Features

- Intended for single phase railway systems (16 2/3 Hz) supplied from static frequency converters and where the signal system works in the frequency range of 90-110 Hz.
- Detects the 100 Hz component of the current in the relay point.
- Trips the catenary in order to prevent induced disturbances in the signal system
- The function can be disabled by selected external conditions

Application

The 100 Hz protection, HHZ, is intended for 16 2/3 Hz, single-phase systems and is applicable in systems supplied from static frequency converters.

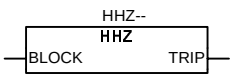
The HHZ protection detects whether a 100 Hz component exists in the line current and trips the circuit-breaker if the component exceeds the set operating level. The function ensures that no 100 Hz component is distributed in the network from the converters and are suitably used on the track feeder network where the signal system works in the frequency range 90 -110 Hz.

Functionality

The current measuring element in one of the built-in digital signal processors continuously measures the phase current. The current signal is conditioned by a number of filters, rectified and smoothed. The signal is compared to the set operate value and an output signal is activated.

The 100 Hz function is blocked if the input signal HHZ-BLOCK is activated.

Function block



en02000655.vsd

Input and output signals

Table 1: Input signals for the HHZ (HHZ--) function block

Signal	Description
BLOCK	Input signal that blocks the 100 Hz protection

Path in local HMI: ServiceReport/Functions/HundredHzOC/FuncOutputs

Table 2: Output signals for the HHZ (HHZ--) function block

Signal	Description
TRIP	Operation of the 100 Hz protection

Technical data

Table 3: HHZ - 100 Hz function

Function	Setting Range	Accuracy
		16 2/3 Hz
I100>	(0.5-10) % of I1b in steps of 0.1%	+/-2.5 % of Ir
Time-delay	(0-60) s in increments of 1 ms	+/- 0.5 % +/- 10 ms

Manufacturer

ABB Automation Technology Products AB
Control & Force Measurement
Substation Automation
SE-721 59 Västerås
Sweden
Tel: +46 (0) 21 34 20 00
Fax: +46 (0) 21 14 69 18