|  |  |
| --- | --- |
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|  |  |
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|  |  |  |  |
| --- | --- | --- | --- |
| Data | Type |  |  |
| Passenger | Input |  |  |
| Driver | Input |  |  |
| Ignition | Input |  |  |
| alarm | Output |  |  |
| BELTD | INPUT |  |  |
| BELTP | INPUT |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

ALGORITHM

1.CHECK IF DRIV IS high.

2.if DRIV is high check if ign is high

3. if IGN high check if BELTD low

4. if BELTD low activate alarm if not go to step 5

5. check if PASS is high

6. if PASS high check if BELTP is high

7.

Truth table

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| IGN | DRIV | PASS | BELTD | BELTP | ALARM |
| 1 | 0 | 0 | 0 | 0 | 1 |
| 1 | 0 | 0 | 0 | 1 | 1 |
| 1 | 0 | 0 | 1 | 0 | 1 |
| 1 | 0 | 0 | 1 | 1 | 1 |
| 1 | 0 | 1 | 0 | 0 | 1 |
| 1 | 0 | 1 | 0 | 1 | 1 |
| 1 | 0 | 1 | 1 | 0 | 1 |
| 1 | 0 | 1 | 1 | 1 | 1 |
| 1 | 1 | 0 | 0 | 0 | 0 |
| 1 | 1 | 0 | 0 | 1 | 0 |
| 1 | 1 | 0 | 1 | 0 | 1 |
| 1 | 1 | 0 | 1 | 1 | 1 |
| 1 | 1 | 1 | 0 | 0 | 0 |
| 1 | 1 | 1 | 0 | 1 | 0 |
| 1 | 1 | 1 | 1 | 0 | 0 |
| 1 | 1 | 1 | 1 | 1 | 1 |

~ALARM= IGN.DRIV~PASS~BELTD~BELTP+

IGN.DRIV~PASS~BELTD.BELTP+

IGN.DRIV.PASS~BELTD~BELTP+

IGN.DRIV.PASS.BELTD~BELTP+

IGN.DRIV.PASS.BELTD.BELTP

~ALARM= IGN.DRIV(~PASS.~BELTD(BELTP+~BELTP)+PASS(~BELTD.~BELTP+BELTD(.~BELTP +BELTP)