SPAF 140C Relay

It's a frequency relay, it's includes 4 frequency stages each of them with a different frequency threshold and separate operate times. The df/dt threshold is common to all stages.
The relay type model contains all elements of the actual relay.

Not supported features

- The operate time minimum value is always 100 ms also when the F and the dF/dt element are connected with an AND operator and accordingly with the relay documentation the minimum operate time should be 150 ms
- Recovery function: at the moment in the model all the stage are set for a manual reset.
- In the relay the IdF/dt value is unique but the relay consider a positive or a negative frequency ratio threshold if the associated frequency element is used as an overfrequency or an underfrequency element. For this reason in the PowerFactory model 4 different IdF/dt elements have been created and the user must insert an absolute value of the frequency ratio threshold identical in all the IdF/dt blocks. The values must be negative if the stage frequency element is an underfrequency element, positive if the stage frequency element is an overfrequency element

Please note that in the "Output logic" block at the moment only the TS1 output is programmed and wired