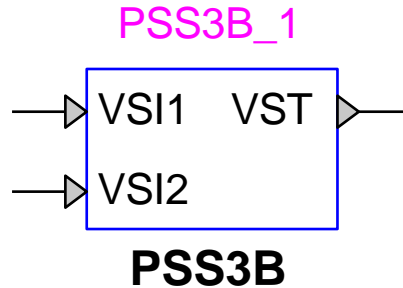


# Exciters and Governors: Power System Stabilizer PSS3B



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## 1 Description

This device is an implementation of the IEEE type PSS3B power system stabilizer model. This device is implemented as described in [1]. Implementation details can be viewed by inspecting the subcircuit of this device.

### 1.1 Pins

This device has 3 pins:

Pin name	Type	Description	Units
VSI1	Input	Electrical power	pu
VSI2	Input	Speed deviation	pu
VST	Output	PSS output (equivalent of terminal voltage)	pu

### 1.2 Parameters

The default set of parameters can be found in [1].

#### 1.2.1 Data tab

The parameters on the Data tab are:

1. **Time constant  $T_1$** : transducer time constant
2. **Time constant  $T_2$** : transducer time constant
3. **Gain  $K_{S1}$** : power system stabilizer gain
4. **Gain  $K_{S2}$** : power system stabilizer gain
5. **Time constant  $T_{W1}$** : washout time constant

6. **Time constant  $T_{w2}$** : washout time constant
7. **Time constant  $T_{w3}$** : washout time constant
8. **Filter constant  $A_1$** : PSS signal conditioning frequency filter constant
9. **Filter constant  $A_2$** : PSS signal conditioning frequency filter constant
10. **Filter constant  $A_3$** : PSS signal conditioning frequency filter constant
11. **Filter constant  $A_4$** : PSS signal conditioning frequency filter constant
12. **Filter constant  $A_5$** : PSS signal conditioning frequency filter constant
13. **Filter constant  $A_6$** : PSS signal conditioning frequency filter constant
14. **Filter constant  $A_7$** : PSS signal conditioning frequency filter constant
15. **Filter constant  $A_8$** : PSS signal conditioning frequency filter constant
16. **Maximum output  $V_{STMAX}$** : PSS maximum output signal
17. **Minimum output  $V_{STMIN}$** : PSS minimum output signal

## 2 Initial conditions

The initial output signal is zero from the steady-state solution.

## 3 References

- [1] "IEEE Recommended Practice for Excitation System Models for Power System Models for Power System Stability Studies," IEEE Standard 421.5-2005.