

## Features

- Highly accurate fault locator.
- Fault location presented in km, mile or per cent of line length.
- Fault location compensated for:
  - load current.
  - remote end infeed.
- Manual recalculation of fault location when-ever necessary.

## Application

An accurate fault locator is an essential complement to the line protection. The fault locator provides distance to fault together with information about the measuring loop that has been used in the calculation.

Reliable information on fault location reduces the outage time and minimises the need for patrolling.

## Functionality

The fault locator can be started by any internal or external binary signal. Pre-fault and fault phasors of currents and voltages, that were filtered from disturbance data stored into digital sample buffers, are then used for the distance to fault calculation. The phase selective signals from the built-in protection functions provide the necessary information for the selection of the loop to be used for the calculation. It is also possible to use the external phase selection information.

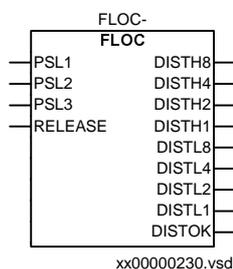
For the distance to fault calculation, a line modelling algorithm that takes into account the sources at both ends of the line, is used. In this way, the influence of the load current, the infeed from the remote end and the fault resistance, can be compensated for, resulting in a highly accurate calculation.

The function indicates the distance to the fault as a percentage of the line length, in kilometers or miles as selected.

Possibility to make recalculations with changed parameter settings exists.

Information on the last ten disturbances is stored.

## Function block



**Input and output signals**

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

Signal	Description
PSL1	Fault locator phase selection information - phase L1
PSL2	Fault locator phase selection information - phase L2
PSL3	Fault locator phase selection information - phase L3
RELEASE	Starts the operation of the fault location function

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

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

Signal	Description
DISTH8	Fault locator BCD (Binary Coded Decimal) H8, most significant digit, bit 4
DISTH4	Fault locator BCD H4, most significant digit, bit 3
DISTH2	Fault locator BCD H2, most significant digit, bit 2
DISTH1	Fault locator BCD H1, most significant digit, bit 1
DISTL8	Fault locator BCD L8, least significant digit, bit 4
DISTL4	Fault locator BCD L4, least significant digit, bit 3
DISTL2	Fault locator BCD L2, least significant digit, bit 2
DISTL1	Fault locator BCD L1, least significant digit, bit 1
DISTOK	Fault locator distance Ok

**Technical data**

**Table 3: FLOC - Fault locator**

Function			Setting range	Accuracy
Distance to fault locator	Reach for $I_r = 1$ A	Resistive direction	(0 - 1500) ohm/phase	+/- 2.5 % (typical)
		Reactive direction	(0 - 1500) ohm/phase	
	Phase selection		According to input signals	

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