Replacement of VRD2-L by VRD3

This documentation describes the technical implementation required for replacing a VRD2-L with a VRD3.

**Initial situation:**

The VRD2-L can be connected in 3 different ways.

- **Case 1:** 0...10V DC at input 3 (w1)
- **Case 2:** 0...20 V phase-cut signal at input 4 (w2)
- **Case 3:** 3-point (floating) operation at inputs 3 (w1) and 4 (w2)

In contrast to this, the VRD3 can only be connected with 0(2)...10V DC. The connection with 0...20 V phase-cut signal and the 3-point operation are not supported. A substitute solution exists in both of these cases.

Further information concerning the products used and regarding the setting device ZTH-VAV can be found in the Internet at: www.belimo.eu

**Case 1: 0...10V DC at input 3 (w1)**

The VRD2-L is connected at input w1 with a modulating 0...10V DC signal. The VRD2-L can be replaced directly with a VRD3 in this connection type.

1:1 replacement.

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**VRD2-L**

![Modulating Mode](image)

**VRD3**

![Connection Diagram](image)
Case 2: 0…20 V phase-cut signal at input 4 (w2)

The VRD2-L is connected at input w2 with a modulating 0…20 V phase-cut signal. In this type of connection, the VRD2-L cannot be replaced directly with a VRD3 because the latter does not support this type of connection. The SBG24 device can be connected as a signal converter between setpoint device and VRD3 in such cases. The SBG24 converts the phase-cut signal into 2…10V DC. The VRD3 must be set to 2…10V DC with the ZTH-VAV.
Case 3: 3-point (floating) operation at inputs 3 (w1) and 4 (w2)

The VRD2-L is connected at inputs w1 and w2 with a 3-point signal. The VRD2-L cannot be replaced directly with a VRD3 in this connection mode, because the latter does not support this type of connection. The VSW3 device can be connected as a signal converter between setpoint device and VRD3 in such cases. The $V_{\text{min}}$ potentiometer at the VSW3 must be set to 0%. The $V_{\text{max}}$ potentiometer must be set to 100%.

Note: Terminals 2 and 3 must be connected with one.