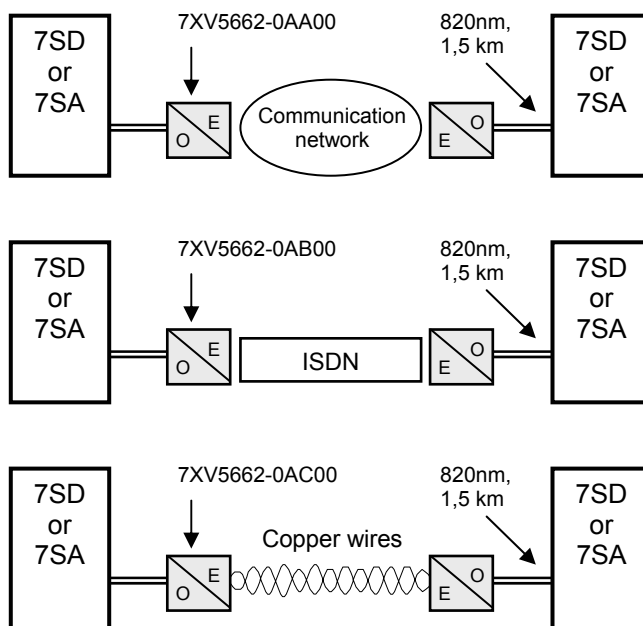
**Application: Backreflection filter****Disturbed communication on the optical protection data interface between Siprotec line protection and communication converters****Relevant components:**

Prot. device: 7SD52x, 7SD53x, 7SD610, 7SA522, 7SA6xx  
Interface: ordering option: FO5-modul (protection data interface), 820nm, 1,5 km  
Converters: 7XV5662-0AA00 for X.21/RS422 and G.703.1  
7XV5662-0AB00 for ISDN (S0-bus)  
7XV5662-0AC00 for copper wires

**Problem description:**

Communication via fiber optic cables can be affected by a special physical effect. Under certain conditions parts of the received light can be reflected from the optical receiver back into the FO-cable. The "backreflection"-effect can lead to disturbed communication on the FO-connection.

This effect only appears with the above described components when a protection device is connected with an external communication converter via the protection data interface (FO5-modul). Backreflection can appear on FO-distances between 10m to 200m.



This effect leads to a reduced availability (measured value) of the protection data interface connection between the Siprotec line protection devices.

**Application: Backreflection filter****Remedy:**

The described disturbances of the FO communication can be eliminated with an optical attenuation-cable (backreflection-filter, typical attenuation < 1dB). Two separate attenuation-cables have to be installed each for TxD- and RxD-FO-connection. The installation of the backreflection-filter can be done at any position of the FO-connection.

A complete cable-kit is available and can be ordered:

- 2 pieces of FO attenuation-cables with ST-plugs
- 2 pieces of ST-plug-couplings
- Connection to fiber types: 50/125µm and 62,5/125µm



- Ordering code: C53207-A406-D114-1.

**References:**

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|------------------|---|
| App_diff_0002_00 | Commissioning of the 7SD5 (7SD61) Protection Data Interface with Communication Converter Copper     |
| App_diff_0003_00 | Commissioning of the 7SD5 (7SD61) Protection Data Interface with Communication Converter X.21/G.703 |