| MutationOpt FaultModel | DataItem | Span | Туре | FaultClass | Min | Max | Threshold | Delta | State | Value |
|------------------------|----------|------|------|------------|-----|-----|-----------|-------|-------|-------|
| 1 TempMessage | 1 | 1 | INT | VAT | NA | NA | 100 | 10 | NA | NA |
| 2 TempMessage | 1 | 1 | INT | FVAT | NA | NA | 100 | 10 | NA | NA |

| | TestSuite1 | | | | | | | |
|----------|-------------------|---------------------------|---------|----------------------|--|--|--|--|
| | Decription | Decription Complete suite | | | | | | |
| | | Test 1 | Test2 | | | | | |
| | Exchanged data | | | | | | | |
| Message1 | temp_1 | 50 | 120 | | | | | |
| | Ora | | | | | | | |
| | temperature | "==50" | "==120" | | | | | |
| | temperature_alarm | "==0" | "==1" | | | | | |
| | | М | utants | • | | | | |
| | MUTANT 1 | | | IDS_OF_FAILING_TESTS | | | | |
| | temp_1 | 110 | 120 | | | | | |
| | temperature | 110 | 120 | 1 | | | | |
| | temperature_alarm | 1 | 1 | 1 | | | | |
| | KILLED | | | TRUE | | | | |
| | | | | | | | | |
| | MUTANT 2 | | | IDS_OF_FAILING_TESTS | | | | |
| | temp_1 | 50 | 90 | | | | | |
| | temperature | 50 | 90 | 2 | | | | |
| | temperature_alarm | 0 | 0 | 2 | | | | |
| | KILLED | | | TRUE | | | | |
| | Mutation analysis | | | • | | | | |
| | FMC | 100% | 1 | | | | | |
| | мос | 100% | 1 | | | | | |
| | MS | 100% | 1 | | | | | |

| | TestSuite3 | | | | | | | |
|----------|-------------------|-----------|------------------|------|-----|---------|--------|--|
| | Description: | Only temp | Only temperature | | | | | |
| | | Test 1 | Test2 | | | | | |
| | Exchanged data | | | | | | | |
| Message1 | temp_1 | 50 | 120 | | | | | |
| | | 0 | racles | | | | | |
| | temperature | "==50" | "==120" | | | | | |
| | temperature_alarm | | | | | | | |
| | | М | utants | | | | | |
| | MUTANT 1 | | | IDS_ | OF_ | FAILING | _TESTS | |
| | temp_1 | 110 | 120 | | | | | |
| | temperature | 110 | 120 | | | | | |
| | temperature_alarm | | | | | | | |
| | KILLED | | | | | TRUE | | |
| | | | | | | | | |
| | MUTANT 2 | | | IDS_ | OF_ | FAILING | TESTS | |
| | temp_1 | 50 | 90 | | | | | |
| | temperature | | | | | | | |
| | temperature_alarm | 0 | 0 | | | | | |
| | KILLED | | | | | TRUE | | |
| | Mutation analysis | | | | | | | |
| | FMC | 100% | 1 | | | | | |
| | мос | 100% | 1 | | | | | |
| | MS | 100% | 1 | | | | | |

| | Description: Imprecise oracle | | | |
|----------|-------------------------------|--------|-------|----------------------|
| | | Test 1 | Test2 | |
| | Exchanged data | | | |
| Message1 | temp_1 | 50 | 120 | |
| | Oracles | | | |
| | temperature | ">=50" | | |
| | temperature_alarm | | "==1" | |
| | Mutants | | | |
| | MUTANT 1 | | | IDS_OF_FAILING_TESTS |
| | temp_1 | 110 | 120 | |
| | temperature | 110 | | |
| | temperature_alarm | | 1 | |
| | KILLED | | | FALSE |
| | | | | |
| | MUTANT 2 | | | IDS_OF_FAILING_TESTS |
| | temp_1 | 50 | 90 | |
| | temperature | 50 | | |
| | temperature_alarm | | 0 | 2 |
| | KILLED | | | TRUE |
| | Mutation analysis | | | |
| | FMC | 100% | | |
| | MOC | 100% | | |
| | MS | 50% | Ī | |

| | TestSuite2 | | | | | | |
|----------|-------------------|----------|-----------|----------------------|--|--|--|
| | Decription | Complete | suite | • | | | |
| | | Test1 | Test2 | | | | |
| | | Exchar | nged data | | | | |
| Message1 | temp_1 | 50 | 120 | | | | |
| | Oracles | | | | | | |
| | temperature | "==50" | | | | | |
| | temperature_alarm | | "==1" | | | | |
| | Mutants | | | | | | |
| | MUTANT 2 | | | IDS_OF_FAILING_TESTS | | | |
| | temp_1 | 110 | 120 | | | | |
| | temperature | 110 | | 1 | | | |
| | temperature_alarm | | 1 | | | | |
| | KILLED | | | TRUE | | | |
| | | | | | | | |
| | MUTANT 2 | | | IDS_OF_FAILING_TESTS | | | |
| | temp_1 | 50 | 90 | | | | |
| | temperature | 50 | | | | | |
| | temperature_alarm | | 0 | 2 | | | |
| | KILLED | | | TRUE | | | |
| | Mutation analysis | | | | | | |
| | FMC | 100% | | | | | |
| | MOC | 100% | | | | | |
| | MS | 100% | 1 | | | | |

| | TestSuite4 | | | | | | | | |
|----------|-------------------|----------------|--------|----------------------|--|--|--|--|--|
| | Description: | Only | errors | | | | | | |
| | | Test 1 | Test2 | | | | | | |
| | | Exchanged data | | | | | | | |
| Message1 | temp_1 | 50 | 120 | | | | | | |
| | | Oracles | | | | | | | |
| | temperature | | | | | | | | |
| | temperature_alarm | "==0" | "==1" | | | | | | |
| | | Mutants | | | | | | | |
| | MUTANT 1 | | | IDS_OF_FAILING_TESTS | | | | | |
| | temp_1 | 110 | 120 | | | | | | |
| | temperature | | | | | | | | |
| | temperature_alarm | 1 | 1 | 1 | | | | | |
| | KILLED | | | TRUE | | | | | |
| | | | | | | | | | |
| | MUTANT 2 | | | IDS_OF_FAILING_TESTS | | | | | |
| | temp_1 | 50 | 90 | | | | | | |
| | temperature | | | | | | | | |
| | temperature_alarm | 0 | 0 | 2 | | | | | |
| | KILLED | | | TRUE | | | | | |
| | Mutation analysis | | | | | | | | |
| | FMC | 100% | | | | | | | |
| | MOC | 100% | | | | | | | |
| | MS | 100% | 1 | | | | | | |

| | TestSuite6 | | | | | | |
|----------|-------------------|--------|-------|----------------------|--|--|--|
| | Description: | | Miss | ing oracle | | | |
| | | Test 1 | Test2 | | | | |
| | Exchanged data | | | | | | |
| Message1 | temp_1 | 50 | 120 | | | | |
| | Oracles | | | | | | |
| | temperature | "==50" | | | | | |
| | temperature_alarm | | | | | | |
| | Mutants | | | | | | |
| | MUTANT 1 | | | IDS_OF_FAILING_TESTS | | | |
| | temp_1 | 110 | 120 | | | | |
| | temperature | 110 | | 1 | | | |
| | temperature_alarm | | | | | | |
| | KILLED | | | TRUE | | | |
| | | | | | | | |
| | MUTANT 2 | | | IDS_OF_FAILING_TESTS | | | |
| | temp_1 | 50 | 90 | | | | |
| | temperature | 50 | | | | | |
| | temperature_alarm | 0 | | | | | |
| | KILLED | | | FALSE | | | |
| | Mutation analysis | | | | | | |
| | EMC | 100% | | | | | |