17. A method according to claim 16 wherein the method further comprises using a third set of algorithms to process the signals received from a third set of field devices to determine if the measured values represented by the signals indicate that there might have been an influx of formation fluid into the well bore.

18. A method of operating a drilling system according to claim 16 or 17 wherein if one of the sets of algorithms determines that there might have been an influx of formation fluid into the well bore, the method includes automatically analysing the signals received from one of the other sets of field devices to corroborate this determination.

19. A method according to claim 18 wherein, if the set of field devices used by one of the other sets of algorithms includes a common field device which measures the same physical characteristic of the drilling system as the field device whose signal resulted in the determination that there might have been an influx of formation fluid into the well bore, the method includes analysing the signals received from the common field device to corroborate the determination.

20. A method according to any one of claims 16 to 19 wherein the method further includes determining an aggregate safety score for all sets of field devices by adding a first value to the aggregate safety score for each set of field devices with a safety score greater than a predetermined value, and adding a second value to the aggregate safety score for each set of field devices with a safety score less than the predetermined value, the aggregate safety score being reevaluated each time the safety score for any of the sets of field devices changes.

21. A method according to any one of claims 16 to 20 wherein when a field device is determined to be faulty, the method includes determining whether or not there is another active field device which measures the same physical